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Internet and Spanish children with learning and behavioural problems and other disabilities

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Abstracts

[ES] Introducción: Este artículo trata sobre los usos, las oportunidades y los riesgos que Internet supone para la infancia con problemas de aprendizaje, de conducta o diferentes discapacidades.

Metodología: Se han analizado datos correspondientes a 61 menores que forman parte de una muestra de 500 menores usuarios y usuarias de internet, de entre 9 y 16 años y a su padre o a su madre. El colectivo es relativamente heterogéneo, pero comparte un elemento: el elemento común de la vulnerabilidad tanto en el entorno social, como en el digital. **Resultados y conclusiones:** los resultados muestran una falta de habilidades digitales y de equipo informático en los hogares les dificulta a menudo su progreso académico, así como una menor incidencia de la mediación parental. También se constata que estos menores visitan más páginas con contenidos inadecuados, que promueven la lesión, autolesión, suicidio y desórdenes alimenticios.

[EN] Introduction: This article describes the uses, opportunities and risks faced online by children with learning, behavioural problems or different disabilities. **Methodology:** The data we analysed correspond to 61 children who are part of a sample of 500 underaged Internet users with ages ranging from 9 to 16 years old, as well as their father or mother. Although the group is relatively heterogeneous, it is assumed that they share a common element that is a situation of vulnerability in both their social and digital environments. **Results and conclusions:** The evidence shows that these children’s lack of

digital skills and computer equipment at home often makes it difficult for them to complete some of their homework and school tasks, and the parental mediation that they receive is also lower than that received by other children. It has also been noted that these minors visit websites with inappropriate content more often, such as websites promoting self-injury or suicide, or those dealing with eating disorders.

Keywords

[ES] Internet; menores; riesgos; problemas de aprendizaje; problemas de conducta.

[EN] Internet, risks, minors, learning problems, behavioural problems.

Contents

[ES] 1. Introducción. 2. Estado de la cuestión. 3. Metodología. 4. Análisis de los resultados. 5 Conclusiones. 6. Notas. 7. Referencias.

[EN] 1. Introduction. 2. State of the art. 3. Methodology. 4. Analysis of results. 5 Conclusions. 6. Notes. 7. List of references.

Paper translated by **Yuhanny Henares**
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1. Introduction

Minors, and more and more at younger ages, grow in a system where the use of Communication and Information Technology is usual. In fact, in Spain, children start using the mobile phones from 7 years old in average (Garmendia *et al.*, 2017). Even in developing countries, such as Mexico, in a survey conducted to high school students in Mexico DF, even though they didn't all have their own computers (70.7%) and mobile phones (76.9%), 100% of youths, with a mean of age of 13 years old used Internet, being out of home the most usual places of connection (Internet cafe, school and with friends) (Gutiérrez *et al.*, 2013).

Specially, mobile phones, smartphones and tablets, provide minors opportunities to communicate with their family –parents–, to socialize with their friends and peers, for learning, to get informed, to develop creativity and for leisure and entertainment in general (Hjorth and Goggin, 2009; Goggin, 2010; Goggin and Hjorth, 2014).

In addition, the Internet access is increasingly conceived as a basic tool for the rights of children, although browsing is not a right by itself, it is fundamental though since the relationship of boys and girls with the world develops, to a great extent, through the Internet (Third, Bellerose, Dawkins, Keltie and Pihl, 2014). In fact, any of the dimensions of children's wellbeing appearing in the Universal Declaration of the Rights of the Child (1959) can be related with the availability or absence of Internet access in the digital era.

However, the use of Internet, besides offering opportunities, it also entails risks exposure. In fact, the empirical evidence supports the association between both dimensions (Livingstone and Helsper, 2010; Livingstone *et al.*, 2011): the more boys and girls use the Internet, the broader is the scope of opportunities they have and the abilities and competencies they acquire, but also the greater the exposure to experiences of risk.

On the other hand, data support that not all minors enjoy the same opportunities nor reach the same abilities and competencies. Often this disadvantageous situation can be due to economic, social circumstances, belonging to minority groups, ... but it can also be associated to the minor's physical or psychological factors. Several studies have indicated how minors with psychological related problems or with problems outside the online environment, are also more inclined to experience problems on Internet (Livingstone, Görzig and Olafsson, 2011).

2. State of the art

The review of the existing bibliography indicates a lack of attention towards the application of CITs for individuals with special educational needs (Williams, 2006). In our paper, we aim to analyse the use of Internet by minors with problems. The group we are about to analyse shows a wide scope of problems: behavioural, learning problems, disabilities or illnesses, as well as other kind of difficulties. Although the type of problems of the collective is quite diverse, we are based on the fact they may share a common feature: the vulnerability these problems generate on them.

Considering the prevalence of the attention deficit and hyperactivity disorder is high and that the epidemiological studies establish that, in minors of school age, this diagnostic can reach up to 3-5%, it is very likely that some or many of the interviewed minors had ADHD (English acronym), although we were not aware about an express diagnosis. We can only certify that parents reported their sons and daughters had learning problems. In addition, these studies have demonstrated that only 25% of parents of children and youths with behavioural or affective disorders considered that their children needed medical care and, from them, 13% attended to mental health services (Palacios Cruz et al., 2011).

These inequalities have determined that the scientific literature has qualified these differences as *digital divide* (Bindé, 2005; DiMaggio and Hargittai, 2001; Norris, 2001; Van Dijk, 2005). Initially this digital divide focused on the difference of minors towards the access to these technologies, but later this concept extended towards the inequalities for the users regarding the acquisition of all the possible benefits in the use of CITs, hence initiating discussions about *digital inequality* (DiMaggio and Hargittai, 2001). Improving education, both regarding the use of media as well as digital literacy, and improving the strategies to deal with risks online, and a more personal access to computers and Internet, would contribute to reducing these inequalities (D'Haenens and Ogan, 2013).

In addition, the digital inequality has very important implications in the personal development of minors, in their relationship with their family and friends, as well as in their training and education. Children using Internet at home and at school have a higher level of *self-efficacy* than those who do not, and that online efficacy is related to better academic performance at school (Jackson, Eye and Biocca, 2003). As there is progress through primary and middle school, the relevance of activities needing computerized equipment also increase, as well as digital abilities. A deficit in this sense constitutes a ballast that contributes to perpetuating the situation of inequality and exclusion.

Furthermore, the research about minors with learning and attention problems has demonstrated that these children perceive Internet as a social medium that allows communication and fosters their personal relationships, enabling them to create or participate in virtual communities they consider a safe environment (Raskind et al. 2006). Children with learning and attention problems are often socially rejected by their peers and have difficulties to establish and keep friendships and, at the same time, they have a higher risk of experiencing solitude, low self-esteem, anxiety and depression than other children without said problems (Margalit et al., 2002; Wiener, 2004).

A relevant and innovative way of providing support to these minors and their families includes using digital technologies. Van Woerkum (2003) indicates that these families generally have received little or null information about the Internet use, but this can be a great opportunity for minors because it grants them the possibility to debate about health problems without feeling necessarily restricted. In a study, Kirby and Hughues (2008) say that an online centre of messages, such as *The Discovery Centre*, allows parents to look and share information and ideas with other parents, create new social networks or participate in existing ones; in summary, to participate in support virtual communities.

Regarding the exposure to risks of these minors, in the study of Yen et al. (2014) with teenagers with attention deficit and hyperactivity disorder problems, 19.1% and 14.3% of “respondents stated to have been victims of cyberbullying or perpetrators, respectively” and that “the victims of cyberbullying manifested a greater trend towards depression and suicide than those who have not been stalked.”

While Ryhwei’s study (2017) indicates that those deficits and disorders, among others, are risk factors for Internet addiction and, that the prevalence of Internet addiction on teenagers with these disorders was considerably higher than the prevalence found in a previous study that examined the teenager Japanese population in general.

Likewise, the multivariant analysis of Rikkers (2016) shows associations between the problematic behaviour and suicide attempts, experienced in high to very high levels of psychological anguish, alcohol consumption and life in an unstructured family. In a complementary manner, regarding those young Internet users involved in cyberbullying, the view of suicide related web content was greater for the victims and passive observers, than for stalkers. On the other hand, the view of web content related to self-injuries was higher for all the roles of cybernetic stalking, especially for victims (Görzig, 2016).

In the work of Heiman *et al.* (2015) it is indicated that the evidences do not show a significant difference between students with or without attention deficit or hyperactivity disorder regarding the time dedicated to browsing and their perception of their own abilities. However, high rates of psychiatric comorbidities were found, particularly behavioural disorders, as well as anxiety and mood disorders in youths with a problematic use of Internet (Bozkurt *et al.*, 2013).

3. Methodology

In order to get an image as accurate as possible about Internet use habits of children with problems, as well as the opportunities and risks they are exposed to, the data corresponding to 61 minors with different problems have been analysed. These minors are part of the sample used in the Spanish Project of *Net Children Go Mobile* [1], there [2] a survey was completed by 500 underage Internet users with ages ranging from 9 to 16 years old and also by their parents [3]. Among this half thousand children, a group of 61 minors with problems was detected. The corresponding problems of their children, stated by parents interviewed included: learning problems (32), behavioural problems (6), disabilities (3), physical illness (3), mental disorders (6) or any other difficulties (11). Even though the collective can be relatively heterogeneous depending on the type of problems presented, it is assumed that they share a common element since their problems can position them in a situation of relative vulnerability both in their social as well as their digital environment. Therefore, in this paper we analyse the differences these minors can show compared to the rest of minors of the sample.

It is evident that the results of this analysis are far from becoming representative of the collective of minors with problems, due to two reasons. Firstly, because it is a small sized group. Secondly, because considering the diversity of problems that this group of minors presents, it should not be advisable to

generalize about the group as a whole. However, despite these limitations, we deem the research results to be relevant because all these minors share a greater vulnerability that has also a reflection in their Internet use. In this sense, this work tries to stablish possible differences between the risks and the damage these minors with difficulties experience compared to the rest.

4. Analysis of results

In this section there are presented the most relevant differences shown by these group of minors with problems compared to those who do not have them, regarding the use, parental mediation and risks they are exposed to.

Table 1. Access, Use and Activities

	Without problems	With problems
Internet connection: Several times a day, on a daily basis, at least every week, private room	62.1%	55.7%
At home: Several times a day, on a daily basis, at least every week, not in their own room	92.8%	84.6%
At school: Several times a day, on a daily basis, at least every week	56.7%	69.2%
Other places: friends or relatives' home, libraries, coffee shops	46.9%	64.5%
Do you have a smartphone?	65.4%	62.8%
Use Internet for homework: Several times a day, on a daily basis, at least every week	83.5%	84.6%
Watch videos on YouTube: Several times a day, on a daily basis, at least every week	85.3%	80.8%
Download music or movies: Several times a day, on a daily basis, at least every week	40.4%	53.8%
Read the news: Several times a day, on a daily basis, at least every week	30.2%	26.9%
See a profile on social networks (self or someone else's profile): Several times a day, on a daily basis, at least every week	42.8%	51.9%
Visit a chat	20.0%	19.2%
Use of instant messaging with friends: Several times a day, on a daily basis, at least every week	68.1%	59.2%
Have played with other people on Internet: Several times a day, on a daily basis, at least every week	46.7%	53.8%
Publish pictures, videos or music for sharing: Several times a day, on a daily basis, at least every week	43.6%	50.0%

Share files peer to peer (emule...)	22.4%	28.8%
Download free applications	62.9%	55.8%
Download paid applications	1.8%	0%
Play alone or against the computer: Several times a day, on a daily basis, at least every week	67.6%	65.4%
Listen to music: Several times a day, on a daily basis, at least every week	78.9%	78.4%
Read an ebook: Several times a day, on a daily basis, at least every week	6.8%	11.8%
Search information on Internet (Google, Yahoo, etc.)	83.0%	92.3%
Buy things	4%	2%
Watch a movie on Internet	56.5%	53.8%
How often do you speak with your parents	74.9%	80.6%
Profile on a social network (one or more than one)	44.4%	53.8%
Facebook	57.4%	51.9%
Twitter	20.3%	29.6%
“Become more than my parents” (very true)	31.6%	43.1%

Source: authors' own elaboration.

Minors with problems mainly connect at home, both in their own room as well as in any other place therein, although with a relatively lower frequency than other minors. However, this situation is reversed when we talk about the connection at school, which is higher among more vulnerable minors (almost 13 points above) and also the connection at friends' homes, libraries or coffee shops is more frequent (in almost 18 points).

Regarding the frequency of their online activity, some are quite similar: doing homework, watching videos on YouTube, read the news, share files, play alone or against the computer..., although vulnerable minors perform other activities with a clearly higher frequency: download music or movies (+13.4 points), watch a profile on social networks (+9.1 points), search information (+11) and, to a lesser extent, play with others (+7.1 points) and publish pictures, videos and music for sharing (6.4 points). It is curious to note the differences regarding preferences among social networks. While the most frequently used network by all are Facebook and Twitter, minors without difficulties surpass vulnerable minors regarding preference for Facebook by 6 points (57.4%), while the latter lead the former regarding preference for Twitter by 5.5 points.

A priori, it could be expected that the frequency of parental mediation should be higher among the minors with problems than among those who do not have them. However, the actual situation is far from that. Among some of the modalities of active mediation, such as being nearby or seating next to them while using Internet, the frequency of attention towards vulnerable minors, in one case and the other, is 22 and 14 points below (55.8% and 40.4%), respectively. Regarding the assistance they report

their parents provide when they have difficulties, the difference between both groups is 10 points in favour of those who do not have problems. Perhaps in these very relevant differences on parental supervision there is might influence the fact that vulnerable minors feel quite self-sufficient because they respond with twelve points above compared to minors without problems, that *“it is very true they know more about Internet than their parents.”*

Table 2. Parental Mediation

	Without problems	With problems
Your parents (father or mother) talk to you about what you do on Internet	22.7%	28.8%
They seat by your side while using Internet	54.9%	40.4
They are nearby while you use Internet	77.5%	55.8%
They share activities on Internet with you	57.8%	63.5%
They help you when you have difficulties	79.4%	69.2%
They explain why some websites are good or bad	78.6%	82.7%
They suggest how to improve your security on Internet	58.0%	56.9%
They suggest how to behave with other people on Internet	68.3%	66.7%
Help you when something has bothered you on Internet	52.6%	66.0%
Your parents have parental control programs in the computer you use at home	50.6%	41.7%
Parental control to filter the applications you can download in the mobile phone	12.2%	0%
A software in the mobile phone that limits the people you can contact	13.2%	3.0%
Your friends have helped you to do or find something	74.4%	65.4%
Your friends have talked to you about what you do on Internet	61.4%	50.0%
Your friends have helped you when something has bothered you on the Internet	39.0%	48.0%
Your friends have told you what you should do when something bothers you on Internet	53.6%	62.0%

Source: authors' own creation.

Regarding their parents talk to them about how to improve their security level, how to behave with other people online or whether they are explained why some websites are good or bad –known as active mediation in security– the parents’ behaviours of both groups are quite similar.

Table 3. Activities that “I do whenever I want, without permission” and activities “I am not allowed to do”

	Without problems		With problems	
	I do whenever I want without permission	Never allowed to do	I do whenever I want without permission	Never allowed to do
Download music or movies	48.9%	18.3%	52.9%	15.7%
Watch videos	61.9%	4.5%	61.5%	9.6%
Have a personal profile on a social network	27.5%	44.5%	39.2%	37.3%
Provide personal information	8.0%	77.8%	17.6%	68.6%
Upload pictures, videos or music to share with others	36.9%	40.2%	55.8%	34.6%
Download free applications	58.9%	14.2%	65.4%	7.7%
Download paid applications	2.9%	86.2%	6.1%	85.7%
Use instant messaging	55.5%	24.5%	62.7%	31.4%
Register a geographical location	14.9%	74.2%	21.7%	71.7%

Source: authors’ own creation.

Regarding permissiveness and/ or prohibition of parents regarding the different activities developed online by vulnerable minors and minors without problems, it differs by type of activities. It is rather similar on specific activities such as: downloading music or movies (forbidden by parents: 15.7% vulnerable minors and 18.3% the rest), watch videos (whenever wanted: 61.5% vulnerable minors and 61.9% the rest), downloading paid applications (forbidden by parents: 85.7% vulnerable minors and 86.2% the rest), register the geographic location (forbidden by parents: 71.7% vulnerable minors and 74.2% without problems). However, the permissiveness and/ or prohibition of parents differs and the difference is pronounced in the following activities: having their own profile on a social network (whenever wanted: 39.2% minors with problems and 27.5% without problems), provide personal information (forbidden by parents: 68.6% vulnerable minors and 77.8% the rest), uploading pictures, videos or music to share with others (whenever wanted: 55.8% vulnerable minors and 36.9% the rest). In the following activities there are relevant differences, but that are not as remarkable as the previous ones: download free applications (whenever wanted: 65.4% vulnerable minors and 58.9% the rest) and using instant messaging (whenever wanted: 62.7% vulnerable minors and 55.5% the rest).

Although the difference regarding the prevalence of unpleasant experiences among both groups is not very pronounced (four points higher in case of more vulnerable minors), the difference regarding the damage caused by said experiences is rather noteworthy. From vulnerable minors, 32% have been very or somewhat upset (very upset, 24%) before those negative experiences, compared to 22.3% of minors without problems (10.1% very upset). Regarding the reception of sexual images (words, drawings or videos) the frequency was higher in the case of vulnerable minors (41.5% received against 30%), however, the level of damage (very or somewhat upset) caused was very similar in both groups.

Table 4. Experiences of risk and damage

	Without problems	With problems
In the past 12 months did something happened that bothered you in any way (yes)	17.2%	21.6%
I was very or somewhat upset (very)	22.3% (10.1)	32.0% (24.0)
In person	81.1%	90.9%
I have never received sexual messages (words, drawings or videos) Similar level of annoyance (very or somewhat annoyed)	70% (13.6%)	58.5% (14.6%)
Have you seen websites where people talk about ways to injure others or commit self-injury, in the past 12 months	15.5%	25.0%
Have you seen websites where people talk about ways to suicide, in the past twelve months	7.8%	22.7%
Have you seen, in the past 12 months, websites where eating disorders are promoted	13.0%	20.5%
Have you seen websites, where there are published messages of hate against people or groups, in the past 12 months	17.7%	22.7%
Have you seen websites where people talk or share experiences about taking drugs, in the past 12 months	9.6%	9.1%
Did your computer get virus	21.6%	36.5%
How much do you think your parents know about what you do on Internet (A lot+very)	78.5%	58.4%
How much do you think your parents know when you use your mobile phone/ smartphone (A lot+very)	69.3%	46.9%

Source: Authors' own creation.

There are noticeable differences in two very important areas: the visit to websites that talk about ways of suicide and causing injury or self-injury. Vulnerable minors visit these websites with a superior frequency, 22.7% against 7.8%, and, 25% against 15.5%, respectively. The differences in the visits to websites about eating disorders and messages of hate towards people or groups are fewer, although worth mentioning, 7.5 and 5 points respectively. The data regarding these risks would have a similar line to the data obtained by García, López de Ayala and Jiménez (2014), slightly higher but for a scope of older ages that would explain that difference.

Finally, the data show that the role of peers for vulnerable minors is very relevant in the case of exposure to risk on Internet. In fact, almost half of minors with problems state that that friends have helped them when something has bothered them (48% against 39.0%). From the data, it is also deduced, that peers are the ones telling them what they should do when this has happened (62.0% against 53.6%).

5. Conclusions

Internet access must be a right for all children, and it must be guaranteed specially for those who are under a situation of risk of exclusion due to their origin, economic situation or problems related to behaviour, learning or disability. This guarantee does not limit to Internet access, but also to ensuring a secure access and that they could benefit from all the opportunities the online environment may provide (Ito, 2009).

It is necessary to distinguish between having and/ or using smartphones and having available the rest of Internet access devices that allow a more diversified and more profitable use of online technology, in terms of acquisition of digital abilities. There are child collectives under a situation of vulnerability among which a relatively higher penetration of mobile phones is observed, with Internet access through public wi-fis, but a very scarce use of computers and tablets, and these are precisely the devices linked to the creation and learning processes the most (Vincent, 2018). Therefore, it would be necessary that public policies supported the equipment and connection at home in order to overcome these differences.

The particular circumstances of children with problems make them especially vulnerable in general, and in the case we are dealing with here, more vulnerable to online risks. If for children and teenager population, the education in the use of CIT is pertinent, as well as awareness campaigns against stalking or the contact with strangers, these are even more relevant for these collectives. Especially for minors with learning and behavioural problems and disabilities in the sense that there are significant differences in the frequency of visit to websites that talk about forms of suicide and causing injury or self-injury, and noticeable in the visit to websites about eating disorders and messages of hate. In this sense, the data obtained are aligned, among others, with the data obtained in the studies of Yen et al. (2014), Ridders (2016) and Görzig (2016).

Family mediation is essential to prevent and manage the risks on Internet and inappropriate uses. In almost all vulnerable collectives observed, lackings in this area are detected and, often, it is due to a low digital literacy of their parents. In addition, the search of specialized attention for minors with symptoms of behavioural or affective disorder have been associated with a greater intensity of the disorder and a higher educational level of parents (Palacios-Cruz *et al.*, 2011).

On the other hand, digital tools for socialization can be useful to facilitate their integration, since social media allow them to keep contact with their classmates or with other activities apart from spaces of formal interaction such as classrooms or other activities.

In the analysed collective, it is interesting to note the relevance vulnerable minors grant to the role of their peers regarding the problems they have had. In fact, they manifest that friends have helped them when something has bothered them (48% against 39.0%) and peers tell them what they should do when this has happened (62.0% against 53.6%). On the other hand, as deduced by their answers, parental mediation is lower among those who do not have said problems. In the active mediation, --being nearby or sitting with them while they use Internet--, it is 22 and 14 points below, respectively. At the same time, the permissiveness also differs, and it is pronounced in other areas: having their own personal profile on a social network (minors with problems nearly 12 points higher), providing personal information (the prohibition is 9 points below), uploading pictures, videos or music to share with others (whenever wanted: almost 20 points above). From the group of responses regarding the two types of mediations, it seems that these minors rebel against the mediation developed by their parents.

Regarding the possibilities of access, the absence of digital abilities and computerized equipment at home hinders the completion of homework. This deficit entails a ballast that perpetuates the situation of inequality and exclusion. The minors with learning or behavioural problems connect with a lower frequency at home, whereas, at school, the connection of these minors is almost 13 points above the rest.

The technology allows to access online communities, new ideas, likings or hobbies useful for channelling concerns or even to widen the possibilities in the future at labour level or of personal development of children that, otherwise, would be at risk of remaining confined to ghettos or very closed communities (Raskind *et al.*, 2006). But, on the other hand, it can also lead them to suffer online hate and discriminatory contents, that have a negative effect on minors, because they tend to perpetuate stereotypes and roles, of victims, in their case, that can make integration even harder.

Although the differences in the prevalence of unpleasant experiences both groups have had, are not very pronounced, there is a significant difference in the damage caused. From vulnerable minors, 32% have been very or somewhat upset before these negative experiences compared to 22.3% of minors without problems. Regarding the level of exposure to the reception of sexual images (words, drawings or videos) it is superior in the case of vulnerable minors (41.5% received them compared to 30%), however, the level of damage caused by this risk is very similar. In this line, Heiman (2015) showed that in the case of students with attention deficit and hyperactivity disorder (ADHD) victims of cyber stalking or witnesses of cyber stalking processes manifested more symptoms of emotional solitude and a lower confidence in their social self-efficacy than those who did not have ADHD. Furthermore, students with ADHD, witnesses of cyber stalking also manifested a greater feeling of social isolation. Likewise, the data evidenced significant differences in the victimization of girls and in the participation of boys in the perpetration of cyber stalking. On her part, Bradshaw (2015) considers that the “indicators of physical disorder at school and lack of expectations of positive behaviour are associated with a higher risk of many forms of stalking.”

It is evident that the results of this analysis do not allow to elaborate generalizations regarding the use or the difficulties that minors with behavioural or learning problems, disabilities or physical illnesses may have on Internet. However, through the analysis of the data regarding a reduced group of this collective there was an attempt to do a first analysis of the difficulties they may have in access, and above all, in the use of Internet. In this sense, it would be much more adequate and enriching to conduct a qualitative analysis that allows to delve into the online experiences of minors with problems so to contribute to orientate specific interventions targeted to the most vulnerable collectives. (Livingstone, 2018).

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6. Notes

[1] In the project there participated Denmark, Italy, United Kingdom and Romania, and there were added later, Belgium, Ireland, Portugal and Spain, with their own funding.

[2] The quantitative fieldwork in Spain was conducted on April and June 2015.

[3] In every home, the interview was done to the parent who was more involved in the online activity of the minor.

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