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Net Children Go Mobile

Cross-national comparisons.

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July 2014

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PLEASE CITE AS:
Mascheroni, G., and Ólafsson, K. (2014). Net Children Go Mobile: Cross-national comparisons. Report D3.3. Milano: Educatt.

ACKNOWLEDGEMENTS:
The authors would also like to thank the Net Children Go Mobile network, and especially Andrea Cuman, Cristina Ponte, José Simões and Gitte Stald for their contributions in writing this report.
The Belgian data collection is made possible thanks to the financial support of the Flemish Government. The Portuguese data collection is made possible thanks to the financial support of the Portuguese Foundation for Science and Technology (FCT).

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1. Introduction

1.1 Context

Both childhood and the media environment are changing and co-determining each other (Livingstone, 2009). Children are growing up in a **convergent media ecology** (Ito *et al.*, 2009), whereby significant opportunities for sociability, self-expression, learning, creativity and participation are provided by online media and increasingly, mobile media (Hjorth & Goggin, 2009; Goggin, 2010; Goggin & Hjorth, 2014). However, children may also experience risks on the internet: since 2006, the EU Kids Online network has investigated online opportunities and risks for children, showing their interdependence (Livingstone *et al.*, 2011): the more children use the internet, the wider range of opportunities taken up, the more they are exposed to risky experiences. The changing conditions of internet access by means of mobile media call for new research on children's online experiences, opportunities and risks of the mobile internet.

Although there is much current discussion of mobile media, there is scope for different definitions at this point in time as well as changing definitions over time if, like the internet itself, **mobile media are a moving target** as new technologies and applications are continuously developed. That said, any research project has to define its object of study. Certainly, we would like to differentiate between experiences of the internet when it is accessed by PCs (including via laptops and netbooks) and the online experiences when accessed by portable devices that utilise different operating systems (e.g. smartphones and tablets) since these technological affordances can either enable or hinder different practices.

Hence, when we speak of the 'mobile internet' in this project, we refer to access to the internet from mobile media that is potentially different from a PC-based online experience. The mobile media we focus on are as follows:

- **Portable devices connected to the internet** via wifi or 3G/4G, such as smartphones, tablets, feature phones, portable games consoles and MP3/MP4 players (such as iPod Touch) and e-book readers. Thanks to their portability, the internet can technically be accessed anywhere, anytime that there is a signal, although it is not exclusively used while on the move, and social considerations affect its usage.

- **Convergent multifunctional devices**, that support an ever-growing repertoire of communication practices and online activities. These combine options already supported by previous generations of mobile phones (such as phone calls, text messages, games, radio, music, photos) with activities usually performed on computers, the internet and social media (such as email, instant message services, social network sites [SNS], maps, video, television and blogging). They also enable new activities such as those related to location-based services, and those performed through apps (which can shape new online experiences).

- **Personal devices**,[1] which are affective media (evoking emotional attachment) that have become taken-for-granted components of everyday lives. Being personal and portable, mobile media make the way we consume media and engage in online practices more flexible and personalised, and create new opportunities for private use within the domestic/school/public context. This **privatisation of access and use** is accompanied by **the pervasiveness of the internet in children's daily lives,** and implies the creation of different social conventions of freedom, privacy, sociability and not least, supervision by parents and adults.

One question is whether, by potentially expanding the range of online opportunities, the mobile internet is promoting a specific repertoire of

[1] It should be noted that we are interested not just in the owners of mobile devices, but also in users (e.g. of shared tablets).

communication and entertainment activities - eg. social networking and gaming - which are preferred by children compared to educational and other more socially legitimate online activities. Another question is **whether access to the internet by means of mobile media poses greater, fewer or newer risks** to children.

Our aim is therefore to understand and distinguish the mobile internet experience from the PC-based internet experience in terms of opportunities and risks.

1.2 The project

The Net Children Go Mobile project is co-funded by the **Safer Internet Programme** to investigate through quantitative and qualitative methods how the changing conditions of internet access and use – namely, mobile internet and mobile-convergent media – bring greater, fewer or newer risks to children's online safety. Participating countries include **Denmark**, **Italy**, **Romania**, the **UK**; **Belgium**, **Ireland** and **Portugal**, the latter three joining the project on a self-funded basis.

Drawing on the experience of network members within the EU Kids Online network, the conceptual framework is operationalised in a *child-centred*, *critical*, *contextual* and *comparative* approach (Livingstone & Haddon 2009; Livingstone *et al.*, 2011), which understands children's online experiences as contextualised and shaped by three intersecting circles: 1) childhood, family life and peer cultures; 2) media systems and technological development; and 3) the European social and policy context. Accordingly the project assumes that the voice and viewpoint of children is crucial to understanding online opportunities, risks and any harmful consequences of mobile-convergent media use.

The survey was administered to a representative sample of 3,500 children aged 9-16 who are internet users and their parent[2] in the seven European countries. In order to maximise the quality of children's answers and to ensure their privacy, the survey[3] was conducted face to face in the home, but sensitive questions were self-completed by the child. The wording of the questionnaire was refined on the basis of cognitive testing with children of different age groups and gender in each country, in order to ensure children's comprehension and to avoid adults' terminology (such as 'sexting'). Furthermore, particularly emotive terms, such as 'stranger' or 'bullying', were also avoided.

Key features of the survey are:

- A cognitive testing with eight children from different age groups (9-10, 11-12, 13-14, 15-16) in each country, to check children's understandings of and reactions to the questions.
- Random stratified survey sampling of some 500 children (9-16 years old) who use the internet per country.
- Survey administration at home, face to face, with a self-completion section for sensitive questions.

The project also involved a qualitative research, including interviews and focus groups with children, parents, teachers and youth workers in 9 European countries (Belgium, Denmark, Germany, Ireland, Italy, Portugal, Romania, Spain and the UK) - findings will be published in a new report in September 2014.

The combination of quantitative and qualitative data will contribute to enhancing knowledge on children's uses of mobile-convergent media by providing clear, representative and cross-nationally comparable quantitative data, combined with in-depth qualitative and comparative research on children's social awareness and perceptions of mobile media risks. Moreover, the qualitative fieldwork includes group interviews with parents, teachers and other youth workers, in order to compare children's and adults' perceptions and awareness of mobile

[2] Parents were asked questions on the household's demographics and socio-economic status (SES), as well as on their own use of the internet, smartphones and tablets.

[3] The fieldwork was conducted between May and July 2013 in Denmark, Italy, Romania and the UK; between November and December 2013 in Ireland; and between February and March 2014 in Belgium and Portugal.

internet risks, and to provide empirical data that can inform awareness-raising initiatives and guide safety policies.

1.3 This report

This report offers further analysis of the survey findings already reported in:

> Mascheroni, G. and Olafsson, K. (2014). *Net Children go Mobile: Risks and Opportunities* (2nd edition).

More specifically, the report compares several key findings by countries. The aim is to highlight cross-national variations in five main areas (see below) and thus to provide a basis for further exploration of cross-cultural differences. These five areas are:

- The adoption and use of smartphones.
- The consequences of smartphone use in terms of sociability and dependence.
- Online risks and harm.
- Parental mediation.
- School regulation and mediation.

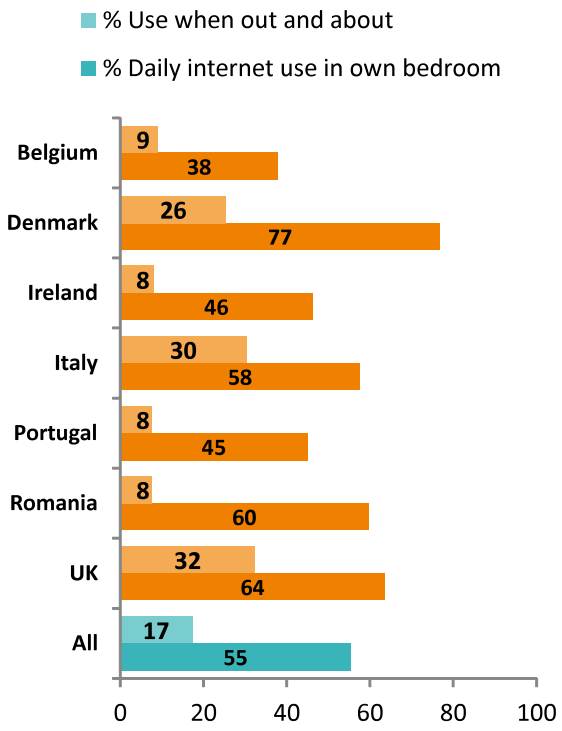
2. Adoption and use

Research has shown that the social context of internet access shapes children's online experiences and, more specifically, the conditions under which children take advantage of online opportunities or are exposed to online risks (Livingstone, Haddon & Görzig, 2012). More specifically, some locations and devices accord more privacy and greater **autonomy of use** (Hargittai & Hinnant, 2008). While mobile media expand the spatial and temporal locations of internet use among children by providing **'anywhere, anytime' accessibility**, economic or technological constraints (such as the cost of web packages or the lack of wifi connections) may limit the use of mobile devices when children are on the move.

The Net Children Go Mobile full findings report (Mascheroni and Ólafsson, 2014) has shown variations in where and how children access the internet both within and across countries, based on age, gender, socio-economic status (SES) but also general diffusion of mobile devices in each country - measured by parental adoption of smartphones and tablets.

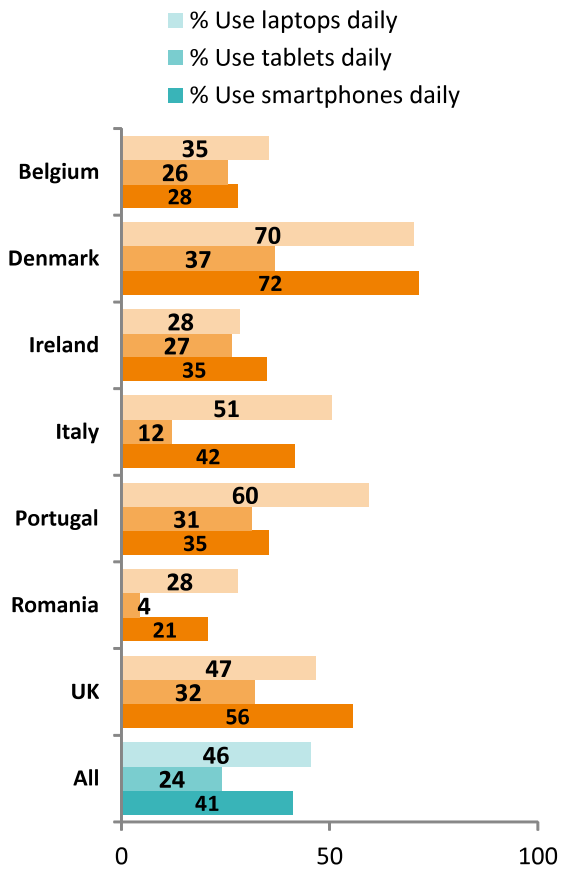
Figure 1 and 2 summarise differences across countries in the locations where children access the internet - namely own bedroom and on the move, which can be indicative of greater autonomy of use - and the devices through which they go online daily - considering the portable devices, namely smartphones, tablets and laptops.

Figure 1: Comparison between access in own bedroom and when out and about, by country



Q1 a and e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… Your own bedroom or a private room at home…When out and about or on the way to school or other places.
Base: All children who use the internet.

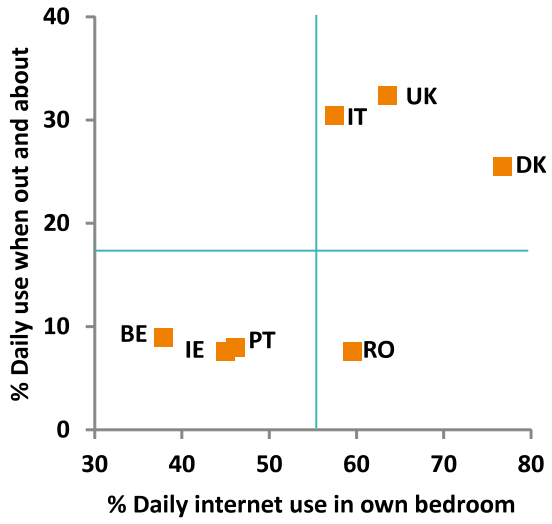
Figure 2: Comparison between daily use of smartphones, tablets and laptops by country



Q2 b and Q2 d: When you use the internet these days at ..., how often do you use the following devices to go online?
Base: All children who use the internet.

In this report we focus more on variations in children's autonomy of use across the countries surveyed. Figure 3 examines the relationship between two indicators of autonomy of use, namely daily use of the internet in own bedroom and on the move:

Figure 3: Daily use of the internet in own bedroom and when out and about



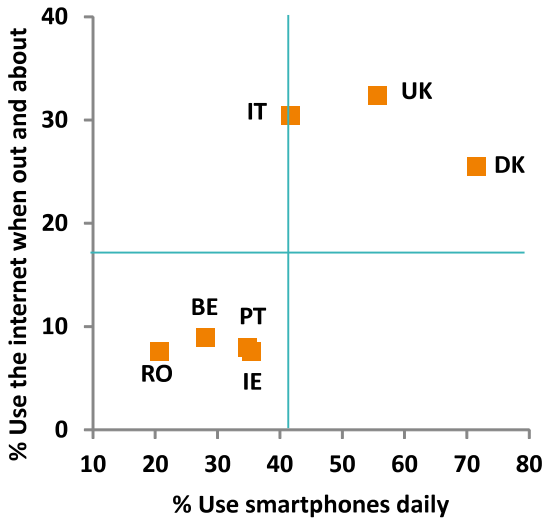
Q1 a: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… Your own bedroom or a private room at home.
Q1 e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… When out and about or on the way to school or other places.
Base: All children who use the internet.

- Two main patterns of use emerge: the first, characteristic of **Denmark, Italy and the UK** points towards **greater autonomy of use**, with both access to the internet in own bedroom and when out and about being higher than average. By contrast, children in Belgium, Ireland and Portugal are least likely to use the internet both in their bedrooms and on the move.

- Romania stands alone, with high use of the internet in own bedroom but lower access on the move. The pattern is then one of privatisation without mobility.

In Figure 4 we explore the relationship between daily use of smartphones and use of the internet on the move:

Figure 4: Daily use of smartphones by daily use of the internet when out and about



Q1 a: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… Your own bedroom or a private room at home.
Q2 d: When you use the internet these days at ..., how often do you use the following devices to go online? A smartphone.
Base: All children who use the internet.

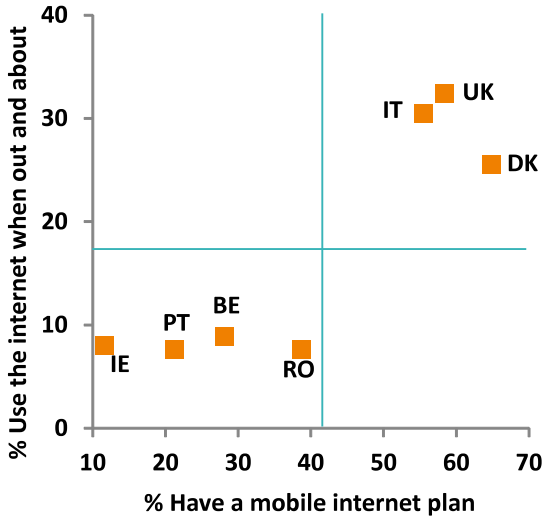
- Not surprisingly, the figure shows that smartphones provide children with greater autonomy of use: **daily use of smartphones is positively correlated with daily use of the internet when out and about**. In Denmark and the UK there is a pattern of highest daily use of smartphones and highest use on the move.

- In **Italy**, daily use of smartphones is comparatively lower while **use of the internet on the move is above average**.

- By contrast, despite an average daily use of smartphones by children, use of the internet on the move is **lower in Ireland and Portugal**, suggesting that smartphone ownership does not necessarily involve internet access from mobile devices (see Figure 2 for daily smartphone use across countries). In **Belgium and Romania** both daily use of smartphones and use when out and about are low.

The exceptions from the positive pattern of daily use of personal devices to go online and greater autonomy in use, suggest that accessing the internet by means of a private devices does not necessarily result in deeper incorporation of the mobile internet into everyday lives routines. As anticipated, they way children connect to the internet from their smartphones may offer an explanation for the above deviations. Figure 5 examines the role of mobile internet plans in explaining daily use of the internet when out and about:

Figure 5: Daily use of the internet when out and about and availability of internet plans



Q8 a-c: Are you able to connect to the internet from your smartphone/mobile phone, and if so, how do you connect?
Q1 e: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… When out and about or on the way to school or other places.
Base: All children who use the internet (Q1 e) and all children who own or have for private use a mobile phone or a smartphone (Q8 a-c).

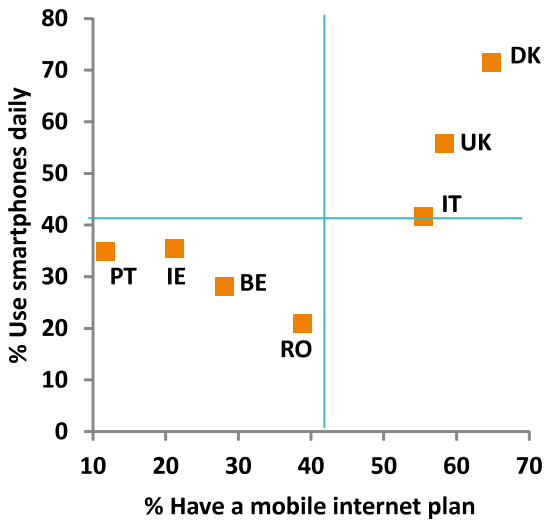
- Figure 5 indicates **a positive pattern between availability of internet plans and use of the internet on the move**, and helps explain the exceptions highlighted in Figure 4: availability of data plans is above average in Italy and this explains why use on the move is also high despite an average daily use of smartphones among children. On the other side, use of the internet when out and about is

low among Portuguese and Irish children also because children in these countries are least likely to be provided with a mobile internet plan on their smartphone.

- However, the case of Romania, where use on the move is very low despite a non inconsiderable number of children who benefit from a mobile internet plan, suggests that also the type of connectivity alone does not predict the extent to which smartphone has been incorporated in children's and kids lives.

Figure 6 compares mobile internet plans and daily use of smartphones, providing further evidence that access to the internet by means of a private and mobile device provided with data plan - in other words **autonomy of use - does not necessarily lead to more intense use**:

Figure 6: Daily use of smartphones and availability of internet plans



Q8 a-c: Are you able to connect to the internet from your smartphone/mobile phone, and if so, how do you connect?
Q2 d: When you use the internet these days at ..., how often do you use the following devices to go online? A smartphone.
Base: All children who use the internet (Q2 d) and all children who own or have for private use a mobile phone or a smartphone (Q8 a-c).

- As expected, daily use of smartphones is positively associated with the availability of data plans. However, despite potentially having greater autonomy of use, Italian children use it less than expected.

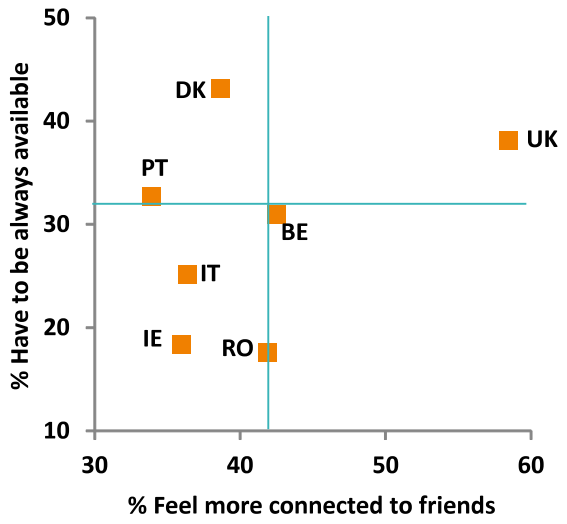
3. Consequences of smartphone use

Mobile communication has become an integral part of our social ecology (Ling, 2012), bringing about notable benefits – for example, always being in contact with family and friends, easier management of everyday life activities and mobility, better employment of otherwise 'dead' time, etc. – as well as some negative consequences – more stress, and the pressure to be 'always on'. Therefore, in the survey we wanted to measure what, if ever, changes are associated with smartphones in children's perception.

The *Net Children Go Mobile: Risks and opportunities* report (Mascheroni & Ólafsson, 2014) has already suggested that **children are more likely to develop an overdependent attitude towards their smartphones because of its features**: first, like mobile phones before them, smartphones are perceived among children and adolescents **as 'extensions' of their body**, that can be easily stored in a pocket and carried around all the day long (Stald, 2008; Vincent & Fortunati, 2009); and second, they support a new mode of communication called **'connected presence'** (Licoppe, 2004), associated with a feeling of perpetual contact with friends and family. For these reasons, it is understandable that children feel uncomfortable when they cannot check their phones, or tend to check them every once in a while when they can do so.

Figure 7 examines how the feeling of a greater social access to peers varies according to the feeling of a pressure to be always available to friends and family members.

Figure 7: Feel more connected to friends and feel the need to be always available to family and friends



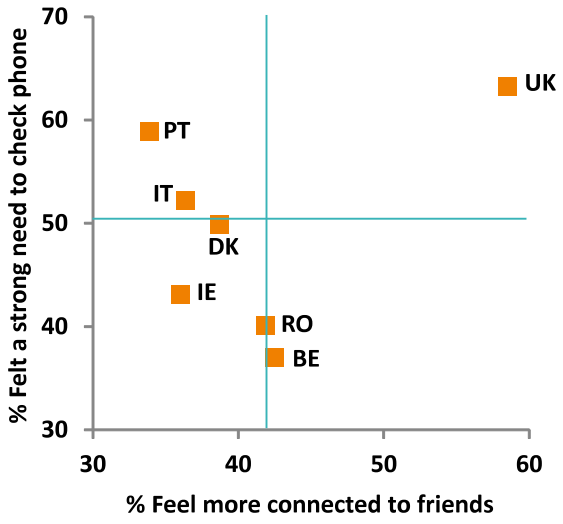
Q50: How true are these of you? Thanks to my smartphone I feel more connected to my friends.
Q50: How true are these of you? Since I have had my smartphone I feel I have to be always available to family and friends
Base: All children who own or have for their own use a smartphone.

- The figure indicates that **'perpetual contact'** (Katz and Aakhus, 2002) is **not necessarily coupled with 'overdependence'** and the feeling of being constantly available to peers and family.

- Both positive outcomes and downsides of 'anywhere, anytime' accessibility are higher in the **UK**. By contrast, Danish children are more vulnerable to the social pressure of being always available, while their perception of beneficial outcomes of smartphones are on average. Social pressure is lowest in Romania, and higher in Portugal, where satisfaction from increased connectivity is also lowest.

Figure 8 and 9 examine the relationship between social connectivity and indicators of overdependence, such as the feeling to check the smartphone to see if anything has happened or the use of smartphones in places and situations where it is not appropriate.

Figure 8: Feel more connected to friends and feel a strong need to check the smartphone

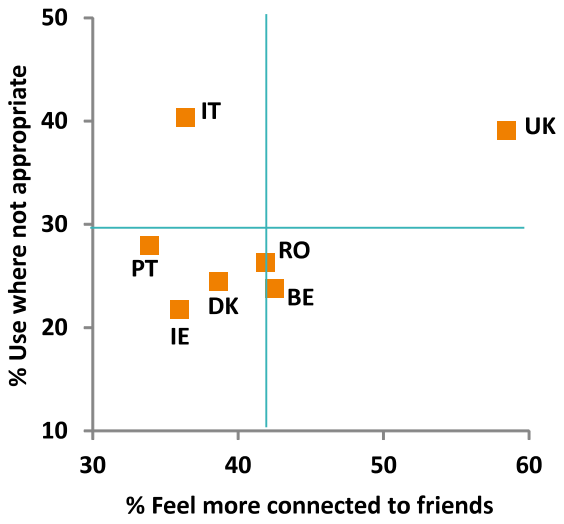


Q50: How true are these of you? Thanks to my smartphone I feel more connected to my friends.
Q49: In the PAST 12 MONTHS, how often, have these things happened to you? I have felt a strong need to check my phone to see if anything new has happened.
Base: All children who own or have for their own use a smartphone.

- The figure shows different patterns operating across countries. In the **UK** the feeling of both **being more close to friends** and experiencing **a strong need to check the phone** is **above average**. By contrast, in **Italy and Portugal** reporting **a strong need to check the phone** is above average, while the sense of proximity to friends is lower.

- In Denmark and Ireland a pattern of lower sense of proximity and lower overdependence can be observed, while in Romania and Belgium children's feeling of greater social access to peers is on average while the need to check the smartphone is lower.

Figure 9: Feel more connected to friends and using the phone in places and situations where it is not appropriate



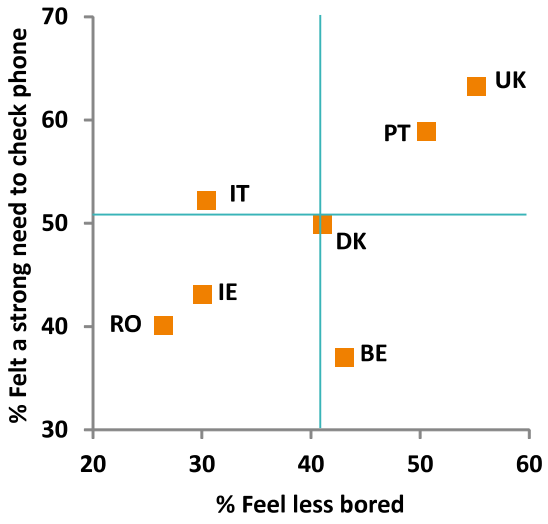
Q50: How true are these of you? Thanks to my smartphone I feel more connected to my friends.
Q49: In the PAST 12 MONTHS, how often, have these things happened to you? I find myself using my phone even in places/situations where it is not appropriate.
Base: All children who own or have for their own use a smartphone.

- The figure indicates a similar pattern in the **UK** - where both using the phone where it is not appropriate and feeling closer to friends are higher than average; Italy - where using the smartphone where one should not is above average but the feeling of augmented connectivity with friends is below average; and Ireland - lowest on both indicators.

- In the remaining four countries use of the internet in places and situations where it is not appropriate is below average, but connection to friends varies, being higher in Belgium and Romania compared to Denmark and, especially, Portugal.

Figure 10 examines how the experience of feeling a strong need to check the smartphones relates to another perceived outcome of smartphone use, namely feeling less bored.

Figure 10: Feel less bored and feel a strong need to check my phone



Q50: How true are these of you? Thanks to my smartphone I feel less bored.
Q49: In the PAST 12 MONTHS, how often, have these things happened to you? I find myself using my phone even in places/situations where it is not appropriate.
Base: All children who own or have for their own use a smartphone.

- This figure also suggests different patterns. **Both measures are above average in Portugal and the UK**. This suggests that overdependence to smartphones in Portugal may be related to different activities - such as gaming - rather than to communicative practices, since the feeling of greater closeness to friends is lower than in other countries.

- Belgian and Danish children generally agree with the idea that smartphones are helpful resources to reduce boredom but are positioned differently regarding the need to check the phone frequently, which is on average in Denmark and lowest in Belgium.

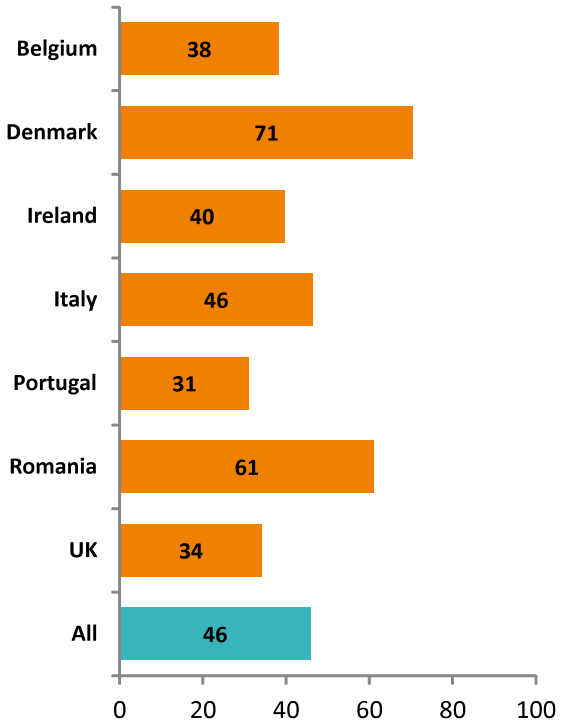
- In Italy an average need to check the smartphone is not associated with an equally average perception of being less bored than before thanks to smartphones, while Ireland and Romania - where daily internet use of smartphones to go online is low - show lower levels of both indicators.

4. Risk and harm

One major acquisition of research on online risks and safety in comparative perspective - and notably of the EU Kids Online project - is that **online risky experiences do not necessarily result in harm**, as reported by children (Livingstone *et al.*, 2011). While internet activities are not beneficial nor negative *per se*, some online experiences are more likely to result in problematic experiences for children, namely, in harm. Harm is, therefore, considered as the distinct - subjective or objective - outcome of exposure to online risks (Livingstone, 2013).

Figure 11 shows the number of children in each country who have experienced at least one of the seven risks asked about - namely, being bullied (online or offline); receiving sexual messages; seeing sexual images; meeting online contacts offline; seeing negative user generated content (concerned with hate, pro-anorexia, self-harm, drug taking or suicide); experiencing other risks such as privacy risks; and reporting excessive internet use.

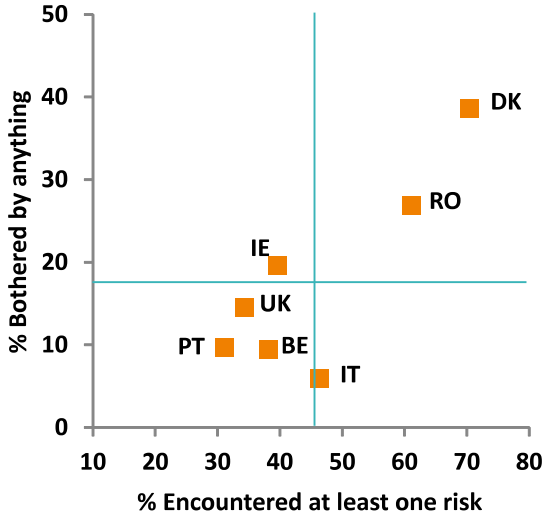
Figure 11: Child (%) has experienced at least one of seven risks, by country



Has encountered at least one of the seven risks: being treated in a hurtful or nasty way; receiving sexual messages; seeing sexual images; meeting online contacts offline; seeing negative user generated content ; experiencing other risks such as privacy risks, commercial risks or viruses; and reporting excessive internet use.
Base: All children who use the internet.

Figure 12, instead, examines how the relationship between risk and harm varies across country.

Figure 12: has experienced at least one of seven risks and has been bothered



Has encountered at least one of the seven risks: being treated in a hurtful or nasty way; receiving sexual messages; seeing sexual images; meeting online contacts offline; seeing negative user generated content ; experiencing other risks such as privacy risks, commercial risks or viruses; and reporting excessive internet use.
Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?
Base: All children who use the internet.

- The figure shows two groups of countries and related patterns of risk and harm: **Denmark and Romania** can be classified as **higher risk, higher harm countries**, since the number of children who both experienced at least one in seven risks and reported harmful consequences is higher than average. However, these countries differ in terms of conditions of internet access and more specifically on the basis of smartphone's ownership - almost universal in Denmark and lower in Romania (see Mascheroni & Ólafsson, 2014) - and autonomy of use - greater use of the internet on the move in Denmark (see Figure 4 and 5).

- The second group of countries includes **Belgium, Portugal and the UK**, countries characterised by a **lower risk, lower harm** pattern: children in these countries are generally exposed to less online risks and, consequently, report less harmful online experiences. As above, however, children in the UK experience greater autonomy of use compared to their peers in Portugal and Belgium.

- The relationship between risks and harm may not be straightforward and linear, as Ireland and Italy suggest. In **Ireland** the number of children being exposed to at least one risky situation on the internet is slightly below average, while harm is slightly above average. We could argue that Ireland belongs to a **lower risk, medium harm** category.

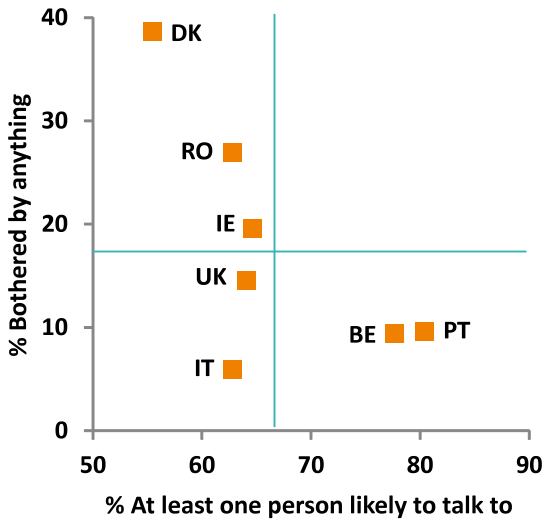
- By contrast, in **Italy** the exposure to online risks is average, while the incidence of harmful experiences is the lowest among the countries surveyed. Therefore, it could be classified as a **medium risk, lower harm** country.

While the association between risk and use (in terms of breadth of online activities and opportunities taken up) is consolidated (Livingstone et al., 2011; Mascheroni & Ólafsson, 2014), the findings presented in previous chapters suggest that **harm is not necessarily correlated with greater autonomy of use and more private use of the internet**, as provided by internet access in own bedroom. In other words, while daily use of smartphone is associated with higher likelihood of experiencing risks - indeed the *Net Children Go Mobile: Risks and opportunities* report (Mascheroni & Ólafsson, 2014) has already shown that smartphone users benefit from a wider range of online opportunities but are also more exposed to risky content and situations - those who use smartphones more, and also on the move, do not necessarily report more experiences which bothered them. The case of Romania, where daily use of smartphones to go online and use of the internet when out and about is below average, is paradigmatic in this respect; as it is the case of Ireland, where lower autonomy of use is accompanied by higher levels of harm than expected.

Whether an online risky situation turns into a problematic and harmful experience, however, is

related to the social context of internet use more in general: so, **beyond indicators of a privatisation of internet access and use, also social responses to risks and the type of mediation a child receives are important factors shaping online experiences**. Figure 13 examines the relationship between harm and the likelihood that the child talks with someone (a parent, a friend, a sibling, a teacher, another trusted adult) when bothered by something on the internet

Figure 13: child has been bothered by something online and child is likely to talk to at least one person about harmful experiences



Q48: If you were to experience something on the internet or when you were online from different devices that bothered you or made you upset, how likely or unlikely is it that you would talk with the following people? (% who say they are very likely to talk to at least one of the eight persons named.
Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?
Base: All children who use the internet.

- Indeed, children in **higher risk, higher harm countries** are **less likely to talk with at least someone** about things that might bother them on the internet, with Danish children being the least likely to do so. This suggests Danish children may engage in different ways of coping with online problematic situations.

- By contrast, **children in lower risk, lower harm countries are usually more likely to talk with someone** they trust about problematic online experiences, the UK being an exception as children are slightly less likely to engage in social responses to online risks.

- Again, Ireland and Italy show different and less straightforward patterns, whereby in both countries children are slightly less likely to share online problematic experiences with someone.

Looking at parental mediation strategies (Chapter 5) helps better contextualise these variations.

5. Parental mediation

The approach on risks and opportunities of the internet adopted in this study assumes that children's online experiences are contextualised within intersecting socio-cultural, technological and political spheres. In this perspective, the family sphere is clearly an influential social space that shapes children's online experiences: strategies adopted by parents in order to regulate their children's internet use may result in different contexts of internet access - e.g. inhibiting or favouring private access and use - as well as mould the way children cope with online risks. This chapter examines first the relationship between parental mediation and autonomy of use; and, second, patterns of mediation and harm.
To do so we focus on 4 different mediation strategies:

1) **Active mediation of internet use**, where parents engage in activities such as talking about internet content while the child is engaging with it, and sharing the online experience of the child by remaining nearby.

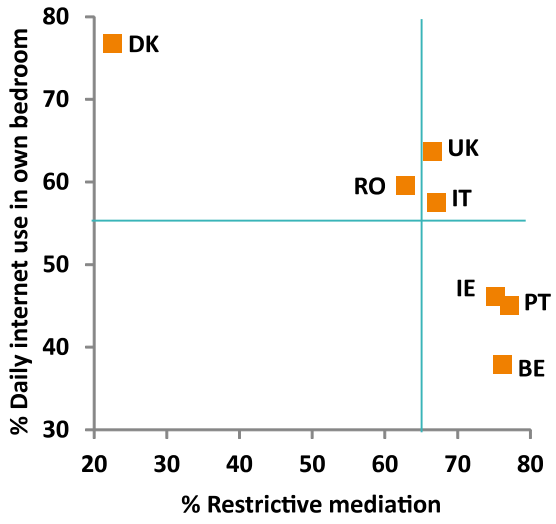
2) **Active mediation of internet safety**, where the parent promotes safer and responsible uses of the internet.

3) **Restrictive mediation**, which involves setting rules that limit and regulate time spent online, location of use and online activities.

4) **Technical restrictions of smartphones**, that is, the use of software and technical tools to filter, restrict and monitor children's use of smartphones.

Figure 14 examines in which countries and to what extent restrictive mediation is associated with a reduced autonomy of use, as measure by access to the internet from child's own bedroom:

Figure 14: restrictive mediation and child's internet use in own bedroom



Q55: For each of these things, please tell me if your parents CURRENTLY let you do them whenever you want, or let you do them but only with permission or supervision, or NEVER let you do them. The graph shows the percentage of children who say 'can never do this' to at least two of the nine items in the question.
Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… Your own bedroom or a private room at home.
Base: All children who use the internet.

- The Figure shows three main patterns of restrictive mediation and privatisation of internet use in the domestic context at play. In **Belgium, Ireland and Portugal** a pattern of **high restriction and low privatisation of internet use** can be observed. The observed relationship between rules set by parents and limitations of unsupervised children's use of the internet is not surprising.

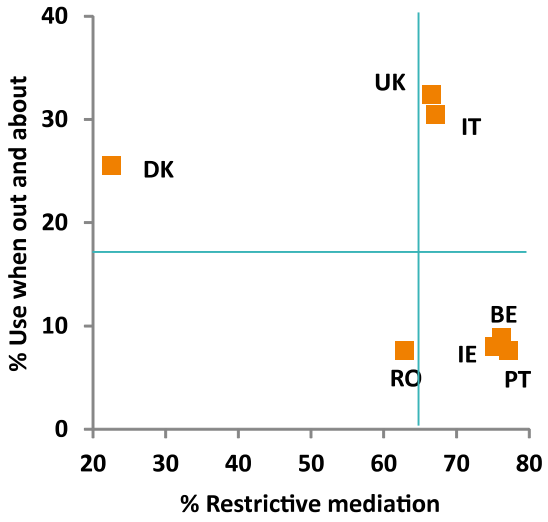
- At the opposite side, and equally unsurprising, is the pattern of **low regulation and high internet use in child's own bedroom**, as observed in **Denmark and Romania**, which, however, are different under many respects.

- Third, in **Italy** and **the UK** children are **slightly more restricted** than the average but still **use the internet in their own bedrooms more**. We can thus assume that children are more

regulated in their time online and /or in specific online activities than in autonomy of use.

Figure 15 examines the relationship between parental restrictions and the second indicator of autonomy of use, namely use when out and about:

Figure 15: restrictive mediation and child's internet use when out and about

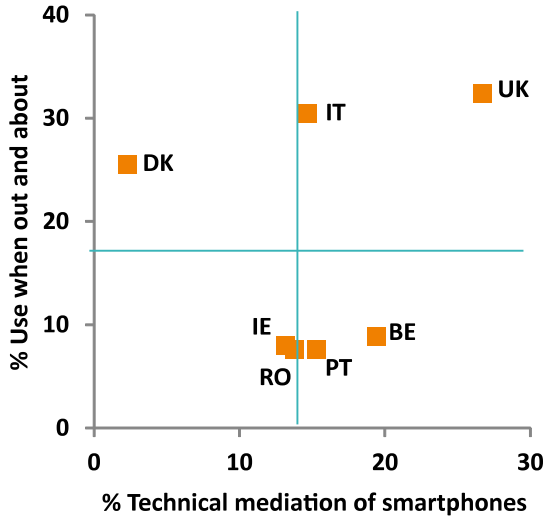


Q55: For each of these things, please tell me if your parents CURRENTLY let you do them whenever you want, or let you do them but only with permission or supervision, or NEVER let you do them. The graph shows the percentage of children who say 'can never do this' to at least two of the nine items in the question.
Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations…When out and about or on the way to school or other places.
Base: All children who use the internet.

- The figure shows a picture consistent with Figure 14, more specifically: **Belgium, Ireland and Portugal** still fit in the group of countries characterised by **high restriction and lower autonomy of use**, since use of the internet on the move is below average.
- By contrast, **restrictive mediation** is **lowest** in **Denmark**, where, instead, **use of the internet when out and about** is **above average**.
- As previously noted, children in **Italy** and **the UK** are slightly more **restricted** than average but are **more likely to use the internet on the move**.
- **Romania** combines slightly lower restrictions with low use of the internet when out and about.

Figure 16 examines the relationship between technical mediation of smartphones and use of the internet on the move:

Figure 16: technical mediation of smartphones and child's internet use when out and about



Q57: Are any of the following installed on your smartphone? The graph shows the percentage of children who say 'yes' to at least two of the four items in the question.
Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations…When out and about or on the way to school or other places.
Base: All children who use the internet.

- The typical pattern is **average technical mediation of smartphones and low use of the internet on the move**, as observed in **Ireland, Romania and Portugal**.
- In **Denmark**, the use of software to restrict or monitor children's use of the internet from their smartphones is lowest but use of the internet on the move is higher than average.
- By contrast, **the UK** shows a pattern of **highest technical mediation and highest autonomy**

of use as measured by use of the internet when out and about.

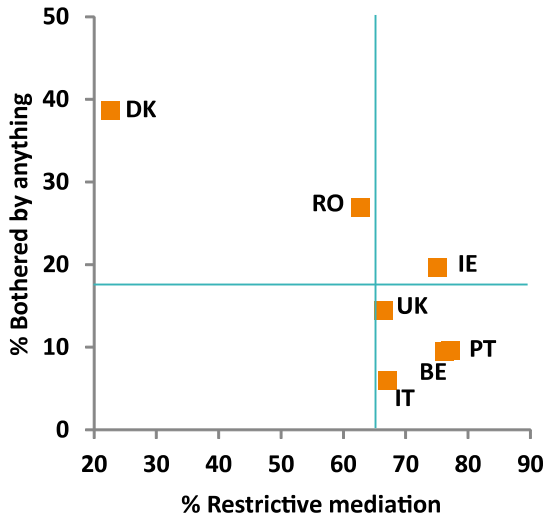
- The picture in **Belgium** and Italy is different: in Belgium technical restriction of smartphone is above average but use on the move remains very low; by contrast, technical mediation is average in **Italy**, where use on the move is however higher than average.

We can conclude that, with the exception of Italy and the UK, **restrictions** over internet use by means of setting rules or parental controls and other software is associated with a **reduced autonomy of use**.

How are different types of mediation related to the likelihood of reporting harmful online experiences? Prior research findings have shown that, among the various possible parental strategies, only active mediation of internet use and restrictions are associated with lower risk and harm (Dürager & Livingstone, 2012; Mascheroni *et al*., 2013). However, restrictive measures are also likely to undermine children's digital literacy; indeed, 'restrictions on use and opportunities are the most effective but destructive (in terms of resilience building) means of reducing risks' (Livingstone *et al*., 2012, p. 331).

Figure 17 examines the relationship between restrictive mediation by parents and harmful experiences as reported by children:

Figure 17: restrictive mediation and being bothered by something on the internet



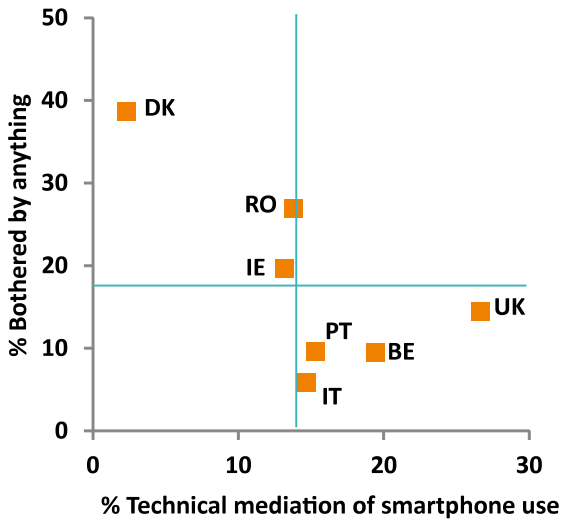
Q55: For each of these things, please tell me if your parents CURRENTLY let you do them whenever you want, or let you do them but only with permission or supervision, or NEVER let you do them. The graph shows the percentage of children who say 'can never do this' to at least two of the nine items in the question.
Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?
Base: All children who use the internet.

- Two main patterns can be observed: the pattern of **low restrictive mediation and high harm**, represented by **Denmark and Romania**; at the opposite side, the pattern of **high or average restrictions and low harm**, which is characteristic of **Belgium, Italy, Portugal and the UK**. The correlation between restrictive mediation and reduced likelihood of problematic and bothering online experiences is thus confirmed.

- Ireland partially deviates from the dominant patterns, being characterised by high restrictive mediation and slightly higher harm than average.

Figure 18 examines whether technical restrictions of smartphones are also associated with less harmful experiences:

Figure 18: technical mediation of smartphones and being bothered by something on the internet



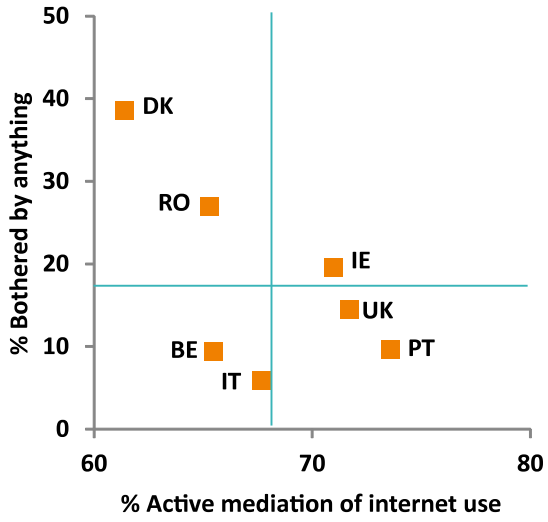
Q57: Are any of the following installed on your smartphone? The graph shows the percentage of children who say 'yes' to at least two of the four items in the question.
Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?
Base: All children who use the internet.

- Similarly to the patterns observed in Figure 17 - and although technical mediation of smartphones is rather uncommon in all countries except the UK - the adoption of **technical restrictions** is associated with **lower harm**, as it happens in Belgium, Italy, Portugal and, especially, the UK.

- Denmark stands alone as the country with highest harm and lowest technical mediation of smartphones. Ireland and Romania show a less straightforward pattern.

Figure 19 and 20 examine the relationship between number of children who reported being bothered by something on the internet and active mediation of internet use or active mediation of internet safety respectively:

Figure 19: active mediation of internet use and being bothered by something on the internet



Q53: Does your parent/do either of your parents sometimes… The graph shows the percentage of children who say 'yes' to at least two of the five items in the question.
Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?
Base: All children who use the internet.

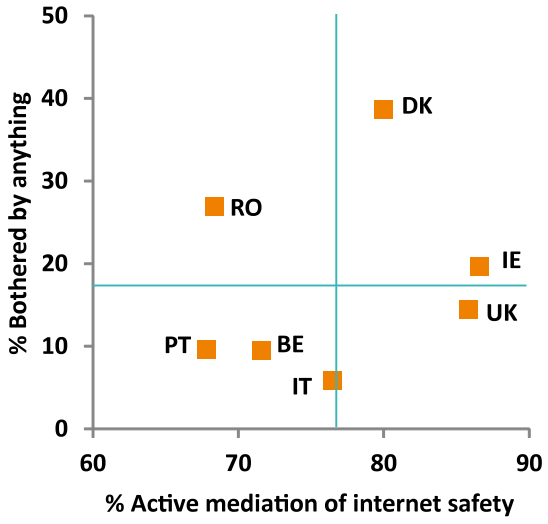
- Figure 19 is consistent with prior studies (Livingstone et al., 2012) in showing that active mediation of internet use is associated with lower levels of harm. Indeed, the dominant pattern is of **high or average active mediation internet use and low harm**. This pattern characterises **Portugal and the UK**.

- By contrast **active mediation below average** is coupled with **higher levels of children being bothered** by something on the internet, as in **Denmark and Romania**. Once again, however, there are notable differences in these countries to be taken into consideration: while in Denmark lower active mediation by parents may be the product of more permissive parenting cultures, in Romania it is likely to be associated with lower domestication of the internet and mobile media by parents (Mascheroni & Ólafsson, 2014).

- Belgium, Italy and Ireland show different patterns, whereby in Belgium and Italy harm remains very low despite the fact that parents

tend to engage in active mediation of child's internet use less than average, while Ireland scores slightly higher than average on both active mediation and incidence of harmful experiences. The Irish case suggests that perhaps neither active mediation nor restrictive measures alone can prevent harm.

Figure 20: active mediation of internet safety and being bothered by something on the internet



Q54: Has your parent/have either of your parents ever done any of the following things with you? The graph shows the percentage of children who say 'yes' to at least two of thesix items in the question.
Q30: In the PAST 12 MONTHS, have you seen or experienced something on the internet that has bothered you in some way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?
Base: All children who use the internet.

- Figure 20 shows that the relationship between active mediation of internet safety and harmful online experiences is more complex: as already show by the EU Kids Online, **active mediation of internet safety can also follow from**, rather than cause, **harmful consequences of online risks** (Dürager & Livingstone, 2012).

- In the UK active mediation of internet safety is higher than average and harmful experiences are low. Active mediation of internet safety is also higher than average in Denmark and Ireland, where harm is much or just slightly higher than average.

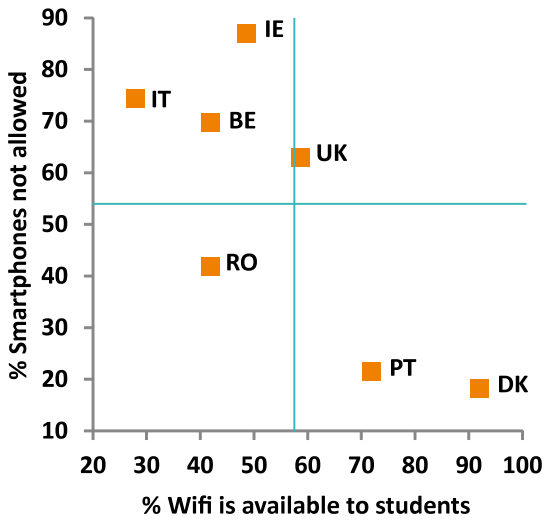
- Active mediation of internet safety is lower or average in Belgium, Italy, Portugal and Romania, but while harm is lower in the first three countries, it is higher in Romania.

6. Schools: regulation and mediation

Huge variations across countries persist both regarding internet use in schools and school provision of wifi networks, on one side; and teachers' engagement in various mediation strategies – namely, active mediation of internet safety, restrictions on internet and smartphone use, and promotion of positive school-related uses of the internet and smartphones - as shown in the Net Children Go Mobile: Risks and opportunities report (Mascheroni & Ólafsson, 2014).

The aim of the present chapter is to further examine the relationship between these variables in order to identify different patterns of integration of ICTs and the internet within the educational system. To do so, we first explore schools' approach to the internet and smartphones, by examining the relationship between availability of wifi networks and regulation over student's smartphone use in schools, as shown in Figure 21:

Figure 21: Regulation of wifi access and regulation of smartphone use at school



Q60: Is wifi available at your school, and if so, are the students allowed to use it?
Q61: Are students allowed to use their smartphones when at school?
Base: All children who use the internet.

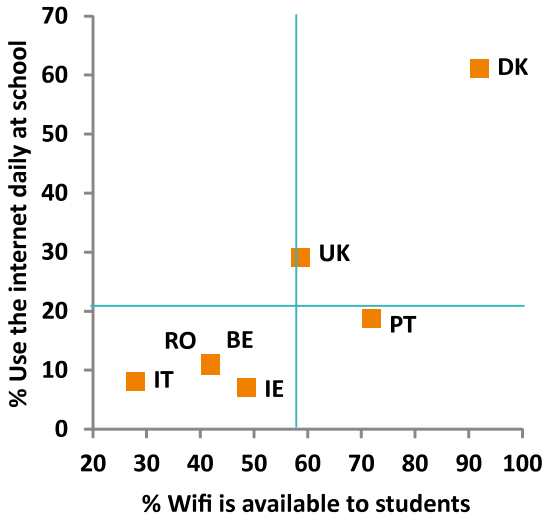
- Figure 21 shows two main patterns, and relative country groupings, operating across the countries surveyed. **A positive approach to wifi and smartphones** is observed **Denmark** and **Portugal**, where the provision of wifi networks to students is maximum and children are also allowed to use smartphones in school with no or little restrictions - however, the general conditions of (mobile) internet use are much diverse in these two countries (see also Mascheroni & Ólafsson, 2014).

- By contrast, schools in **Belgium, Ireland and Italy** adopt **a very restrictive approach** to children's internet use, whereby wifi networks, when provided, are not available to students, who are neither allowed to use their smartphones.

- The UK and Romania are uniquely positioned as countries with a mixed but opposite approach to wifi networks and smartphones in school: in the **UK** the provision of wifi networks in school is on average while **smartphone use is highly restricted**; on the other side, **wifi availability is poor in Romania**, where however policies regarding smartphone use are less strict.

Figure 22 and 23 examine how the general attitude towards ICTs in school - expressed by regulation of wifi networks and smartphones use - is then mirrored in the daily use of the internet at school:

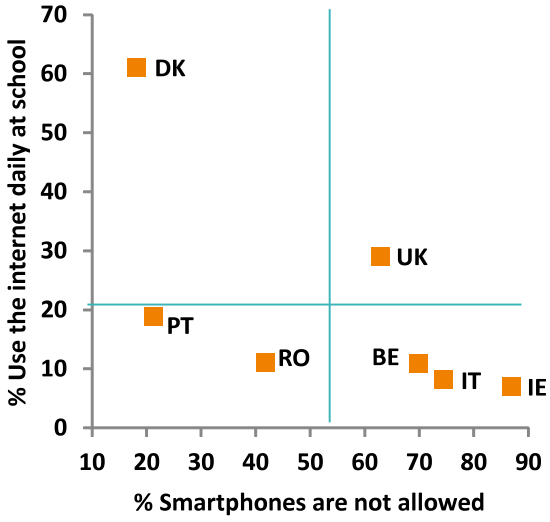
Figure 22: Daily internet use at school and regulation of wifi access



Q60: Is wifi available at your school, and if so, are the students allowed to use it?
Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… School.
Base: All children who use the internet.

- **Ireland, Italy, Belgium and Romania** show the lowest level of wifi availability coupled with the lowest proportion of children who use the internet at school daily.
- Consistent with its unrestrictive approach to both wifi and smartphones use in school, **Denmark** is the country where children are most used to access the internet at school on a daily basis.
- By contrast, despite the availability of wifi networks to students is well above average - thanks to a technological plan aimed at implementing wifi in schools between 2008 and 2011 - daily internet use in school is slightly below average in **Portugal**, where also daily use of smartphones is lower than average (see Figure 2).
- The **UK** scores slightly above average on both wifi provision and daily internet use.

Figure 23: Daily internet use at school and regulation of smartphone use

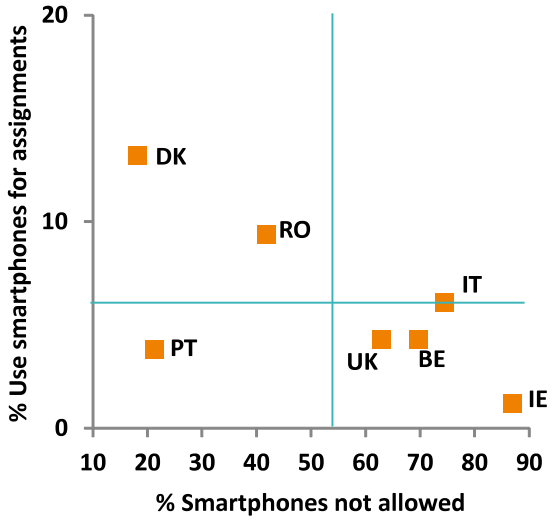


Q61: Are students allowed to use their smartphones when at school?
Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… School.
Base: All children who use the internet.

- The picture showed in Figure 23 is not dissimilar: **Denmark** stands alone as the country with highest daily internet use at school and lowest regulation of smartphone use.
- At the opposite side **Ireland, Italy and Belgium** combine a strict policy regulating smartphone use in school with the lowest level of daily internet use at school.
- **Portugal** and **Romania** score low on daily internet use at school despite a more permissive policy regarding smartphone use. However, in both countries daily use of smartphones and availability of internet plans is below average. Smartphones, then, may not be used to go online.
- The **UK** shows the opposite pattern of medium daily use of the internet at school and high regulation of smartphones.

How do daily internet use at school and regulation of smartphones relate with teachers' mediation of children's internet use and with the integration of new devices into the learning activities? Figure 24 examines how the relationship between regulation of smartphones and use of smartphones for assignments in class varies across countries:

Figure 24: Regulation of smartphone use at school and use of smartphones for assignments in class



Q61: Are students allowed to use their smartphones when at school?
Q62: If you think about your school, how often do the teachers want students to do these things?
Base: All children who use the internet.

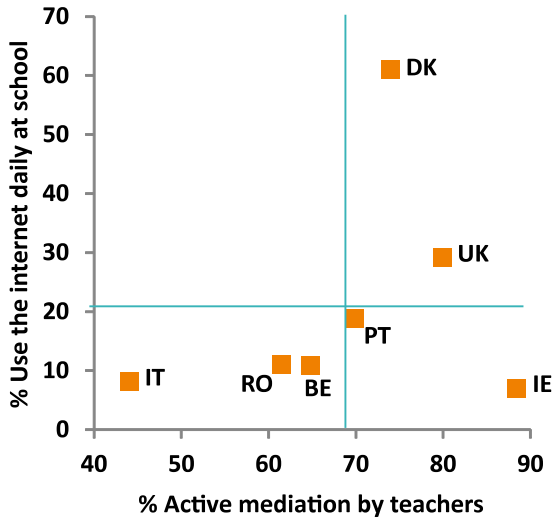
- Figure 24 shows a clear relationship between regulation of smartphone use and the integration of new devices into class activities, with two main patterns. The first pattern combines **strict rules about smartphone use** at school with **low use of smartphones in class assignments**, and is distinctive of **Belgium, Ireland, Italy and the UK**. This finding suggests that the perception of smartphones as educational tools is not universal and may also be resisted to by teachers in these countries.

- By contrast, **Denmark** and **Romania** show a higher integration of smartphones into class activities as well as lower restrictions on its use.

- **Portugal** stands alone: despite children having little restrictions on smartphone use at school, teachers do not suggest its use for assignments in class for a number of reasons: indeed, the proportion of Portuguese children who own a smartphone is still low (Mascheroni & Ólafsson, 2014); as a consequence, the use of smartphones as educational devices may be perceived as potentially discriminating by teachers.

Whether general attitudes towards the internet in school are associated with teachers' mediation, and how this relationship varies across countries, is explored in Figure 25 and 26, which examine the relationship between teacher mediation and daily internet use at school and use of smartphones in class respectively.

Figure 25: Daily internet use at school and teacher mediation

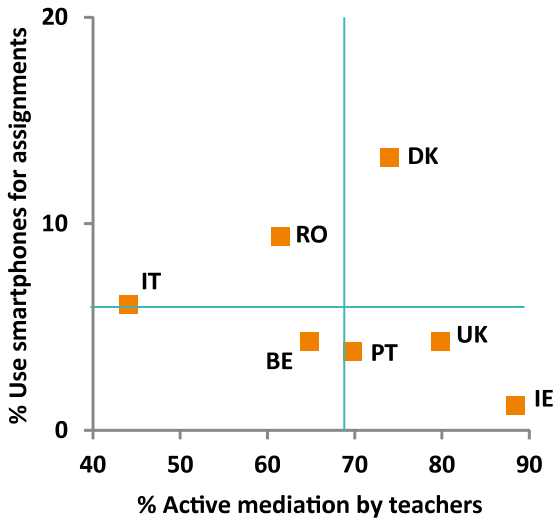


Q59: Have any teachers at your school ever done any of these things? The graph shows the percentage of children who say 'yes' to at least two of the eight items listed in the question.
Q1 c: Looking at this card, please tell me how often you go online or use the internet (from a computer, a mobile phone, a smartphone, or any other device you may use to go online) at the following locations… School.
Base: All children who use the internet.

- Overall there does not seem to be a clear correlation between the level of active mediation and the percentage of children who use the internet daily at school.

- The countries with the highest level of daily use at school (Denmark and the UK) also show a rather high level of active mediation by teachers. At the same time, however, Ireland, which records the highest level of active mediation by teachers, shows the lowest percentage of children who use the internet daily at school.

Figure 26: Use of smartphones for assignments in class and teacher mediation



Q59: Have any teachers at your school ever done any of these things? The graph shows the percentage of children who say 'yes' to at least two of the eight items listed in the question.
Q62: If you think about your school how often do the teachers want students to do these things?… Use smartphones for assignments in class.
Base: All children who use the internet.

- Figure 26 shows that a high level of active mediation by teachers does not necessarily go hand in hand with a high level of use of smartphones for assignments in class.

- In **Portugal, Ireland and the UK**, teachers are more engaged in in active mediation of internet use. However, use of smartphones as educational devices for assignments in class is below average, for the reasons suggested above - namely diffusion of smartphones and educational cultures.

- Conversely, **Denmark** shows a pattern of **high mediation and higher use of smartphone** in class activities. The percentage is still very low, however, suggesting that use of smartphones in schools may not be strictly motivated by educational purposes or, also, that its use for school-related activities may be informal rather than formally institutionalised.

- In Italy and Romania integration of smartphones into class assignments is on or above average, while active mediation by teachers is relatively low.

The analysis showed in this chapter confirms that **different teachers' attitudes** towards the internet and their **engagement in active mediation** of children's internet use combines with **schools' policies regarding the internet, wifi networks and use of smartphones**, thus producing **diverse educational contexts** throughout the seven countries.

7. Conclusions

The comparative analysis shows **great variation across the seven countries** surveyed. More specifically, while it is quite easy to group countries based on risk, harm and mediation, differences regarding autonomy of use, consequences of smartphones, and school regulation and mediation persist in each group and are related with country variations in adoption of the internet and of smartphones, different cultures of parenting and different educational systems. In summary, the main differences are the following:

- Autonomy of use is higher in Denmark, Italy and the UK.
- The UK also scores higher on both positive consequences and downsides of smartphones use, while children in Denmark, Italy and Portugal are more likely to experience some forms of overdependence without feeling a closer a relationship to friends thanks to smartphones.
- Children in lower risk, lower harm countries (Belgium, Portugal and the UK) receive from their parents more of any form of mediation asked about - except for active mediation of internet safety - and usually engage in social responses to cope with online risks.
- Children in higher risk, higher harm countries (Denmark and Romania) receive less restriction and less active mediation of internet use from parents - with Danish children receiving more active mediation of internet safety and also more mediation from teachers - but are least likely to talk to at least one person about what might bother them on the internet.
- Children in Ireland and Italy experience slightly more harm or more risks respectively, despite being highly restricted by their parents.
- School access, regulation and mediation provide a more complex picture: the only clear pattern is observable in Denmark whereby the lowest regulation of wifi networks and smartphones use in school goes hand in hand with higher daily internet use at school, higher teachers' mediation and more integration of smartphones into class' activities.

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Annex 1: The network

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Cross-national comparisons (D3.3), July 2014
Net Children Go Mobile Project

CO-Funded by:

Safer Internet Programme
European Commission
(SI-2012-KEP-411201)

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