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How parents of young children manage digital devices at home: The role of income, education and parental style

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- O'Neill, B., Staksrud, E. with members of the EU Kids Online Network (2014) *Final recommendations for policy*. <http://eprints.lse.ac.uk/59518/>
- Vandoninck, S., d'Haenens, L. and Smahel, D. (2014) *Preventive measures: How youngsters avoid online risks*. <http://eprints.lse.ac.uk/55797/>
- Smahel, D. and Wright, M. (eds) (2014) *The meaning of online problematic situations for children: Cross-cultural qualitative investigation in nine European countries*. <http://eprints.lse.ac.uk/56972/>
- Barbovski, M., Green, L. and Vandoninck, S. (2013) *Innovative approaches for investigating how young children understand risk in new media*. <http://eprints.lse.ac.uk/53060/>
- Holloway, D., Green, L. and Livingstone, S. (2013) *Zero to eight. Young children and their internet use*. <http://eprints.lse.ac.uk/52630/>
- Helsper, E.J., Kalmus, V., Hasebrink, U., Sagvari, B. and de Haan, J. (2013) *Country classification: Opportunities, risks, harm and parental mediation*. <http://eprints.lse.ac.uk/52023/>
- Livingstone, S., Kirwil, L., Ponte, C. and Staksrud, E. (2013) *In their own words: What bothers children online?* <http://eprints.lse.ac.uk/48357/>

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KEY FINDINGS

From when children are very young, their parents start to develop strategies to manage (or mediate) their present and future digital media use. A key challenge they face is that digital media – by which we refer to the array of domestic and personal digital and networked devices for information, communication and entertainment now present in many European homes – are associated with both opportunities and risks.

Qualitative research (based on interviews and observations) with 70 families with children younger than the age of eight conducted in seven European countries has already reported that parents are guided by their already-established styles of parenting and family values, extending these to digital media uses at home as soon as their young children first pick up a tablet or smartphone (Chaudron et al., 2015). Some parents already have experience with their older children and they adjust their approach to include younger children now going online. They are also led to intervene when they see their young children respond to digital devices in ways that worry them (spending too long on one activity, staring at the screen, behaving badly when the device is taken away, etc.).

However, their good intentions are often hindered by a host of everyday practicalities including limitations of time, space, energy and finance. It is also likely that parents are influenced by the values, traditions and experiences that are grounded in their culture, religion or social position. Understanding commonalities among and differences between parental approaches is not yet established in the research literature, although Helsper et al. (2013) developed a productive classification of European countries in terms of their parental mediation practices (along with cultures of online risk and opportunity). Moreover, even knowledge considered to be

established by the literature must be updated for the new generation of ‘digital parents’ – parents themselves raised in the digital age, providing digital media for their very young children – since much research has concerned parental mediation of older children in relation to television.

The main focus of this report is on the role of parental education and household income. Together, these factors capture a major source of difference and inequality across households: hence we ask, how do they shape parental mediation of digital media? For policy-makers and practitioners, it is important to learn whether a generic approach to parental advice and awareness-raising is sufficient, or whether tailored guidance would be more effective for the different target groups of parents being addressed.

In terms of theory, the research draws on three bodies of literature:

- Clark (2013) researched families in the US, mainly with older children. She distinguishes lower income/less educated families who endorse an ‘ethic of respectful connectedness’ from higher income/more educated families who endorse an ‘ethic of expressive empowerment’.
- The EU Kids Online network has found five main types of parental mediation: active mediation (sharing and discussing online activities), safety mediation (advising and guiding on managing risks), restrictions (rules and bans), technical mediation (use of filters, parental controls) and monitoring (checking the computer/social media/phones after use). Still, this work too was based on older children (9–16 years old).
- In the literature on parental styles more generally (Baumrind, 1991), four styles have been identified: authoritative (parents are more responsive and demanding than average), authoritarian (characterised by high control but low warmth), permissive

(or *laissez-faire*) parenting (warm and supportive but non-demanding), and neglectful or uninvolved parenting (low in demands and responsiveness). This has been extended to the internet by Valcke et al. (2010) through the notion of 'parental internet styles'.

In terms of method, this report is based on a re-analysis of the rich data reported in Chaudron et al. (2015). Since that study was itself exploratory, and since the relevance of prior literature on European families of young children in the digital age is uncertain, the present analysis must also be exploratory. The 70 families (the majority with children aged between four and seven, hence our label 'young children') were originally selected to span a range of educational and income backgrounds, thus permitting comparisons by socioeconomic status.

For the present analysis we divided the families into three groups – lower income/less educated, lower income/more educated and higher income/more educated (note that only two families could be characterised as higher income/less educated) – while acknowledging inevitable overlaps or inconsistencies in classification given the complexity of particular family circumstances.

In lower income, less educated families, we found:

- relatively high device ownership at home;
- a generation gap in digital media expertise between parents and children, especially among immigrant families;
- more restrictive parental mediation strategies regarding digital devices, yet parents who are rather ambivalent and worried about digital media;
- an 'ethic of respectful connectedness' in parenting values.

In lower income, more educated families, we found:

- a mix of media-rich and media-poor homes in terms of device ownership;
- a variety of domestic circumstances with a high proportion of single-parent households;
- fairly confident parents in terms of both their digital skills and thus their ability to prioritise active over restrictive mediation.

Still, knowledge of digital media brings concerns, and these parents do also operate some restrictive practices.

In higher income, more educated families, we found:

- an 'ethic of expressive empowerment' in parenting values;
- a wide range of diverse mediation practices including different strategies to manage restrictions for digital device use;
- efforts to promote offline (non-digital) activities for children while limiting digital activities in the home;
- parents who work with digital media, or use digital media at home, who often find that their own practices undermine their efforts to limit their children's digital media use.

To interpret the findings, family patterns and practices were analysed in terms of their different socioeconomic background and education as well as their parenting style, attitudes towards digital media and parental mediation (Livingstone et al., 2011; cf. Tandon et al., 2012). All three sources of theory (and the prior research that supports this) were useful in identifying commonalities and differences across families, it being most likely that socioeconomic status (income, education) influence (but not determine) parental practices and beliefs, so that it is the combination of influences that helps explain parental practices in particular families.

Because of the sizeable group of lower income/more educated parents, however, it is not straightforward to infer parental mediation

simply from knowledge of household income. While both income and education influence parental mediation, it seems that education makes the greater difference.

Importantly, and complicating matters somewhat, the relationship between parenting style and parental regulation of digital devices is qualified by parents' own familiarity with digital media. Across all the family types, insofar as parents had particular expertise in digital media, whether because of their work or interests, it appeared that they were more confident of managing their children's digital media activities and more engaged in them.

When looking at cross-national variations, the findings were supportive of the EU Kids Online classification (Helsper et al., 2013), with Finnish parents being more actively engaged in their children's online activities, Czech parents being generally more passive, while parents in Belgium, Germany, Italy, Russia and the UK favoured restrictive approaches.

For all parents, but especially those who lack confidence, experience or expertise in relation to digital media, the study revealed a need for policy and practitioner support in relation to:

- Knowledge of the benefits of internet use, including lists of recommended imaginative, creative and educational sites and apps, along with public discussion of the criteria by which parents can evaluate these, and tips on how to find them.
- The use of technical tools to manage children's internet use for safety purposes, for example, digital safety settings, best practice for passwords, privacy protection and content filters.
- Beyond technical tools, many parents would welcome support for easy ways to increase their own digital skills and knowledge; and since parental digital competence and confidence results in more enabling efforts in relation to their

children, the benefit of parental skills is felt among the whole family.

- Communication strategies to facilitate shared activities using digital devices and parent-child discussions about preferred values and practices and how to address problems. This should include guidance to parents on how to mediate digital media for children of different ages, and how they can also play a guiding role in sibling conversations, since older siblings have a major influence on the play and learning of younger children.
- Much of this guidance and support parents said they would prefer to receive from schools or nurseries, yet it was striking how little parents said they received in terms of guidance from schools, and how little they even know (or are told) about their children's digital activities at school or nursery.
- Since these institutions are publicly funded and can communicate with nearly all parents, their potential to benefit domestic (as well as school) settings is considerable.
- The role of industry lies more in the first two points above – promoting a diverse array of beneficial activities and providing tools to minimise the risk of harm.

INTRODUCTION

Why parental mediation matters

'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, as a key means of 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.

Whether media are conceived in terms of opportunities or risks or both, parents are generally held to be best placed to manage their children's media engagement. For this reason, there is a long tradition of research examining parental strategies for mediating their children's media activities, including analysis of the factors that lead parents to mediate in different ways and evaluations of the effectiveness of their strategies in terms of enhancing opportunities or mitigating risks.

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 other digital media, or whether new strategies are needed – including the use of software to filter, limit or monitor children's online activities (Livingstone and 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 and Vincent, 2014; Mascheroni and Ólafsson, 2014).

Focus on young children

Increasingly, ever younger children are now going online at home, in nursery and from the start of school, and as a result researchers are increasingly studying the contexts and consequences of their digital media activities (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.

Our recent seven-country study in Europe focused on families with children younger than eight (with most aged between four and seven), employing a mix of interview and observational methods (Chaudron et al., 2015). While largely exploratory and descriptive in nature, this study showed that tablets have quickly become popular and valued in young children's digital lives, since the touchscreen interface is far easier for them to manage than the keyboard or mouse necessary for a laptop or desktop computer. Most younger children use digital media for playing games and watching streaming, on-demand or catch-up content services – mainly for mass-produced entertainment content, since few parents had loaded educational apps, and few children had the skills for content creation.

In this report, written by some of the authors of the above study (Chaudron et al. 2015), we

offer a closer analysis of findings on parental mediation, interpreting them in relation to two main themes discussed – but not yet resolved – in the academic literature:

- The nature of differences among parents within a country – here we focus on parental education and household income (in short, the main sources of social inequality) as these shape parental mediation strategies.
- The nature of differences among parents across countries – here we work with EU Kids Online's classification of countries in terms of their protective versus enabling approaches to children's digital media use.

Our research aims both to understand the present situation better and to inform policy-makers. The research may have particular implications for children's online safety and digital inclusion – pinpointing gaps or problems in current practice, and guiding targeted interventions as needed.

LITERATURE REVIEW

Parental mediation strategies: commonalities and differences

Measuring parental mediation is not straightforward, as parents may overestimate their engagement (whether active or restrictive) in regulating their children's experiences of the internet for reasons of social desirability. Similarly, children may underestimate (or be unaware of) what their parents do. Nonetheless, the EU Kids Online survey reported a high degree of agreement in the accounts of parental mediation provided by paired parent-child interviews (Livingstone et al., 2011).

Focused on school-aged children, the research identified five main strategies of parental mediation of the internet and mobile media. These have been developed using factor analysis first in the UK (Livingstone and Helsper, 2008), then extended to 25 countries (Livingstone et al., 2011), and the validity of the factor analyses in each country was tested by Dürager and Sonck (2014).

- 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.

Note that this classification represents a contrast 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 – in practice, if you sit with a child while they go online, you 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, restrictive practices tend to be used more for younger than older children, suggesting that for the under-eights studied in

Chaudron et al. (2015), restrictive practices may be popular.

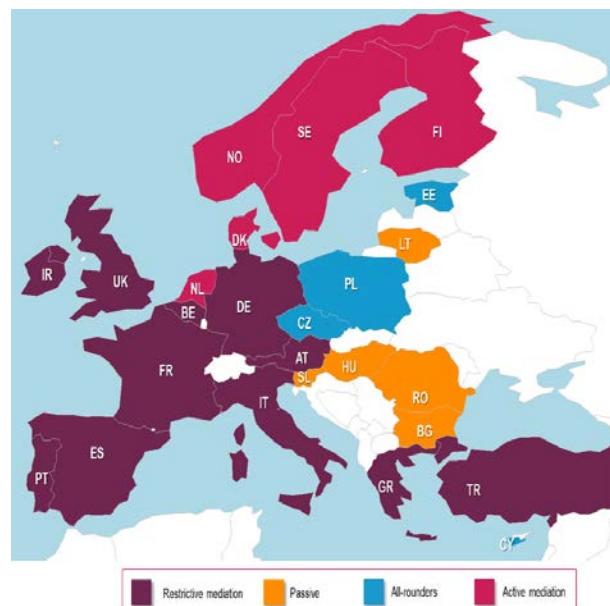
Beyond these laudable efforts to manage media use for the benefit of the child, it must be acknowledged that mediation practices have developed to meet the needs of parents – consider the idea of media, especially television, as a babysitter or ‘surrogate parent’ (Gantz, 1982), enabling parents to do 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). Interestingly, and contrary to popular prejudice, the use of television as a babysitter is not predicted by parental education, although children of less educated parents do view for longer (Beyens and Eggermont, 2014).

Some of these practices can be seen to vary according to the demographics of the child or parent (Livingstone and 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 and 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 have been shown to depend on culture or country. As EU Kids Online’s analysis shows in Figure 1, cross-national variations in the parental mediation of 9- to 16-year-olds’ internet use are considerable. Most Central and Southern European countries, Ireland and the UK have parents who prefer restrictive mediation (Helsper et al., 2013). 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).

Figure 1: Classifying parental mediation of the internet by country



Last, in terms of effectiveness, EU Kids Online findings suggest that, among the five parental strategies noted above, only active and restrictive mediation are associated with a reduction in children’s exposure to online risks (Dürager and Livingstone, 2012; Mascheroni et al., 2013). While restrictive measures are associated with the lowest levels of risk exposure, they also appear to limit children’s online opportunities to learn, explore, develop digital skills or gain resilience to risk. Active mediation appears most promising in terms of minimising risks without minimising opportunities, but the evidence for such dual effectiveness is not yet strong. Nor have the above findings been studied in relation to much younger children.

Focus on socioeconomic status

The relation between parental mediation and socioeconomic status (itself a composite of

income, occupation and education) is complicated.

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. Households may be positioned along a continuum between 'media-rich' and 'media-poor' homes (Livingstone, 2007).
- Lower income parents are less likely to provide their children with the latest or most expensive versions of technological devices. However, children from lower socioeconomic backgrounds are more often provided with electronic screens in their bedroom, and spend more time watching television and using computers. Children from lower income families are more likely to have longer screen times and increased likelihood of sedentary behaviour including its negative health-related consequences (Tandon et al., 2012). By contrast, children of higher income parents have and use touchscreens more (Nikken and Schols, 2015).
- 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: 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' (see also Bragg and Buckingham, 2013, on different ideas of 'good parenting').
- 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, 2013, 2014).

Parental styles

- 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 (or laissez-faire) parenting, which is warm and supportive but non-demanding; and neglectful or uninvolved parenting, low both on demandingness and responsiveness (Baumrind, 1991; Eastin et al., 2006; Nakayama, 2011).
- Evidence from the US shows that social class 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).

Parental mediation strategies

- The EU Kids Online survey (Livingstone et al., 2011, 2012) 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. 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.

- Insofar as parental mediation strategies can be positioned between the two poles of 'responsiveness (warm and supportive parenting) and demandingness (regulating behaviours)' (Clark, 2013: 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 (see Figure 2), 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.

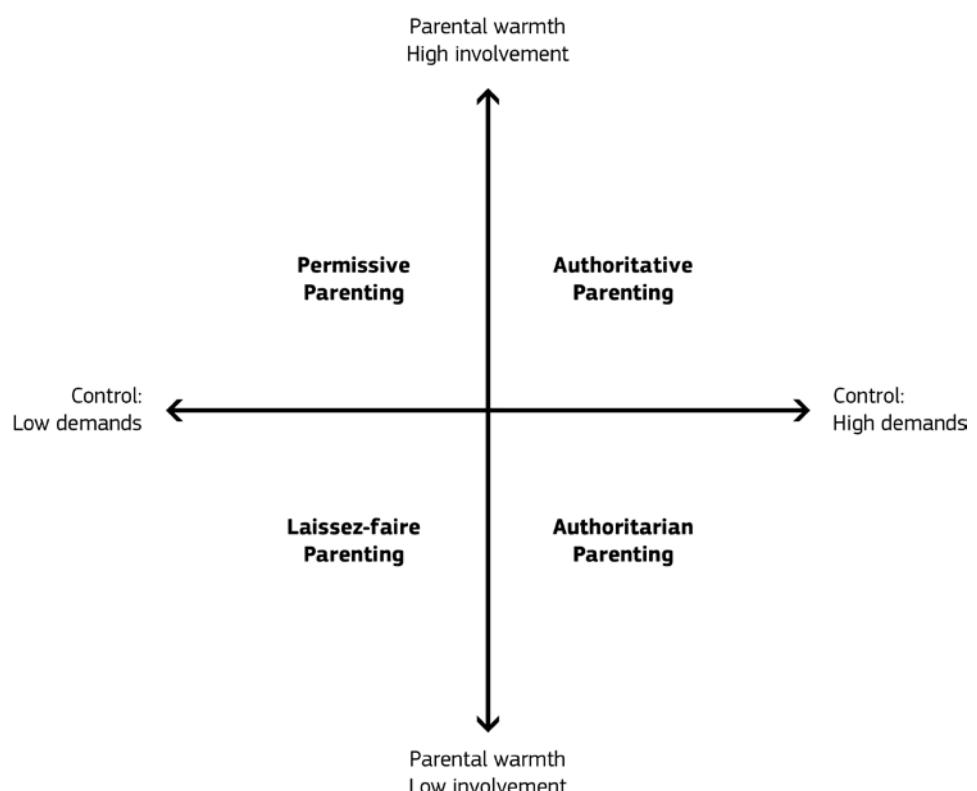


Figure 2: Parenting styles (Baumrind, 1991)

RESEARCH METHODS

Approach, sample and fieldwork

Families' appropriation of digital media in the lives of their young children is a particularly recent and fast-changing phenomenon and field of study (Menou, 1999). The inductive nature of qualitative research allows for the exploration of under-investigated topics, and may 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 (cf. Braun and Clarke, 2006; Merriam, 2014).

The original research (Chaudron et al., 2015) 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.

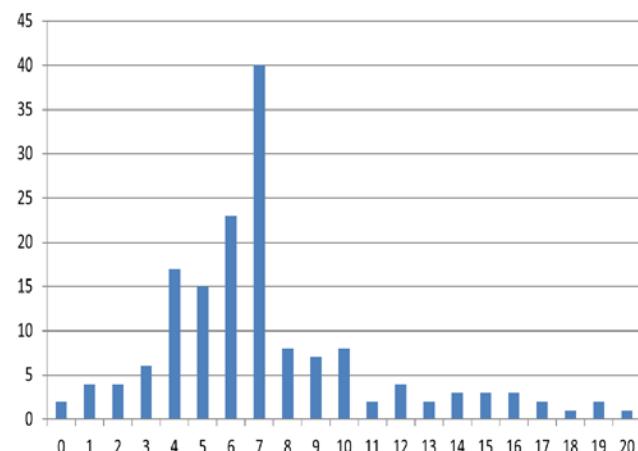
Figure 3: Participating countries in the research



In total, the researchers visited 70 families at home, 10 each in Belgium, the Czech Republic, Germany, Finland, Italy, the UK and

Russia (see Figure 3). The 70 families interviewed included 119 children (aged 0–8, and indirectly covered older siblings ($n=38$) aged between 9 and 20 (see Figure 4 for the total age breakdown).

Figure 4: Age of children interviewed or observed, directly or indirectly ($n=157$)



The European Commission and, where applicable, national ethical committees, approved the project's research aims and methods. Informed consent from parents and children was obtained before observational data were gathered or interviews conducted (see the appendix of Chaudron et al., 2015). 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.

A short family introduction took place in which the children and parents participated in a joint discussion and activity. The parents and children were subsequently divided into two groups, and each was engaged in parallel activities. The parents had a short interview with one of the researchers; the other researcher 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. National research teams prepared an anonymised 300+ word family portrait for each family. These are published in full in Chaudron et al. (2015) and provided the materials for the present analysis.

Approach to analysis

Framed as a pilot study given the paucity of existing research on young children and their families, Chaudron et al. had set out to develop constructive research methods for observing and interviewing young children. Yet the study produced much valuable data worth mining further. Our approach to this further analysis is described below.

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 and Clarke, 2006).

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

- Income (using OECD indicators) of (i) around or below the national average or (ii) above the national average (estimated for each country separately).¹
- Mother's education (since most of the research literature focuses on mothers as mediators of media; see Eastin et al.,

¹ See www.oecd.org/statistics/OECD-Better-Life-Index-2014-definitions.pdf

2006) of (i) secondary (high) school or less or (ii) college or university or more.²

On this basis, and acknowledging the many contextual complexities that complicate such an effort, we classified the 70 families as shown in Table 1.

Table 1: Classification of families by mother's education and household income

	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

Note: 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).

As is evident from Table 1, most families fitted into one of three groups, with only two families of above average income yet lower education.

² See

www.uis.unesco.org/Education/Documents/isced-fields-of-education-training-2013.pdf

The 'low/low' families and 'high/high' families therefore most neatly meet traditional definitions of lower and higher socioeconomic status. The sizeable 'low income/high education' group may reflect European austerity in income and/or the fact that women's education is a weak predictor of household income. It is also due to a high proportion of single parents in these households. In what follows, we examine these three groupings in turn, before drawing our conclusions.

FINDINGS

Lower income, less educated families

By comparison with the other groups, this group is characterised by:

- relatively high device ownership at home;
- a generation gap in digital media expertise between parents and children, especially among immigrant families;
- more restrictive parental mediation strategies regarding digital devices, yet parents who are rather ambivalent and worried about digital media;
- an 'ethic of respectful connectedness' in parenting values.

To elaborate, analysis of these families shows that a lower socioeconomic background does not mean fewer digital devices available at home. Indeed, these homes are often 'media-rich' in terms of the number and variety of digital media, although they are less likely to be 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).

They often experience time constraints that prevent them from engaging in shared media activities with their children, and they tend to use the television or digital media as a babysitter to keep children occupied while they are busy with domestic chores (B2, CZ1, CZ6, F4, I2). This does not mean they are unconcerned: one Italian mother of two girls aged 7 and 4 was critical of the use of television as a babysitter, leading her to adopt a more restrictive approach:

We have friends who let their children watch TV while having breakfast alone in the kitchen, while mum and dad get dressed, and you can see at school they are already brainwashed I would say. I know it is exaggerated, but they are dumb, like hypnotised. That's why I set the rule. (I5)

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 7-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 7 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 7) 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)

In a Finnish family of Italian origin (F4)³ illustrates the ambivalence some parents feel: they 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, the parents 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 7 and 5 says that digital media "make people stupid and lazy" and also anti-social. In spite of this, she

³ The family includes 10 children, varying in age from 17 to 1.

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".

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 4-years-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 a Belgian family (B9) the parents set up Google in such a way that they could trace from their own tablet and smartphones the history of everybody who searched the internet at home. In a Czech family (C5), where parents of 7- and 5-year-old girls work in the IT sector and are themselves high digital users, digital media are part of the family 'habitus', seen as "a standard activity like reading a book or playing a board game." 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. Moreover, being more skilled themselves, these parents are more permissive as they know how to prevent children's exposure to online risks. According to one Italian father of two girls aged 5 and 6:

I no longer check on them [while they use YouTube], 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)

As a consequence, children are left free to experiment with technologies and to learn by trial and error. While this permissive approach does not prevent children from encountering risks, it fosters the acquisition of digital skills, and thus children of more skilled parents tend themselves to be more skilled than more restricted peers. Yet this father knows how his daughters are using YouTube, and engages with them and their activities. This permissive approach is thus different from the laissez-faire approach of a Belgian family (B9) where the mother considers herself to be “addicted to television”, leaving the children free to spend their leisure time as they wish.

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, 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 the lower income, lower education category has Italian origins, so their more restrictive parenting style is no surprise.

Lower income, more educated families

By comparison with the other groups, this group is characterised by:

- a mix of media-rich and media-poor homes in terms of device ownership;
- a variety of domestic circumstances with a high proportion of single-parent households;
- fairly confident parents in terms of both their digital skills and thus their ability to prioritise active over restrictive mediation.

Yet, knowledge of digital media brings its own concerns, so these parents also operate some restrictive practices.

In this group of families, all the mothers had at least college-level education. Some are still studying while others are working part- or full-time, often not at a level to be expected from their educational achievement. Around a quarter of this group were either single parents or parents studying or re-training, and thus their household incomes fall below the estimated national averages.

We judged around one-third of these homes to be media-poor and two-thirds media-rich. Yet some of the media-rich families consciously sought to be low users of digital technology. One UK father (UK8, girl 7 and boy 4) provided an eloquent justification for their low-tech lifestyle:

I tend to think that the world they’re going to be part of is going to be so heavily digitalised anyway; they’re going to spend a huge amount of their lives in front of

screens. I'm not sure they need to be steeped in that kind of culture by me yet.

Another example of consciously wanting to live a low-tech life is a Czech family (C3, boys 7 and 3) in which the parents want to make the children sensitive to the computer, but do not want to buy a television or tablet:

The computer is primarily a tool for work, secondarily a tool for entertainment, but still, we parents spend a lot of time doing some other activities.... I think, that if the child is brought up like that and sees a sensible approach towards technology, it gives them more than if I retell it maybe every second day.

Thus, a media-poor home may be deliberately chosen rather than it being a matter of economic necessity, and a media-rich home does not necessarily mean a media-intensive lifestyle.

On a cross-country level, the parents in Russia, Finland and the UK seem to lead a more media-rich life, having digital technology incorporated prominently into their daily lives. Yet Russian and British families seem more restrictive compared to parents from other countries, even though they have provided media-rich homes for their children. Russian parents in this group seemed to have the most ambivalent opinions about living a media-rich life, seeing the digital world as the future and so supporting their children in the use of media, and yet fearing the adverse physical consequences of over-use. Finnish parents seem the least bothered by the fact that they own and use many devices, and worry less about possible risks to their children.

For this group, as for the previous one, the strategies parents choose to mediate their children's digital media use depends on how they are confident themselves in internet use. In this highly educated group, parents generally have both sufficient digital skills and

high levels of self-efficacy in internet use, giving them confidence in managing their children's internet use. Thus, as predicted by Helsper et al. (2013), they prefer active over restrictive mediation of children's digital media uses at home. In one German family (G1) the parents explain that they are skilled media users, and thus both take responsibility for managing their children's use of technology, preferring active over restrictive strategies. In a Belgian family (B8) with two girls aged 3 and 6, the mother actively guides her children when they engage with media content that she thinks they may find problematic:

The youngest [a 3-year-old girl] watches DVDs that are actually intended for 6-year-olds with her sister. There are often Disney movies in which there might be a scary moment. But that is guided of course. I am here all the time, so it is not as if they watch [those DVDs] alone. And I always tell them, because there are indeed scary moments in many Disney movies that [name of 6-year-old girl] also finds scary. But then I say, you know there is always a happy ending but we need to go through this part. So, then we discuss that. But, otherwise I think those [movies] are fine.

Yet she also limits the time her daughters can spend with media because, as a physiotherapist, she believes exercise is paramount in children's development. Speaking of the older daughter, she explains:

[Name of 6-year-old girl] loves to watch television [actually, cartoons/movies on DVD as the family does not have a cable subscription]. If I would allow her, she would watch television the entire day. She needs to go and play outside as well. But, yes, they can choose one or two movie clips a day, and that's it for me.... I just miss any exercise [while engaging with media]. And that is just so necessary for a child, that it can exercise.

Parents often offer advice and guidance to their children regarding media use, and the restrictions they do set are largely based on limiting time use, perhaps informed by their analysis of what children need. For instance, in a German family (G1, twin brothers aged 5), where the mother is a skilled media user and feels confident in managing the children's media use, she says that:

I am very critical, I have to say... I also get my emails pushed to my iPhone and am highly involved due to my job.... But at the age of 5 it is not a good idea.

However, their digital expertise seems to make parents more aware of the potential risks, and they seem less persuaded that the potential benefits outweigh the potential harm. For example, a Finnish single father (F10, two girls aged 5 and 10), who works in computing, is very aware of the risk of online bullying or strangers contacting his children, and so applies some restrictive measures to his children – both technical (use of passwords and firewalls) as well as social (time limits, advice on media use).

Possibly since these parents are educated, they do not fit with the finding in the literature that in lower income families the children teach their parents how to use digital media (Correa, 2014). The exception was one Russian mother (R9, boy 7) who told us that she uses devices mostly with the help of her 23-year-old daughter.

Drawing on Baumrind's styles of parenting, we can see that many of the parents in this group tend to be either authoritative or permissive. For instance, even in a sporty Czech family (C2, boy almost 8 and girl 6) who prefer non-technological activities, the use of digital devices is embedded in a strict reward system, and the children must respect the parental rules that are in place. This authoritative style of parenting in the use of technology puts the parents in overall control of the children's media use while still

practising responsive parenting. An illustration of a permissive parenting style is found in another Czech family (C9, boy 8, girl 6) where parents say they limit time use only if they think their children are becoming addicted; in this family, the parents didn't teach their children to handle the devices but the children learned by themselves. As the mother states:

It's a utility thing [technology] ... which if not used extremely, I do not care. But if I saw that my child was addicted to it, I would stop it. So far it really seems that there is no need to deal with that.... So far, we haven't taught him anything. Rather, he's just found out that it is really possible to Google something.

Permissive parenting is also observed in a Finnish family (F2, two girls 8 and 11) where the parents say that they rely on the judgement of their children, and again, that they do not teach their children how to use a device. The parents do show their children interesting things and tell them what appropriate online behaviours are, but they don't require the children to obey any rules.

Higher income, more educated families

By comparison with the other groups, this group is characterised by:

- an 'ethic of expressive empowerment' in parenting values (Clark, 2013);
- a wide range of diverse mediation practices including different strategies to manage restrictions for digital device use;
- efforts to promote offline (non-digital) activities for children while limiting digital activities in the home;
- parents who work with digital media technologies from home often find their own practices undermine their efforts to limit their children's digital media use.

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.

Additionally, they set up 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 6, 1 and a boy aged 4 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 – with the consequence that multiple devices in these families, especially tablets, are often mainly used by the children, as illustrated by a Belgian boy (B6) aged 6, who managed to learn numbers on the tablet:

On the iPad [with a tone as if it were something obvious]. Because there are little boxes to add up and subtract. [Asking his parents] Can I show them [on the iPad]? You can also do it on the portable phone [iPhone].

In some cases, parents are rather restrictive without really providing appropriate and interesting offline alternatives. The strong diffusion of digital devices within this high

socioeconomic status grouping (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.

Parental strategies to restrict digital media use varied, informed in part by mental health concerns and the fear of online risks. Thus, motivated by concerns about their children's wellbeing, parents seek reliable information about secure content and good answers to the question of how to find the balance. 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. Some see dealing with this as their task alone, while others see it as a combination of school and parental responsibility.

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. In one UK family (UK2), the mother's lack of knowledge about digital media led to very restrictive rules regarding the internet, permitting use of the Nintendo games consoles (for fun) or the laptop (for educational purposes), while few offline activities were supported as an alternative.

Some parents react with hybrid strategies in response to specific situations, including regulating digital media only when a problem arises.

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. A German mother (G5) of girls aged 6, 1 and a boy aged 4 comments that:

Mother: The children have good self-regulation.

Interviewer: That is a good keyword. Where else can you witness your children self-regulating in terms of media?

Mother: [1-year-old girl] is very emotional. If she watches Laura's Star and the main character is in danger, although she knows that there will be a happy ending, I have to be at her side. She couldn't watch it alone. It is the same with books. One cannot simply read every one book to her, especially in the evening. Bedtime stories including, for instance a wolf or bad things is a no-go for her. Accordingly watching TV is regulated in the same manner. In addition the time is a relevant factor. Most of the time she loses interest anyway after half an hour of watching TV.

This is especially the case when parents use digital media to work from home or are themselves working in the field of digital technologies. 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 [7-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 [7-year-old boy] and dad do not notice how fast the time passes, and they can play games for many hours on end together.

Passwords provide an interesting test of the parent-child relation. In some cases, parents are aware that the child has come to know the password but do not change it provided that no further problems occur. Or parents share the password directly as a sign of trust that their child can regulate their own use, as shown in a Finnish family (F7), where the children (boys 7 and 9) are requested to ask their parents for the password if they want to download apps to their smartphones or the tablet. However, the father has figured out that the children possibly already know the password, which is why he sometimes checks out what games are on the tablet.

An example of a child knowing the password and not being supported by parental mediation led to a severe psychosocial burden as well as nervousness and hysteria in one Russian family (R3) with only one boy aged 4. Here, digital media rules were unclear and set in a chaotic manner, with the child being given a device when parents wanted to keep him quiet. They use passwords, but the child knows them. He actually gets a device (even the most expensive device) whenever he wants; any restriction leads to an immediate hysterical reaction, such as crying or shouting. He gets nervous if a device is not visible, may start searching for it, and only calms down when he gets it again:

If [4-year-old boy] gets hysterical or tired a gadget can be given in order to make him behave well, stay silent and not make scenes, e.g. during the flight. At home I can keep a device, he may shout, I won't feel sorry. But when he torments us totally, we

will give it anyway. We act not very good, he plays for a long time and we do not set limits. But I can't prohibit that so am waiting as I think he will get tired of gadgets. So if I allow gaming now he must cool off, sooner or later.

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.

CONCLUSIONS

In reviewing the parental mediation strategies in 70 European families varying by income, education, culture and circumstances, it has emerged that parents begin thinking about, and finding ways to manage, the digital media use of their children when they are very young. From the original report of findings (Chaudron et al., 2015), we learned that guiding parents' actions and approach are their already established styles of parenting and family values, and parents extend these to digital media-related activities at home as soon as children begin these activities. Parents are already partly mediating the activities of their older children, and they adjust their approach to include their younger children. To be fair, they are led to intervene when they see their young children respond to digital devices in ways that worry them (spending too long on one activity, staring at the screen, behaving badly when the device is taken away, etc.). They are also highly conscious – via mass media and peer discussion – that being a 'good parent' means managing their children's internet use.

It was a limitation of our study design that all the countries apart from Finland and the Czech Republic came from the 'restrictive mediation' countries, as classified by EU Kids Online (Helsper et al., 2013). Broadly, it seemed that, as that classification predicted, Finnish parents were more active or even permissive in their parenting, Czech parents were more passive, and those from the other countries studied favoured restrictive practices. Still, there was considerable variation among families from each country.

Yet parents are often unclear or inconsistent about how and why parental mediation matters or which strategies are effective. And a host of practicalities – notably lack of time, resources, knowledge, competence, etc. –

often intervene between their good intentions and their everyday practices.

Our main focus was on socioeconomic variations – especially in terms of household income and parental education. 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 – with many exceptions – into restrictive and active strategies of mediation.

The main exceptions were among parents who, because of their work or interests, have higher digital expertise and so tend to be more actively engaged in and less restrictive of children's online activities. This applies across households that vary in composition, education or income.

Further, for less educated parents, a generation gap in which children were recognised as more knowledgeable or competent than their parents impeded parental management, resulting in a degree of ambivalence and worry among parents. It was perhaps surprising to find this generation gap even among parents of young children, and it may be more revealing of some parents' lack of confidence (and tendency to view their children as digital natives) than a reflection of young children's actual skill levels.

More educated parents tended to be more confident of their digital skills and of their ability to effectively prioritise active mediation within their mix of strategies. More educated and higher income 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. Across all the family types, when parents had particular expertise in digital media, because of work or interests, they were more confident of

managing their children's digital media activities and more engaged in them.

Many parents appeared to be seeking an approach that mixes restrictive and active approaches to managing their children's media use – here Baumrind's (1991) prioritisation of authoritative (rather than either authoritarian or permissive) strategies could provide the basis for developing constructive guidance, rather than recommending either just restrictions or just active approaches.

For all parents, but especially those who lack confidence, experience or expertise in relation to digital media, the study revealed a need for policy and practitioner support in relation to:

- Knowledge of the benefits of internet use, including lists of recommended imaginative, creative and educational sites and apps, along with public discussion of the criteria by which parents can evaluate these, and tips on how to find them.
- The use of easy-to-use technical tools to manage children's internet use for safety purposes, best practice for passwords, privacy protection and content filters. For example, given how commonly children use shared family devices, many families would welcome tools that permit easy and flexible switching to and from child-safe settings.
- Beyond technical tools, many parents would welcome support for easy ways to increase their own digital skills and knowledge, and since parental digital competence and confidence results in more enabling efforts in relation to their children, the benefit of parental skills is felt among the whole family.
- Communication strategies to facilitate shared activities using digital devices and parent-child discussions about preferred values and practices and how to address problems. This should include guidance to parents on how to mediate digital media for children of different ages, and how they

can also play a guiding role in sibling conversations, since older siblings have a major influence on the play and learning of younger children.

- Much of this guidance and support parents said they would prefer to receive from schools or nurseries. Yet it was striking how little parents said they received in terms of guidance from schools and how little they even know (or are told) about their children's digital activities at school or nursery.
- Since these institutions are publicly funded and can communicate with nearly all parents, their potential to benefit domestic (as well as school) settings is considerable. The role of industry lies more in the first two points above – promoting a diverse array of beneficial activities and providing tools to minimise the risk of harm.
- Together, these initiatives and resources would prove valuable for all parents, but especially so for those who have a more ambivalent view of digital media due to their lack of familiarity with the internet and mobile devices.

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