

Development of Infants' Media Habits in the Age of Digital Parenting

A Longitudinal Study of Jonathan, From the Age of 6 to 27 Months

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Abstract

The introduction of the iPhone in 2007 marked the birth of the *digitods* – a new generation of children born with ready access to the digital devices. Little is known, however, about the development of infants' and toddlers' digital habits and how the parents and the family environment in general affect this process. The present study makes an initial attempt to fill this gap by using a combination of ethnographic methods in the case study of one child (Jonathan) from 6 to 27 months of age. During the fieldwork, we sought to examine how Jonathan's media uses are shaped and changed over a two-year period and to identify the different family and parent-related factors determining this process. The study's findings support the claim that use of digital media has become a normative behaviour among very young children and emphasize how deeply it is integrated into the daily parenting practices.

Keywords: digital parenting, touchscreen devices, parenting practices, toddlers, early childhood media habits

Introduction

The introduction of the iPhone in 2007 marked the birth of the *digitods* – a new generation of children born with ready access to a vast range of touchscreen devices (TSDs) (Holloway et al., 2015). Indeed, a recent study, carried out in the United Kingdom in 2015, shows that 75 per cent of children aged between six months and three years used a touchscreen on a daily basis, increasing from 51 per cent at 6 to 11 months to 92 per cent at 25 to 36 months (Cheung et al., 2017). It appears that very young children are eager to adopt and use the TSDs and there is even some evidence that by the age of two years they acquire several technical skills to operate them (Bedford et al., 2016).

Little is known, however, about the formation of infants' and toddlers' digital habits and how the parents and the family environment in general affect this process, as most studies on this topic were cross-sectional rather than longitudinal. The present study makes an initial attempt to fill this gap by using a combination of ethnographic methods in the case study of one child (Jonathan) from age six to 27 months. During the fieldwork, we sought to examine how Jonathan's media uses are shaped and changed over a two-year period and to identify the different family and parent-related factors that determine this process.

Theoretical background

Our research was guided by three theoretical perspectives: social learning theory (Bandura, 1965), ecological systems theory (Bronfenbrenner, 1979; 1995) and the uses and gratifications approach (Katz, Blumler & Gurevitch, 1974). According to social learning theory, learning is a result of observing behaviour (Bandura, 1965). Thus, even young children may observe, imitate and adopt their parents' and older siblings' media uses (Lauricella et al., 2015). For example, infants are more likely to look at the TV if their parents do so and to look away from it if that is what their parents are doing at the time. That is, parents facilitate their children's television viewing by their own viewing behaviour, possibly providing an implicit (and unintentional) form of instruction about when to pay attention to the screen (Anderson & Hanson, 2010). In addition, the time parents spend viewing various screen media is significantly associated with their children's screen time (Lauricella, Wartella & Rideout, 2015).

Furthermore, according to ecological systems theory (Bronfenbrenner, 1979; 1995) and its implications on media uses in the family (Jordan, 2004), understanding the formation of young children's media habits requires us to focus simultaneously on the characteristics of the individual child, the critical setting of the home and parental attitudes and practices concerning media. In this context, studies on the amount of infants' and toddlers' screen viewing have found that parents who believe that media have a positive impact on child development allow their children to watch more screen content (Lauricella, Wartella & Rideout, 2015; Vaala & Hornik, 2014).

Finally, the uses and gratifications approach (Katz, Blumler & Gurevitch, 1974) suggests that parents might seek to satisfy their childrearing objectives and personal needs by using media with their children (Beyens & Eggermont, 2014; Nabi & Krcmar, 2016). For example, parents might use screen media to occupy the child while they need to complete household chores or to regulate his/her behavior during challenging situations such as during meals or before bedtime (Beyens & Eggermont, 2014; Elias & Sulkin, 2017). Parental digital practices are no less relevant regarding the use of the TSDs that are employed by parents as digital pacifiers at home or in public places (Kabali et al., 2015).

The present study thus seeks to observe the development and consolidation of media habits during the first two years of the child's life, with attention to the totality of fac-

tors that are likely to affect this process, particularly the technological environment at home, family members' media habits, parental views regarding children's media use and the digital practices that parents carry out in performing their parental roles. Findings will be gathered in the toddler's natural environment and will thus enable evaluation of long-term processes.

Methodology

The methodology chosen for this research is based on a case study approach that allows a deep and nuanced understanding of a particular social phenomenon from a holistic perspective (Stake, 1995; Yin, 2014). While selecting the family for in-depth analysis, we adhered to two major criteria: First, the infant who is the focus of the study should not be the first child but should have at least one older sibling who could serve as a model for developing the infant's media habits. Second, the family should be technologically saturated, with an abundance of different media devices, including TSDs, available for all family members, to ensure it is not the lack of access to devices that prevents the infant from engaging with such media.

As this study is part of a long-term research project among ten families, we were able to select a family that met these requirements in full. Accordingly, the family chosen for the case study consisted of two parents and three children: an 8-year old boy, a 6-year old girl and a 6-month old infant whom we call Jonathan. Both parents were in their late thirties, held academic degrees and practiced prestigious, white-collar professions. However, only the mother was in charge of daily childrearing routine, as the father travelled abroad frequently and spent time at home mostly on weekends. The family has been living in an upper middle-class neighbourhood in central Israel. The couple owned abundant internet-connected screen devices, including two smartphones, three laptops, two PCs, two tablets, four TV sets connected to the internet and an X-box console.

To conduct the study, we applied a combination of ethnographic methods, that included eight observations at the home conducted every three months, three in-depth interviews with the mother, a weeklong media diary completed by the mother when Jonathan was 20 months old, as well as text and video reports she sent when she perceived an event she considered important to Jonathan's media uses. The observations took place in the family home from the time Jonathan was 6 months old until he reached the age of 27 months.

Each observation lasted an average of three hours during both weekdays (typically between 17:00 and 20:00) and weekends (between 09:00 and noon) and was videotaped. The principal categories used for conducting the observations were Jonathan's activities and behaviours, his and his family members' media uses, the family members' interactions concerning the media and the mother's parenting practices applied with Jonathan and his siblings. Interviews with the mother focused on her attitudes, and those of her husband, towards media effects; Jonathan's daily media uses and preferences; the chief

changes in his development; and the reasons behind the mother's uses of media with Jonathan. The interviews were audiotaped and transcribed verbatim.

Analysis of the data began with sequencing the various layers of information according to Jonathan's age and segmenting it with respect to principal developmental periods: up to 12 months, 13 to 18 months and 19 to 27 months, as these periods differ significantly according to cognitive, linguistic and motoric development (Guerra et al., 2012). Jonathan's media uses, his mother's attitudes and her parenting practices were analysed separately for each period and comparatively across periods. Thematic analysis was used throughout the process of coding to create meaningful patterns relevant to the research objectives (Strauss & Corbin, 1990).

Findings

6 to 12 months

The interview conducted with Jonathan's mother at the beginning of the study (when Jonathan was 6 months old) portrayed her as critical of media use and anxious over the possible harmful effects of excessive screen exposure on child development, such as attention and concentration problems, as can be seen in the following quote:

I believe that there is something very passive about [a child's] watching television that does more harm than good. It is of no benefit to child development. My husband even believes that it can cause autistic behaviour[...] Every minute that children watch television or use an iPad or PC is a waste of time.

Despite Jonathan's parents' apprehensions regarding media negative effects, our observations showed that in practice the family was characterized by a rather permissive approach regarding the older children's media use. On more than one occasion, Jonathan's siblings were watching television and/or playing with tablets for about two hours. We did not observe the older children's joint media activities, however: while one was watching television, another played with an iPad or vice versa. Furthermore, we noticed that the parents themselves were heavy media users: on weekends, the father worked on his laptop for a long time and he and his wife both used their smartphones very frequently, usually for reading and writing text messages. In the first interview, the mother mentioned that she even had difficulty restraining herself from reading Whatsapp messages while breastfeeding, though she realized that it was at the expense of interacting with her 6 months old son:

I would often breastfeed and chat via Whatsapp[...] At that time, I was not maintaining eye contact with him [Jonathan], but with my phone[...] It is really easy to spend an entire day without looking my baby in the eye. That's why whenever I breastfed, I would place my phone so that I always appeared to be looking at Jonathan, even when I was reading messages.

Jonathan's intensive exposure to screen media thus began during the earliest moments of his life, as he watched his mother use her smartphone constantly, even while he was being cared for in very intimate situations. In addition, Jonathan was highly exposed to the television programs aimed at his older siblings. As indicated, the two older children used to watch television for long periods in the living room. Whenever Jonathan was there with his mother, it was virtually certain that he would be exposed to screen content. Often, the older children played games on tablets while the television was still on. As such, during the first few months of his life, Jonathan experienced intensive background exposure to a multitude of screens, sounds and content.

Jonathan's foreground TV exposure began at the age of six months. In the interview, his mother told us that when Jonathan woke up too early (around 6:00), she or her husband would carry him to a crib set up in their bedroom. There, he watched Baby Einstein clips on YouTube streamed to a bedroom TV set while his mother tried to get a bit more rest.

Another important development took place at the age of nine months, when Jonathan displayed interest in the BabyTV Channel, a television network for infants and toddlers. Jonathan's first encounter with the channel was during a family trip abroad, when he watched iPad clips of children's songs that his mother uploaded from the channel's website before the flight. Jonathan showed a great interest in this content, so his mother decided to show him BabyTV at home too and to use it as part of her childcare routine, as may be seen in the following observation conducted when Jonathan was 11 months old:

At 19:00, after his bath, Jonathan's mother would strap him into his bouncer seat and say: "This is television time". At the same time, she put his socks on him and combed his hair as he watched. Afterwards, she looked straight at the researcher and explained: "That gets him ready for sleep". Following this routine, Jonathan remains in the seat for another ten minutes and watches the BabyTV Channel with great interest, while his mother goes to the kitchen and prepares dinner as she sends and receives Whatsapp messages.

On other occasions too, we observed the mother putting Jonathan in front of the TV during meals, to calm him down before bedtime or keep him busy when she was unable to give him attention. Moreover, Jonathan's parents encouraged his transformation into an enthusiastic TV viewer by providing him with accessories aimed at intensifying his viewing experience. Thus, at the age of 11 months, Jonathan was given a comfortable TV chair for toddlers that was placed in front of the TV set in the living room. A month later, he was provided with his own remote control (without batteries), because he insisted on watching TV while holding a remote just like other family members.

13 to 18 months

1-year old Jonathan is now attending a childcare centre for eight hours a day (8.00-16.00) while his mother is back working full time. When he returns home, the living room TV

set is usually on and tuned to BabyTV, his favorite channel. During this period, he starts using his limited verbal skills to express this preference by saying “Baby”. Furthermore, as in earlier observations, the television is still serving as a multifunctional parental aid for Jonathan’s mother, as may be seen in the following observation conducted when Jonathan was 15 months old:

Jonathan gets restless and starts to cry. His mother asks: “Are you hungry? All right [...] We’ll put the TV on for you.” After she turns on the set and takes him in her arms, she tells him: “Let’s dance!” Jonathan is happy and claps his hands when his mother sings “ta ta ta” and dances to the music of BabyTV, but only for a short while. After about a minute, she seats him in his TV chair. Then she goes to the kitchen, picking up her smartphone on the way, as Jonathan remains alone watching TV in the living room.

Jonathan’s media experience, however, is now more diverse than in the past. At the age of one year, Jonathan was given his brother’s old iPad. The device became so important for Jonathan that its brand name was one of the first five words he could pronounce: “iPo.” For Jonathan’s mother, the iPad soon became an additional parental aid that helped her facilitate childcare, occupied Jonathan when she needed to complete household chores or granted her some free time that she usually used for reading and writing messages on her smartphone.

It is important to indicate that most of Jonathan’s iPad usage was individual and not mediated by his mother or older siblings. What we noticed during observations was that the mother uploaded the first video on Youtube (usually children’s songs from BabyTV website) and then handed the iPad to Jonathan, who operated the device on his own, while his mother was busy with her household chores.

19 to 27 months

At the beginning of this period, Jonathan is not only an enthusiastic TV viewer, but also an eager iPad user who knows exactly what media device he would like to use and expresses his viewing preferences verbally: “Baby” [for BabyTV] and “iPo” [for iPad]. As Jonathan’s iPad use increases to more than one hour, however, his parents begin to worry. Their formerly neutral stance toward iPad usage became negatively oriented, as is evident in the following excerpt from the interview with Jonathan’s mother conducted when her son was 19 months old:

Jonathan can sit for an hour and watch clips [on the iPad]. We started to worry and we are trying to wean him away from it[...] The clips can harm the [neural] connections forming in his brain. They have repetitive and fast-moving elements. He would be better off playing.

Although Jonathan’s parents are worried about the amount of time Jonathan spends with the iPad and the harmful features of the animated content (such as the fast moves), they

do not pay sufficient attention to the images to which he is exposed, as the following observation reveals:

Jonathan was playing with toy cars while watching BabyTV on the living room TV set. Then the mother handed him an iPad that was already playing a favourite clip of his – based on the children's song *Daddy Finger* – and went into the kitchen. Jonathan immediately stopped watching television and grabbed the iPad. At first, he appeared to lack interest in any particular clip and was skipping from clip to clip while watching each of them for about 20 seconds. But then one clip attracted his attention: It featured an innocent children's song, but in the background, the Incredible Hulk was engaging in some highly aggressive behaviour towards other characters. Jonathan was totally engrossed in the clip and spent much more time watching it – 3.5 minutes – than any other clip he viewed on that occasion. All in all, Jonathan watched videos for about half an hour, going through 41 clips and viewing only one (the Hulk) from beginning to end. All that time, his mother remained in the kitchen, looking at him from time to time, but completely unaware of the images to which her son was exposed.

Several insights may be derived from this observation. First, Jonathan's mother offered him the iPad so that she would have time to make dinner. As we know from previous observations and the interviews with the mother, she assumed that being an eager iPad user, Jonathan would use the device for a long time. The iPad thus served as a readily available digital babysitter that kept him within the limits of the living room without seeking his mother's attention. In addition, this observation reveals the lack of parental mediation of Jonathan's iPad use, as the mother selected the first clip only, relying on her son's ability to proceed from clip to clip. It also appears that the mother was not aware of harmful content that was only a couple of clicks away from Jonathan while he remained within the ostensibly safe space of children's songs.

All other observations were evidence to the very rare attempts at parental mediation, that were applied to book reading alone. Moreover, even those few attempts took place when the television was on in the background and competed for Jonathan's attention, as demonstrated in the following observation conducted when Jonathan was 24 months old:

Jonathan points to a book on the floor with pictures of animals. His mother picks up the book and asks him: "What does a lamb say?" But even though Jonathan asked for the book at his own initiative, he did not answer her, but remained engrossed in watching the TV screen. His mother, looking tired, asks him the same question again, but not in an engaging and enthusiastic way. Jonathan did not respond. Seeing there was no response from Jonathan, his mother got up and went to the kitchen, while Jonathan stayed put and watched television.

We completed the study when Jonathan was 27 months old. At this age, Jonathan expresses a clear preference for iPad over television. This change can be seen in a new arrangement of his media accessories: His TV chair had been removed from the living

room and stood unused by the door to the den, in contrast to the iPad, that was permanently situated on the coffee table. In parallel, it seems that the iPad's central role in his mother's parenting routine has changed her negative views regarding this device. While in the past, she voiced apprehension over its use, in her last interview, she chose instead to emphasize the iPad's contribution to her son's development:

As time passed, I became convinced that it's beneficial. He has a choice and can control how much time he watches each clip, unlike watching television that is completely passive. The iPad facilitates the ability to control content [...] He learns to skip ads and to control what he watches and for how long.

Jonathan's mother thus found a solution, if only temporary, to the dissonance she experienced when she criticized excessive media use but needed television – and later an iPad – as a multipurpose tool to help her balance care of Jonathan with her other household duties and with her need to have time for herself.

Discussion and conclusions

The study's unique value is reflected in a long-term holistic examination of a formative process of shaping media habits and skills of a very young child in his familial environment. First, in line with social learning theory (Bandura, 1965), the study indicates how a toddler is influenced by his family members' media behaviour. Indeed, by the end of the study, Jonathan had become a media consumer like his older siblings, who prefers individual iPad use to joint media activities. Likewise, in accordance with ecological systems theory (Bronfenbrenner, 1995; Jordan, 2004), the study shows how family interactions shape the child's media experience and its findings emphasize the crucial contribution of the immediate family environment to the formation of media habits and preferences in early childhood.

Furthermore, the study reveals a significant contradiction between deep parental concerns regarding media's harmful effects and Jonathan's high media exposure, that became intensified by his mother's frequent use of screen media as part of her childrearing routine. In this sense, the implication of the uses and gratifications approach (Katz et al., 1974) on parent-child relationships reveals that Jonathan's media habits have been determined by his mother's parenting needs. As the study demonstrated, Jonathan's mother heavily employed television and later an iPad as a stand-by babysitter and a digital pacifier, despite her concerns towards media negative effects. Thus, in contrast with the well-known assumption that parental attitudes have a powerful influence on their children's media exposure (e.g. Vaala & Hornik, 2014), our study shows that other forces, such as time pressure and daily constraints, moderate the relationship between parents' negative attitudes and children's screen use.

Moreover, it appears that Jonathan's mother, who experienced a strong need to use media with her child as part of her daily routine, eventually adopted a more positive

attitude towards media effects. This finding provides a rare empirical evidence of the theoretical assumption that associations between parents' attitudes and their children's screen uses might not be linear and causal but rather reciprocal and mutually sustaining (Jordan, 1990). Although the prominence of certain media uses may be ascribed to parental attitudes, our study suggests that parents who experience a greater need to use the media with their children may develop a set of beliefs consistent with their digital parenting practices to avoid dissonance.

Finally, we would like to thank Jonathan's parents, especially his mother, who opened their home and hearts to us and allowed us a rare glimpse into the life experience of a contemporary family in which a new baby is born into a digital media-saturated home environment. It is important to emphasize that we find no fault whatsoever in the mother's intensive use of various media as she raises her toddler. On the contrary, our intention is to present a realistic picture of the life routine of a mother of three who has to manoeuvre between supporting her husband's career, achieving her own professional goals and raising a family and who at times finds relief in digital parenting practices that help her cope with the various types of pressure engendered by household management and bringing up children.

Thanks to the mother's openness and honesty, we achieved a more nuanced perspective on the daily life constraints underlying the young children's media experiences that should be recognized in future studies on shaping infants and toddlers' media habits. As such, our findings not only support the claim that TSD use has become normative behaviour among very young children (Holloway et al., 2015), but also emphasizes how deeply it is integrated into the daily childrearing routine and parenting practices.

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