

# PARENTAL MEDIATION AND THE INTERNET: FINDINGS OF NET CHILDREN GO MOBILE FOR PARENTS' MEDIATION STRATEGIES IN IRELAND

## MEDIAZIONE DEI GENITORI E INTERNET: RISULTATI DI NET CHILDREN GO MOBILE PER LE STRATEGIE DI MEDIAZIONE DEI GENITORI IN IRLANDA

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### ABSTRACT

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Based on data collected from the Net Children Go Mobile project, a cross-national study of children aged 9-16 in seven European countries with a focus on the Irish context, this article examines parental mediation of children's online activities. The relationship between children's digital skills (including internet and smartphone use) and parental mediation is also examined and factors influencing parent mediation are highlighted. Parents implement a range of strategies, favouring strict mediation and rules over active mediation on internet safety, but these were associated with reduced children's online activities and digital skills. These findings challenge researchers to identify effective strategies that don't impede children's freedom to access the online world and avail of online opportunities.

### KEYWORDS

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Parenting, mediation, skills, online activities, children, mobile phone and Internet

## SOMMARIO

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Basato sui dati raccolti dal progetto Net Children Go Mobile, uno studio trans-nazionale su bambini di età compresa tra i 9 e i 16 anni in sette paesi europei, con un focus sul contesto irlandese, questo articolo esamina la mediazione parentale delle attività online dei bambini. Viene inoltre approfondita la relazione tra le competenze digitali dei bambini (compreso l'uso di Internet e degli smartphone) e la mediazione parentale e vengono evidenziati i fattori che la influenzano. I genitori implementano una serie di strategie, favorendo una stretta mediazione e norme di mediazione attiva sulla sicurezza di Internet, ma queste erano associate a ridotte attività online e competenze digitali dei bambini. Questi risultati sfidano i ricercatori nell'identificare strategie efficaci senza impedire ai bambini la libertà di accesso al mondo online e di avvalersi delle opportunità online.

## PAROLE CHIAVE

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Ruolo del genitore, mediazione, abilità, attività online, bambini, telefono cellulare e Internet

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## 1 Introduction

While the benefits of digital technology are many, the rapid advances in technology have outpaced the competence, experience or digital literacy of many parents and educators. Young children growing up in the digital world have access to online resources and content of complexity and richness far beyond what many parents today experienced when they were growing up. Technology has become a normal part of young children's daily activities in ways that parents themselves never experienced (Common Sense Media, 2011). This is especially the case with the mobile Internet which, given its very recent origins, is such that no parent today can know what it is like for a three-year-old using his or her first smartphone, tablet or laptop.

Pressure to ensure that their child is not «left behind» has also been a factor leading to parents investing in home access to new digital technologies, even if this places demands on families' financial, technical and social resources (Lally, 2002). Parents have also in response to concerns about the lack of safe spaces for outdoor play sought to provide suitable and safer indoor entertainment and play activities for their children (Livingstone, 2007a). However, as locations and platforms for Internet access diversify, domestic supervision and mediation of children's Internet access and use proves increasingly difficult (Ofcom, 2014; Whitty, 2013).

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). In this paper, we focus on the Irish context and specifically the impact of various approaches to parental mediation on children's digital skills (both internet and smartphone use's skills) and online activities.

## 2 Literature review

Parental attitudes and parenting practices are of central importance to children's experiences of the use of digital technologies and their socialization into the wider online environment. The impact of parenting practices on children's development has been widely documented (Halpenny, Nixon, & Watson, 2010). There is also a well-established literature on parents as one of the most important socialization agents in the process through which children acquire and develop a broad range of attitudes, knowledge, and social skills related to the media (Belsky, 1984; Carlson & Grossbart, 1988; John, 1999; Moschis, 1985). Equipping children with the necessary skills to become an effective social being has been linked to the adaptive child rearing strategies expressed in the context of parent-child interaction (Bornstein, 2005).

In an effort to help their children achieve better socialization, parents employ a variety of parenting strategies including parent-child discussion, reinforcement, rule-making, and modelling. According to Cram and Ng (1999), parents also mediate and control children's interaction with the media in the following ways: setting rules to control children's media use in terms of the type of content and the amount of media exposure (*restrictive* mediation); discussing with children the positive and negative aspects of media content and desirable forms of media consumption (*active* mediation); and sharing media experiences with children without purposeful instruction or critical discussion (*co-use* mediation). Such strategies used by parents to control or regulate children's media use are generally referred to as «parental mediation» (Warren, 2001).

Research on parental mediation of children's use of media, principally in relation to regulation of children's viewing of television, shows that parents tend to combine both positive and negative strategies (Livingstone & Bober, 2006). Research to date on parents' regulation and mediation of children's ICT use is more limited, given the paucity of studies on children's ICT use more generally, and specifically in relation to parents' involvement. Consequently, relatively little is known about what happens when parents, children and the Internet come together, especially with regard to parents' activities in mediating children's use of new media (Wang, Bianchi, & Raley, 2005).

Existing research on parental mediation of children's Internet use has demonstrated that supervision and guidance of parents play an important role in the way children understand and consume internet/media messages (Buijzen, van der Molen, & Sondij, 2007; Buijzen, 2009). The role of parents in relation to Internet use of younger children is also an area of relatively new research interest, with important emerging evidence on «control» and «supervision and monitor» and «support by parents» (Livingstone, 2007b) as well as on discipline responses or parental beliefs about and attitudes towards the use of mediation as a form of discipline with children (Grossbart, Hughes, Pryor, & Yost, 2002).

The EU Kids Online project and its successor project, Net Children Go Mobile, represent some of the first European studies to include and to compare child and parent perspectives on Internet access, use and mediation. The survey includes examination of different types of parental mediation and their efficacy according to factors such as parents' socio-economic status and level of education as well the child's age and gender. The question of the child's age is especially important and has been found consistently to predict the level of parental mediation. Parents of younger children (especially boys) tend to practice more mediation compared to parents of older children and girls (Livingstone, Haddon, Görzig, & Ólafsson, 2011).

## 2.1 *The internet in domestic context in Ireland*

In an Irish context, children and young people in Ireland enjoy high levels of access to social and digital media technologies. Growing Up in Ireland, the

national longitudinal study of children, has since 2009 confirmed high rates of computer access with a total of 86 per cent of all nine-year-olds reporting that they had a computer in their home. «Almost all children (93%) from higher social class groups had a home computer compared with three-quarters (78%) of nine-year-olds from lower social class categories» (Williams et al., 2009, p. 121). Two thirds of this nine-year-old child cohort said they used the computer a little with one quarter saying they used it a lot, the most frequent use being for playing games (86%), following by «surfing the internet» (both for school and for fun) cited by just under 50 per cent of children (McCoy, Quail, & Smyth, 2012). The more recent study of the infant cohort (now aged 9 years) found that more than half of boys aged seven and eight years have upwards of three hours of screen time on a typical day at the weekend, whether that is a television, a phone, a tablet or other screen based device (Growing Up in Ireland, 2017).

Available evidence regarding the take up of children's online opportunities in Ireland, however, portrays a limited range of activities availed of with the more complex, learning-oriented uses of digital technologies concentrated among older teens and higher SES groups. Research from EU Kids Online showed that online activities for 9-16 year olds in Ireland were substantially below European norms leaving many opportunities unexplored (O'Neill, Grehan, & Ólafsson, 2011). 57 per cent of young people were found not to go beyond Step 2 of the «ladder of opportunities» (Livingstone & Helsper, 2007) gender and socio-economic status in relation to their quality of access to and use of the internet. Since both the extent of use and the reasons for low- and non-use of the internet vary by age, a different explanation for the digital divide is required for children compared with adults. Looking beyond the idea of a binary divide, we propose instead a continuum of digital inclusion. Gradations in frequency of internet use (from non and low users through to weekly and daily users. Participatory activities were under-represented at all age levels: «posting photos, videos or music to share with others» were reported by 31 per cent overall; «visiting a chatroom» by just 9%; «writing a blog or online diary» by 6 per cent overall.

*Net Children Go Mobile* similarly pointed to relatively low levels of active engagement («creating an avatar» – 3 per cent of 9-16 year olds; «published a message on a website or blog» – 7 per cent of 9-16 year olds; «spent time in a virtual world» – 2% of 9-16 year olds) (O'Neill & Dinh, 2015b). On the other hand, the study confirmed high levels of social networking use, particularly among Irish teens, 76 per cent of whom report using a social media service every day and for whom it is – with listening to music – the most reported online activity (O'Neill & Dinh, 2015b). Moreover, the average age of the adoption of the internet, mobile phones and smartphones across the different age groups, shows that children start using the internet and a mobile or a smart phone at an ever-younger age (O'Neill & Dinh, 2014a).

For most young people, «a low use, low risk» pattern appeared to be the dominant one, followed by a «moderate-use, entertainment and communication-oriented» use of the internet. Girls, as highlighted above, were found to have a

wider range of activities, exploring all types of different activities with a focus on school work, reading news and entertainment. Girls, particularly in the older age group, were also found to claim more skills than boys and to express more digital confidence than boys. Girls appeared to be better able to manage privacy settings on a social networking profile and block unwanted content than boys. Overall, teenagers' self-efficacy in terms of being digitally confident was at European norms, but less than half say «they know lots of things about the internet». Just over half of teenagers claim to know more about the internet than their parents. Younger children (9-12 years old) were far more likely to say they don't know as much as their parents (O'Neill & Dinh, 2012).

The majority of Irish children now access the Internet through a personal, mobile connected device though in fact most Internet use remains at home, positioning parents as the key mediators. 63% of children use the Internet several times a day or at least once a day at home (and not in their own bedroom). Use of the Internet in schools, however, is much lower compared to other European countries. Just 7 per cent of Irish 9-16 year children report using the Internet in school on a daily basis (O'Neill & Dinh, 2014b). Research found that smartphones in particular have become an integral part of the media ecology that children inhabit: among all the devices asked about, smartphones are the devices that children are more likely to own (46%). Despite being the devices most likely to be used on the move, however, smartphones are mainly used at home, more often in the privacy of the child's own bedroom. 79 per cent of children use the internet daily at home and domestic access to the internet (in own bedroom or elsewhere at home) increases with age, rising from 56% of 9- to 10-year-olds to 92 per cent of older teenagers (Mascheroni & Ólafsson, 2014).

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

The main data used in this article is taken from the Net Children Go Mobile (NCGM) Ireland survey. Many of the questions asked in this survey replicate precisely those asked in the EU Kids Online survey conducted in 25 European countries in 2010 (Livingstone, Haddon, Görzig, & Ólafsson, 2011). The NCGM Ireland survey involved a random stratified sample of around 500 children aged 9–16, who are internet users. A three-stage random selection method was used in order to ensure that the sample is representative of the internet-using population between the ages of 9 and 16 years old. Inclusion criteria consisted of internet-using children with access to a mobile connected device (iPhone, other smartphone, Blackberry, mobile games console etc.). The interview was conducted in children's homes, as a face-to-face interview. It included a self-completion section for sensitive questions. Average interview time per child was 40 min (Mascheroni & Ólafsson, 2013). To ensure children's comprehension, the wording of these questionnaires was refined on the basis of cognitive testing with children of different age groups (9-10, 11-12, 13-14, 15-16) and gender.

The Net Children Go Mobile survey continued to use EU Kids Online's conceptual framework, which is operationalized in a child-centered, critical, contextual, and comparative approach (Livingstone, Haddon, Görzig, & Ólafsson, 2011).

## **4** **Survey measures**

A distinctive feature of the Net Children Go Mobile survey is that it asked children about several types of mediation as practiced by parents, teachers and peers. In keeping with the well-established pattern of research related to parental mediation of television-viewing (Livingstone & Helsper, 2008; Nathanson, 2001), four main types of parental mediation were asked about:

- Active mediation of the child's internet use: Drawing on Austin (1993), practices that include talking to children about particular their online Internet activities, staying nearby, encouraging or sharing activities with them
- Restrictive mediation: includes regulating Internet use, for example, through clear instructions about what children can or cannot do (e.g. limiting access and specific types of uses) (Valkenburg, Krömer, Peeters, & Marseille, 1999).
- Active mediation of the child's internet safety: mediation activities that specifically include parents' initiatives (before, during or after Internet use) to guide their children and introduce the idea of online safety, by helping them in the case of difficulty, or by telling them what to do should an upsetting or disturbing situation occur.
- Technical restriction for both internet and smartphone users: mediation that includes specific filtering software that restricts certain types of uses or monitor the child's actual use (Mitchell, Finkelhor, & Wolak, 2005).

In this paper, we focus on the active mediation of internet use and safety and restrictions that apply to the internet in general and to mobile devices more specifically, and the use of technical restrictions on both internet and smartphones.

### **4.1** **Digital skills**

Net Children Go Mobile asked young people about specific internet and smartphone skills, including skills related to internet use and critical understanding; skills related to safety in general and communicative abilities.

Measures for digital skills related to internet use in general comprise of 12 internet-related activities respondents said they were good at. Similarly, smartphones and tablets users were asked about another list of 11 skills specific for those devices.

### **4.2** **Online activities**

Measures of online activities comprised a list of 25 common online activities practiced by children and young people including those exclusive activities for mobile devices.

## 5 Hypothesis

Parental mediation like many other practices has a number of variations that have an impact on decision-making and choices made about how to intervene or get involved with a child's Internet use. In this case, we look at the characteristics of both children and parents to investigate which factors have had the most impact on each parental mediation strategy employed.

RQ1: What are the significant variations in parental mediation?

H1: Parental mediation varies by children's age, gender and socio-economic background.

In order to assess the association of different parental mediation strategies, we focus on the relationship between different mediation strategies and children's digital skills and online activities. Previous studies show that parental mediation is only one among a number of other factors that influence children's digital skills and online activities. In this research, we set out the following research question.

RQ2: Is parental mediation associated with children's digital skills and their online activities?

H2: Parental mediation strategies have both positive and negative influences on children's internet and smartphone' skills.

This question will be addressed both by examining the association between the overall degree of parental mediation implemented and by examining the association between children's digital skills (internet and smartphones) and different types of mediation.

## 6 Results

Our analysis found that parental mediation is primarily related to the age of the child and, to a lesser extent, gender. Table 1 shows that parental mediation, in general decreases as a child grows older without any exception. This is particular evident in the case of restrictive mediation of the child's internet safety and active mediation of child' internet use: 92 per cent of 9-10 year olds compared to 39 per cent of 15-16 year olds and 88 per cent of 9-10 year olds compared to 48 per cent of 15-16 year olds, respectively report this type of mediation. Interestingly, the data shows as very low level of technical mediation of child's smartphone use (13%).

The principal gender-related difference occurs in relation to active mediation: more girls (97%) compared to boys (94%) report that their parents practice some form of active mediation with them. No difference in restrictive mediation between boys and girls (96%) was found. This contrasts somewhat with European



findings whereby parents tend to be more restrictive when it comes to girls rather than boys (87% vs. 83% respectively) (Livingstone et al., 2011).

Differences by socio-economic status of household are also notable. Parents from a higher SES background are more involved overall, and particularly in relation to active forms of mediation and in the use of parental controls or filtering software.

**TABLE 1**  
**Type of parental mediation, by socio-demographic and socio-economic status (%)**

	Active mediation of the child's internet safety	Active mediation of the child's internet use	Restrictive mediation of the child's internet safety	Technical restriction of the child's internet use	Technical mediation of child's smartphone use
Row Percentage	87	71	75	44	13
<i>Age of the child/ren</i>					
9-10	95	88	92	38	22
11-12	86	86	90	66	11
13-14	84	57	64	45	16
15-16	80	48	39	23	11
<i>Gender</i>					
Boys	83	71	80	44	9
Girls	90	71	70	44	17
<i>Social Economic Status</i>					
Low	80	70	67	33	8
Middle	89	60	72	56	5
High	91	77	85	49	25
<i>Parent Education</i>					
Primary or less	83	56	61	26	3
Lower secondary	75	73	62	38	0
Upper & post-secondary	87	72	76	41	16
Tertiary	94	76	88	51	24
<i>Base: all children who use the internet, NCGM Ireland</i>					
<i>All data statistically significant (p&lt;0.001), except where otherwise specified</i>					

Parents' level of education has a significant effect on all types of mediation activities. A clear trend is evident whereby parents with higher educational attainment practice greater levels of mediation compared to parents with a lower level

of lower education. In particular, parents with higher levels of education are more likely to use technical solutions than parents with lower levels of education, in part related to better-educated parents being more likely to be Internet users and more digitally literate. Yet, in relation to restrictive mediation, the highest levels were found to be both from parents with the highest level of education and from parents with the lowest level of education. This finding, again, contrasts with equivalent European findings where more highly educated parents placed less emphasis on monitoring and restrictive rules (Livingstone et al., 2011).

In general, high levels of parental mediation were found across all 7 countries represented in the survey: parents engage more in active mediation of internet safety (77%) followed by active mediation of internet use (68%) and restrictions (65%). Compared to the EU Kids Online data (2010) parental mediation of children's online safety is increasing, while active mediation of internet use and restrictions are less often adopted by parents. Technical restrictions are still the least favoured mediation activities, adopted by just one in four parents (Mascheroni & Ólafsson, 2014).

The relationship between the type of mediation practiced by parents and the range of activities and digital skills reported by children was also tested. For each type of mediation practiced, the variance was analysed to assess the impact of employing (at least) two mediation strategy or no strategy at all and children's age. Figure 1 compares the average number of internet skills between mediated and non-mediated children and how it varies with age.

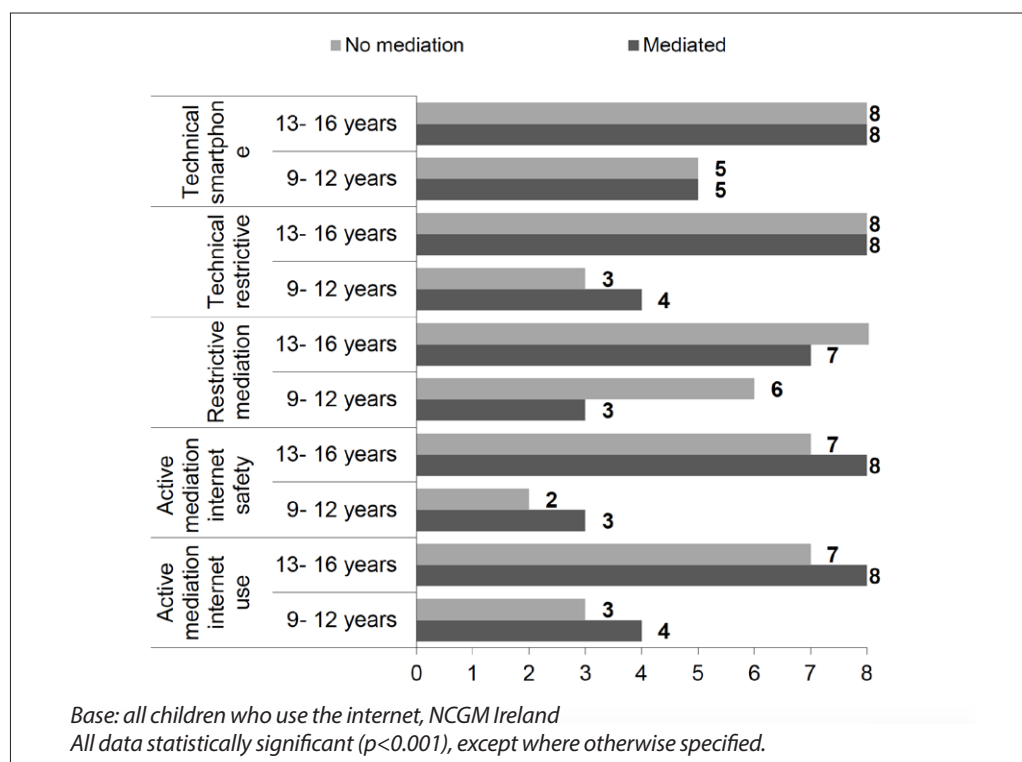


Fig. 1 Parental mediation strategies and number of children's internet skills by age.

Figure 1 illustrates an interesting result in that there is a relationship between parental mediation with the number of internet skills children reported. First of all, there is no differences in number of skills reported for children who have some form technical mediation of their smartphone use compared to those who don't. In other cases, children who experience mediation seem to display a higher number of digital skills compared those who do not. This trend is reflected in both the age groups of 9-12 years and 13-16 years. However, the exception to this trend is restrictive mediation where mediated children show lower number of skills than non-mediated children. Figure 2 compares the average number of smartphone skills between mediated and non-mediated children and how it varies with age.

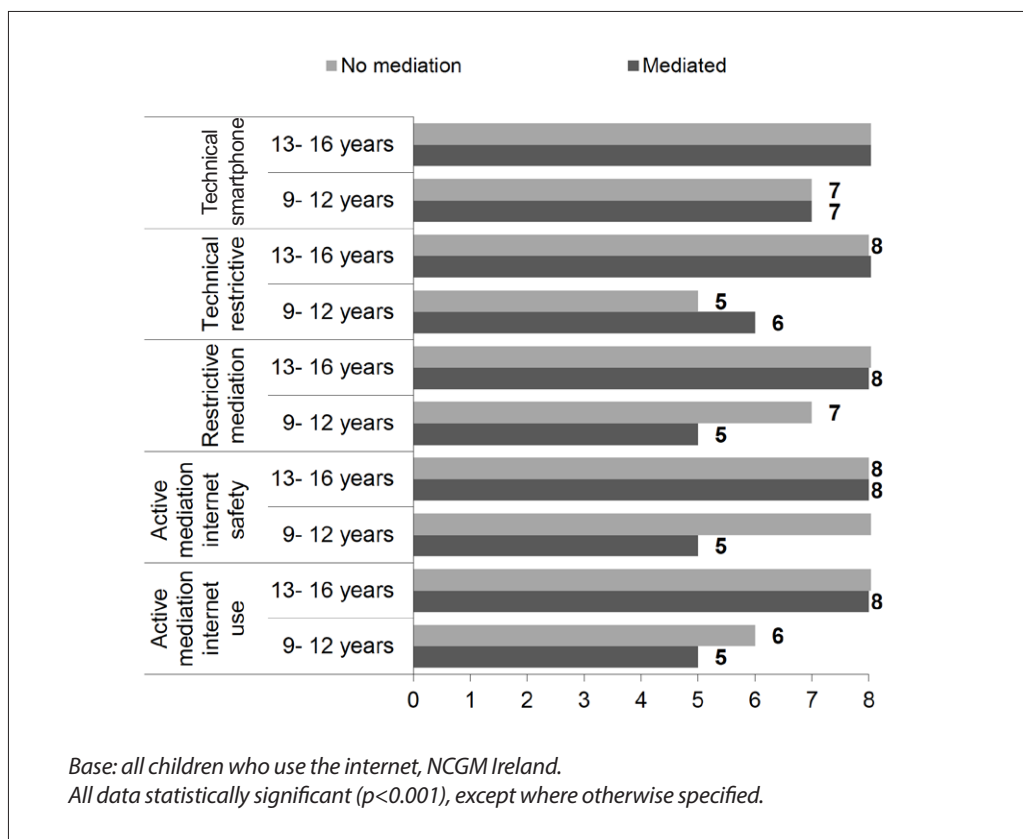


Fig. 2 Parental mediation strategies and number of children's smartphone skills by age..

With the exception of younger children (9-12 year-old) where non-mediated children reported a higher number of smartphone skills to mediated children, the rest of mediated children reported either the same or slightly higher number of smartphone skills. It seems parental mediation of children's smartphone use has no or a very little influence on number of smartphone skills reported by children.

Figure 3 shows that in most cases, children whose parents employ at least two forms of mediation display the same or a slightly higher average numbers of on-line activities than children who do not experience any form of mediation. How-

ever, there is an exception to this tendency: children who are subject to restrictive mediation show a smaller number of online activities compared to non-mediated children. Also, the difference between means is quite high within the restrictive mediation group, with a significant variation especially evident between mediated and non-mediated in the younger age group (9-12 year-old). Most mediation strategies have a positive impact on children practicing online activities, but restrictive mediation has the opposite effect for all children from both age groups. This is also the case in relation to children's internet skills where restrictive mediation has no impact on the number of internet skills children report. The relationship shows that restrictive mediation reduces online activities for children while other mediation strategies seem to stimulate children's online activities and digital skills, thereby opening the door to greater online opportunities.

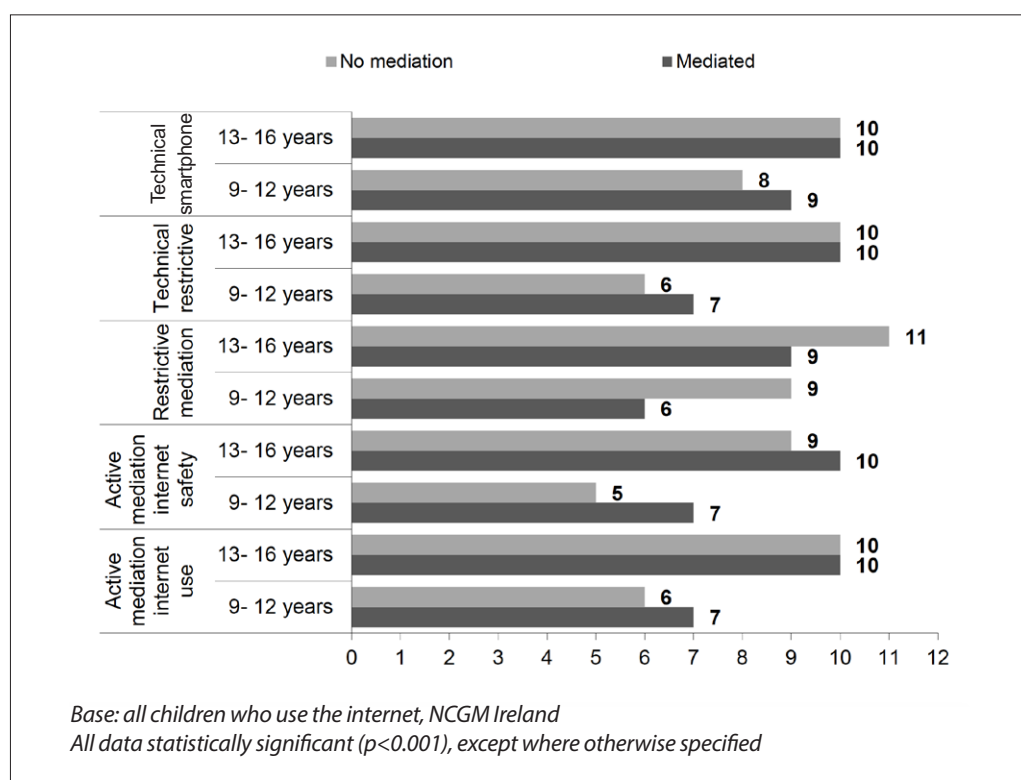


Fig. 3 Parental mediation strategies and number of children's online activities by age (total of 25 activities).

## 7 Discussion

### 7.1 The efficacy of parental mediation

It is difficult, as already noted, to assess the effectiveness of different types of mediation due to the complexity of various influencing factors in children's relationship with the internet. The present findings have shown that young people are encountering a wider range of online activities to which parents respond, consequently, with

a range of mediation strategies. Overall, the findings show that mediated-children reported a higher number of digital skills compared to non-mediated children in active mediation. By contrast, children who reported restrictive mediation by parents showed higher number of both skills and online activities than mediated children. As expected from the results, rather than providing children with greater options for enhancing their digital skills as they expand their online activities, it appears that in most cases, parents have chosen to limit their children's access to online activities and digital skills as a trade-off for greater online safety. Parents, in fact, appear to take matters into their own hands in exercising these restrictions. However, they do so at the cost of their children's digital skills and literacy and at the risk of placing barriers on the benefits of children's participation in the digital world. When we look at the digital skills of Irish children, a number of noteworthy features stand out: Irish children's internet and smartphone skills are at the lower average of European spectrum. Overall, children say they have 5.3 of the 12 skills related to internet use, where the European average is 5.7; 6.9 out of 11 skills related to smartphone and tablet use where the European average is 7.9 (O'Neill & Dinh, 2015b). Moreover, smartphone and tablet users use the internet more, both at home (as well as in all locations asked about) claim nearly twice as many skills as children who don't use mobile device to go online (O'Neill & Dinh, 2015a).

Our data shows that the majority of parents act in ways that prioritise protection over participation and as if the online world offers more risks than it does opportunities. Furthermore, 76 per cent parents say that it is not very or at all likely that their children will encounter anything that may bother them in the next six months (O'Neill, Grehan, & Ólafsson, 2011), thus reinforcing confidence in what they are doing as having a positive impact on their child's online safety. Interestingly, in the same survey (Livingstone, Haddon, Görzig, & Ólafsson, 2011), children report lower levels of mediation than that reported by parents, which is perhaps unsurprising given the fact that 37 per cent of all children aged 9-16 access the Internet from their own bedroom (or other private room) at home, and as such outside of the watchful eyes of parents.

## **7.2** *Protection vs. opportunities*

Parents have been especially valued for their role in regulating the benefits and risks of the internet for children, especially with regards to approaches that promote empowerment and self-regulation (Mascheroni & Ólafsson, 2013). Irish data also suggests that parents do not want their children left behind when it comes to the digital world. Parents invest heavily in digital devices in the domestic context, with high levels of Internet access at home (O'Neill & Dinh, 2015b). A high percentage of parents express willingness to learn/hear more about how to support their children. Parents are clearly concerned about the risks and dangers that their children may face online. Yet, less than half of parents in the survey say they feel very confident they can help their child with anything that may bother their children on the Internet (46%). 39 per cent say they can help a fair

amount (O'Neill et al., 2011). In this context, it would appear that caution and fear of unspecified risks predominates in their decision-making regarding how to manage or regulate their child's online behaviour.

An overly restrictive approach is also confirmed by our data in the finding that over half (51%) of children think that parental mediation limits what they do online; 20 per cent, the highest in Europe, say it limits their activities a lot (O'Neill, Grehan, & Ólafsson, 2011). Among younger children (aged 9-10 years) who understandably experience greater levels of supervision, it is interesting to note that 35 per cent say they are «restricted a lot». As such, according to EU Kids Online data, Irish children are among those with the most restrictions, together with Turkey and Bulgaria, when it comes to online activities in Europe (Livingstone, Had-don, Görzig, & Ólafsson, 2011). At the same time, Irish parents also engage more in active mediation of internet safety (87%), making it the most common intervention by parents and much higher than European average (77%). This is followed by restrictive mediation of internet safety 75 per cent compared to European average 65 per cent (O'Neill & Dinh, 2015b). More significantly, Irish children still lag somewhat behind in terms of online activities and the digital opportunities availed of. The typical media diet for 9-16 year olds is an entertainment-dominated one (listening to music, watching video clips online) as well as social media use. Social networking is naturally very popular: 9 in 10 of all 15-16 year olds in Ireland have a profile on a social networking site. Notably, nearly half of 11-12 year olds also have a social networking profile despite the age restriction of 13 – or 16 in the case of some - for most social networking services. However, just one fifth of Irish children use the Internet on a daily basis for schoolwork and fewer than 5% of 9-16 year olds report reading eBooks, spending time in a virtual world or creating online content (O'Neill & Dinh, 2015b).

Furthermore, given many parents' willingness to receive information and further safety supports, it would be useful to develop mechanisms and resources to provide parents with guidance and professional advice about the appropriateness of different mediation techniques and tools, particularly taking into account children of different ages and the various risks that users may face. Our findings show that parents are indeed concerned about privacy and online safety issues, but they also show that they may not understand fully how to support their children in ways that do not limit the development of digital skills and online opportunities. Greater transparency and an increased availability of trustworthy information could help parents make more informed decisions in this regard.

## **8 Conclusion**

The balancing of children's risks and opportunities online makes for a difficult and challenging decision-making process for parents as they seek to implement good parenting practice in a fast-evolving new media environment. Traditional internet safety advice has encouraged parental involvement, supervision

and monitoring of children's online activities as a means of protecting young people about dangers they may encounter online. However, that is to restrict the opportunities that young people can also avail of and the many benefits that the Internet affords in a world that is unthinkable without the ready access to information that it so easily provides.

Our findings call into question the efficacy of mediation strategies deployed by parents in Ireland, particularly the high levels of restrictive mediation. The data also points to the unintended consequences that such mediation techniques bring about such as limiting children's digital skills both in internet and smart-phone use. While balancing risks over the opportunities of the digital world, it would appear that Irish parents have been overly cautious to the extent that young people fall behind the European average in terms of digital skills, opportunities and possibly resilience in coping with risks. By creating what is undoubtedly a safer – or at least more risk-averse – environment, parents have inadvertently hampered the very population it seeks to assist and may indeed lead children to take greater risks in order to gaining access to the online world.

As the digital landscape of children continues to evolve, it is important that parents, educators and policymakers reconceptualise the learning environments that best prepare children for the future. Rather than focusing on how digital technologies fit into existing curricula, it is necessary therefore to examine how they may extend traditional learning and play activities. Promoting positive, safer, and more effective use of technology by children, particularly in family and educational context, is therefore a key priority in the years ahead, mindful always that parent has a special role to play in ensuring the benefits of digital technologies reach all children.

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