The role of parents in the online behavior of hyperconnected minors

El papel de los padres en el comportamiento online de menores hiperconectados

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ABSTRACT

Introduction: Introduction. This article disseminates the results of an investigation oriented to the study of the current multiscreen contexts in which minors develop, from the perspective of risks and opportunities. The main objective is to analyse the characteristics of the consumption scenario and family mediation. Methodology: This research has been developed using the survey technique. The universe under study has been the children enrolled in the Community of Madrid from 5 to 17 years old. (n = 840). Results and conclusions. It has detected a higher rate of hyperconnected homes, in which minors with mobile devices for autonomous and personal use predominate, and an intensive user profile that is from the age of 16 and amounts to 39% of the population on weekends or holidays. Mediation strategies are limited to content and time control.

KEYWORDS: new technologies, digital services, Internet, media education, families, parental mediation, media literacy, media.
RESUMEN

Introducción. Este artículo difunde los resultados de una investigación orientada al estudio de los actuales contextos multipantalla en los que se desenvuelven los menores desde la perspectiva de los riesgos y las oportunidades. El objetivo principal es analizar las características del escenario de consumo y la mediación familiar. Metodología. Esta investigación se ha desarrollado mediante la técnica de la encuesta. El universo objeto de estudio han sido los menores escolarizados de la Comunidad de Madrid de 5 a 17 años. \( n = 840 \). Resultados y conclusiones. Se ha detectado un alto índice de hogares hiperconectados en los que predominan menores con dispositivos móviles de uso autónomo y personal, y un perfil de usuario intensivo que se sitúa a partir de los 16 años y asciende al 39% de la población los fines de semana o festivos. Las estrategias de mediación se limitan al control del contenido y los tiempos.

PALABRAS CLAVE: nuevas tecnologías, servicios digitales, internet, educación mediática, familias, mediación parental, alfabetización mediática, medios de comunicación.

CONTENTS

1. Introduction. 1.1 The multiscreen reception context. 1.2 Media education. 1.3 Parental mediation. 1.4. Mediation strategies 2. Methodology. 3. Results. 3.1. Consumption scenario. 3.1.1 Early contact with new technologies. 3.1.2 Access devices. 3.1.3 Devices for autonomous and personal use. 3.1.4 Frequency and habits of use. 3.1.5. Social networks. 3.2 Attitudes and abilities. 3.3. Family mediation 4. Discussion and conclusions. 5. List of references

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1. Introduction

1.1. The multi-screen reception context

The digital immersion of the Spanish Society is a reality, especially in the case of minors. From homes, 81.9% is connected and 95.2% of children between 10 and 15 years old browse the Internet (Fundación Telefónica, 2016).

The «smartphone» is increasingly present on the lives of children and teens and the age of access to the device is progressively younger. Studies like the ones conducted by the National Statistics Institute (INE, 2017) position the age of access at 10 years old and the report EU Kids (2016) after 9 years old. There are other studies such as “Minors and mobile connectivity in Spain: Tablets and Smartphones” (2014) that indicate that children between 2 and 3 years old have usual access to their parents' terminals and use different games applications and watch television channels broadcasting children’s series. When minors grow, they increase the use of their parents' mobile phones: 25% of minors under 10 y.o., a percentage that increases to 94% in teens of 15 y.o. (INE, 2017).

The concerns about the influence of television in minors (Pérez Ornia and Núñez Ladaveze, 2006) is transferred to the new screens that have an increasing influence in their socialisation (Blanco and Römer, 2010) due to the broad scope of contents they have access to and the continuous exposure to them.

The digital transformation of Spanish families and of information access and communicational habits of minors require the investigation on the relationships that minors stablish with CITs within the framework of educommunication. The multi-screen context where minors develop and where they access to digital services, is a priority research line, as evidenced in the high volume of scientific
The main reason of these studies is the protagonism that these technologies have in the development of minors (Garitaonaindia et al., 2011, p. 77), up to the extent of changing the way children interact, play, learn and keep entertained. “Internet not only occupies a significant part of the leisure time of children and teens, but it is also defining their forms of entertainment and their relationship with the environment” (de Frutos and Vázquez, 2012, p. 57).

In this sense, the minors, interactive users, prosumers and hyper-connected (Sandoval and Aguaded, 2012; Garmendia, Jiménez and Mascheroni, 2017) receive a relevant impact from CIT. The media are a socialisation agent that competes with family and school and have a great power to intervene in the individual and collective imagery of minors (Pérez, Ramírez and García, 2015). The concerns studied by scholars mainly deal with the possible risks associated to the use of digital services (Livingstone, 2013; Duran and Martínez, 2015; Kowalski et al., 2014) and on the best ways to exploit “the opportunities for the social relationships, education, participation in the public life, the enforcement of rights or entrepreneurship” (Aguaded, 2011, p. 7).

In this sense, as mentioned by cultural British studies (Stuart Hall, 2004; Lull, 1997) or based on the reception theory (Orozco, 1996) it is necessary to study the characteristics of the environment where the relationships with the CIT are established, and specially, the role of parents as mediator filter. The appropriation of meanings and significances by minors will be conditioned by how these serve as mediating agents. The family is the institution which basic function is the socialisation of children “what is expected from them in regard to their position in the social structure is that they play the role of introducing children into the cultural patterns of the social model where families develop” (Torrecillas, 2013, p. 32).

Therefore, the home represents the main scenario of Internet access of a great part of the childhood and parents are the first point of contact when children come across problems in Internet (Livingstone and Bober, 2006). The bond of parents with their children in terms of the new technologies should be focused on them assuming engaged and active educational models and sharing CIT activities with their children so that safer behaviours patterns are acquired (Fundación Telefónica, 2013) and to transfer to children, informational skills addressed to make the most of the potentialities of CIT (Fernández Vidal, 2012).

This article discloses the results of a research project entitled “Home Auctoritas, digital training and learning communities at homes with connected minors”, which objective was to analyse the role of parents in the process of digital inclusion of children and to study new digital gaps, family mediation and the new spaces of communication between parents and their children.

The objective of this article is to identify the characteristics of the context of multi-screen reception in minors ranging between 4 and 17 years old. We followed the approach of a preceding research focused on the context of children television broadcasting that defined the reception context as a basic unit of analysis of the relationships that minors stablish with screens. A specific, concrete and particular scenario to observe the behaviour of minors before CIT. We transferred the different dimension of context identified and analysed in this study to the multi-screen setting (Torrecillas, 2013, p. 40):

1. Consumption scenario: material features of the space where the relationship of minors with the digital services takes place: technological devices available for minors; Internet access; and space and time spent inside the routines of minors.
2. Situational scenario: situation of consumption regarding presence of absence of other family members/ tutors or representatives of minors that accompany or supervise the access and competencies and skills of subjects responsible versus the skills and competencies of minors.

3. Family mediation: parents-children interrelation pattern about the access to digital services.

In this study we focus on the following specific objectives oriented to analyse the three first elements of the context:

O1: To analyse the features of the consumption setting: access and forms of consumption of digital services.

O2: To analyse the situational scenario: study the attitudes and abilities of minors before CIT and their perception about the skills and competencies of parents.

O3: Study family mediation: to identify the perception of minors about family mediation and the main mediation strategies deployed at homes.

The hypothesis that sustains this research line is that the different forms of multi-screen reception of schooled minors are conditioned by the way the different stakeholders with responsibility on the protection of minors (state, school and parents) create educational opportunities for an enriching production and consumption of digital context. Specifically, in the project we try to respond to the hypothesis that the styles of mediation in multi-screen contexts are conditioned by the perception of parents about the relevance of CIT for the development and socialisation of children and by the level of knowledge about Internet services and tools. Specific hypothesis verified in this article:

− H1: The contexts of reception are increasingly individualised and ubiquitous due to the boom of the mobile device to access Internet.

− H2: The boom of the mobile, and the availability of devices for personal and autonomous use, boosts the proliferation of hyper-connected minors.

− H3: The reception context, characterised by the access in mobility and hypercommunication, are accompanied by a significant lack of implication of parents in the relation that the minors establish with the screens.

− H4: the mediation strategies are conditioned by the accessibility of minors to mobile devices and are very limited: reduced to improvised rules and are mainly related to the consumption time.

1.2. Media education

The objective of media education is to develop the critical and creative skills of children (Buckingham, 2003) in the relationships established with media. Aiming to "educate people on the new audiovisual languages of our society, being able to appropriate them in a critical manner and use them in a creative and active way as personal communication channels" (Aguaded and Cabero, 1995, p. 22). In short, to develop the critical understanding and active participation that allows teens and children to interpret and generate judgements are consumers and producers of contents in every screen (Pallarès and Pañella, 2011).

The aim of this media education is to guarantee the digital security of minors as endorsed by many international organisations, such as the European Council (2011) or UNESCO (2011).

The media competencies demanded by the digital culture (Marqués, 2012) are understood as “the capacity to perceive, analyse and enjoy the power of messages, images and stimuli and sounds perceived on media, using them to meet the needs of communication, expression, education or information that may generate on different everyday situations” (Pérez, Ramirez and Garcia, 2015).
There are many studies focused on digital literacy (Ferrés, Aguaded and García Matilla, 2012; Pérez Tornero and Varis, 2012; Pérez Tornero, 2015) as a means for the empowerment of minors in a digital society where the media skills are essential for the comprehensive development of minors (Marta Lazo and Grandío López, 2013). So much so, that the digital competency is one of the key skills for a lifetime learning, as mentioned in the European Framework of Reference Educational Training 2010, updated in the work programme Educational Training 2020, that develops the education and training systems under the view of permanent education worldwide.

The media education as a right of the democratic citizens (Área, 2012) cannot be reduced to the training for the use of CIT, to information or its production, but instead, it must encompass the assimilation of the social dimension of its use and the responsibility in the creation and spreading of contents (Gutiérrez and Tyner, 2012). In other words, the media education must orientate to the social and cultural engagement and critical participation (Aguaded, 2010; Orozco, Navarro and García Matilla, 2012; Kendall and McDougall, 2012).

Up until now, most efforts have been focused on guaranteeing the right to media education in the educational centres, but there is less accumulation of knowledge focused on studying the socio-educational mediation strategies of parents at home, since there are few studies that include family variables and delve into the family multi-screen reception contexts, up to the point that there is not yet any answer to the matter of what are the most effective mediation strategies (Marciales and Cabra, 2011, pp. 861-862).

1.3. Parental mediation

The family mediation is understood as the cultural instance from where minors appropriate the meanings and significances of the new communicational processes (Martín Barbero, 1987 and Orozco, 1996) and, therefore, configures “the interaction with the new digital services - consumption and production - like the creation of the meaning of interaction” (Torrecillas, 2017, p. 665). The parents influence on their children through the interaction with the child, the identification with the social and cultural status of parents and through the family background (Marina, 2015).

The complexity of the current contexts of digital reception of minors mainly due to the diversification of digital services and the boom of the mobile media, - which entail an increasingly more personal and autonomous use-, requires the promotion of more responsible and safer practices (Garmendia et al., 2016) and studies oriented to analyse the characteristic of the vulnerability of minors in this new scenario.

The current contexts of multi-screen, pervasive and ubiquitous, represent difficulties to the classical forms of parental mediation: “Active mediation consist of talking about media content while the child is engaging with the medium; restrictive mediation involves setting forth norms that restrict the use of the medium; and co-using means that the parent remains present while the child interacts with the medium” (Livingstone and Helper, 2007, p. 4), because the increasingly more constant and individual use hinders the direct participation of parents in the mediatic experience of children and demands strategies oriented to the comprehensive education and the self-control of minors. This way, the educommunication is more important than ever and the involvement of parents is essential for the safety of minors.

The parents are responsible for designing the technological environment where children grow, and are responsible for supervising and mediating, establish values, guidelines or goals in the educational programme (Padilla et al., 2015, p. 418). They must create and stimulating atmosphere for the use of
CIT, determine the disposition of space and time for the use of Internet and supervise the online activities performed by their children.

In this line, in recent years the parental mediation in multi-screen contexts emerge as a relevant research line in order to document how, why and with what consequences parents try to influence on the experience of minors with CIT (Haddon, 2015, p. 1). At international level, we can find literature about the mediation of parents regarding the use of CIT (Kalmus, Blinka and Olafsson, 2015; Zaman, Nouwen, Vanattenhoven, de Ferrerre and Looy, 2016; Livingstone, Ólafsson, Helsper, Lupiáñez Villanueva, Veltri and Folkvord, 2017 and Sasson and Mesch, 2017). The study of Dowdell (2012) emphasizes on the difficulties of some parents in terms of acting when they discover behaviours of risk in their children, and the need for nurses, clinicians and other healthcare providers or professionals to offer integral attention to families and identify needs. In short, the relevance of the development of assistance plans to family members in order to promote security on Internet.

Several studies manifest the unawareness of parents about the effects that some contents may have on the development of minors (Livingstone, Haddon, Gorzig and Olafsson, 2010; Garmendia, Casado, Martinez and Garitaonandia, 2013 and Berrios, Buxarrais and Garcés, 2015).

Other studies indicate the relevance of the family context in the cases of children suffering from cyberbullying, since those minors sharing victimisation experiences with their parents feel a higher self-esteem and less loneliness than those who experience it without the support and protection of parents (Law, Shapa and Olson, 2010; Navarro, Yubero and Larrañaga, 2014, p. 325).

1.4. Mediation strategies

To regulate and understand the use of CIT is an experience faced by family members and that influences family harmony. There are authors who consider that control strategies entail the disruption of this concord because they are detrimental due to inhibiting the child's autonomy (Stacksrud and Livingstone, 2009), compared to other authors that opt for tutoring the use and consumption with technical and regulatory aids (Bringué and Sádaba, 2008).

In this last line, among the studies about mediation strategies published in our country, the one developed by Garmendia et al stands out. (2013) where it is concluded that increasingly more families are concerned about developing active mediation strategies based on dialogue and the orientation before the restrictive strategies based on rules about the use of Internet and videogames (2013, p. 112).

The study of EU Kids (2016) divides the mediation by the issues managed by parents and shows how the mediation strategies are more intense when parents deal with their children about the use and security on Internet. It indicates that the active mediation has increased compared to the previous edition of the same study of 2010, translated into an increase on providing further advise about safe browsing by parents, an increase of the time parents spent in sharing CIT activities with their children and technical mediation.

Using a Spanish and Latin American sample, Aierbe, Orozco and Medrano (2014) evidence that the mediation style perceived most by teens is the co-viewing, instructive and restrictive mediation. In the international scope, Garcia et al. (2015) identify the criteria of parents about the consumption of CIT by children under 3 years old. They state that parents have an incorrect perception of risk in terms of the influence of CIT in their children's development because they insist that the access to television and further audiovisual media never or almost never impact the development of minors.
“There is a complete unawareness of parents about the negatives effects and consequences that the new technologies can cause in their children in terms of thought, language, generation of affection and socialisation” (2015, p. 100).

The most recent study is the one analysing the reception in multi-screen contexts, family mediation and control in the secure use of Internet as a way to empower a prosumer society. The objective of this research is focused on constituting a typology of families according to their mediation styles in the use and consumption of digital services at home by schooled minors (Torrecillas, Morales de Vega and Vázquez Barrio, 2017). This study shows four family models called: absent concerned where there is scarce awareness about the actual use of Internet by minors and there is little dialogue; guiding concerned that show a high level of participation and awareness about what children do on Internet. They guide and are present while using social networks; permissive unconcerned that do not guide nor participate in the use of CIT nor when there is connection to social networks. They do not feel responsible about educating their children in the use of CIT since they do not perceive them as a problem; and controlling unconcerned where there is mediation through limiting the time of consumption and are aware about what their children publish on social networks, what they do and post on Internet.

2. Methodology

The universe object of study are schooled minors in the Community of Madrid ranging from 5 to 17 years old. A stratified multistage clustered sampling was used, based on the schooling levels and the typology of the educational centre (purely private/privately-run but state funded and state schools). In the case of public centres, the level of income of the district was another segmentation attribute (above average, average or below average).

Three questionnaires were elaborated, adjusted to the age ranges of minors. A simple questionnaire for minors of 3º pre-school education, a questionnaire for minors of 2º of primary school and another one for minors of 5º primary school, 2º of the CSE and 1º of high school. In the first case, the sample is composed of 189 cases. The sample error or the level of confidence because in that case, considering the age of minors, our aim was not the study to be representative in this case, but the results are very interesting as a quantitative approach to this sector. In the second case, the sample is composed of 184 cases (241 unweighted). The error margin is 7.37% for a level of confidence of 95.5% and for the most unfavourable option of P=Q=50%. In the third case, the sample is composed of 667 cases (865 unweighted). The error margin is 3.87% for a level of confidence of 95.5% and for the most unfavourable option of P=Q=50%. (n= 840 children & teens and 840 parents).

The operationalisation process of concepts into variables was done using the following indicators: use and consumption of information and communication technology; perception and attitudes compared to the digital culture and CIT; media literacy and competencies; family mediation and family flows. The data have been analysed using the SPSS programme.

3. Results

3.1. Consumption scenario

3.1.1. Early contact with new technologies

The youngest children, of 5 year old, feel very attracted to electronic devices. From them, 80% prefers a tablet rather than a tale. About 96.2% likes to play or watch videos in the mobile phone or
the tablet. Considering gender, it is relevant that there is a higher trend towards electronic devices in boys rather than girls at early ages. 100% of children like to use the mobile phone or the tablet in a significant manner.

It is curious how 92.8% would like to have a mobile phone or a tablet of their own for autonomous use, the percentage reaches 97.5% of boys with significant differences compared to girls.

Although they show that preference for electronic devices, the most usual screen for the consumption of audiovisual contents, mainly cartoons, is the television in 71.5% of cases, although a significant 14.7% of 5 year old children already use the tablet as usual screen.

In the case of the group of 7/8 year old minors, the television is still the usual predominating screen, but the percentage reduces to 68.4% is we compare it with the youngest pre-school children. On the other hand, the percentage of those using tablet as usual screen increases to 21.1% of cases.

**Illustration 1:** usually used screens (5 year old).
**Source:** authors own creation.

**Illustration 2:** usually used screens (7 - 8 years old).
**Source:** authors own creation.
3.1.2. Access devices

The data evidence that the minors who live in hyperconnected homes, with a very strong presence of screens because of the number of devices for Internet access minors have access to, as well as due to the frequency of use and access to digital services. The hypercommunication increases with age and there are not significant differences by gender. The youngest primary children (7/8 years old) mainly use the tablet to access Internet and the oldest children of the last year of primary school, secondary and high school, prefer the mobile phone.

In the case of the group from 10 to 18 years old, the main screen for Internet access is the mobile phone. It is significant how, after the 2º of CSE -13 years old- it is practically universal; the percentage increases to 94.7% in minors of 2º of CSE and to 98.7% in the case of minors of 1º from high school - 16 years old-.

From these, 76.4% use the tablet to access Internet on a regular basis, but unlike the mobile, the percentage significantly reduces as they grow: in 1º from high school the percentage reduces until 65.1% of cases.

The videogame console also consolidates as an Internet access device. In this case, 34.4% of minors use it to browse on Internet, but there is a significant difference in gender, since 56.4% are boys versus 12.6% are girls. Considering age, it is a usual practice in primary school because this habit reduces when they get to high school, shifting from 42.6% in 5º of primary school to 24.7% in 1º of high school.

3.1.3. Devices for autonomous and personal use

The level of equipment for personal and autonomous use is high. More than half of minors have at least two different devices to access the network and that reality is universal after secondary school.

It is noteworthy that 58.9% of 7/8 year old children have a tablet for autonomous use, a 19.7% have a mobile phone and 19.1% have a computer.

The mobile phone with Internet access is the star device among minors ranging from 10 to 17 years old. From minors, 81.6% have a mobile phone of their own without significant differences by gender. Considering age, the leap into mobile phone access occurs at 13 years old, in second grade of CSE, when the percentage increases drastically from 41.5% - not a low number- in minors of 5º of primary school, to 95.9% and 98.6% in minors of 2º of CSE and 1º of high school respectively, with a significant difference. Therefore, we set at 13 years old, the age of access to the mobile phone for personal and autonomous use in a practically universal manner.

It is noteworthy that the youngest 5 year old children, although they do not have a personal telephone nor tablet, they use their parents mobile phone in 85.4% of cases, who let them use the device to watch videos or listen to songs. Therefore, in most cases, the first experiences of use produce in the family setting and through parents' devices. Thus, the early habits and needs for electronic devices emerge at home and due to imitation or repetition of parents' behaviours.

3.1.4. Frequency and use habits

The frequency of use boosts in the leap from the age group of 7-8 years old to 10-17 years old. In the first age group, the weekly use is occasional in 44% of cases. The leap produces after 10 years old where
80.7% of minors log in every or almost every day. Even though that in the age range from 10 to 17 years old, there are significant differences among the youngest children of primary school - who connect every or almost every day in a considerable 51.8% of cases-, and minors from secondary school, when the percentage drastically increases until 86.6% in 2º of CSE and 97.7% in 1º of high school.

From minors, 12.7% state to be always connected on school days, whereas 44.8% state to be connected between 1 to 3 hours per day, on weekdays. 25.6% report to be always connected on weekends or holidays, 32.5% between 2 to 3 hours and 15.9% between 1 or 2 hours. The significant differences produce in the leap from secondary to high school when the percentage of hyperconnected minors daily increases to 23% on school days and 39% on holidays and weekends.

We can say that the constant use takes place with the personal and autonomous mobile access around 13 years old, and the hyperconnection consolidates as they approach high school. It is evident that the availability of a personal device favours hyperconnection of minors and that age is a significant variable: we position in 13 years old the age of consolidation of autonomous and hyperconnected minors.

The hyperconnection detected shows different forms depending on the age of children, and in some cases, on gender. The group of 7/8 years old minors use their devices mainly for entertainment. From these, 95.3% access Internet to play, 84.4% to watch videos and 80.1% to listen music. The use of services for communication with peers or family members, or access for doing homework reduces until 44.2% and 41.2% respectively. Significant differences of gender in Internet access are observed in terms of listening music, which is a female rather than a male habit.

In the case of the older aged minors ranging from 10 to 17 years old, the main purpose of Internet access is meeting entertainment needs, but it turns to communication, mainly with the groups of peers, and undertake a rather functional use like supporting on digital services to do homework or study.

This group of age uses services related to communication: mainly use instant messaging, very often or often in 78.8% of cases. The second most usual activity is the use of social networks where 58.1% of minors participate often or very often. About 36.6% uploads their own content (pictures, texts, music, video) usually on websites to be shared.

Illustration 3: frequency and use habits (10-17 years old).

Source: authors own creation.
The use of Internet to access information services is less usual among teens. The most usual activity is watching videos or movies on Internet and access wikis or online encyclopedias to get information for homework, performed by 65.5% and 74.1% of minors, very often or often, respectively. It is noteworthy that they do not use Internet to listen to the radio nor reading news, online newspapers nor magazines is usual.

Illustration 4: access to information services (10-17 years old).  
Source: authors own creation.

Other usual activities in more than 60% of cases is downloading applications and make and edit pictures. Almost 30% read books on their screens.

Illustration 5: access to other usual activities (10-17 years old).  
Source: authors own creation.
3.1.5. Social networks

As seen on previous data, the participation on social networks is one of the most usual activities, mainly among the eldest minors of secondary and high school, and it is the environment with the highest prevalence of risks related to cyberbullying. The social network they use the most is Instagram (72%) followed, with a difference of 13 points, by Snapchat (59%).

Illustration 6: social networks where they have a profile (10-17 years old).
Source: Authors own creation.

Most teens state to never talk about their private life (57%), nor the lives of their friends nor acquaintances (75%), nor the private life of unknown people (86%), but they are not aware that when they upload pictures or videos to their social network profiles they are already providing personal information about their lives and about their closest circle.

In order to know the spreading of their posts (images, videos and texts) the record of contacts (friends) in any of the social networks where they have active profiles needed to be determined. More than half (51%) state to have more than 200 friends on Internet.

Illustration 7: records of contacts in a social network (10-17 years old).
Source: Authors own creation.
Despite having that broad number of contacts, only 6 out of 10 (62%) minors between 10 and 17 years old have established a high level of privacy where only their friends can see what they upload to Internet. This low percentage is concerning since people they do not know may access their profiles and their personal information without any barrier nor obstacle with the perils involved.

Inside the social networks, we come across the YouTuber phenomenon, which is quite extended among teens. About 9 out of 10 recognise to follow some YouTuber, a celebrity or renown individual on the social networks, which reveals the influence this people exert on teens following them. The reasons to follow one or several YouTubers are mainly based on entertainment (65%) as well as due to being fond about what they do or say (59%).

### 3.2. Attitudes and abilities

In first instance, it is parents, followed by teachers, who introduce children in digital environments. We have already seen that the first, early, experiences of use are produced through parents devices in the family environment, to which we add that 74.1% state that their parents have taught them to use the devices and 67.1%, their teachers.

In the case of the age group of 7 to 8 years old, they manifest that their parents teach them to use the devices in 74.1% of cases and highlight their perception about their teachers not playing an active role in their media education since only 25% say they intervene educationally.

Regardless of the origin, the reality is that 82.8% of minors between 10 and 17 years old state that for them, having a mobile phone with Internet access is very or extremely important. Therefore, they understand that have a device for personal use and being able to access Internet freely is a vital need. There are no gender differences in this sense and this attitude intensifies with age since there are significant differences compared to the minors of 1º high school who understand it is very relevant for them in 60% of cases. In the case of the youngest children of 7/8 years old, in 31.9% they argue with their parents because they want them to purchase a mobile phone.

This attitude towards digitalisation explains the percentage of minors with devices for autonomous use to access Internet and the early access to those technologies. Together with these data, it is also noteworthy that 51.8% state that if they leave the mobile phone at some point they do not feel the need to go back for it.

The intensification in the use of Internet services must be accompanied by the development of technical skills but especially social and personal skills that help minors to use digital services in a productive and significant manner. In this quantitative phase of the study we have focused on identifying the technical skills in the hyperconnected population, minors ranging from 10 to 17 years old. All minors of this group have user-level skills for CIT, which confirms the intense implementation of CIT at home and how minors have familiarised with from early ages.
Illustration 8: know how to do activities (10-17 years old).

Source: authors own creation.

When there is research about the skills related to security of minors on Internet, the percentages increase again, which shows that children are able to manage their own security and, if they do not do so, it is because they are not aware about the relevance of protecting themselves against the potential dangers they might find on Internet. The technique they use the most to increase their security on Internet is blocking the message of someone whom they do not want to keep contact with (91%) and erase the registry of visited websites (87%).

The third skills they have to protect themselves is to be able to solve their own doubts by looking on Internet information about how to use Internet in a secure manner (82%), which reinforces the self-learning developed while surfing Internet.
3.3. Family mediation

The perception of minors about the way parents intervene in the relationship established with their screens varies depending on age. The perception of the youngest, the 5 year old children is rather noteworthy. The parental mediation is not as strict as could be expected as a consequence of the evident lack of maturity of children. About 68.2% state that their parents do not scold them if they spend a long time using the mobile phone or the tablet and the same percentage states that their parents are not attentive about what they do on the screen. These data can mean that parents do not perceive major risks when younger children surf Internet.

In the case of the age group of 7/8 year old minors, the educational intervention of parents increases, probably because their perception of risk also increases as well. The data reveal that parents apply a restrictive mediation where they control the contents and the time their children spend on Internet, and also an active mediation, based on supervision and dialogue, although it shows a significant presence, it is less than usual.

In most cases, parents react with improvised and punctual measures when they notice that their children spend too much time on Internet or are watching some content, they do not deem adequate. These situations produce in 81.6% and 71.9% of cases, respectively. The measure is usually that children stop watching the screen or have access to other contents. Establishing more stable general rules is produced in 69.7% of cases. The attitude of dialogue is used in 60% of cases and the vigilance reduces up to 35.8% of cases.

In the case of the oldest children, the group ranging from 10 to 17 years old, they recognise that their parents mainly use an active mediation based on dialogue, negotiation and orientation. Just like in the other two groups, it is combined with a restrictive mediation based on the control of time and contents that their children watch when they connect.
In family mediation on this age group, the age of minors and the gender are significant variables. 80.8% of minors say that their parents provide advice about how to use Internet in a secure manner and 92.7% state that parents concern about what might happen to them on Internet, but in these two cases there is a significant difference of gender in favour of girls, and in the second case the age of the younger children is also significant. These data manifest that parents have a greater perception of risk in the case of daughters, who are considered more exposed to the dangers of Internet or least capable to defend themselves before risks, a matter that would be interesting to study in the second qualitative phase of the study.

About 43.8% state to receive assistance from parents whenever they need digital services to do their homework and 61.4% confirms that parents teach them to use the services or tools and in these two cases significant differences are observed in terms of age in favour of minors in primary school compared to teens from secondary and high school.

Another question is the predisposition of minors to go to their parents to ask for opinion before publishing contents on Internet, talk about the risks and opportunities or go to them when they are upset or worried about something that has happened on the net. In the three cases, the age and gender are significant variables. In the first case, the predisposition to ask for advice in general is rather low, reaching 30 of cases, but it is more significant in the case of girls and minors of primary school. In the second and third case, the percentages get to 60.2% and 60.7% respectively, and it is produced mainly in the case of girls and minors of primary school.

Regarding the specific mediation strategies that parents exert at home before specific uses of Internet, the greatest fears of parents are focused on the actions related to the dissemination of personal contents. About 44.3% is forbidden to provide personal information, 24.2% is allowed under supervision, and 25.2% to upload pictures or personal videos, and 54.7% is allowed but under supervision. In terms of access to social networks, 68.7% say to have their parents allowance, compared to 14.8% to have allowance but under supervision. More than 75% is allowed to undertake, without special supervision, other sort of actions like chatting or use the Messenger,
watch YouTube videos, follow YouTubers, send messages to mobile phones, send emails or play. In general, there are few expressed prohibitions and the allowances under supervision, which would be an active mediation strategy, takes place is less than 25% of cases.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Permitted</th>
<th>Permitted bajo supervisión</th>
<th>Lo hago sin que lo sepan</th>
<th>Prohibido</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navegar por Internet</td>
<td>86,8</td>
<td>9,4</td>
<td>1</td>
<td>2,5</td>
</tr>
<tr>
<td>Chatear o usar el Messenger</td>
<td>79,6</td>
<td>8,4</td>
<td>1</td>
<td>9,5</td>
</tr>
<tr>
<td>Dar información personal</td>
<td>24,2</td>
<td>23,4</td>
<td>6,4</td>
<td>44,3</td>
</tr>
<tr>
<td>Acceder a una red social</td>
<td>68,7</td>
<td>14,8</td>
<td>2,4</td>
<td>13,2</td>
</tr>
<tr>
<td>Descargar archivos</td>
<td>17,1</td>
<td>2,9</td>
<td>9,6</td>
<td></td>
</tr>
<tr>
<td>Subir fotos o vídeos personales</td>
<td>54,7</td>
<td>14,8</td>
<td>3,8</td>
<td>25,2</td>
</tr>
<tr>
<td>Ver vídeos en youtube</td>
<td>88,5</td>
<td>7</td>
<td>1,5</td>
<td>1,6</td>
</tr>
<tr>
<td>Seguir a you tubers</td>
<td>78,1</td>
<td>6,6</td>
<td>2,8</td>
<td>9,2</td>
</tr>
<tr>
<td>Enviar mensajes a móviles</td>
<td>80,9</td>
<td>9,5</td>
<td>0,7</td>
<td>7,5</td>
</tr>
<tr>
<td>Enviar correos electrónicos</td>
<td>83,7</td>
<td>7,5</td>
<td>0,7</td>
<td>6,9</td>
</tr>
<tr>
<td>Jugar</td>
<td>92,7</td>
<td>4,7</td>
<td>0,6</td>
<td>1,3</td>
</tr>
<tr>
<td>Comprar cosas</td>
<td>10,1</td>
<td>51,6</td>
<td>36,3</td>
<td>1,4</td>
</tr>
</tbody>
</table>

**Illustration 11:** specific mediation strategies used by parents at home before specific uses of Internet (10-17 years old).

**Source:** authors own creation.

About 81.8% state that their parents are scarcely or not at all attentive about what they do on Internet and 50.7% mention to have clear rules about the allowed use of Internet. In these two cases, there are perceived significant differences by age: as minors grow and get to secondary school, parents loose interest about the children's use of digital services and progressively stop establishing rules about the use of Internet. About 49.2% state that parents scarcely or not at all ask them about what they do on Internet; 84.7% say their parents try little or not at all to confirm what they have done on Internet.

The time minors spend on Internet seems to be the main reason that drives parents to impose the prohibition of continuing using the screen at the moment they notice the excessive use, in an improvised and casual way. On the other hand, the kind of content accessed does not concern that much because 77.5% state that their parents do not ban the contents they are exposed to, probably due to the scarce supervision undertaken.

**Illustration 12:** advises and suggestions given by parents about the use of Internet (10-17 years old).

**Source:** authors own creation.
It is noteworthy that 71% of minors (10 to 17 years old) have a positive perception of parental mediation and the advises and suggestions provided about Internet use are deemed helpful, in those cases where it occurs.

81% of cases state having taught their parents to do something on Internet in the last month.

Parents and minors are involved in negotiations characteristics of the adolescence about questions related to the use of the screens. The abuse of Internet by minors is a recurrent theme in Spanish homes. Most of teens (85%) recognise to argue with their parents about their use of the Internet and the main reason is the time minors spend connected.

Almost half of respondents state to have complete freedom to use Internet and the rest tries to negotiate with their parents to increase their freedom on the net, although in most cases parents impose their criterion.

4. Discussion and conclusions

The main objectives of this study were to analyse the features of the consumption scenario of minors ranging from 5 to 17 years old; delve into the attitude of minors towards screens and their digital abilities, and study the role of parents in the relations that minors establish with screens to deepen on the characteristics of family mediation. To study the consumption scenario is essential because we observe it evolves at a vertiginous pace, due to the development and evolution of services and digital tools and screens of access, as well as the fast evolution and changes of the use and consumption habits of digital services, which demands to constantly update knowledge. The features of the consumption scenario are the starting point to analyse the attitudes, skills and family mediation on a later stage.

The results of this study reveal that the consumption scenario of digital services is changing at a vertiginous pace mainly due to the early access to screens and the proliferation of mobile devices for Internet access, mainly the mobile phone. We have shifted from a scenario of child consumption that took place mainly at homes through stationary screens or parents devices, mainly in childhood and the first years of adolescence, to an ubiquitous, permanent and personal consumption environment, the early access to mobile devices for personal and autonomous use, that entails direct consequences in use habits and family mediation.

Like some previous studies pointed out, the mobile phone with Internet access is the predominant screen on the life of children (EU Kids, 2016). Children increasingly access their parents' screens earlier and also access sooner to a mobile device of personal and autonomous use. The use of tablets takes place at a younger age (7 years old) and the mobile after 10 years old. The generalised use of the mobile phone in a personal and autonomous manner is positioned at 13 years old, therefore the age moves forward, because on studies conducted previously by INE in 2017, the positioning was at 15 years old.

We note in this study, and it is an innovative and relevant data, that parents are the first and foremost responsibles of the introduction of minor in the digital life since the first experiences of use are produced in the family context, using the screens of parents. This research provides very interesting data about the use and attitude towards screens by the youngest 5 year old minors, which lives develop in the school and family environment, and who evidence the early predisposition towards technologies, when nearly 100% of these children manifests they would like to have a mobile phone or a tablet just for them or that they prefer using the tablet instead of reading a storybook. It is
significant the data that highlights that almost 15% of 5 year old children use the tablet as usual screen. These outcomes about such a young population is one of the contributions of this study and show the trend towards the increasingly early introduction in digitalisation and the responsibility of parents.

Considering the frequency of use of digital services, data reveal that minors spend a lot of time on the Internet. The leap produces at 10 years old, when minors state to browse the Internet every or almost every day, in more than 80% of cases, a percentage that grows until high school, when practically all minors report to connect on a daily basis. We have identified a profile of permanently hyperconnected users positioned at 16 years old and that increases to 40%, on weekends, a percentage that reduces to a noteworthy 23% on weekdays, school days. Behaviour patterns that were identified on previous studies are intensified (Sandoval and Aguaded, 2012; Garmendia, Jiménez and Mascheroni, 2017).

In the case of children older than 10 years old, there is a multifunctional use of the Internet, but they prefer to access the Internet to communicate with their peers, first through instant messaging and secondly through social networks, although they also use them to generate their own contents, make and edit pictures, listen to music and access information useful for school homework.

The YouTuber phenomenon gathered in this study and within the framework of the social network phenomenon, represents a change of paradigm in terms of social models of reference of minors. Until the emergence and popularisation of screens, the social models were acquired in the family and school. The television was another strong socialisation stakeholder that conveyed values, stereotypes and aesthetical and behavioural models. The boom of the YouTuber phenomenon detected in this study and its possible influence in the development of minors is a relevant research line that will be thoroughly analysed in following stages of the project, but it indicates how the uses of Internet evolve and how there multiply the risks and opportunities in this new platform, which is a breeding ground of references for young people that impact their development (Kail and Cavavaugh, 2011).

These data allow to state that we can classify the children population as an hyperconnected one starting from the 7 years old, in an intensified manner after 10 years old and generalised after 13 years old, and that this predisposition towards screens is forged since the pre-school stage and where parents have a direct responsibility.

The attitude shown by minors towards digitalisation is of absolute openness and predisposition, up to the point they deem having a screen with Internet access, essential for their life. This translates into a demand of the device at increasingly early ages, a request that parents progressively agree to, even sooner.

The minors have perfectly assimilated technical digital skills. They are skilful in the use of digital services and even in techniques to improve privacy. The problems that generate on the Internet and that concern parents and other stakeholders, do not come from the fact that minors do not have assimilated the technical dimension of the digital literacy acquired from their parents, teachers or even in an autodidactic manner. It is worth thinking that the main problem is related to the assimilation of the ethical dimension of literacy, that includes the acquisition of personal and social competencies that favour the digital security of minors and making the most of the opportunities and the perception of risk, as pointed out by Kendall and Mc Dougall, 2012).

Therefore, the hypotheses 1 and 2 and confirmed, with nuances. In the first case, the contexts are increasingly more individualised and ubiquitous, a reality that strengthens after 13 years old. On the
other hand, the availability of the mobile phone for personal and autonomous use favours the proliferation of hyperconnected minors, but although the availability of the mobile phone drastically increases at 13 years old, the profile of the hyperconnected minor is forged at 16 years old and reaches a percentage of 98.7%.

In terms of family mediation, this research shows data that allow us to make a diagnosis about the role of parents in the digital inclusion of minors. The data shown by this research also show a high level of responsibility of parents in the consolidation of hyperconnected minors. This research reflects how the predisposition towards screens starts in childhood, when minors demand their parents' devices, who are the first to expose their children to these devices and who favour the predisposition and attachment by imitation of the parents' behaviour. The parents are responsible of the configuration of multiscreen reception contents of minors - devices they have access to, rimming and contents - especially on the early stages of childhood - and are the first responsible of the mediatic literacy of minors because the family environment is where they find the first guidelines for browsing the Internet and where they go to, especially on the early stages, when they come across hurdles on the Internet.

Delving deeper into the role of parents, we have noted that parents do not have an educational pattern that is clear and stable over time when it comes to educate their children and often contradict. The reasons, that will be analysed in the following stages of this study are probably, on the one side, the lack of clear criteria and action patterns due to lack of knowledge about how to deal with the media education of children. Secondly, the low perception of risk especially on the early stages of childhood and after 16 years old when it seems that they deem their children self-sufficient for using the screens. Thirdly, due to the difficulties of access to a consumption scenario that is ubiquitous and personal, which makes that the most usual mediation strategies - such as controlling time or contents - cannot be easily supervised and it is often impossible.

The family mediation identified in this research is practically null on the early stages of pre-school. Parents leave the devices to their children, and often favour the use at these ages due to the feeling of having them calmed and controlled. In this case, contents are more controlled, but time is not an excessive concern. When children grow and are about 7/8 years of age, is when there is greater intervention from parents, who mainly act with expressed prohibitions when they notice their children have spent too much time using the device. The same happens with children up to 13 years old, who already have devices of personal and autonomous use, but still coexist a lot with their parents and they have a higher capacity to intervene when they detect that minors have spent too much time on Internet or have access to undesired contents. The stable and firm norms are less usual. These are moments where there predominates a restrictive mediation, based on control rather than dialogue. After 13 years old the situation changes. In the moment the minors have a device for personal and autonomous use and the scenario shifts from the home or the family environment, to an ubiquitous scenario, the restrictive mediation is practically non-existent or harder to practice and the type of mediation that is most efficacious would be the active one based on the dialogue, and not so much on supervision because it is impossible in this new context. In this sense, the hypothesis 3 and 4 and reconfirmed, with nuances. In terms of hypothesis 3, it is not true that there is no involvement of parents, because results evidence their high level of intervention. Instead, the origin of the problem, and it is another aspect over we will delve into on future studies, is the efficacy and the mediation strategies undertaken. Regarding hypothesis 4, it is confirmed that the predominating mediation strategies are improvised norms related to time mainly, but there is a significant percentage of minors that manifest to have norms about Internet use, but the deficiency lies on the steady monitoring and supervision that parents should do by means of advice, dialogue, constant interest for the hurdles that children might come across on the Internet or by becoming aware of the
use and behaviour of children on Internet. This reality contrasts with the 60% of children that state to go to their parents when they have problems on Internet or with the perception of children, close to 100% that parents do concern about the digital life of children.

In short, in this stage of the research, we conclude about the relevance of strengthening routes for parents education, because apart from the role the school may play, which is still minimal, parents are the first and foremost responsible of the media education of children, because it has been endorsed that parents are the first in setting the grounds for the mediatic experience of children. Parents are the first ones in introducing them in the use of digital services and the first and main reference on Internet access and use. The education of parents must aim to generate consciousness, channel their own perception of risk properly and teaching efficacious mediation strategies. The objective is that parents could intervene in the mediatic education of children in a more solid and constant manner and that they are able to exert an active mediation not based so much on supervision, which is complicated after the 16 years old, but instead on the dialogue, advise and, most of all, on the education on personal and social competencies which are the route for an actual empowerment of minors. An empowerment that makes them responsible and capable of self-regulating their own behaviour on the Internet and to identify behaviours and denounce unacceptable behaviours from third parties, as the only way to ensure the cybersecurity of prosumers, who are hyperconnected and ubiquitous, but still minors.

5. References


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