

# LEARNING VERSUS PLAY OR LEARNING THROUGH PLAY? HOW PARENTS' IMAGINARIES, DISCOURSES AND PRACTICES AROUND ICTS SHAPE CHILDREN'S (DIGITAL) LITERACY PRACTICES

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## ABSTRACT

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As children access to the internet at ever younger ages, questions arise as to whether the use of touchscreens at home contributes to literacy and digital skills, and whether and how parents scaffold children's learning. To date, research on parental mediation has shown that parental expectations of the role of ICTs in their children's future, discourses of the opportunities and risks of the internet, and the everyday practices of media engagement all shape the ways in which children are socialised into using digital media at home. These expectations, worries and practices depend on parents' education, socioeconomic background, and parenting culture. This article builds on prior research by the authors with 70 families in seven European countries. We compare lower income/less educated families and higher income/more educated families as they promote or hinder children's (digital) literacy practices. We found that lower income families experience a generational digital divide and feel less confident in scaffolding children's digital literacy practices. Instead, when parents use ICTs for work and/or are techno-enthusiasts, they are more engaged in children's online activities irrespective of their background. The approach towards digital play - as either a vehicle or an impediment to children's learning - is therefore indicative of different imaginaries around ICTs, different parenting styles and different mediation strategies.

## KEYWORDS

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Young children, touchscreens, digital literacy, parental mediation, scaffolding

## SOMMARIO

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L'accesso a internet da parte dei più piccoli solleva nuovi interrogativi rispetto all'uso domestico dei dispositivi touchscreen, alla loro capacità di supportare i processi di alfabetizzazione e l'acquisizione di competenze digitale, nonché ai modi in cui genitori favoriscono le pratiche di apprendimento. La ricerca sulla mediazione genitoriale di internet ha infatti mostrato come le aspettative dei genitori nei confronti della tecnologia, i discorsi sulle opportunità e i rischi di internet, e le stesse pratiche d'uso quotidiano delle tecnologie contribuiscano a modellare il contesto in cui i bambini vengono socializzati ai media digitali. Tali aspettative, preoccupazioni e pratiche variano in base al background socioeconomico e all'istruzione dei genitori, nonché al loro stile genitoriale. Questo articolo rielabora i dati di una ricerca qualitativa che ha coinvolto 70 famiglie europee e mette a confronto le pratiche di scaffolding di famiglie a basso reddito/a bassa istruzione con quelle di famiglie a alto reddito/elevata istruzione. Nelle famiglie del primo tipo, i genitori spesso sperimentano un digital divide generazionale. Al contrario, i genitori che usano internet per lavoro o sono «tecno-entusiasti» si trovano più a loro agio nel mediare la relazione dei figli con i tablet, indipendentemente dal reddito e dal livello di istruzione. Tali differenze nella mediazione genitoriale e negli immaginari tecnologici dei genitori sono esemplificate dalla percezione del gioco digitale – come supporto o, al contrario, impedimento all'apprendimento dei bambini.

## PAROLE CHIAVE

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Bambini, touchscreen, competenza digitale, mediazione parentale, scaffolding

## 1 Introduction

Increasingly, ever younger children are now going online at home, in nursery and from the start of school. A recent seven-country study in Europe focused on families with children younger than eight, employing a mix of interview and observational methods (Chaudron et al., 2015). While largely exploratory in nature, this study showed that tablets have quickly become popular among both young children and their parents, the touchscreen interface being far easier for children to manage than the keyboard or mouse necessary for a laptop or desktop computer. The study found that young children mostly use digital media for playing games and watching streaming, on-demand or catch-up content services – in effect, engaging with mass-produced entertainment content, since few parents had loaded educational apps, and few children had the skills for content creation.

Two issues are prominent on the research agenda: whether and to what extent the use of touchscreens at home is conducive to children's development of digital skills and (digital) emergent literacy; and, whether and how parents engage in regulating their children's relationship with touchscreens and scaffolding their children's learning (Holloway et al., 2013). Research reviews are clear that parental engagement and the domestic environment they create are very important for children's early development (AAP, 1999, 2011), and that long-term social inequalities in wellbeing and learning outcomes are shaped by early life experiences, with parental influence being a powerful factor (HM Government, 2014). But there is still a paucity of research on parental mediation of young children regarding their digital media uses. «Parental mediation» refers to the diverse practices through which parents try to manage and regulate their children's experiences with the media. It is considered important within families, and consequently for policy-makers, to ensuring that the domestic media environment is tailored to the specific needs and competences of each child as well as to the values and priorities of parents.

Recent studies have shown that the expectations of parents around the role of ICTs in children's future, their discourses around the opportunities and risks of the internet, and the practices through which they mediate children's engagement with technologies, all contribute to shape distinctive social contexts in which children are socialised to online practices (Clark, 2013; Lauricella et al., 2016; Mascheroni, 2014; Nelson, 2010). Research has also shown how these expectations, worries and practices vary according to parents' education, socioeconomic background, and parenting culture (Livingstone et al., 2015). Similarly, research on early childhood education suggests parenting styles, imaginaries and discourses inform the strategies by which parents guide their children's interaction with tablets, smartphones and apps, and in so doing support or hinder their learning (Marsh et al., 2015; Plowman et al., 2008, 2010).

This article builds on prior research conducted by the authors (Chaudron et al., 2015; Livingstone et al., 2015) and examines how educational, socioeconomic and cultural differences inform distinctive parental imaginaries, discourses and

practices in which different forms of scaffolding that promote or hinder children's (digital) literacy practices are grounded. To focus the analysis, it will compare lower income/less educated families with higher income/more educated families.

## **2** Background literature

### **2.1** *Parental mediation of children's internet use*

Most past research concentrated on the parental mediation of children's television experiences. Now, researchers, policy-makers and parents themselves are asking whether similar strategies can be adapted to the internet and digital media, or whether new strategies are needed (Livingstone & Helsper, 2008; Clark, 2013). Compared with television, online and digital devices may be harder for parents to manage, for several reasons. First, they are more technologically complex. Second, market innovations pose parents with the continual imperative to update and adapt their habits. Insofar as parents are themselves less familiar with some digital devices or services, they may feel outsmarted by their often-skilled children. Third, as digital devices become ever more personalised and portable, traditional strategies of media co-use or supervision become less available or effective (Haddon & Vincent, 2014; Mascheroni and Ólafsson, 2014).

Focused on school-aged children, the EU Kids Online network identified five main strategies of parental mediation of the internet (Livingstone et al., 2011):

- active mediation of internet use: practices such as talking about internet content and online activities, sitting nearby while the child is online and actively sharing the child's online experiences;
- active mediation of internet safety: activities and recommendations aimed at promoting safer and responsible uses of the internet;
- restrictive mediation: setting rules that limit time spent online, location of use, as well as content and activities;
- technical restrictions: the use of software and technical tools to filter, restrict and monitor children's online activities;
- monitoring: checking up on children's online practices after use.

This classification contrasts with the literature developed in relation to television (Valkenburg et al., 2013) in that for personal/digital devices active mediation and co-use tend to combine: when parents sit with a child while they go online, they tend to become engaged in discussing what's on the screen or where to click next.

Most parents in the US say they favour talk as a mediation strategy (Clark, 2013). Such active mediation of children's internet use is also the most popular strategy adopted by European parents of 9- to 16-year-olds, followed by safety guidance and restrictions (Kirwil, 2009; Livingstone et al., 2011, 2012).

However, beyond these laudable efforts to manage media use for the benefit of the child, it must be acknowledged that mediation practices have developed to

meet the needs of parents – consider the idea of media, especially television, as a babysitter or «surrogate parent» (Gantz, 1982), enabling parents to do household chores while children are safely occupied, or the use of media as a reward or punishment for children’s behaviour (Evans et al., 2011).

Other practices, instead, can be seen to vary according to the demographics of the child or parent (Livingstone & Helsper, 2008; Garmendia et al., 2012; Helsper et al., 2013). Parents tend to be «restrictive mediators» when their children are younger or if they themselves are less educated. The reverse is true for parents who are «active mediators». In terms of gender, girls tend to be monitored and restricted more than boys. Further, mothers tend to play a more supportive parenting role and are more communicative than fathers (Collins & Russell, 1991; Eastin et al., 2006). Mothers are also more actively engaged in different forms of mediation, such as active mediation of internet use, social and technical restrictions (Kirwil et al., 2009).

Some variations in parental regulation of the internet and digital media have been shown to depend on culture or country. As EU Kids Online’s analysis shows, cross-national variations in the parental mediation of 9- to 16-year-olds’ internet use are considerable (Helsper et al., 2013). Most Central and Southern European countries, Ireland and the UK have parents who prefer restrictive mediation. Conversely, in Northern European (especially Nordic) countries, parents favour active mediation of children’s internet use. Eastern European countries have more parents who are «all-rounders» (practising all types of parental mediation more than the European average) or «passive» (below average on all types of parental mediation).

Within countries, the type and range of parental mediation strategies adopted by parents is also influenced by socioeconomic status. The EU Kids Online survey found consistent socioeconomic differences in the amount of active mediation of internet use and active mediation of internet safety that children received, with higher-income parents being more likely to actively engage in these forms of mediation (Livingstone et al., 2011, 2012). When it comes to restrictive mediation, though, parents of different socioeconomic status were equally likely to set rules to regulate their children’s engagement with the internet.

However, the relation between parental mediation and socioeconomic status is complicated, and related to both digital inequalities and parenting styles. In terms of digital divides, socioeconomic background can influence how families incorporate digital media into their everyday lives, the choice of devices available at home and the quality of internet access. Accordingly, households may be positioned along a continuum between «media-rich» and «media-poor» homes (Livingstone, 2007). Whereas lower income parents are less likely to provide their children with the latest or most expensive versions of technological devices, children from lower socioeconomic backgrounds are more often provided with electronic screens in their bedroom, and spend more time watching television and using computers. By contrast, children of higher income parents have and use touchscreens more (Nikken & Schols, 2015).

However, digital inequalities rest on more than the conditions of access. Parental attitudes towards digital media and parental mediation are also shaped by cultural norms, which Hollingworth et al. (2011, p. 352) frame in terms of the «“habitus” of different users, which informs what they see as thinkable or unthinkable, desirable or undesirable in terms of the use of technology and what it can offer them and their children». Further, parents with higher levels of self-efficacy (possibly reflecting digital skills) in the use of the internet are also more confident in their capacity to manage their children’s use of technologies, and more persuaded that the benefits of digital media outweigh the harms (Livingstone et al., 2011; FOSI, 2012, 2014).

How parents manage digital media depends also, however, on more general norms and practices of parenting. Four main styles have been identified: authoritative parenting, typical of parents who are both more responsive and demanding than average; authoritarian parenting, characterised by high control but low warmth; permissive parenting, which is warm and supportive but non-demanding; and laissez-faire (or uninvolved parenting), low both on demandingness and responsiveness (Baumrind, 1991; Eastin et al., 2006). Evidence from the US shows that socioeconomic status is associated with different understandings of «good parenting» and child-rearing, including in relation to media and consumerism. A shift away from regulatory approaches to parenting has been observed among upper- and middle-class parents who favour an «ethic of expressive empowerment» (Clark, 2013) or «concerted cultivation» (Pugh, 2009; see also Nelson, 2010) aimed at raising self-confident children capable of self-control and self-expression. By contrast, less advantaged US families associate good parenting with an «ethic of respectful connectedness» (Clark, 2013), expecting their children to be caring and respectful of parental authority (Nelson, 2010).

Insofar as parental mediation strategies can be positioned between the two poles of «responsiveness (warm and supportive parenting) and demandingness (regulating behaviours)» (Clark, 2013, p. 49), they converge with (and appear grounded in) parenting styles more broadly. For this reason, socioeconomic differences affect both parental mediation and parental styles in related ways. For instance, Nelson (2010) shows that upper- and middle-class parents favour what she calls «technologies of connection» (such as the mobile phone) that allow for both warm support and control at a distance; by contrast, they disapprove of «constraining technologies» such as parental controls and filters. Less socially advantaged parents, who tend to be less confident of managing online risks, try to minimise them through restrictions or direct control (Hollingworth et al., 2011; Paus-Hasebrink et al., 2013). Referring to Baumrind’s (1991) analysis of parenting styles, Valcke et al. (2010) show that authoritative parents tend to combine mediation strategies – including active mediation, social restrictions and technical restrictions – all more frequently than other parents. They also show that parents’ educational attainment matters, with less educated parents providing less warm support while also exerting less control. Relatedly, Nikken and

Schols (2015) showed how lower-educated parents, who are less skilled at using digital media, engage in less active mediation of their children's internet use, set inconsistent rules to regulate use, and more often use technical restrictions.

## **2.2** *Parental scaffolding of emergent (digital) literacy*

Studies of children's digital literacy practices in the domestic environment have been informed by the sociocultural approach developed within the field of New Literacies Studies, which reconceptualised literacy as multiple, and literacies as cultural and socially situated practices (Street, 2003). Such an approach, then, involves recognising that, when guiding children's use of the internet and digital media, adults (parents, teachers and other caregivers) draw on cultural and material resources, which are contingent and contextual (Plowman et al., 2010). Furthermore, it has been shown that through their engagement with digital media, children develop skills and competences that extend beyond operational skills to include cultural understanding around literacy (Plowman et al., 2008; Marsh et al., 2015). More specifically, emergent literacy practices through which pre-school children acquire phonological awareness and knowledge of letters and words, are now increasingly digital, that is, enacted on (touch)screens, on-line and through apps (Marsh et al., 2015). Moreover, most of children's development of emergent literacy skills around ICTs has been shown to occur within the domestic environment (Plowman et al., 2010).

Parents can encourage their children's learning – but also their learning dispositions – through the use of verbal, non-verbal and material tools. The strategies through which parents participate and guide children's successful achievement of skills are referred to as scaffolding practices (Wood, Bruner, & Ross, 1976), which are enacted in the context of the parent-child interaction (Vygotsky, 1978). Recent research suggests that children's development of emergent literacy skills through and around digital media is supported by parents and other family members in various ways. Though parents themselves may not be primarily concerned with the learning outcomes of their children's interactions with digital media, nonetheless pre-schoolers indicate parents as their main source of support when they use touchscreens and other digital media (Plowman et al., 2010).

Both the emergent literacy practices in which children engage and the scaffolding practices of parents are embedded in the everyday interactions and practices of family life (Marsh et al., 2015). As such, they are contingent and influenced by the family's cultural background (Marsh et al., 2015). Moreover, as they become routine, they may be taken for granted and become invisible to those involved. However, parents have been observed to adopt a range of explicit and implicit, verbal, physical and emotional scaffolding strategies to guide young children's interactions with tablets and apps (Petkovski, 2014; Plowman et al., 2008). In so doing, they foster children's learning in three main areas, as it has been anticipated: operational skills, cultural understanding and critical skills (Green, 1988).

The socio-cultural approach to emergent (digital) literacies also points to the importance of parental «ethnotheories» (Marsh et al., 2015; Plowman et al., 2008). Ethnotheories are systems of knowledge, meanings, beliefs and values that shape both parents' and children's literacy practices. This is where the literature on parental mediation (through the notion of parenting styles presented above) and that on emergent (digital) literacy practices converge (Wartella et al., 2016). This suggests the value of examining how parents' imaginaries and discourses inform their practices of parental mediation and the scaffolding of learning.

### **3** **Methods**

The original research on which the present analysis is based investigated how children and parents engage with digital media, and the role these media play in family life, in 70 families (10 each in Belgium, the Czech Republic, Germany, Finland, Italy, the UK and Russia). The 70 families interviewed included 119 children aged 0-8, and indirectly covered older siblings (n = 38) aged between 9 and 20.

Measuring parental mediation is not straightforward, as parents may overestimate their engagement (whether active or restrictive) in regulating children's experiences of the internet for reasons of social desirability. Also, directly observing parents and children's interactions around touchscreens, and the associated scaffolding practices, may represent a methodological challenge. Against these difficulties, the inductive nature of qualitative research allows for the exploration of under-investigated topics, and may thus contribute to the generation of new hypothesis by enhancing knowledge about social phenomena and capturing the views of those involved, based on their everyday experiences (Braun & Clarke, 2006; Merriam, 2014).

All interviews followed an observation protocol, but because of the exploratory nature of the study, each research team had the freedom to slightly adapt it according to specific interview contexts and needs (e.g., country, culture and family context). For the most part, two researchers visited each home to undertake the fieldwork. After a short family introduction in which the children and parents participated in a joint discussion and activity, parents and children were divided into two groups. The parents had a short interview with one of the researchers; the other discussed digital media with the child/children, supported by age-appropriate tools such as card games or toys. A concluding session gathered together the family and researchers for final reflections.

The data collected have been thematically analysed. Thematic analysis offers a flexible means of summarising key features of a large body of data, condensing extensive data sets in a way that is both responsive to their particularities but also linked to the pre-existing research literature. Similarities and differences across the data set can be highlighted, which is especially useful for cross-cultural comparison. Further, unanticipated insights can be generated in an in-depth way,



drawing on social, pedagogic and psychological interpretations of data (Braun & Clarke, 2006).

In order to focus the present analysis on socioeconomic status, the 70 families were classified (Table 1) according to their income and their formal educational qualifications, based on the following criteria:

- income (using OECD indicators) of (i) around or below or (ii) above the national average (estimated for each country separately);
- mother’s education (since most of the research literature focuses on mothers as mediators of media; see Eastin et al., 2006) of (i) secondary (high) school or less or (ii) college or university or more.

**TABLE 1**  
**Classification of families by mother’s education and household income<sup>1</sup>**

		Income	
		Below average	Above average
Mother's education	High school or less	B2, B5, B9, C1, C5, C6, G2, G3, G9, F4, I2, I5, I6, I8	G8, UK9
	College or more	B8, C2, C3, C4, C7, C8, C9, C10, F2, F3, F9, F10, G1, G6, I4, R1, R2, R4, R5, R6, R7, R8, R9, R10, U1, U5, U6, U7, U8	B1, B3, B4, B6, B7, B10, F1, F5, F6, F7, F8, G4, G5, G7, G10, I1, I3, I7, I9, I10, R3, U2, U3, U4, U10

In what follows, we will examine lower income/lower educated and higher income/better educated families, for two main reasons. First, the «low/low» families and «high/high» families most neatly meet traditional definitions of lower and higher socioeconomic status. Second, prior analysis of the data (Livingstone et al., 2015) has shown that these findings broadly supported Clark’s (2013) distinction between lower income/less educated families endorsing an «ethic of respectful connectedness» and higher income/more educated families endorsing an «ethic of expressive empowerment».

## 4 Findings

### 4.1 Parental imaginaries and discourses

Families with a lower socioeconomic background are often «media-rich» in terms of the number and variety of digital media, although they are less likely to

<sup>1</sup> Families are coded here according to their labelling in Chaudron et al. (2015). The letter in each code refers to the country (B = Belgium, C = Czech Republic, F = Finland, G = Germany, I = Italy, R = Russia, U = UK).

have the newest or most sophisticated versions of devices. Possibly because of sensitivities over cost, parents carefully supervise children's access to expensive devices, with children soon learning how to handle them to prevent any damage (e.g. B9, I5). Lower income and lower educated parents (B2, CZ1, CZ6, F4, I2), especially single parents, are also more likely to experience demands on their time that prevent them engaging in shared media use with their children, and lead them to use media as a baby-sitter (Gantz, 1982; Evans et al., 2011).

These parents' imaginaries around digital media are ambivalent, as a Finnish family of Italian origin (F4) illustrates: the parents see the children's preference for digital devices instead of traditional toys as regrettable as they think technology reduces children's ability to use their own imagination. At the same time, they are digital users themselves, and deem digital media important for both family life and their children's future. This ambivalent approach to digital media is also illustrated by a Belgian family (B2) where the mother of two girls aged seven and five says that digital media «make people stupid and lazy» and also anti-social. In spite of this, she believes that it is important that children use technologies as much as possible «because the world advances too fast and they need to be able to catch up».

An exception to the ambivalent attitude towards ICTs is represented by families in which parents are highly digitally skilled since they work in the IT sector, as it is the case of one Czech (C5) and one Italian family (I2). Here digital media are part of the family «habitus» and perceived as «a standard activity (short pause). Like reading a book or playing a board game.» as this Czech father explains (C5). This optimistic imaginary, as we will see, also informs a different approach to parental mediation.

The same «habitus» can be found in higher income, higher educated families, where the strong diffusion of digital devices (as evident in the parents' own uses) in and of itself presents digital media use to the children as a taken-for-granted social norm of today's society. A mother of a six year-old boy (B1) says:

I think it's important that [my son] has a fluent relationship with technology. Technology is part of our lives today. I don't think you can avoid technology. I don't think it's a good idea to prevent children from using technologies.

The resulting imaginary around digital media is no less ambivalent, though. On the one hand, these parents feel strongly that digital media is a useful addition to their children's lives. Nonetheless, they fear psychosocial consequences resulting from digital media diffusion into the children's early lives. As a consequence, the main approach of these parents is to find ways to prioritise offline activities and to apply clear rules for online activities. Thus parents put a lot of effort into trying to establish desirable offline alternatives as a counterpart to interesting online worlds. However, some parents are rather unclear or inconsistent in their rules about digital media use. According to one UK mother (UK4):

I think what happens, and I don't know if you've found this in the other families, we both work full time, there are days that we are absolutely exhausted and we just want that one hour to help us with some rest, and then sometimes when we get lazy we'll ask him, «Okay, do you want to play one hour?», but it's never more than one hour, I feel extremely guilty about that, «Do you want to play one hour on the computer or research things or check your game or play on your phone?»

This doesn't necessarily mean that these parents are not interested in their child's psychosocial development. To many of these parents, digital media use represents an important domain of their work life, but they try to encourage their children to also see it as a tool for working while focusing on alternative offline activities for the children themselves. But such efforts at influencing their children are especially undermined by technologically enthusiastic fathers' behavioural patterns of digital media use or fathers being proud of the digital skills of their sons (e.g. B10, B3, G7, F1). Thus it is commonly reported that fathers and sons' media sessions last longer than intended, and rules are not followed that strictly, as this Finnish (F1) family's example shows:

When [seven year-old boy] is watching YouTube, mum is there all the time, because in her opinion YouTube is not safe enough to watch alone. Meanwhile the father is not as active. He does not follow the rules so strictly. Occasionally [seven year-old boy] and dad do not notice how fast the time passes, and they can play games for many hours on end together.

## 4.2 Parental mediation practices

Parental background and parents' own experiences with and attitudes towards digital media inform how parents mediate their children's use of digital media. Consistent with prior research (Hollingworth et al., 2011; Paus-Hasebrink et al., 2013; Correa, 2014), less advantaged parents often feel less confident than their children in the use of digital media and, consequently, are less likely or able to actively mediate their engagement with digital devices.

Possibly for this reason, parents (especially mothers) tend towards a restrictive approach, with a common mediation strategy being to set rules that limit screen time, fitting this to their daily routines (e.g. children are allowed to use media only after they have finished homework, or before and after dinner for a limited amount of time). Also common is the use of digital media as part of a system of reward and punishment. For example, a seven year-old Czech boy knows that his father will lend him his mobile phone as a reward for school achievements: *Only as a reward... for example, when I get A at school. (C2)* Similarly, an Italian mother of two children (aged seven and 12) who live in a media-rich home uses the tablet as a punishment for the children's misbehaviour: *If they are not good at school, the tablet, computers and cartoons on TV are forbidden. (I8)*

The digital generation gap that characterises these households, with children often more digitally skilled than their parents, has other consequences too. Parents seem less likely to use technical restrictions, and children may seek out active mediation of their internet use from older siblings, grandparents or other relatives. For example, a 12 year-old Italian boy explains how he taught his little sister (aged seven) to use YouTube, and how he protects her from inappropriate content:

I made her life simpler by opening a profile. So here she has all the list of videos, she goes on YouTube, clicks here and goes on the page of this YouTube. So she can choose a video easily, with no risks. (I8)

There were several cases where parents began with a more permissive approach, asserting the importance of digital media for learning and skills needed in the future, but then their child's online activities led them to become more restrictive. For example, a German family (G3) lamented that the four year-old child's excessive and unmonitored use of digital devices caused him attention and sleep disorders, as well as aggressive behaviour when access to the devices was prohibited, so they then adopted a more restrictive approach.

An exception to the general preference for restrictive over active mediation was evident among families with high digital skills. In such cases, rules tend to be less strict, as parents value the educational opportunities of digital gaming as a way to develop digital skills and literacy. These parents are more permissive also because they know how to prevent children's exposure to online risks. According to one Italian father of two girls aged five and six:

I no longer check on them, because more or less we know what they are doing. They go on the YouTube app. Luckily, the YouTube account suggests to them what they already like, so now my account is all about the Winx and My Little Pony, also when I access it at work [laughing]. (I2)

It could be said that overall, these families favour an «ethic of respectful connectedness» (Clark, 2013): parental authority appears seldom questioned and rules are not generally negotiated with children, adult family members have the power to both terminate children's media use whenever considered excessive, and to use media as a punishment/reward strategy (Evans et al., 2011). Yet while parents did relatively little in terms of active mediation, this might reflect their lack of digital skills more than their interest in the «digital future». Relatedly, favouring a restrictive approach could represent something of a fall-back position as parents without alternative resources resort to a familiar pattern of parenting, especially when faced with the challenges of fast-changing digital media. By implication, apart from income placing constraints on the devices that can be bought and, perhaps, the disposable time of parents, it seems that it is lower levels of education that matters most in these families.

Looking at cross-cultural variations, lower income, lower educated parents in

Belgium, Germany and Italy (countries where children are «protected by restrictions»; see Helsper et al., 2013) tend to be more restrictive than parents in the Czech Republic. Finland belongs to the category of countries where children are «supported risky explorers»; however, the Finnish family in this socioeconomic grouping has Italian origins, so their more restrictive parenting style is no surprise.

Most higher income, higher educated parents adopt a mixed approach, which combines strategies to encourage children's engagement in offline and outdoor activities with a range of strict yet flexible rules. In other words, while the rules should be clear, their implementation need not be strict. As one German mother (G5) of girls aged six, one and a boy aged four explained:

It has to be comprehensible for the children. They have to understand the connection between action and penalty. Otherwise the penalty is senseless. One does read a lot of literature with lots of theories about education. Empirically children have more insight in the process and a better understanding when action and penalty are directly connected. If I am a child and I do not put my toys away as I was told, I will recognise when my toy is taken away from me that this is connected to my behaviour... You cannot always enforce the rules but one has to try.

Thus some families live by a model of rule-governed use which is based on trust, allowing children to broadly access various devices. In some cases, instead, parents are rather restrictive without really providing appropriate and interesting offline alternatives. For example, in one UK family (UK2) pertaining to this socioeconomic grouping, the mother's lack of knowledge about digital media led to very restrictive rules, permitting use of the Nintendo games consoles (for fun) or the laptop (for educational purposes), while few offline activities were supported as an alternative. Further, other parents react with hybrid strategies in response to specific situations, including regulating digital media only when a problem arises.

In terms of country differences, Belgian parents set more rules for their children's media use but are ready to vary these in order to find a context-appropriate balance of freedom and protection. German parents more often implemented clear limits on the use of digital devices, possibly because they themselves are very competent in digital media use and are thus confident in their ability to instruct their children. In Finnish homes, we learned that rules are generally set, but for some devices (e.g. tablet) more than for others (e.g. smartphone), or by mothers more than by fathers, who may undermine the mothers' restrictions. Italian families varied, although in one family (I7) there were no rules or restrictions at all, but a strong preference for trust and self-regulation. Among the Russian families, critical approaches to digital media were less common, with digital media often used as a babysitter, and with more laissez-faire approaches from parents. By contrast, in the UK, digital media use was often very consciously managed, even when enjoyment was the main purpose.

### 4.3 *Scaffolding practices*

Most children aged four or older possessed basic operational skills that granted them independent access to digital media and touchscreen devices. Older children have also acquired most advanced skills: they can find and download (free) apps, and search the internet. Age also influences children's cultural understanding of digital media. Older children showed knowledge of the internet and touchscreens that goes beyond fun and entertainment, to include their understanding as work-related or educational tools, and as communication devices to keep in touch with distant family.

Children's competences and expertise in using technologies were mainly developed at home, either within the context of parent-child interactions, either autonomously. Parents support children's development of operational skills by engaging in shared online activities (e.g., searching videos, downloading games, selecting and printing drawings, using messaging tools such as Skype or WhatsApp, learning how to deal with unexpected and problematic experiences such as pop ups and other technical difficulties). Sometimes children's learning originates from shadowing their parents or older siblings. Other times, instead, they experiment and learn by trial and error.

Parental scaffolding of children's learning and disposition to learn is grounded in parents' imaginaries around digital media and their potential for children's futures, on the one hand, and in their parenting style on the other. Therefore, differences among the two socioeconomic groupings emerge.

As a consequence of parents' limited digital competences, lower income, lower educated families are more likely to let their children learn autonomously through a trial and error approach. For example a six year-old Belgian boy (B5) whose parents don't use email has limited online searching skills. While he sometimes succeeds in finding more complex information with the help of the autocomplete feature of search engines, this trial and error process increases the probability that he encounters inappropriate or commercial content, since the devices he uses to go online are family devices with no specific safety settings.

When parents are more concerned with negative outcomes of children's engagement with screens, instead, not only screen time is strictly limited, but family members engage in selecting educational preschool apps that promote emergent literacy. This is the case of an Italian family (I5) where the grandfather guides his granddaughters' explorations with educational apps:

Alessia (7) has started with preschool apps that teach you counting or learning words, everything in English, or small puzzles, then Giulia (4) started too, while Alessia got tired of these apps. (I5)

Instead, when parents are techno-enthusiasts or very digitally skilled, their scaffolding approach is more participatory and permissive, irrespective of their education and socioeconomic background. For example, in one UK family the parents had professional experience as artists, and now the mother searches for

aesthetically creative or alternative games and other software for her sons aged eight, six and three. In other families from higher socio-economic backgrounds, gaming is also perceived as an important step in children's socialisation to the online world and the acquisition of operational, creative and critical skills. This does not mean that children have no time or content restrictions, nor that they are left to experiment on their own. Rather, they are guided by parents in their choice and use of apps, as this father of six and five year old girls explains:

When the game is stimulating, then yes [it is an opportunity] but when it's a stupid game... Stupid games are football or racing games, usually boys' games. Also make-up games are stupid. The crocodile game on the phone, that you need to figure out the best way to reach the crocodile, is stimulating, it stimulates reasoning and everything. (I2)

In the higher socioeconomic group, parents are motivated to encourage their children's engagement and learning with technologies by their educational value. Tablets and apps are combined with books within the repertoire of tools used to assist them in educating their children and scaffolding emergent literacy practices, as these Belgian and Italian fathers explain:

For me, technology is something really positive. For example, at school. For me, I think he learned math with Apps. And it is not easy, it is complicated for a four year-old. Now he is six. But as a four year-old he learned math with the Apps and now it is easier for him at school. (B1)

When he was younger, learning the shapes and colours, it was much more stimulating than a book, which is certainly good, but not something that you build on your own. (I7)

Compared to other educational supports (desk games or books), the greater interactivity of a tablet is what stimulates learning in a more autonomous and spontaneous way and contributes to a general positive disposition towards learning, according to both parents and children, as the following exchange, from the same Belgian family (B1) shows:

- Father:* Where did you learn the numbers?
- Boy (6):* On the iPad (with a tone as if it were something obvious). Because there are little boxes to add up and subtract. (Asking dad and mum) Can I shown them [on the iPad]? You can also do it on the portable phone [iPhone]
- Father:* he loves to do mathematics. I downloaded the app and he started to use it one year ago?
- Interviewer:* Why does he like it?
- Mother:* For him it's a game. He associates the numbers with a game. He is competitive: I did it! I won! And he likes learning in general.

Higher socioeconomic parents, then, value the gamification of emergent literacy through apps. However, as much as more digitally literate parents in the

lower socioeconomic group, techno-enthusiast fathers, who have often been former game-players themselves, attribute an intrinsic value to digital games, despite being more conscious of their potentially addictive nature:

Watching a movie, for instance, or learning a movie by heart that they have seen five times already. That's brainless, just staring at a screen. While gaming, that's for hand-eye coordination. (B7)

The more permissive approach adopted by these parents, then, fosters the acquisition of both operational skills and emergent literacy, and thus children of more skilled parents tend themselves to have more competences than their restricted peers.

## **5** Conclusions

Our findings broadly supported Clark's distinction between lower income/less educated families endorsing an «ethic of respectful connectedness» and higher income/more educated families endorsing an «ethic of expressive empowerment». This was found to translate loosely, albeit with exceptions and qualifications, into restrictive and active strategies of parental mediation in relation to young children's use of digital devices.

For less educated parents, a generation gap in which children were recognised as more knowledgeable or competent than their parents impeded parental restrictions of children's media use, resulting in a degree of ambivalence and worry among parents, and few activities that scaffolded children's (digital) literacy learning as children were often left to experiment on their own, learning by trial and error. It was surprising to find this generation gap even for parents of young children, possible revealing parents' lack of confidence (and tendency to view their children as «digital natives») than a reflection of young children's actual skill levels.

By contrast, more educated parents tended to be more confident of their ability to effectively prioritise active mediation within their mix of strategies. These parents seemed the most determined to promote offline or outdoor activities, limiting digital activities as a matter of family values, yet undermining this strategy because they, as parents, would often work with digital media at home.

The main exceptions were among parents who, because of their work or interests, have higher digital expertise and a more positive imaginary around the internet, and so tend to be more actively engaged in and less restrictive of children's online activities. These parents are also more confident of the positive educational outcomes of children's engagement with digital media, in terms of development of operational skills, emergent literacy, and a disposition to learn. This applies across households that vary in composition, education or income.

Not only were these parents more likely to make use of educational apps in supporting their children's learning, but their discourses around digital games



were indicative of contrasting imaginaries around digital media, resulting in different approaches to scaffolding. Whereas parents who are more familiar with ICTs perceive digital games as opportunities for learning, and touchscreens and apps as opportunities for learning through play, less skilled and more concerned parents tend to build a strict boundary between play and learning.

The risk of limiting children's access to the learning opportunities of digital media through a restrictive approach to risk management is likely to become more and more problematic as touchscreens are increasingly integrated in children's lives at home and at school. Insofar as it seems to be due to parents' lack of self-confidence and knowledge of online media, policy and educational interventions to support and scaffold parents' own digital media learning would surely benefit the whole family, including the children. However, given that there are risks associated with digital media, so that some restrictive practices are appropriate, Baumrind's (1991) prioritisation of authoritative (rather than either authoritarian or permissive) strategies might be recommended to policy makers and parents. This would encourage parents to seek an approach that mixes restrictive and active approaches to managing their children's media use, aiming to scaffold learning and maximise opportunities of digital media access, as well as to reduce or manage – and learn from – exposure to risks.

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