Screens' domestication in childhood: uses and parental mediation in city and rural contexts

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Abstract

The aim of this study was both to characterize screen use by children in domestic spaces depending on their urban or rural contexts and how their families intervene. For this purpose, four focus groups were applied to four- and five-year old children living in Lisbon and Vila Pouca de Aguiar, in Vila Real district. Eight parents from both contexts were interviewed. The main conclusions are: 1) in rural contexts, rather than in the city, children use more screens; 2) parents from both contexts are accountable for children's access to screens, especially smartphones and tablets; 3) the main explanation is parents' concern with children's social exclusion in case they don't use screens; and 4) parents from urban context reveal more risk awareness concerning their children's exposure to technological devices.

Keywords

screens; childhood; uses and mediation; domestic spaces; urban context; rural context

A domesticação de ecrãs na infância: usos e mediação parental em meios citadino e rural

Resumo

Este estudo procura caracterizar a utilização dos ecrãs no espaço doméstico em função dos contextos citadino e rural das crianças até aos cinco anos e conhecer como a família intervém na sua introdução e utilização. Para o efeito foram realizados quatro grupos de foco com crianças de quatro e cinco anos residentes na cidade de Lisboa e em Vila Pouca de Aguiar, no distrito de Vila Real e oito entrevistas semiestruturadas com pais e mães de ambos os contextos, chegando a várias conclusões: 1) as crianças do contexto rural são mais utilizadoras dos ecrãs em casa que as crianças da cidade; 2) os pais/mães de ambos os contextos são os responsáveis pelo acesso dos filhos aos ecrãs, sobretudo smartphones e tablets; 3) a principal explicação é a preocupação dos pais/mães com a exclusão social das crianças caso não os utilizem; 4) os

progenitores/as do meio urbano denotam uma maior perceção dos riscos associados à exposição dos filhos aos dispositivos tecnológicos.

Palavras-chave
ecrãs; infância; usos e mediação; espaço doméstico; contexto urbano; contexto rural

Introduction

Most home environments have several televisions, tablets, computers, and cell phones, all connected to the internet and available to adults and children (Paudel, Jancey, Subedi & Leavy, 2017). Television and tablets are the gadgets children under five years old use the most (Köksalan, Aldim & Göğebakan, 2019; Ponte, Simões, Batista, Castro & Jorge, 2017). In homes, small screens gained popularity amidst the youngest due to their portability, intuitive usability, and rapid capacity to access diverse contents (Kabali et al., 2015).

Screen exposure occurs from only few months old babies, progressing along childhood and youth, and many access technologies from their rooms and watch TV or use their tablets during meals (Patraquim et al., 2018). This screen omnipresence in childhood, especially in pre-school children (Duch, Fisher, Ensari & Harrington, 2013) has aroused concerns within families and health professionals about possible effects on their well-being (Bell, Bishop & Przybylski, 2015; Domingues-Montanari, 2017). This childhood "digitalization" recalls questions on the meaning, availability, and use of these media outlets in children home everyday life. The focus is not only on their protection, but also on family's preparation for new challenges in parental care (Cordeiro, 2015; Przybylski & Weinstein, 2019).

This study poses two main questions: 1) how is screen use in pre-school children homes characterized in city and rural contexts?; 2) what is parents' perception on underlying motivations of screen use by their small children and of their mediation, conscious (or not) of associated risks in this age range?

The rural context is represented by Vila Pouca de Aguiar (hereafter referred to as V.P.A.), a small village in Vila Real district, situated in Trás-os-Montes and Alto Douro province, with a little over 13 thousand people. The urban context is represented by the Portuguese capital, Lisbon, the largest and most populated metropolitan area of the country, where over 547 thousand people live (INE, 2011).

In this paper screen use risks for the first childhood were emphasized, because a child "is not the miniature of an adult", and needs to "be protected from any danger" by their caregivers, on account of a child's inability to make "thorough choices, given the lack of knowledge, wisdom and systemic comprehension of phenomena" (Cordeiro, 2015, p. 110).

Screen access and consumption in domestic settings

Television was the first screen to impose in consumption habits, occupying its place as a sort of families' babysitter (Beyens & Eggermont, 2014). Moving along to the 21st century, television audiences decreased in all age segments (Cardoso, Mendonça, Paisana, Lima & Neves, 2015), sharing children's attention with small, tactile digital screens, with access to diverse applications (Kabali et al., 2015; Ponte et al., 2017).

In Portugal there is also a greater technological environment in households with children (INE, 2015), which enables a screen exposure greater than recommended (Council on Communications and Media, 2013). The *Happy kids'* study (Dias & Brito, 2018) concluded that under two-year-old children are the biggest users of smartphones and tablets on families' encouragement. The authors realized that television is no longer an "electronic nanny", but a mere "background noise" that shares attention with other screens. Brito (2018) showed that under six-year-old children already prefer tablets and many possess one for their personal use. This study has however verified that the television is still on a children's channel while in parallel using one parent's tablet or smartphone. Patraquim et al. (2018) confirmed that those screens' exposure occurs begin in months-old babies, and progresses over childhood and youth, either in the room or during meals. Age is, therefore, the central variable in the analysis of this multimedia society (Cardoso et al., 2015), with and increasingly earlier presence of interactive media and a significant impact on children's lives (Ariani, Putu, Aditya, Endriyani & Niati, 2017).

Children of this digital era were called "digitods" by Holloway, Green and Stevenson (2015). The fact that their parents are the first "digital natives" (Prensky, 2001) enables this *habitus* integration in their children everyday life and there is even a certain enthusiasm and pride in their independence and ability to use (Plowman, McPake & Stephen, 2010). When the family is an active screen consumer, there is a great probability to project in children a positive perception regarding utility and pleasure using such devices (Kabali et al., 2015). Hence, the offer and use of tablets and smartphones to children occurs in family everyday life: as a reward for good behaviour or school results; to distract them while eating or dressing; to facilitate sleeping time; to control tantrums or as educational support (Dias & Brito, 2018; Kabali et. al., 2015; Ponte et al., 2017).

For Ponte and Vieira (2008), using these devices with internet resource, when properly, may lead to better school results, enable information and entertainment access, and promote youngsters' interaction and integration. The authors stress, however, the importance of monitoring usage time, consumed contents, type, and players in interactions. This is foremost important with younger children, because over-stimulation affects their mental/psychological, social and physical well-being (Kardefelt-Winther, 2017). Depressive states of mind, poor language skills, lesser curiosity, frustration, obesity, sight and sleeping problems, etc, are amongst possible effects (e.g. Gottschalk, 2019; Kardefelt-Winther, 2017; Twenge & Campbell, 2018).

Çetintaş and Turan (2018) realized that pre-school children make an intensive use of digital devices and are very at easy with them, though unaware of possible content related dangers. Families are supposed to exert the instrumental power in portable screens

access management by children and in supervising contents (Nikken, 2019). This applies especially to under five-year-old children, dependent on caregivers in their access to technology (Ofcom, 2019).

Mediating different media use by children requires parents to restrict maximum daily exposure to one or two hours, to forbid any screen to under two years-old children, not to allow any screens in children's rooms, to monitor viewed contents and to discuss their values and ideals (Council on Communications and Media, 2013).

Parental mediation in children domestic screen consumption

Generally, families tend to follow strategies to mediate screen use since childhood, acting according to the present and how they pretend them to do in the future (Livingstone, Mascheroni, Dreier, Chaudron & Lagae, 2015). Domoff et al. (2019) show that parental mediation is associated with better childhood performances.

The first typology of mediation based on television and computer internet consumption identified three strategies of action: *active*, that stimulates the critical decoding of contents in the child; *restrictive*, that limits and imposes rules over usage time and contents a child may access; *co-use*, promoting joint use of technology (Nathanson, 1999). As new screens expand with a more individualized use, given their dimension and portability, the European network "EU kids online" (Livingstone et al., 2015) identified five styles of parental intervention: *active mediation* (that integrated co-use), with sharing and discussion along online activities; *safety mediation*, based on counselling and guidance related to risks; *restrictive mediation*, related to rules and prohibitions; *technical mediation*, supported on the use of filters to ban access to certain channels and contents and *monitoring*, in which parents check computer history, social networks access and contacts, phone calls, etc.

Mendonza (2009) refers that restrictive and active parental mediation are associated with more positive results for child development because: 1) children will be less exposed to inappropriate screen content; 2) children become more critical of media contents in general; they will tend to privilege educational contents; 4) they generate better school results. The author added that co-use parental mediation promotes positive effects on parental bonding and on children cultural preferences. Livingstone and Byrne (2018) found that a more favourable parental mediation has been positively associated both to opportunities and to a higher risk possibility during children's online experiences. On the other hand, a more restrictive mediation was associated with lesser risks, but also to less online opportunities lived by children.

Parental mediation may be influenced by the child's gender, age, socio-economic family status, as well as parental style (Livingstone & Helsper, 2008). Baumrind (1991) presented several parental styles: *authoritative parenting*, in which parents are more receptive, yet demanding; *authoritarian parenting*, characterized by higher control and low affection; *permissive parenting*, with a friendly, solidary and undemanding profile and; *laissez-faire parenting*, without involvement and responsiveness.

Despite existing parental mediation styles, it is not possible for parents to permanently intervene over 24 hours, given device and digital contents omnipresence, and multiple tasks to fulfil inside and outside the household (Nomaguchi, 2009). Not to feel so overwhelmed, many parents tend to invest less in parental mediation and to trust more in technology to keep their children busy, especially when daily problems exceed their time, space, energy and finances (Evans, Jordan & Horner, 2011). Limiting media use also demands parents to offer their children alternative sources of entertainment (Evans et al., 2011) and to have enough knowledge to manage technology and/or contents their children access (Nevski & Siibak, 2016; Nikken & de Haan, 2015).

Furthermore, if there are social contexts in which older siblings guarantee, in the absence or unavailability of parents, guidance in media use by younger children, teaching how to use smart apps and choosing age appropriate contents (Nevski & Siibak, 2016), in other contexts they only complicate more, exposing the younger child to age inappropriate contents (Nikken & de Haan, 2015).

Blum-Ross and Livingstone (2018) concur that parents live today in a paradox. They either feel difficulties and concerns, reinforced by many experts, by the relentless flux of digital media in their children's life, acknowledging that exposure time to those devices is physically and mentally harming them, as they enjoy the opportunities, pleasures and conveniences of the digital world in their everyday life. And apart from that enjoyment, parents project themselves into a future that will demand their children the "skills of the 21st century".

Sociodemographic specifications of domestic screens exposure and mediation

Media consumption experience varies according to different social, cultural, political, and economic regional realities. Already in 1998, Livingstone had found several differences in European countries, e.g. two out of three British children had television in their rooms, which contributed to the individualization and social fragmentation in the households. Kabali et al. (2015) also found that children from urban areas are those who possess almost total access to mobile screens and the majority got their own device around the age of four.

Ponte et al. (2017) established a relationship with socioeconomic family levels and found that children's television consumption is higher in low income households, while those from higher socio-economic levels possess more internet access in the different devices existing in domestic spaces. Concerning this matter, Harris et al. (2018) verified that children from low economic resources, especially when from ethnic minorities, tend to present a deficit of digital literacy, due to the lack of access to internet connected devices and contents.

Clark (2013) analysed the presence, use and mediation of technology in American households, according to income and school level, concluding that these variables together influence inequalities in the technological context. When crossing low incomes

and low educational levels, the author found an above average acquisition of devices in households, accompanied by a generational gap in digital experiences. Therefore, parents showed, ambivalently, concerns and restrictions. When relating low income and high education levels, a technological heterogeneity was found, with households highly and poorly equipped. In this association the highest proportion of monoparental families was found, in which the parent trusted his/her digital skills and the mediation abilities, privileging restrictive and active strategies. In the mutual combination of family income and high education levels, an "ethic of expressive empowerment" was perceived, with different practices and strategies to manage restrictions in the use of digital devices and the promotion of offline home activities, and especially outdoors. These families also tend to work with digital media at home, in full conscience of how this makes it difficult to limit digital screen use by their children.

Weber & Mitchell (2008) also refer that not all children live surrounded by technology and there are households with economic resources but without computers, smartphones, mp3 or even PlayStation, in which children are enrolled in sports activities, socializing with friends or reading books.

Method

To answer research questions, an exploratory qualitative approach was developed through focus group sessions with children from V.P.A and Lisbon, together with semi-structured interviews with parents from both spaces, and conducted along April 2019. To enable comparisons between screen use and mediation strategies with these techniques, it was sought to establish family panels with similar income levels, although education levels are higher for Lisbon parents (Table 3). To protect participants' identities, names given to children and parents are fictional.

Four focus group sessions were hence conducted with four to five-year-old children, ten from Lisbon and ten from V.P.A., separated by sex. The decision to conduct sex divided sessions intended to prevent possible inhibitions children might have on the debate about screen use at home and especially about consumed contents. To increase interaction in these individuals with limited expression skills, the minimum recommended number for focus group was gathered (Bryman, 2016). Children under four years old weren't included due to age related language difficulties.

Discussion issues were organized according to family context; screen existence in the household; children's possession and/or access to screens; most watched contents in diverse screens; other (traditional) entertainment practices. The "script" application followed all ethic procedures, as an informal conversation. Prior to session, parents were explained the aim of the study and all procedures; every child participated with a formal authorization from parents and educators.

Sessions took place in the kindergarten of the school group of V.P.A. and of Santo António parish, in Lisbon. Here, the kindergarten was the free time facility (ATL) of

the parish, because data gathering was conducted during Eastern holidays and school groups' kindergartens were closed.

Two panels of four parents were interviewed in parallel, using semi-structured scripts. Parents were chosen according to two basic criteria: having children under five years old and living in one of the two areas of this study. The script was organized according to contextual questions, screen existence in the household; children's age when first allowed to use screens in the household; mediation type in use and content exposure and related parental concerns. These parents' households mostly have a nuclear structure, except for a parent from V.P.A. whose household also integrates the grandmother and the great grandmother and another from Lisbon who lived alone with his daughter. Interviewees' age varies between 29 and 39 years old and their children were between six months and four years old.

Tables 1 and 2 sum up background information on focus groups' children and table 3 refers to parents living in V.P.A. and in Lisbon, respectively.

VILA POUCA DE AGUIAR				
"Pedro"	**"Tiago"**	**"Rodrigo"**	**"José"**	**"Miguel"**
Five years old	Four years old	Five years old	Four years old	Five years old
- Goes home, after school, in a Municipal transport. - Lives with his mom and dad. - Has no extra-curricular activities.	- Goes with his grandmom to her house, after school, until his mom arrives from work (18h). - Lives with his mom and dad. - Has no extra-curricular activities.	- His mom picks him up at school and they go home. - Lives with his mom, dad and seven months-old sister - Has no extra-curricular activities.	- His dad picks him up at school and they go home. - Lives with his mom and dad. - Has no extra-curricular activities.	- Goes home, after school, in a Municipal transport. - Lives with his mom and dad. - Has no extra-curricular activities.
"Beatriz"	**"Cláudia"**	**"Benedita"**	**"Gabriela"**	**"Inês"**
Five years old	Five years old	Four years old	Four years old	Five years old
- Her mom picks her up at school and they go home. - Lives with her mom, dad and little six months-old brother. - Has taekwondo on Tuesdays and Thursdays until 18h30.	- Her mom picks her up at school and they go home. - Lives with her mom and dad. - Has no extra-curricular activities.	- Her dad picks him up at school and they go home. - Lives with her mom, dad and nine years old sister. - Has no extra-curricular activities.	- Her mom picks her up at school and they go home. - Lives with her mom, dad and 12 years old brother. - Has taekwondo on Tuesdays, Wednsdays and Thursdays until 18h30.	- Her mom picks her up at school and they go home. - Lives with her mom and dad. - Has karaté on Mondays and Thursdays until 18h.

Table 1: Characterization of the children living in Vila Pouca de Aguiar

Lisbon				
"João"	**"Martim"**	**"Duarte"**	**"Lucas"**	**"Afonso"**
Five years old	Five years old	Four years old	Four years old	Four years old
- His mom picks him up at school and they go home. - Lives with his parents and 11, eight and two years old brothers. - Has no extra-curricular activities.	- Goes with his grandmom to her house after school, until his mom arrives from work. - Lives with his mom. and dad - Has no extra-curricular activities.	- Both parents pick him up at school. - Lives with parents and eight and two years old brothers. - Has football on Tuesdays and Thursdays.	- Both parents pick him up at school. - Lives with his parents and 11 years old sister. - Has no extra-curricular activities.	- Both parents pick him up at school. - Lives with his parents and six years old sister. - Goes swimming twice a week.
"Eva"	**"Carolina"**	**"Amélia"**	**"Sofia"**	**"Violeta"**
Four years old	Five years old	Four years old	Five years old	Five years old
- Her mom picks her up at school and they go home. - Lives with her parents and one, seven and eleven years old sisters. - Has gymnastic on Tuesdays and Thursdays.	- Both parents pick her up at school. - Lives with her prents and her four years old brother. - Goes swimming on Wednesday.	- Her mom picks her up at school and they go home. - Lives with her mother during the week and with her father and siblings, aged 12 and 21, on weekends. - Has artistic gymnastics on Tuesdays and Thursdays.	- Her mom picks her up at school and they go home. - Lives with her parents and two, four and eleven year old sisters. - Has gymnastic on Tuesdays and Thursdays and English classes on Wednesdays and Fridays.	- Her mom picks her up at school and they go home. - Lives with her parents and two years old brother. - Goes swimming on Fridays.

Table 2: Characterization of the children living in Lisbon

Vila Pouca de Aguiar			
Father "António"	**Father "Carlos"**	**Mother "Madalena"**	**Mother "Judite"**
- 37 years old; - schooling: 7th grade; - gardener.	- 35 years old; - schooling: 9th grade; - merchant.	- 39 years old; - graduated; - teacher.	- 29 years old; - schooling: 12th grade; - geriatric assistant.
Works Monday to Friday from 9am to 6pm. Household composed by him, his wife, two children (three and 14 years old) and by his mother-in-law and her mother. Time with the child: about two to three hours a day (he gets home around 7:30 pm and the youngest child goes to bed at 9 pm).	Works seven days a week from 7:30 am to 3 pm. Household composed by him, his wife and daughter (three years old). Time with the child: daily he picks her up from ATL around 5 pm, and spends the rest of the day with her, until bedtime, around 9 pm.	Works from Monday to Friday, about six hours a day. Household composed by her, her husband and two children (three and eight years old). Time with the child: all the time between 5 pm, when leaving the kindergarten, until bedtime, close to 9 pm.	Works eight hours from Monday to Friday (7 am to 3 pm). Household composed by her, her husband and two children (one and nine years old). Time with the child: all the time between 3 pm, until bedtime, close to 9 pm.

Lisbon			
Father "Pedro"	**Father "Miguel"**	**Mother "Marta"**	**Mother "Vera"**
- 30 years old; - graduated; - children's soccer coach, AEC (Curriculum Enrichment Activities) teacher and *Expresso* (newspaper) chronicler. He works seven days a week in different schedules. Household composed by him and his daughter (one year old). Time with the child varies according to his availability.	- 31 years old; - graduated; - postman. Works from Monday to Friday, eight hours a day. Household composed by him, his wife and his nine-month-old daughter. Time with the child: from the time he gets home until bedtime.	- 35 years old; - graduated; - journalist. Works eight hours a day, Monday to Friday. Household composed by her, her husband and her four year-old twin sons. Time with children: from 6 pm to bedtime (9 pm / 9:30 pm).	- 32 years old; - graduated; - education assistant. Works in seven hours shifts. Household composed by her, her husband and a one year-old daughter. Time with the child: whenever she is not working.

Table 3: Characterization of parents from Vila Pouca de Aguiar and Lisbon

Children participating in focus groups and interviewed parents are not family related. It was important to have access to screen experiences lived by younger children (until three years old) and that was only possible through parents. Furthermore, this option enabled, albeit indirectly, increasing knowledge of screen use experiences by children and of parental mediation by crossing participating children and parents' perceptions.

Because this research has an exploratory nature, are not feasible any generalization from these cases of children and parents from Lisbon and V.P.A. to all children and parents in these contexts.

Results

Child entertainment in participant children free time

Concerning children's contextual information, most V.P.A. children have more free time, as they return home after school, while eight out of ten Lisbon children go from school to extracurricular activities (Tables 1 and 2 respectively). In a study of screen use in the household, differences in children's available time at home, during the week, must be considered.

Traditional play exists in these children's life, but those from Lisbon referred more collective activities (playing cards, football, balloons, hide and seek, catch) talking often about their siblings, while children from V.P.A. referred more individual activities (Lego constructions, super-hero accessories play, cars, playing "moms", etc). This difference may derive from V.P.A. children being mostly cases of one only child. In both groups preferences for gendered toys were perceived: boys referred cars, balls and super-heroes and girls mentioned dolls, cuddly toys and unicorns.

Regarding screens, television was referred by every child, and all with internet connection. Cable TV channels were privileged, although V.P.A. children only referred Panda channel, unaware of the names of others they also watch. Lisbon groups easily identified

what they watched on Disney Channel, Cartoon Network, Disney Junior, Panda and Boomerang channels. The Lisbon girls group also said that they accessed Netflix. Contents seem to be animation and age appropriate. A gendered consumption was note, especially on V.P.A.'s children, and it may also be associated with the majority being an only child, having more autonomy in the contents choice. This factor can also explain why more children from V.P.A. refer they watch television alone. In Lisbon, also Martim and Amelia said they watched alone, him being an only child and her just being with older brothers when she goes to her father's house. The other children from Lisbon referred watching with parents and/or siblings. Daily screen use routines are common to all participant children: they watch when they are getting ready to go to school, when they get home from school and before they go to bed.

Digital devices were not immediately pointed at this stage of the session. Only two V.P.A. children mentioned "Nintendo playing" (Rodrigo) and "watching tablet" (Miguel).

Vila Pouca de Aguiar				
	What they do after school	Favorite toy / game	Television contents	With whom they watch
"Pedro"	Plays outside with little cars and machines	Not referred	Cartoons	With his parents
"Tiago"	Watches television and plays with cars	Playing "à apanhada" (catching each other)	Cartoons	Alone and accompanied
"Rodrigo"	Plays *Super Mário* (Nintendo)	Super-heroes dolls (Hulk); playing 'à apanhada' (catching each other)	Mikey; super-heroes	Most of the time alone
"José"	Plays with legos	Little cars	Super-heroes	Alone and accompanied
"Miguel"	Watches television, enjoys and plays on the tablet	Plays with spider-man costume and mask; super-heroes games and *Fortnite*	Spider-man	With his parents
"Beatriz"	Goes to snack with her mother; practices taekwondo; watches cartoons on television	Dolls; playing "ao machado" (game they play in the playground)	The Peppa piggy	With her mother
"Cláudia"	Plays with dolls; watches television	"I like it better to play hide and seek. But about toys, dolls are also my favorites"; playing "macaquinho do chinês"	Rapunzel	Alone
"Benedita"	Plays with her sister with dolls	"Unicorn Teddy"; "running games"	Minnie	"With my sister, but not with my parents"
"Gabriela"	Plays in the park; goes to practice taekwondo; plays with her dad	Dolls; playing "moms and dads".	Minnie	"With my brother"
"Inês"	Goes to practice karaté; plays with dolls	"I also like to play with a giant unicorn that Santa Claus gave to me"; playing "às casinhas" (on the housemaking)	Mickey Mouse	Alone

Table 4: The entertainment of children from Vila Pouca de Aguiar in the domestic space

	What they do after school	Favorite toy / game	Television contents	With whom they watch the screen
Lisbon				
"João"	Plays cards	"My favorite, even preferred, is the Sporting Lion"; playing football	*Titio Avô* (Uncle GrandPa)	With his brothers and parents
"Martim"	Watch television	Bouncing balls; the killer clown's game	*Titio Avô* (Uncle GrandPa)	Alone
"Duarte"	Plays with baloons	"The gloves of Porto Football Club"; playing hide and seek	"I see more that of the dragons; that's what I like more to see"	Alone or with his brothers
"Lucas"	Plays football	"My soccer cleats"; playing hide and seek, "à apanhada" (catching each other) and "à cabra cega"	*Bingo Rolly*	With his Parents and sister
"Afonso"	Plays football; watch television	"My football balls"; playing football	"I don't know the name, but I also see that of the dragons"	Accompanied
"Eva"	Goes to the park	"I like all my Unicorns! I have many, many. I even have a big one that I sleep with"; playing "Princesses"	*Patrulha Pata* (Paw Patrols)	With her sisters and parents
"Carolina"	Goes to the park	Teddy bear; playing 'à apanhada' (catching each other)	*Sunny Day.*	With her brother
"Amélia"	Goes to the park	Unicórnios; macaquinho do chinês	*Power Rangers*	Alone
"Sofia"	Goes to the park; rides the bycicle	Mickey doll; playing on the sly; painting books; playing 'moms and dads'	*H2O*	With her sisters
"Violeta"	Walks with her mom	"Teddies and 'babies'"; "we sometimes don't play at all, we walk around the playground talking and so…"	*Tom & Jerry*	With her mom

Table 5: The entertainment of children from Lisbon in the domestic space

Screen consumption and children's perception of use rules

Every child in the study said their homes were equipped with (at least one) television and smartphones. The "tablet" issue was received with great enthusiasm in every session, but a difference was noted regarding possession and/or access between V.P.A. and Lisbon groups – eight out of ten children from V.P.A. own and/or use tablets and, from those, five have one just for themselves. In Lisbon groups, only five of 10 children have access to this device and they mostly come from parents or siblings (Tables 6 and 7).

Privileged contents by most children from both V.P.A. and Lisbon, when using mobile screens, were animation videos and from the Youtuber Lucas Neto. Five children from the rural context, mostly boys, said they also play on the smartphone and tablet. In the Lisbon group, only Martim said he also plays. Using these devices in both spaces occurs mostly in the household, with only a few exceptions (grandparents' house, at the restaurant and in car travels).

Regarding rules perception, children from V.P.A. focus groups revealed less rules perception regarding use. Only Miguel said his mother imposed a time limit because he

was getting addicted – "I may only use half an hour at night (...) and half an hour when I get back from school". Beatriz and Gabriela from V.P.A. approached (the same) content restrictions because it "was scary". The other children said they could watch it whenever they wanted. Several children from Lisbon groups stated they depended on their parents' permission.

	Vila Pouca de Aguiar			
	Tablet/smartphone owner	**What they do with tablets/smartphones**	**Where they use tablets/smartpho-nes**	**Perception of usage rules**
"Pedro"	"My tablet is only mine"	Watch videos (you-tuber Lucas Neto)	Just at home	" I have no rules on the tablet. But I just can see the phone on Sundays "
"Tiago"	"I have an old tablet and a new tablet. I have two of mine"	Games (*Crocodile*)	At home and "when I go to eat in the res-taurant with my dad"	" I don't have rules. I can see at home, when I'm on vacation or when I'm in my room "
"Rodrigo"	"I have one tablet"	Watch "galactic cat" videos	Just at home	"I don't have rules. I can see every days"
"José"	Not referred	Watch videos (*Super Mário*, Lucas Neto and Mickey); games (*diamantes*).	Not referred	"I never have rules. I see when I want"
"Miguel"	"The tablet is only mine"	See videos (youtuber Lucas Neto, *MineCraft* and Spider-man); games (*MineCraft*)	At home and at Grandma's home	"My mom gave me rules, because she said I was very addicted"
"Beatriz"	"I haven't a tablet, neither my mom"	(The youtuber) Lucas Neto	Not referred	"I can't watch cell phones. My parents showed me a doll that looked bad, said bad things to the children" (Momo)
"Cláudia"	"I have a tablet that is my mom's"	"I play games on the tablet. But I don't watch videos"	At home	"I have no rules"
"Benedita"	"The tablet is my sister's"	Cartoons: the Peppa piggy and princesses; games	At home and at Grandparents' home	" I can watch my tel-evision every day, which is the smallest"
"Gabriela"	"My computer is my brother's and mine "	Youtuber Lucas Neto; "I see a game of animals"	Not referred	" My parents don't let me watch [the youtuber] Lucas Neto, because I dreamed that the witch really existed"
"Inês"	"My father has one and I also have one"	Cartoons (*Bingo e Rolly*)	At home	"My parents don't let me watch (the youtuber) Lucas Neto, because I dreamed that the witch really existed".

Table 6: Access and use of digital screens by children from Vila Pouca de Aguiar and their

parental regulation

		Lisbon		
	Tablet/smart-phone owner	**What they do with tablets/smartphones**	**Where they use tablets/smartphones**	**Perception of usage rules**
"João"	Doesn't have	Not referred	Not referred	Not referred .
"Martim"	"I have a tablet that my father gave me"	"I like to play *a game* with trains and that we have to grab coins and run away"	"I can use it in other places, when we go by car, at grandma's house, when I finish dining elsewhere..."	"I have no rules"
"Duarte"	"I have a tablet! Mine and my brother's".	Soccer games; "I see football 'for real'. When Porto's plays, my dad puts it on the tablet for me and my brother to see"	Just at home	"I also have no rules"
"Lucas"	"I have a phone that was my sister's"	Soccer games; photographs; videos (*Paw Patrols*)	At home	"Yes, I just watch it when mom and dad allow "
"Afonso"	Not referred	Not referred	Not referred	"I see when my dad say"
"Eva"	Not referred	Not referred	Not referred	"I don't think so"
"Carolina"	Doesn't have	Not referred	Not referred	"When my parents allow. I ask for it and they say if I can or not"
"Amélia"	"I had three! (..) One is at my mother's house and the other is at my father's house. And I have a cell phone that was my mother's and now I watch it"	"I watch YouTube more often. I see Lucas Neto, the Neto brothers, some cartoons as *Paw Patrols*. I see many things... "	At home	"My mom tells me not to touch on the remote. I have to ask and she allows. I can watch on my tablet, I just have to warn"
"Sofia"	Doesn't have	Not referred	Not referred	"I also don't think so"
"Violeta"	" I have a tablet that Santa Claus gave me"	"I watch more cartoons. *Bingo and Rolly, Paw Patrols*..."	At home	"I use it whenever I want, I think ..."

Table 7. Acess and use of digital screens by children from Lisbon and their parental regulation

Although being only four and five years old, two children from Trás-os-Montes related their skills with digital screens that give them independence in contents exposure and consumption. This was the case of Miguel (five years old): "sometimes I install games. But I already uninstalled them because it was nonsense"; and Rodrigo: "I put games on mom's phone and now I play Super Mario".

Parental participation and responsibilities on children's screen consumption

In interviews with parents we sought to understand for each context children's screen consuming habits in the household, and the related mediation exercise.

The eight people composing the interviewees' panel (V.P.A. and Lisbon) referred they had technological households: (at least) one television, tablets and smartphones. Three parents from Lisbon have computers, as well as António, a father from V.P.A. (gardener, 37 years old), who also states having a PlayStation. Generally, children prefer digital screens, especially tablets, and three parents from V.P.A. said their three and

four-year-old children had that device just for themselves. Television, in the words of V.P.A. parents, seems to be losing its interest for their children (until three years old). One father and one mother from V.P.A. stated that their children "don't watch anymore" (father António and mother Madalena). The other say that they only watch cartoons. Among Lisbon parents, although their children also prefer digital screens, they use them with more control and not alone (with parents or older siblings).

According to most parents, children prefer digital screens for being more stimulating, easier to carry and for enabling more autonomy in the use. Father Pedro (Lisbon) says about his one-year-old daughter "she doesn't like being still (...) to be seated looking at the screen (...) she will end up by liking the smartphone better, because she is always asking". Also, father António (V.P.A.) says his three-year-old son does not like watching TV for being "a screen harder to 'hook' him". Father Miguel (Lisbon) states on his nine-month-old daughter: "as long as it raises her curiosity or calls her attention, she likes it. But she asks more often the smartphone and the tablet, maybe because they are smaller and get nearer". For mother Marta (Lisbon), it is the fact that they choose contents that makes tablets more appealing: "they are more used to watching TV, but a tablet is much more dynamic (...) so they can choose".

Concerning the age their children were when they started using digital screens, two parents from Lisbon referred under one-year-old (father Miguel and mother Vera), and through their smartphones. V.P.A. parents pointed at one year and a half to two years old. However, the most restrictive parents belong to Lisbon panel: mother Marta said her four-year-old twins had access to those screens closer to their present age and that she even got advice from the paediatrician; father Pedro does not allow his one-year-old daughter to have access, despite her constant asking. Overall, though, parents believe there is not a specific age to start using/giving these screens.

For most parents, the pressure of "everyone has them" conditioned their permission. Mother Marta (Lisbon) stated: "parents also have smartphones and they grow up with screens (...) this generation is already born for this; it is almost impossible to forbid it". Older siblings or cousins also influence the first contact and eventual purchase, as they are earlier awakened for viewing different screens (as referred by father António and mothers Madalena and Judite, from V.P.A.).

Parents from V.P.A. gave different answers regarding parental supervision in screen using. Parents António and Carlos, both with three-year-old children, said "sometimes yes, but not always!". These parents assumed that their children watch tablets without great restriction or supervision. Mother Madalena said her three-years-old son can watch freely, but "in the same space we are, while we are watching TV, and mother Judite also relies on the help of her older daughter. In Lisbon's panel father Pedro revealed most restrictive. His one-year-old daughter only watches TV, in the music channel he chooses and always with him present. Father Miguel (nine months-old daughter), said that "television she watches alone, but the tablet she only watches with me or with her mom, because we are afraid she damages the equipment". Mother Marta (four-year-old twins) and Vera (one year and nine months old daughter) restrict screens in the household and

contact time (television every day and digital screens only on weekends) and mother Marta pre-defined videos they may access and "takes a look" while she is in the kitchen. In both contexts it was noted that supervision diminishes as age increases or with older siblings.

Registered activities performed on digital screens included play, watching animation and youtuber Lucas Neto videos and music. Father António (V.P.A.), the most permissive of all parents in this study, and the one who spends less daily time with his son, said his three-year-old son watches Lucas Neto a lot and "I even think it is good for him, because he teaches good things, as saving water, separating the garbage, putting away his toys after playing, not making fun of his colleagues, not being envious... stuff like that!". Father Pedro (Lisbon) says that the tablet may even be interesting in terms of cognitive stimuli: "not like normal games they tend to like, but other types of games like assembling pieces... it may help develop spatial thought and that's important".

Either in Lisbon as in V.P.A. parents refer an instrumental use of screens, essentially in the household, with some exceptions: "in the car" (father Carlos, V.P.A.); "if we got to a restaurant they also take it so in the end of the meal they don't get bored" (mother Madalena, V.P.A.); "when we go to my in-laws, on weekend, while we are there talking and they are a bit fed up with it" (mother Marta, Lisbon).

Parents main concern, either from Lisbon or V.P.A., is the danger of finding "things" they do not understand. But they manifested that their concern would increase when their children get older, as with some who already have teenagers. For now the worry "is about sight, headaches" (father António, V.P.A.), "the sleep cycle and using time" (mother Madalena, V.P.A.), who says she will control more, when the child has school responsibilities, and that technology may influence "social interaction" (father Miguel, Lisbon). Mother Marta (Lisbon) is afraid that "it's very addictive (...) my biggest concern is to give them other options, so they also grow up playing with other types of toys". Father Pedro (Lisbon) says he will encourage especially pedagogically controlled contents that may carry cognitive benefits and with controlled time, because the more time they use, the more likely they are to find age and comprehension skills inappropriate contents.

Discussion

The presence of technological equipment was not influenced by the variable urban/rural households' location of participating children and parents, corroborating both Plowman et al.' (2010) and other European studies' (Ofcom, 2019) conclusions. It was also not affected by the socio-economic condition that in some parents' households from V.P.A. was more disadvantaged, thus confirming Dias and Brito's (2018) conclusion that children live in rich digital environments, even when they integrate economically less well-off families.

Nevertheless, families from V.P.A. revealed a greater contact with the different screens in the household and a more dynamic and independent tablet and smartphones use, contradicting Kabali et al.' (2015) study that evidenced a greater use in city

environments. This may be related to the time spent at home, because when crossing this with after school routines, it is perceivable that most groups of Lisbon children referred having extracurricular activities. And children with more spare time in technological households may fill up "their agenda" with electronic and digital entertainment (Ponte et al., 2017).

The household composition may likewise justify different media consumptions at home. Most participant children from Lisbon have siblings with whom they interact in playing and screen consumption. Nevski and Siibak (2016) had already evidenced sibling impact on younger children screen consumption guidance. The children from V.P.A., mostly single child, revealed a more solitary consumption of screens. Jorge, Tomé and Pacheco (2017) referred that in monoparental and single child families, children tend to be entrusted with "digital babysitting" (Leskova, Jurjewicz, Lenghart & Bacik, 2018).

In this study, four and five-year-old children and under three-year-old children of interviewed parents from V.P.A. make a greater use of small screens, especially of tablets, than children from Lisbon. Cardoso, Vieira and Mendonça (2016) say that smaller, portable and tactile screens enable children to feel more involved and with greater decision power to "control their media diet" (p. 35). Nikolopoulou (2020) thinks it is natural that pre-school children, still with little fine motor skills, feel more attracted to tablets because they only demand using one finger.

In terms of parental mediation, children from V.P.A. transmitted less conscience of screen use rules. Only Miguel revealed a time restriction for being "too addicted". Most children from Lisbon showed some awareness of parental intervention, as many said they were dependent on parents' authorization to use screens. But in this study the restrictive mediation was mostly identified (e.g. Livingstone et al., 2015).

All parents from the interviewees' panel were or are the direct "sponsors" of their children's technological use (Kabali et al., 2015). A nine-month-old baby's father (V.P.A.) stated that his daughter started using smartphones and tablets since she "started moving", in line with Cardoso et al.' (2015) findings. The access derived from a birthday gift (father António's family, V.P.A.) or from the generational passage of devices as parents or older siblings get updates (especially in Lisbon groups of children and parents).

Among Lisbon and V.P.A. parents differences were found, but it did not become clear if they are due to a geographical or socio-economical question (academic training and profession), as shown by Clark (2013). The V.P.A. mother with higher education (Madalena, Teacher) was the only who established some rules for screen use to her three-year-old daughter (and eight-year-old son): "they watch it when they get back from school, in the evening, but I don't allow it after dinner. (...) And when they start watching things I don't consent, I take it from them". The remaining parents from V.P.A. do not develop an effective mediation – their children "may watch at night, while they have dinner, when the wake up, when they are having a snack and when they go to bed", exhibiting a passive or *laissez-faire* parental style (Baumrind, 1991) and a feeling that they do not have enough skills to help their children (Nevski & Siibak, 2016; Nikken & de Haan, 2015).

All parents from Lisbon have a bachelor's degree, despite two of them having professions that do not demand such training (postman and auxiliary teaching staff). The most restrictive parent is from Lisbon (Father Pedro) and has the most qualified training and profession: "she has already often asked to use but I don't let her. Sometimes she takes away my phone and I chase her and take it from her. I don't usually ever let her". But he assumes that he will let her use the tablet later, because when well used (Domoff et al., 2019) "it may be interesting for her in terms of stimulus". This parent, who is a competent technology user, establishes *authoritative* strategies at this stage of his one-year-old daughter life (Baumrind, 1991). Others reveal closer monitoring strategies: "one of us parents is always present, but often we all are" (father Miguel), distance supervision ("I keep taking a look") or even technical mediation, pre-defining contents (mother Marta) (e.g. Livingstone & Helsper, 2008; Nikken & Jansz, 2014; Nikken & Schols, 2015).

All parents admitted a greater concern when their children growing up. For the time being, they believe they "control", revealing more worried about eventual sight problems or headaches (father António, V.P.A.), with sleep cycle disruption (mother Judite, V.P.A.) due to devices exposure time. Father Miguel (Lisbon) is afraid of social interaction issues and the environment his daughter may have, and Mother Marta (Lisbon) is worried that her son loses interest in other activities. These concerns have already been stated in Gottschalk (2019), Kardefelt-Winther (2017) and Twenge and Campbell (2018) studies.

Final remarks

Regardless of geography, the households included in this exploratory study (from children and parents) have internet connected technology and small digital screens are most appealing to all under five-year-old children. However, children from V.P.A. mentioned more exposure to these devices, especially tablets, than Lisbon groups. Likewise, some children from Trás-os-Montes referred digital games experiences and greater competences and independence to download these apps in their parents' smartphones. This raises a theoretical hypothesis of not just the urban *versus* rural variable generating this difference, but that it is associated to children from V.P.A. having more free time at home after school and to them being mostly single-children, therefore more focused on traditional play and/or individual screen consumption.

Most consumed contents are animation programmes in cable television children channels, as well as on *YouTube*, where they follow a fashionable youtuber (Lucas Neto). Children from Lisbon have however demonstrated a greater knowledge regarding the television channels they contact, which is coherent with them watching more television during the week comparing to digital screens. Many children from V.P.V. use the screens alone and are less aware of use and/or contents parental rules, conversely of Lisbon children, who generally refer watching television and digital screens with their parents or siblings and acknowledged clearer parental mediation conducts. All children in this study using portable digital screens declared they watched them essentially at home and

instrumentally (when they are getting ready, eating or before going to bed), though they may exceptionally also use them in the car, in restaurants or in long family lunches.

In semi-structured interviews to parents with small children (between months and four-years-old) a similar tendency was perceived: children prefer tablets or smartphones. Yet it is mostly children of V.P.A. parents who have facilitated access to digital media, often for personal use. Parents from both spaces said they felt under pressure to "sponsor" access, regardless of using time, because they are afraid that they might exclude their children from the digital generation they belong to. They all stated some concern, but they believe greater concerns will come as children grow up. Notwithstanding, interviewed parents from V.P.A. showed a less restrictive attitude towards access, using time and contents. In no group of parents active or co-use mediation practices were effectively found. Parents of months old children accompany them during digital screens use, but to ensure a proper use.

These trends may not, however, be generalized to the rural and urban context here contemplated due to the limited number of participants, both children and parents. Using larger samples from both contexts (city or rural) and a more diversified social representation would enable more extensive findings regarding the effects that urban/rural variables might have on under five-year-old children screen exposure and parental mediation strategies. The ethical required protocols and permissions involved in gaining access to such young children are though quite difficult and render the whole research process time-consuming.

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