doi: 10.5281/zenodo.6701429



# Early Socialization of Media Users: An Ethnographic Exploration of the First Two Years of Life

# Yehuda Barlev

Ben-Gurion University of the Negev, Israel https://orcid.org/0000-0003-0446-8949

# **Nelly Elias**

Ben-Gurion University of the Negev, Israel https://orcid.org/0000-0002-2891-3827

## Dafna Lemish

Rutgers the State University of New Jersey, USA https://orcid.org/0000-0001-6166-0692

#### **Abstract**

The socialization process of media use begins in the first year of a child's life. Infants and toddlers are exposed to media in the background, they learn from screens, and acquire media-related skills from watching their family members' behavior. Hence, it is of great importance to examine the family context in which young children develop their initial media habits, as well as how they learn from screens during a critical period of their lives. This article explores how young children are socialized into becoming media users in a longitudinal study that closely followed the development of the media habits and preferences of children from the age of three months to two years old. A combination of two qualitative methods was applied: observations at the families' homes were conducted every three months; and indepth interviews with parents were conducted at the beginning, the middle, and at the end of the study. Families expecting their second or third child were recruited for the study, to create comparable familial circumstances of having older siblings. The study's findings expose parents' limited awareness of the importance of instructive and technological mediation, as well as the need to facilitate proper conditions that would maximize the benefits of these forms of mediation. Therefore, there is a need for enhancing parental media literacy, which would enable parents to support children's media uses and lead to the development of richer and healthier children's media experiences.

Keywords: parental mediation, babies, media uses, socialization





This work is published under the terms of a Creative Commons Attribution 4.0 Licence. You are free to share and adapt the material,

and adapt the material, but you must credit the original author(s) and source, provide a link to the licence, and indicate if changes are made.

https:// creativecommons.org/ licenses/by/4.0/ The socialization process of media use begins in the first year of life. Infants are exposed to media in the background, they learn from screens, and acquire media-related skills from watching their family members' behavior (Gutnick et al., 2010). According to Bandura's Social Learning Theory (1965), children's learning takes place as a result of observation and emulation of behavior, along with modeling behavioral patterns according to the norms of their environment. Learning is a multi-layered process, which constantly occurs when a child is imitating adults (Barr et al., 2008).

As the learning process takes place in the first year, through interaction between children and their families, the home exerts an essential and primary influence on children. Hence, it is of great importance to examine the family context of infants' and toddlers' developing media habits, as well as how they are learning from screens during this critical period of their lives (Gutnick et al., 2010). The present study engages in a longitudinal approach to explore how young children are socialized into becoming constructive media users, who can maximize the benefits of media exposure and minimize the negative influences, by closely following the development of their media habits and preferences from the age of three months to two years old.

## Media Use of Infants and Toddlers

Young children are increasingly exposed to media as part of the ongoing mediatization of childhood, wherein media—and the institutions behind them—now permeate all aspects and levels of children's personal and social lives (Krotz, 2007). This phenomenon became even more prominent as mobile media turned interactive; the introduction of the iPhone in 2007 marked the birth of the "digitods", or a new generation of children born with ready access to a vast range of mobile digital media (Holloway et al., 2015).

In contrast to television, touchscreen interface devices offer young children new opportunities for interaction with appealing content at their control (Nikken & Schols, 2015). Children are drawn to touch-screen devices because their ease-of-use enables engagement with their favorite apps and websites without adult intervention, which potentially provides a sense of personal agency, achievement, and control over technology (Holloway et al., 2014; Neumann, 2014). Given that babies and toddlers under the age of two are gradually developing digital skills and familiarity with the basic functions of mobile media, their ability to gain from these experiences has been attracting important scholarly attention (Chang et al., 2018).

The development of digital skills is reflected in the daily use of mobile phones by young children, which ranges from 51% of infants at the age of 6-11 months to 92% of toddlers at 24-36 months (Cheung et al., 2017). From ages 0-2 years old, the total time spent watching television

and video content in the U.S. is approximately 50 minutes a day. Among that age group, 40% are using mobile media for watching online videos (Rideout & Robb, 2020). Accordingly, by the age of two, toddlers have already acquired several technical skills necessary for independent mobile device operation (Barlev et al., 2018; Bedford et al., 2016).

Research to date has yielded mixed results regarding the possible effects of young children's mobile media use. On one hand, results of interventions with toddlers under three years old indicated that their use of educational apps contributed to their acquisition of pre-literacy skills (Troseth et al., 2016). The positive feedback provided by the apps for the successful completion of a task was found to empower the children's learning process by increasing their sense of competence, independent accomplishment, and self-worth (Muis et al., 2015; Neumann, 2014). Research further shows that infants and toddlers can learn words, shapes, colors, and numbers from screen content in a process facilitated by verbal interaction between the children and their parents (Lemish, 1987; Lemish & Rice, 1986).

On the other hand, recent studies also raise several concerns about potential negative outcomes of digital media use related to young children's development. One primary issue is parents' tendency to use mobile phones and tablets as "pacifiers" or "shut-up toys": handing children mobile devices to keep them occupied, calm them down, or as a reward or disciplinary measure (Holloway et al., 2014; Kabali et al., 2015). Scholars argue that habituating children to use mobile devices as a means to calm down may disrupt the development of internal self-regulation mechanisms. Further, intense engagement with interactive apps might displace language and play-based interaction with caregivers, siblings, or peers (Radesky et al., 2015).

Infants and toddlers are also exposed to background television that is not intended for them. Such exposure interrupts children's activity and reduces interactions with their parents (Anderson & Hanson, 2010). When parents extensively use mobile devices around their young children, they also function as role models for them (Radesky et al., 2016). At the same time, children experience a highly limited interaction with their parents, which may exert a negative effect on the child's emotional and linguistic development (Pempek, Kirkorian & Anderson, 2014).

# Parental Mediation of Young Children's Media Uses

Parental mediation is one of the major factors that shape the media uses of infants and toddlers. Mediation consists of five chief strategies: Restrictive mediation, wherein parents set rules regarding media use time and content selection; instructive mediation, which includes conversations about content viewed, sharing explanations and emotional responses, and expressing critical attitudes towards the media; co-viewing, when parents consume media together with their children; tech-

nological mediation, in which parents help children acquire media use skills; and supervision, which includes parental attempts to control and monitor children's media uses (Clark, 2011; Valkenburg et al., 1999).

The most common mediation practice in early childhood is restrictive mediation, whereby parents manage and regulate their children's experiences with television to mitigate the adverse effects of the medium on the child (Domoff et al., 2018). In the digital age, parents' efforts to restrict and supervise children's media uses are mainly centered on limiting children's access to mobile phones, preventing children's exposure to harmful content, and bounding the spacial range of use so they can supervise the content consumed by children (Zaman et al., 2016).

In contrast to restrictive mediation and supervision, which are aimed at reducing media's negative effects, parents use instructive mediation to facilitate media's positive effects. When parents make a connection between screen content and real-life knowledge—while also providing interpretation and asking guiding questions—they encourage the child to make the screen-based learning experience more effective (Barr et al., 2008; Strouse & Troseth, 2008). For example, a study of parents who applied instructive mediation to the use of television by their infants and toddlers found that television acted as a "talking book" for the children, which enriched their vocabulary and communication skills (Lemish & Rice, 1986).

Most existing studies of instructional mediation of mobile media use concern preschool-age and older children and highlight parents' efforts to guide their children to the use of educational online resources and digital applications (Zaman et al., 2016). Research suggests that young children in particular require adult assistance to download applications and learn how to use them. Adults were found to be actively involved at the initial stages of media use, offering guidance, responding to questions, managing problems that surface during activities, and providing children with positive reinforcement for successful use. The active involvement of parents in introducing their children to mobile media is thus crucial for transferring such situations into educational opportunities (Chiong & Schols, 2010; Clark, 2011; Nikken & Schols, 2015).

Additional mediation strategies essential for shaping children's media habits are co-viewing (of television content) and co-use (of digital media). For example, joint parent-child television viewing was found to increase infants' motivation to point and imitate what is displayed on the screen (Lemish & Rice, 1986). Other studies found that a parent who takes part in their children's digital experiences and watches YouTube videos with them is perceived as "a buddy" (Zaman et al., 2016). While joint use of digital content was found to be predominant from ages 2-5 years old (Nikken & Schols, 2015), it is not clear whether parents engage in co-use with even younger children. Fur-

thermore, we lack data on whether co-use focuses on digital content that is intended for infants and toddlers, or whether children are joining their parents' media activities intended for older audiences.

Parental mediation strategies are impacted by at least three sets of constraints. First are parents' attitudes towards media use by children (Kucirkova & Zuckerman, 2017; Vaala & Hornik, 2014). The literature suggests that parents who believe that media content offers some educational benefits will encourage its use (Lauricella et al., 2015). In contrast, parents will restrict their children's media exposure if they believe that the negative effects override the potential educational value (Cingel & Krcmar, 2013; Lauricella et al., 2015). Finally, parents attest that they lack media literacy skills essential for the proper use of digital media with their young children, such as choosing appropriate devices and content. This lack of knowledge leads to a lack of confidence, which makes it difficult for parents to both mediate the mobile media content their young children are consuming and to facilitate their learning process (Gillen & Arnott, 2018).

It is also important to remember that raising young children is a stressful and demanding task for most families. Daily pressures and constraints may encourage a heavier reliance on media use than would otherwise be expected or desirable. For instance, parents use media devices to keep children occupied (i.e., "babysitter"), or calm them and regulate their behavior (i.e., "pacifier"), thereby extending children's screen time independent of their critical views of media (Barlev & Elias, 2020; Elias & Lemish, 2021; Elias & Sulkin, 2019).

Given this background, our study aims to expand knowledge in two ways. First, we will explore the early process of socialization into media use by infants and toddlers in their natural home environment. In this goal, the present study follows in the footsteps of the "viewers in diapers" study completed 35 years ago (Lemish, 1987), and expands the focus on television to include the reality of a digital environment in which today's babies are embedded.

# Methodology

This qualitative study, which spanned two years between December 2015 and January 2018, utilized a combination of two methods: observations at the families' homes were conducted every three months (with an average of seven observations per family); and in-depth interviews with parents were conducted at the beginning, the middle, and at the end of the study. Families expecting their second or third child were recruited through daycare centers in three major cities in Israel to take part in the study, to create comparable familial circumstances of having older siblings. Ten families with infants 3-6 months of age were selected for the study and followed until the child was 24 months old. All parents were heterosexual couples in their thirties, with academic degrees and

in white-collar professions. All mothers returned to full-time employment during the study, usually after the child reached 12 months of age.

The observations, which were conducted by the first author, lasted 2-3 hours per session and focused on the following: a systematic record of children's behaviors and activities, the child and their family members' media uses, interactions related to the various screen devices, and media practices applied by the parents. Interviews—which were mostly done with the mothers—included questions concerning parents' attitudes towards media effects, children's daily media uses, the reasons behind parents' uses of media with their children, and the developmental changes that occurred during the period under study. Observations were video-recorded with the parents' permission and all interviews were audio-recorded digitally. The study was approved by the ethics committee of the Ben-Gurion University of the Negev and all parents signed a consent form before the study. All children's and parents' names were changed to preserve anonymity.

The detailed field notes and the interview transcriptions were analyzed thematically, following conventional procedures of qualitative analysis by conducting repeated readings to refine behavior categories (Lindlof & Taylor, 2019). This phase was followed by a secondary analysis by all three authors, in which a consensus was reached regarding the interpretation of the findings.

# **Findings**

The Birth of the Media User

The findings of this study indicate that from the first months of their life children were regularly exposed to the media used by their parents and older siblings, especially television and mobile phones. Interestingly, all parents restricted infants' exposure to children's media content, but at the same time, background exposure to screen content aimed at adult viewers was not perceived as problematic. In the interviews, parents explained that this screen content did not interest the children:

At home, it is not a sterile environment. There were nights when I breastfed Uri and he watched *Grey's Anatomy* with me... In the morning he plays in the living room and the TV is on. It does not interest him at all. He is hardly watching the screen. (Lily, mother, four months)

observations showed that contrary However, the opinion, infants did pay attention to the screen, which ents' expressed by turning their heads towards the screen was and viewing episodes that lasted several minutes each.

Infants' initial exposure to mobile devices occurred in the first months of their life as well, when their family members were using the devices next to them. While all parents shared the opinion that mobile phones emit harmful radiation—and therefore exposing infants to them should be prevented—in practice, exposure to mobile phones occurred several times a day. For example, while breastfeeding mothers made various uses of the mobile phone, such as texting, playing games, reading or shopping. As suggested by Sarah (mother, three months):

When I breastfeed Dean, I do some shopping on my mobile phone and I also read from the screen. When he moves, I know he's not relaxed, he kicks with his feet and waves with his hands, so I know I need to put down my phone for a moment and look at him.

Intentional exposure to television content started around six months of age—mothers began exposing children to infant television content on BabyTV Channel or to short musical programs using a DVD device. At 12 months of age, the infants already became avid TV viewers, which gave rise to parental concerns about the negative effects of television. Concerns parents expressed included the development of ADHD, lack of physical activity, and even addiction. Despite these concerns, however, parents did not limit their children's television viewing since it was also perceived as an available "babysitter" that occupied the child when they were busy or exhausted.

Compared to television viewing, purposeful use of the mobile phone and iPad began a half-year later, around the age of 12 months. At this age, toddlers were mainly allowed to watch young children's content on YouTube, like songs or their favorite TV shows. For the next half-year, toddlers showed an equal preference for television and mobile devices, but at about 18 months of age toddlers' television viewing began to reduce at the expense of an increase in mobile device use.

In sharp contrast with the dominance of screen media in children's lives, books were very marginal. Children's exposure to books occurred a few months later after their screen exposure. Parents began reading books to their children at about seven months of age because they claimed that younger infants were not able to understand the content. It appears from observations that when books were read to children they became calm, enjoyed the joint activity with the parent, and were attentive to the story. However, parents did not persist in this activity—or they allowed book reading with the TV screen turned on in the background—which affected the child's attention span and reduced their interest in the book.

## Imitation and Formation of Personal Preferences

A major part of young children's socialization to media occurs through imitating parents and older siblings. Indeed, from the age of approximately six months old, all the infants wanted to hold the TV remote—just as the adult viewers did. As a compromise, children were given

an out-of-use remote so they would not change channels and disrupt everyone's viewing experience. When children were allowed to hold the mobile phone, they tried to imitate their family members and slide their fists or fingers on the screen. Children also played with their parents' old mobile phones that were given to them as a toy. Although these devices were out of use, children preferred them over a phone-like plastic toy and often played with them as if they were the real thing (for example, by bringing the device next to their ear). As children grew up, imitation activities became more and more complex, as can be seen in this observation at Tom's home when he was 19 months old:

Today Tom's siblings made their first attempt to play with their new X-box Kinect device. Tom was very excited about it, imitated them, and constantly interrupted their play. For starting a new game, Tom's brother raised his right hand in front of the screen, and Tom, who had been watching his brother for a few minutes moved to the front of the screen, raised his right hand just like his brother did, and started the game instead of the brother. The brother asked Tom not to interfere. The siblings continued to play while preventing Tom from accessing the screen, but it only intensified his desire to reach the device.

Along with the imitation activities, from age one onwards children began to show clear preferences towards particular contents and devices. For example, they pointed to the TV and said, "view" (TV) or "baby" (BabyTV Channel), as a way to ask their parents to turn on the TV. Around the age of a year and a half, it was noticeable that the TV screen stopped being a source of interest just because it was on. At this age, toddlers were no longer attached to the screen every time their family members watched it but joined viewing only after recognizing familiar and beloved audio-visual cues:

Maya wakes up in the morning between six-thirty and seven, and her brother is already watching his TV shows. She doesn't pay too much attention to it. But sometimes, if an animal appears, we notice that she comes and watches the program with him (Sharon, mother, 16 months).

Children's active viewing was highly prominent in the observations as well. They mimicked the characters' movements—clapped, waved, danced, and when the characters sang the children tried to imitate the syllables and words. Interviews with parents provided a variety of additional examples of spontaneous learning from the screen:

Ethan says all the animals' names. The kindergarten teacher asked me if I taught him, but I didn't. He learned it from BabyTV. There is a program where cards are revealed, each with a different animal. It amazes me that he learned from

each card a different animal (Dina, mother, 16 months).

Talia learns from television by herself; she learns songs and imitates. There is, for example, the song "Bubbles ... bubbles ...". When she is in the bath and sees soap bubbles, she starts singing "bubbles..." (Rina, mother, 13 months).

# Parental Mediation

Along with imitation and spontaneous learning from screens, parents play an important role in shaping their children's media habits and in facilitating learning processes by applying various mediation strategies. The frequency of different mediation efforts was very uneven in our observations, with restrictive mediation being the most common and co-use the least frequent.

# Parental concerns and restrictive mediation efforts

The dominant mediation practice found among most parents in the study was restrictive mediation, which was implemented from the first months of the children's lives. Parents believed that exposing their child to the media could be harmful: "Until the age of six months, I did not put Dana in front of TV. Nothing! I was told that that television causes ADHD. I'm very scared of it" (Noa, mother, seven months). However, restrictive mediation efforts were usually invested only in preventing children's exposure to purposeful TV viewing and not towards unintentional exposure to the TV content.

Similar to television, during the first year of children's lives the parents stated that they prevent children from accessing mobile devices due to the danger of over-stimulation, harm to their eyes, and radiation:

Using a mobile phone creates zombies. Children become addicted. I know this from children of friends who are obsessive media consumers. Before going to bed they go straight to mobile phones and tablets, and we try to avoid it as much as possible (Danny, father, eight months).

You don't really know the consequences of the phone's radiation. So as long as possible to keep Maya away from it [mobile phone] is better. We are not really aware of everything about mobile devices, but I assume it's unhealthy for children (Sharon, mother, four months).

Despite these concerns, the infants' initial exposure to mobile devices occurred in the first months of life (as described above) when the parents used the devices next to the child. When parents took photos of the children on their mobile phones they allowed them to see the photos and touch the screen, thus creating a growing interest in the device.

Parents also found it difficult to apply restrictive mediation to limit the extent of their children's exposure to the media. Despite their effort to maintain regular TV viewing times, there were gaps between parents' intentions and their daily practices. For example, when parents needed free time for themselves or to take care of household chores, the children continued to watch TV much more than was usually allowed. In several observations, after children stopped viewing a program the TV was left on in the background and the children listened to the program—or even continued to watch it intermittently—while being occupied by another activity.

Similarly, we identified many difficulties in parents' attempts to limit children's use of mobile phones and tablets, which created constant conflicts with the children. To enforce restrictions on the use of mobile devices parents came up with several creative solutions, such as giving the child a device with an almost empty battery so that it would turn itself off without parental involvement. In addition, while taking the mobile phone or tablet from the child, parents created a distraction by turning on the TV to redirect the child's attention. Even in families where the use of mobile devices was completely forbidden, parents tended to use the mobile phone as a multi-purpose "pacifier" to calm children down when they were upset. Therefore, children had difficulty understanding whether the use was allowed or forbidden; they tried to reach the device at every opportunity and protested whenever it was taken from them.

#### *Instructive mediation*

In the families that participated in the study, most efforts of instructive mediation were limited to book reading. During the observations we noticed that infants paid attention to their mothers when they asked guiding questions, as can be seen in the following observation of a seven-month-old girl:

Yael's mother was reading a children's book, in which colorful balloons were displayed. She asked: "Where is a green balloon; where is a red balloon?" and stroked the girl's hair. Yael was attentive and tried to take the balloons from the page with her fingers. When a picture of a cat was shown, the mother took Yael's hand and led her to touch the picture while telling her, "Do nicey-nicey to the cat."

In the interviews, parents ascribed great importance to reading books and their contribution to their child's cognitive development. However, they almost completely stopped using this resource in the second year of children's lives. Only around the age of two did we identify a trend of parents returning to books—a return mostly initiated by children themselves. In the observations, there were several cases of children who were sitting alone in front of a TV or tablet who then brought their mother a book and asked her to read it to them. That is, the children gave up

viewing the screen content in favor of close interaction with the mother.

Despite their positive opinion about reading books, in most observations parents read a book to their child while the television was on in the background. It was evident that the television caused the children's attention to split between the book and the screen, but parents did not turn it off or reduce the volume. This can be seen from the observation at Shira's home when she was two years old:

The mother turns the TV on and calls Shira to come and watch the children's channel. In response, Shira goes to her room, brings a book, hands it to her mother, and asks her: "Read." The mother, who looks tired, nods to her and says "Well, let's sit down for a few minutes." She puts Shira on her lap and reads to her for three minutes with the TV on in the background, while Shira looks at the book and the screen alternately.

Most parents believed that the educational potential of television could be realized through choosing screen content adapted to the developmental stage of the child and that learning would occur independently of parents' involvement. The limited instructive mediation of TV content was found in four families where parents accentuated new words and asked the children questions related to the screen content. During these interactions, the children cooperated willingly, as was evident in the observation conducted at Jonathan's home when he was two years old:

Jonathan watched the program with songs related to rain. The mother came from the kitchen for a couple of minutes and told him "This is water." Jonathan repeated, and she confirmed "right." The boy was happy and pointed to the TV. When the mother said "rain," Jonathan repeated it as well.

The mother's brief interaction with Jonathan did illustrate the high potential of parental mediation for children's learning, but it was limited in time and consisted of only a few verbal exchanges. Similar to television, parents believed that if they choose age-appropriate content on YouTube, then the children would learn colors, shapes, animals, and even a new language (English) without parental involvement. While such unmediated learning did occur periodically, the full potential of the experience did not materialize.

#### Technological mediation

The findings revealed that parents avoided teaching children how to operate the television independently (e.g., to use remote control, to turn the TV on and off, or to switch channels) in order to ensure a more controlled exposure. Similar to television, to reduce children's use of mobile devices parents refrained from imparting basic skills, making

the children dependent on their parents to operate the mobile phone and iPad. Parents did not teach the children to turn the device on or off, to control the volume, watch videos in the right mode (i.e., vertically or horizontally), or to open applications. Even when the parents noticed that their child was trying to find out the function of certain buttons and was unable to activate them, they did not mediate this action, as was apparent in the observation of Shira when she was two years old:

While watching the video on the mother's mobile phone Shira suddenly discovered the two sound buttons on the top left side of the device. She did not know what the function of the buttons was and began to scratch them with her fingernails. Her parents noticed this and the father said to his wife: "She discovered the volume buttons!" The mother, who looked surprised, replied: "This is new!" But the parents did not turn to Shira and did not explain to her what the function of the buttons was and how to activate them.

Two main operations that parents taught their children were how to skip ads and how to move on to the next video so that the children would not ask the parents for ongoing assistance while watching You-Tube. Therefore, the children mostly learned how to operate the device on their own. By the end of the study, children knew how to open the photo gallery and use several apps. They did not know, however, how to enlarge the screen or control the volume, which is essential for functional device use. In several observations, we noticed that they watched the video on a partial screen, or at a very high volume. Given that during the screen viewing children were mostly alone, there was no adult around to assist them and so to improve their technological skills.

#### Supervision

Parents raised several concerns regarding the danger of exposure to inappropriate content (mostly violent and sexual images) while using mobile devices: "The children could be exposed to very problematic and even violent things. So you must monitor what they are viewing and pay attention to what they see" (Ron, father, two years). But despite these concerns, we only observed one family where parents installed software to protect children from exposure to inappropriate content online. The rest of the parents monitored content by listening to the program while they were elsewhere in the home space. In one of the observations, while the child in the living room watched his favorite program on YouTube, an advertisement for contraceptives popped up. His mother—who was in the kitchen—understood from what she heard that this was inappropriate content and rushed to the living room to skip the advertisement. However, the auditory component of the content was not always sufficient to filter out what was not age-appropriate. During another observation, the child watched animated videos with children's songs playing in the

background. In one of the songs, the innocent content was replaced with an animation of a particularly violent nature, but the mother who trusted what she was listening to remained in the kitchen without being aware that the child was watching harmful content.

## Co-viewing and co-use

One of the most notable benefits of shared screen viewing is the bonding experience that children have while watching television together with their parents. Shared viewing may further raise children's attention to the content and even facilitate their understanding. However, our findings show that in all families shared viewing of children's TV programs was almost non-existent. Shared viewing took place only when young children joined their parents to watch content unintended for them, such as drama series, sports, or news. Children's viewing of the age-appropriate content was therefore mostly individual, without any interactions with family members and even without them experiencing physical intimacy with their parents during their time in front of the screen. The exception to the lack of co-viewing and co-use was the occasional book reading, which was associated with physical closeness to parents.

We also did not identify any examples of shared use of mobile devices for play or educational activity. Children were exposed to many situations in which their parents used the mobile phone on their own and wanted to use it by themselves. This was evident in the interview with Rachel, Shira's mother, at the 15-month observation: "When I talk on my phone, she takes over the conversation. She takes it and puts it on her ear. But if I lock the screen, she doesn't like it, so she would press all the keys."

#### Discussion

This longitudinal, ethnographic observational case study of babies through age two revealed that media users are "born" well before the recommended age by the American Association of Pediatrics (AAP, 2016) and ahead of parental recognition that their children are indeed consuming media regularly. The naturalistic observations revealed that babies were constantly interacting with various media starting at a very young age, as a part of being embedded in the family's everyday life where various devices were constantly used by their parents and siblings—often right next to them.

The study shows how family interactions shape the child's media experience and emphasizes the crucial contribution of the immediate family environment to the formation of media habits in early childhood (Jordan, 2004). It is no wonder then that very early on babies are socialized into media use where they begin to imitate their family members and adopt their media use habits and behaviors. Thus, in line with social learning theory (Bandura, 1965), the study indicates how infants and toddlers are influenced by their family members' media behavior. This finding also emphasizes the

deep gap between parents' intentions and concerns regarding the media's potential harm, and their actual use around the children.

Parents' critical attitudes towards media use, and their expressed need for careful and controlled exposure of their young children to the media, were also found to be in direct conflict with the constraints of daily life (e.g., the need to occupy children while being engaged in household activities or to calm them down). In these situations, the constraints outweigh parental attitudes and as a result, children use screens more than their parents intend and are willing to admit. In contrast with the well-known assumption that parental views have a significant influence on shaping their children's habits (e.g., Vaala & Hornik, 2014), the observational findings in this study show that daily constraints on parents' time and energy are equally powerful in children's early socialization to media.

In addition, while parents are aware of the potential harms of early media exposure, they consider these harms only in relation to intentional exposure to children's television channels. Unintentional and background exposure to television and mobile devices—which begins at birth and is omnipresent—is ignored. These findings reveal significant gaps in parents' understanding of the potential risks involved in over-exposing infants to various media consumed by their family members around them.

When parents do engage in the mediation of their young children's media use, they mostly apply only two forms of mediation strategies that are focused on concerns regarding the media's harmful effects—supervision and restrictive mediation. Meditation practices that can facilitate the positive effects of media (i.e., instructive mediation, co-use, and technological mediation) were found to be very uncommon. As a result, there was no constructive use of the educational content available on children's television channels to enrich children's vocabulary, cognitive, or social development by engaging in conversation, pointing out screen content and responding to it, repeating vocabulary, practicing new concepts, and the like. Parents made no efforts to impart basic technological skills to their children (e.g., turning on and off a device, activating an application, controlling volume) which are essential for mastering the operation of the devices (in line with Domoff et al., 2018).

Moreover, despite the frequent application of restrictive mediation and supervision, both practices were implemented partially and inconsistently. The use of a mobile phone initiated by the child was mostly forbidden—but at the same time was allowed once it served parental needs, such as calming the child down (see also Elias & Lemish, 2021; Nabi & Krcmar, 2016). Similarly, the supervision strategy was mostly limited to controlling the auditory dimension of content while the visual aspect was neglected.

While proper instructive mediation of television viewing can promote children's cognitive and verbal development (Domoff et al., 2018; Lemish, 1987; Pempek & Lauricella, 2017), in the present study this mediation was observed mostly in relationship to book reading. However, it was applied inconsistently, and in constant competition with the distraction caused by the TV screen turned on in the background. This finding exposes parents' limited awareness of the importance of instructive mediation and the need to facilitate proper conditions that would maximize its benefits (Gillen & Arnott, 2018). Parental instructive mediation can also play a role in the occasional spontaneous learning from the screen that was observed in the study (e.g., new words, songs) by encouraging and boosting its potential. Hence, there is a need to enhance parental media literacy, which would enable parents to support their children's media experiences and help them to become constructive media users who apply critical skills in selecting media content and in evaluating its quality and relevance to their needs and wellbeing.

Like all studies of this nature, the present study is not without limitations. We utilized a small, homogeneous sample of highly-educated parents from the upper-middle-class in Israel. Despite their educational background, we noted the shortcomings in these parents' understandings of the place of media in their young children's lives, in addition to parents' lack of awareness of how to maximize media's benefits while minimizing their risks. These findings could indicate that among less-educated parents one may find an even larger gap in knowledge and awareness. Larger samples of diverse populations and cultures can provide us with possible answers to these important questions.

# Acknowledgment

This research was supported by the I-CORE Program of the Planning and Budgeting Committee and The Israeli Science Foundation (1716/12). The authors wish to thank Prof. Sharona T. Levy for her valuable input to the early stages of planning and conducting the research presented in this article.

## References

American Academy of Pediatrics (2016). Policy statement: Media and young minds. *Pediatrics*, 138(5), 1-18. <a href="http://doi: 10.1542/peds.2016-2591">http://doi: 10.1542/peds.2016-2591</a>

Anderson, D. R., & Hanson, K. G. (2010). From blooming, buzzing confusion to media literacy: The early development of television viewing. *Developmental Review, 30*(2), 239-255. <a href="http://doi:10.1016/j.dr.2010.03.004">http://doi:10.1016/j.dr.2010.03.004</a>

Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of Personality and Social Psychology, 1*(6), 589-595. <a href="https://doi.org/10.1037/https://doi.or

Barley, Y., Elias, N., & Levy, S.T. (2018). Development of infants'

- media habits in the age of digital parenting: A longitudinal study of Jonathan from age six to 27 months. In A. Jorge, G. Mascheroni & C. Ponte (Eds.), *Digital parenting: The challenges for families in the digital age* (pp. 103-112). Nordicom. <a href="https://research.unl.pt/">https://research.unl.pt/</a> ws/files/12488016/yearbook 2018 digital parenting.pdf
- Barlev, Y., & Elias, N. (2020). Digital parenting: Media uses in parenting routines during the first two years of life. *Studies in Media and Communication*, 8(2), 41-48. <a href="https://doi.org/10.11114/smc.v8i2.5050">https://doi.org/10.11114/smc.v8i2.5050</a>
- Barr, R., Zack, E., Garcia, A., & Muentener, P. (2008). Infants' attention and responsiveness to television increases with prior exposure and parental interaction. *Infancy, 13*(1), 30-56. <a href="https://doi.org/10.1080/15250000701779378">https://doi.org/10.1080/15250000701779378</a>
- Bedford, R., Saez de Urabain, I. R., Cheung, C. H., Karmiloff-Smith, A., & Smith, T. J. (2016). Toddlers' fine motor milestone achievement is associated with early touchscreen scrolling. *Frontiers in Psychology*, *7*, 1108. <a href="https://doi.org/10.3389/fpsyg.2016.01108">https://doi.org/10.3389/fpsyg.2016.01108</a>
- Chang, H.Y., Park, E., Yoo, H., won Lee, J., & Shin, Y. (2018). Electronic media exposure and use among toddlers. *Psychiatry Investigation*, *15*(6), 568-573. <a href="https://doi.org/10.30773/pi.2017.11.30.2">https://doi.org/10.30773/pi.2017.11.30.2</a>
- Cheung, C. H., Bedford, R., De Urabain, I. R. S., 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*, 46104. <a href="https://www.nature.com/articles/srep46104">https://www.nature.com/articles/srep46104</a>
- Chiong, C., & Shuler, C. (2010). *Learning: Is there an app for that? Investigations of young children's usage and learning with mobile devices and apps.* The Joan Ganz Cooney Center at Sesame Workshop. <a href="https://clalliance.org/wp-content/uploads/files/learningapps\_final\_110410.pdf">https://clalliance.org/wp-content/uploads/files/learningapps\_final\_110410.pdf</a>
- Cingel, D. P., & Krcmar, M. (2013). Predicting media use in very young children: The role of demographics and parent attitudes. *Communication Studies*, 64(4), 374-394. <a href="http://doi:10.1080/10510974.2013.770408">http://doi:10.1080/10510974.2013.770408</a>
- Clark, L. S. (2011). Parental mediation theory for the digital age. *Communication Theory*, 21(4), 323-343. <a href="https://doi.org/10.1111/j.1468-2885.2011.01391.x">https://doi.org/10.1111/j.1468-2885.2011.01391.x</a>
- Domoff, S. E., Radesky, J. S., Harrison, K., Riley, H., Lumeng, J. C., & Miller, A. L. (2018). A naturalistic study of child and family screen media and mobile device use. *Journal of Child and Family Studies*, 28(2) 401-410. <u>Doi: 10.1007/s10826-018-1275-1</u>
- Elias, N., & Sulkin, I. (2019). Screen-assisted parenting: The relationship between toddlers' screen time and parents' use of media as a parenting tool. *Journal of Family Issues*, *40*(18), 2801-2822. <a href="https://doi.org/10.1177/0192513X19864983">https://doi.org/10.1177/0192513X19864983</a>
- Elias, N., & Lemish, D. (2021). Parental social uses of the mobile phone in public places: The case of eateries in two national

- contexts. *International Journal of Communication*, *15*, 2086-2104. <a href="https://ijoc.org/index.php/ijoc/article/viewFile/16916/3430">https://ijoc.org/index.php/ijoc/article/viewFile/16916/3430</a>
- Gillen, J., & Arnott, L. (2018). Digital literacy and young children: Towards better understandings of the benefits and challenges of digital technologies in homes and early years settings. *EECERA Digital Childhoods SIG*. <a href="https://strathprints.strath.ac.uk/65712/1/Gillen\_Arnott\_PB\_2018\_Digital\_Literacy\_and\_Young\_Children\_Towards\_Better\_Understandings\_of\_the\_Benefits.pdf">https://strathprints.strath.ac.uk/65712/1/Gillen\_Arnott\_PB\_2018\_Digital\_Literacy\_and\_Young\_Children\_Towards\_Better\_Understandings\_of\_the\_Benefits.pdf</a>
- Gutnick, A. L., Robb, M., Takeuchi, L., Koller, J. (2010). Always connected: The new digital media habits of young children. *The Joan Ganz Cooney Center at Sesame Workshop*. <a href="https://joangan-zcooneycenter.org/wp-content/uploads/2011/03/jgcc\_alwaysconnected.pdf">https://joangan-zcooneycenter.org/wp-content/uploads/2011/03/jgcc\_alwaysconnected.pdf</a>
- Holloway, D., Green, L., & Love, C. (2014). 'It's all about the apps': Parental mediation of their preschoolers' digital lives. *Media International Australia, Incorporating Culture & Policy, 153*, 148-156. https://doi.org/10.1177/1329878x1415300117
- Holloway, D., Green, L. & Stevenson, K. (2015). Digitods: Toddlers, touch screens and Australian family life. *M/C Journal*, *18*(5). <a href="https://doi.org/10.5204/mcj.1024">https://doi.org/10.5204/mcj.1024</a>
- Jordan, A. (2004). The role of media in children's development: An ecological perspective. *Journal of Developmental & Behavioral Pediatrics*, 25(3), 196-206. doi: 10.1097/00004703-200406000-00009
- 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. <a href="https://doi.org/10.1542/peds.2015-2151">https://doi.org/10.1542/peds.2015-2151</a>
- Krotz, F. (2007). The meta-process of mediatization as a conceptual frame. *Global Media and Communication*, *3*(3), 256-260. <a href="https://doi.org/10.1177/17427665070030030103">https://doi.org/10.1177/17427665070030030103</a>
- Kucirkova, N., & Zuckerman, B. (2017). A guiding framework for considering touchscreens in children under two. *International Journal of Child-Computer Interaction*, *12*, 46-49. <a href="https://doi.org/10.1016/j.ijcci.2017.03.001">https://doi.org/10.1016/j.ijcci.2017.03.001</a>
- Lauricella, A. R., Wartella, E., & Rideout, V. J. (2015). Young children's screen time: The complex role of parent and child factors. *Journal of Applied Developmental Psychology*, *36*, 11-17. <a href="https://doi.org/10.1016/j.appdev.2014.12.001">https://doi.org/10.1016/j.appdev.2014.12.001</a>
- Lemish, D. (1987). Viewers in diapers: The early development of television viewing. In T. R. Lindlof (Ed.), *Natural audiences: Qualitative research of media uses and effects* (pp. 33–57). Ablex publishing.
- Lemish, D., & Rice, M. L. (1986). Television as a talking picture book: A prop for language acquisition. *Journal of Child Language*, 13(02), 251-274. https://doi.org/10.1017/S0305000900008047
- Lindlof, T. R., & Taylor, B. C. (2019). *Qualitative communication* research methods (4<sup>th</sup> ed.). SAGE Publications.

- Muis, K. R., Ranellucci, J., Trevors, G., & Duffy, M. C. (2015). The effects of technology-mediated immediate feedback on kindergarten students' attitudes, emotions, engagement and learning outcomes during literacy skills development. *Learning and Instruction*, *38*, 1-13. https://doi.org/10.1016/j.learninstruc.2015.02.001
- Nabi, R. L. & Krcmar, M. (2016). It takes two: The effect of child characteristics on US parents' motivations for allowing electronic media use. *Journal of Children and Media*, 10(3), 285-303. https://doi.org/10.1080/17482798.2016.1162185
- Neumann, M. M. (2014). An examination of touch screen tablets and emergent literacy in Australian pre-school children. *Australian Journal of Education*, *58*(2), 109-122. <a href="https://doi.org/10.1177/0004944114523368">https://doi.org/10.1177/0004944114523368</a>
- Nikken, P., & Schols, M. (2015). How and why parents guide the media use of young children. *Journal of Child and Family Studies*, *24*(11), 3423-3435.
- Pempek, T. A., Kirkorian, H. L., & Anderson, D. R. (2014). The effects of background television on the quantity and quality of child-directed speech by parents. *Journal of Children and Media*, 8(3), 211-222. <a href="https://doi.org/10.1080/17482798.2014.920715">https://doi.org/10.1080/17482798.2014.920715</a>
- Pempek, T. A., & Lauricella, A. R. (2017). The effects of parent–child interaction and media use on cognitive development in infants, toddlers, and preschoolers. In F. C. Blumberg & P. J. Brooks (Eds.), *Cognitive development in digital contexts* (pp. 53–74). Elsevier\_https://doi.org/10.1016/B978-0-12-809481-5.00003-1
- Radesky, J. S., Schumacher, J., & Zuckerman, B. (2015). Mobile and interactive media use by young children: The good, the bad, and the unknown. *Pediatrics*, *135*(1), 1-3. <a href="https://doi.org/10.1542/peds.2014-2251">https://doi.org/10.1542/peds.2014-2251</a>
- Radesky, J. S., Kistin, C., Eisenberg, S., Gross, J., Block, G., Zuckerman, B., & Silverstein, M. (2016). Parent perspectives on their mobile technology use: The excitement and exhaustion of parenting while connected. *Journal of Developmental & Behavioral Pediatrics*, *37*(9), 694-701. <a href="http://doi:10.1097/DBP.0000000000000357">http://doi:10.1097/DBP.0000000000000000357</a>
- Rideout, V., & Robb, M. B. (2020). *The common sense census: Media use by kids age zero to eight, 2020.* Common Sense Media. <a href="https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-kids-age-zero-to-eight-2020">https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-kids-age-zero-to-eight-2020</a>
- Strouse, G. A., & Troseth, G. L. (2008). "Don't try this at home": Toddlers' imitation of new skills from people on video. *Journal of Experimental Child Psychology*, 101(4), 262-280. <a href="http://dx.doi.org/10.1016/j.jecp.2008.05.010">http://dx.doi.org/10.1016/j.jecp.2008.05.010</a>
- Troseth, G. L., Russo, C. E., & Strouse, G. A. (2016). What's next for research on young children's interactive media? *Journal of Children and Media*, 10(1), 54-62. <a href="https://doi.org/10.1080/17482798.2015.1123166">https://doi.org/10.1080/17482798.2015.1123166</a>
- Vaala, S. E., & Hornik, R. C. (2014). Predicting US infants' and

- toddlers' TV/video viewing rates: Mothers' cognitions and structural life circumstances. *Journal of Children and Media*, 8(2), 163-182. <a href="http://doi: 10.1080/17482798.2013.824494">http://doi: 10.1080/17482798.2013.824494</a>
- Valkenburg, P. M., Krcmar, M., Peeters, A. L., & Marseille, N. M. (1999). Developing a scale to assess three styles of television mediation: "Instructive mediation, "restrictive mediation," and "social coviewing". *Journal of Broadcasting & Electronic Media*, 43(1), 52-66. https://doi.org/10.1080/08838159909364474
- Zaman, B., Nouwen, M., Vanattenhoven, J., De Ferrerre, E., & Looy, J. V. (2016). A qualitative inquiry into the contextualized parental mediation practices of young children's digital media use at home. *Journal of Broadcasting & Electronic Media*, 60(1), 1-22. https://doi.org/10.1080/08838151.2015.1127240