The risks faced by adolescents on the Internet: minors as actors and victims of the dangers of the Internet

B Catalina García [CV] [ORCID] [GS] Visiting Professor at the Department of Communication Sciences I – Universidad Rey Juan Carlos, URJC, Spain – beatriz.catalina@urjc.es

MC López de Ayala López [CV] [ORCID] [GS] Full Professor at the Department of Communication Sciences I – Universidad Rey Juan Carlos, URJC, Spain – mariacruz.lopezdeayala@urjc.es

A García Jiménez [CV] [ORCID] [GS] Full Professor at the Department of Communication Sciences I - Universidad Rey Juan Carlos, URJC, Spain – antonio.garcia@urjc.es

Abstract
Introduction. The intensive use of the Internet among adolescents has increased concerns about the risks they face in the cyberspace. The objective of this study is to diagnose the risks faced by Spanish adolescents on the Internet, and to determine the influence of such variables as age, sex, and ownership of the school attended by minors. **Method.** The study is based on a representative national survey applied to 2,077 adolescents. The survey explores the risks faced by minors on the cyberspace: inappropriate content, contact with strangers, loss of privacy, cyberbullying, problematic Internet use or Internet addiction, and the safety practices adopted by adolescents. **Results and conclusions.** Young people's high confidence coexists with a high involuntary exposure to inappropriate online content (pornography, violence, promotion of alcohol and drugs consumption, and eating disorders), along with the normalisation of various forms of cyberbullying. The results confirm that there is a significant percentage of adolescents that admit spending excessive time on the Internet and being addicted to certain Internet services.

Keywords
Risks; Internet; social media; adolescents.

Contents

1. Introduction. 2. State of the art review. 3. Objectives. 4. Method. 5. Results. 5.1. Access to inappropriate content. 5.2. Contact with strangers and privacy on the Internet. 5.3. Perception of personal risk, cyberbullying and harassment. 5.4. Problematic Internet use/Perception of Internet dependence. 5.5. Knowledge and practices of Internet security. 6. Conclusions and discussion. 7. Notes. 8. List of references.

1. Introduction

Adolescents have incorporated the Internet into their lives at an important speed that makes them the second heaviest Internet users, just behind 16-24-year-olds. Currently, 91.2% of 10-15-year-olds frequently access the Internet, and this percentage increases as the age group gets older, reaching 96.5% among 15-year-olds (INE, 2012). This age group is also the group that used social networks the most in Spain during 2011, with 85.9% using them very frequently or occasionally (García, López de Ayala and Catalina, 2012).

Besides being considered heavy Internet users, adolescents have been labelled as a "risk group" insofar as they are considered to be the age group most likely to develop or being affected by conflictive behaviours in the Internet. This perception is based on the common conceptualisation of adolescents as immature, emotionally unstable and irresponsible.

In this transitional stage to adulthood, the Internet has become a space in which minors can explore their own identity and sexuality, experiment with new emotions and social relationships and improve their self-knowledge, which often entails being exposed to situations that are considered threatening and dangerous to their mental and physical integrity or the development of behaviours that can be seen as problematic, as they involve the transgression of certain rules and concepts socially accepted by adults.

From this perspective and following Del Río, Sádaba and Bringué (2010), it is possible to distinguish the risks that are faced by minors who use the Internet without any adult supervision into passive and active risks. The latter type of risk refers to the voluntary performance of conflicting behaviours that may be harmful to them and others.

The passive risks faced by minors include the involuntary access to the age-inappropriate contents that circulate on the Internet and the situations in which the minors become the targets of ill-intended behaviours of other people. This category includes: the unwanted contact requests sent by peers and adults -which is not inherently negative but may be so in the eyes of adults-; the reception of potentially harmful contents like pornography, images of violence and degrading acts against the receiver or other people; contents that exalt socially deviated behaviours like racism and xenophobia, drug consumption and eating disorders like anorexia or bulimia; and finally cyberbullying and other forms of harassment, like sexual harassment.

Active risks, on the other hand, are similar to the previous type but refer to the problematic actions that minors perform voluntarily. The active risks category includes: the access to inappropriate contents like those containing information about drugs, pornography, and online gambling and casinos, as well as illegal behaviours like downloading pirated music or movies; contact requests sent to other minors, which often is also socially regarded as a risky behaviour; cyber-harassment, including sexual harassment; and lastly, sharing information or private images to other people who can use this material to endanger their physical and mental integrity.

Minors' immaturity is also understood as the incapacity to self-regulate the time they spend on the Internet in that way that it does not endangers their physical and mental health or disrupts their daily and social life. This point leads us to the issue of minors' dependence on the Internet or different online applications and services and is related to the problematic and addictive uses of the Internet.

2. State of the art review

International research on the subject has been extensive. One line of research focuses on the access, in different levels and degrees, to pornographic, racist violent contents (Livingstone and Haddon, 2008; Ringrose, 2012 and Shek and Ma, 2012). While there are statistics that prove that the access to these types of contents is not very high among the adolescent population (Garmendia *et al.*, 2011), it is a vital issue, not only in communication terms, but also in educational, psychological and social terms. However, parents show less concern about this subject than about the contents their children can see on television (Gavelas and Marta, 2008).

Other line of research is related to minors' scarce knowledge about the legal or illegal status of certain behaviours and their potential consequences like the illegal download of games, music or movies (Mc Cabe, 2000; Livingstone and Helsper, 2007; Livingstone and Haddon, 2008). In turn, there is permanent emphasis in the need to legally protect minors from illicit and age-inappropriate contents (Reid, 2005).

Experts have also addressed two other issues that are related to each other and to the contact with strangers: the publication of personal data in the Internet and social networks particularly. As Cáceres, Brändle and Ruiz (2013) remark, it is important to clarify the criteria by which minors distinguish between strangers and acquaintances. For its part, the work of Espinar and González (2009) highlights that 88.1% of minors publish real personal data on their profiles. Other studies (Aranda *et al.*, 2009) describe the kind of data that are more commonly shared by minors: gender, age, personal pictures, and first and last names. Likewise, Livingstone and Helsper (2008) observed that teen boys expose themselves more than teen girls to all risks, except those risks related with privacy.

A crucial question addressed by the literature is the wide range of actions linked to cyberbullying (Hasebrink, Olafsson and Stetka, 2010; Livingstone and Helsper, 2010; Ybarra and Korchmaros, 2011). Similarly, Valkenburg and Peter (2009), among others, detect the rise in the use of the social networks among minors, which is occasionally paired with other practices, such as harassment,

threats and anxiety (Lee and Stapinski, 2012), all of which is facilitated by the anonymity afforded by the Internet.

Another issue addressed here, and possibly in most research studies, is addiction. In this case, the first striking thing is the profusion of related terms: problematic usage of the Internet (Shapira *et al*., 2003; Liu *et al*., 2012), abusive use, compulsive use, pathological use (Davis, 2001), Internet dependence (Scherer, 1997) deficient use (Tokunaga y Rains, 2010) or, simply, Internet addiction or cyber addiction, among others. This abundance of terminology demonstrates the difficulty to reach a consensus on its meaning and diagnosis (Carbonell *et al.*, 2012; Acier and Kern, 2011; Douglas *et al.*, 2008; Castellana *et al*., 2007).

Griffiths (2005) points the importance of six aspects that are key in all types of addiction and justify his study of the Internet: a) Relevance of the addictive activity; b) Alteration of moods; c) Tolerance; d) Abstinence symptoms; e) Interpersonal conflict or conflicts with other activities; and f) Relapse. Scientific literature commonly diagnoses addictive or dependent behaviour based on the following four factors: the excessive use of the Internet or loss of sense of time; the symptoms of discomfort, tension or depression when it is not possible to access the Internet; tolerance; and negative consequences like social isolation (Weinstein and Lejoyeux, 2010, cited on Bergmark *et al.*, 2011).

However, the subject is not exempt from controversy and numerous research works analyse the excessive Internet use as problematic (Douglas *et al*., 2008, Wan & Chiou, 2006), while Labrador and Villadongos (2010) suggest that the perception of discomfort caused by the lack of Internet use could be assimilated to the abstinence symptoms associated to addiction.

This is an object of study with many dimensions. As a matter of fact, whether the term has been overvalued and exaggerated in the media has been profusely discussed (Beranuy *et al*., 2009). At the same time, research studies make clear the particular preoccupation over such issues as the percentage of adolescents who feel they are making an uncontrolled use of the Internet (Garmendia *et al*., 2011), the influence of an excessive daily use among adolescents (Yang and Tung; 2007), the time of Internet exposure as a predictive factor of problematic or addictive uses (Lee & Stapinski, 2012), and the relationship between Internet use and psychiatric disorders such as depression, self-esteem, emotional anguish, anxiety and sleep disorders (Black, Belsare and Schlosser, 1999; Armstrong *et al*., 2000; Viñas *et al*., 2002; De Gracia *et al*., 2002; Whang, Lee and Chang, 2003; Niemz, Griffiths and Banyard, 2005; Jenaro *et al*., 2007; Caplan, 2007; Douglas *et al*., 2008; Lee and Stapinski, 2012).

The Spanish scientific community has also shown remarkable interest in studying the risks associated to the increasing Internet use among children and the dangers faced by minors when using the Internet and the new tools of online communication [1]. Examples of works addressing this line of research are those carried out by Aranda *et al.* (2009), Bringué and Sádaba (2011), Garmendia *et al.* (2011) and Sánchez and Fernández (2010).

Lastly, previous studies have pointed at age and gender as two variables that decisively influence the risks that minors face in the Internet (Valkenburg and Soeters, 2001; Fleming, Greentree, Cocotti-Muller, Elias and Morrison, 2006; Livingstone and Helsper, 2008; Mesh, 2009; Livingstone and

Helsper, 2010; Vandoninck, D'Haenens, De Cock y Donoso, 2012; Van den Heuvel, Van den Eijnden, Van Rooij, Van de Mheen, 2012; among others). Vandoninck *et al.* (2012) found out that adolescents from low-income families face more risks, although the incidence of the socioeconomic status over the online risks faced by minors has been poorly analysed.

3. Objectives

The main objective of the article is to describe the risks faced by Spanish 12-17-year-olds on the Internet and the social networks, which is an issue that requires a continuous updating along with a periodic examination of the Internet use among this age group.

The study of the online risks is addressed from different perspectives in accordance with the literature on this particular subject, which covers, in the first place, the exposure to inappropriate content (including any form of pornography, fortune-telling, casinos, alcohol consumption, drug use, racism and intolerance) from both passive and active perspectives (involuntary reception and voluntary search, respectively). A novel aspect of this study in comparison to previous studies is the introduction of the analysis of the reception of advertising with inappropriate contents by minors through the social networks. In second place, the study examines the risk behaviours that arise from making contact with strangers and the sharing of identity data on the Internet.

The following sections examine practices of harassment (cyberbullying) on the context of the perception of personal risk held by Spanish adolescents themselves. This work has been complemented with data on Internet dependence, and on the attitudes and practices used to cope with the dangers of the cyberspace.

The study has also explored two dimensions: minors' self-perception of the risk situations faced on the internet and minors' perceptions of the risks faced by their peers. All of these aspects have been addressed taking into a count the influence of age, gender and ownership of the school they attend, as variables that potentially can influence the perception, exposure and development of conducts that involve different types of risks.

For the analysis of the impact of age, and according to the classification of adolescence offered by the World Health Organisation, the sample has been divided in two age groups: 12-14-year-olds (early adolescents) and 15-17-year-olds (late adolescents). Following Oliva (2007), the early years of adolescence are a stage of great vulnerability due to the immaturity of the self-regulatory mechanisms. In contrast, "from 15 or 16 years of age the cognitive abilities of adolescents are little different from those of adults, and in situations of tranquillity and low socio-emotional activation their decisions tend to be as sensible and rational as those of older people" (Oliva, 2007: 250). Therefore, we expected to find differences between these two age groups in terms of the ways they cope with risks, both actively and passively.

Finally, with regards to the nature of the school centre, it is important to note that the inclusion of this variable aimed to replace the socioeconomic status variable, to the extent possible **[2]**. This is based on the findings of Calero and Bonal (1999), whose analysis of the 1991 Household Budget Survey found a clear relations between people's household income level and attendance to private

schools **[3]** (cited in Bonal, 2002). On this basis, the study distinguished between public and private schools, and included on this last category the concentrated and non-concentrated education centres.

4. Method

The universe of study was composed by Spanish minors aged 12 to 17 years, enrolled in Compulsory Secondary Education (1st to 4th years) and Post-Compulsory Schooling/High School (*Bachillerato*) – with the exception of Ceuta, Melilla and the Balearic and Canary Islands– throughout the 2011-2012 academic year.

The information was collected through a self-administered questionnaire, applied in the students' classrooms between September and November. The questionnaire consisted of 54 questions and the average time required for its completion ranged from 20 to 30 minutes. In order to respect the rights of minors, the questionnaire was supervised, reviewed and approved by the Community of Madrid's Office of the Ombudsperson for Children.

The sample selection was based on the statistics published by the Ministry of Education (student body) and the websites of the autonomous communities (schools) under analysis. The universe of study was formed by 2,227,191 secondary and high school students of a total of 6,053 public, private and charter secondary and high school institutions.

A multi-stage, stratified cluster sampling approach was used for the selection of the survey sample. In the first stage we carried out a cluster sampling stratified by autonomous regions, education levels and school types (public, private or charter). A total of one hundred schools were randomly selected.

In a second stage, we sampled students, stratified by autonomous community, education level and school ownership type. To ensure the representativeness of the sample in terms of gender, age, level of studies and school ownership type, of the more than 5,000 questionnaires that were applied only 2,077 questionnaires were selected according to the quotas established for the previous variables. A requisite students had to meet to participate in the survey was to provide a parental permit, which resulted in a very slight deviation between the final and theoretical samples. Certain elevation rates were established in order to adjust the samples.

The selected schools were contacted via phone to ask for their collaboration. Once they agreed to participate, we provided them with: an informational letter directed to the participants' parents, explaining them the objectives and contents of the study and the protection of data; an informed consent form for the participants' parents or guardians and a report of participation which describes in detail the intervention is of the school institution.

The school transferred the informed consent form to students and they returned it signed by their parents as a prerequisite to participate in the survey. Moreover, before completing the questionnaire, students were informed about the objectives of the study, the importance of their participation and honesty, and the confidentiality of their data.

The data obtained from the survey were analysed with SPSS and in order to determine whether the detected differences were random the statistical validity was set at $X^2 < 0.05$.

5. Results

5.1. Access to inappropriate content

The first concern is with the access to inappropriate content, and particularly with the contents minors voluntarily access. In this regard, it is worth noting that 21.7% of adolescents actively seek websites with explicit sexual content, 5.7% does so very frequently and the rest, sometimes or rarely. Males aged 15 to 17 are the group who access this type of content.

El 11.7% of teens access gambling or casino websites, and this is more common among boys than girls. Meanwhile the percentage of adolescents who use the Internet to search for information about drugs is very low: 3% do it very often or occasionally and 3.7% do it rarely. Males, and particularly older males, are the group who more watches these contents voluntarily.

In terms of problem behaviours like the downloading of pirated music and movies, which in most cases violates intellectual property regulations, 37.1% do it very frequently and 33.9% occasionally. Again, the group of older adolescents do it to a higher percentage.

It is remarkable that the access to inappropriate content dramatically increases when adolescents do it involuntarily. In this context, it is striking that 48.5% of respondents have involuntarily accessed websites with intense sexual content. 28.1% stated having received webpages that promote the alcohol or drug consumption, 24.4% webpages with violent contents, 23.8% webpages with contents that promote anorexia or bulimia, and 22% webpages that promote racism and religious intolerance. Finally, 11.9% of adolescents have involuntarily accessed webpages which justify suicide or deliberate self-harm.

With regards to gender, an interesting finding is that the only sites that female adolescents visit more frequently than their male counterparts are sites that promote anorexia and bulimia, which is a disorder that has traditionally affected more females than males.

Examining differences across age, older adolescents find pages that defend or promote drug use, racism or intolerance towards other groups to a greater extent than younger adolescents.

Social networks have become the most effective platforms for the promotion of products and services, with a clear presence of advertising of bars and night clubs (49.1%), followed by advertising of fashion and beauty products (37.7%). But perhaps what is more outstanding about the harmful advertising minors claim to come across is the fact that 30.5% states they have come across advertising about contests with cash prizes, 24.8% about horoscopes and fortune-telling sites, 18.6% about gambling and casino websites, 15.1% about pornographic webpages, and 14.9% about alcoholic beverages.

In terms of age, minors aged 15 to 17 years recognise that they come across a greater amount of advertising of this type. In terms of gender, males come cross more advertising about pornographic websites, contests with money prizes, alcoholic beverages and online gambling and casinos. Females, however, access advertising about horoscope services to a much greater degree than males. Finally, although the differences according the ownership of the school attended by respondents are significant in all tested categories, they are hardly relevant with the exception of the reception of horoscope advertising and pornographic websites among students from public schools.

5.2. Contact with strangers and privacy on the Internet

Another aspect that we have analysed is the risk behaviours that are performed by minors and could compromise their online security and privacy. With regards to the first point, 20.9% of adolescents use Internet, frequently or occasionally, to "flirt/hook-up" and 20.5% to search for new friends. However, when adolescents are asked to specify what types of people the talk to through the different services and applications, only 7.6% admitted talking to strangers of the same age and 3.8% with strangers of different ages.

Taking into account gender differences, men show greater rashness and performed risk behaviours more commonly than women in all options: "flirt/hook-up", find new friends, talking to strangers of the same or different age and making their social networks profile visible to all people. Although, overall, only a small percentage of adolescents do not take precautions in this regard: 12.2% sometimes give access to some strangers and 3.3% give access to anybody.

With regards to age, older tends stand out for their risk online behaviours in terms of looking for friends, flirting/hooking-up or accepting strangers in their social networks.

Although it is not decisive, contact with strangers is one of the main causes of risk that can lead to more serious consequences, such as harassment and threats. And even though they constitute a small percentage, 3.4% of adolescents make contact with strangers online or face to face, with a noticeable oscillation between boys and girls and an insignificant oscillation across age groups.

The percentage of adolescents who receive contact requests from strangers rises dramatically. 34.9% has been requested by strangers to make contact via phone or e-mail and 12.8% has been requested to make face-to-face contact. The targets of these requests tend to be, to a greater extent, women aged 15 to 17 years.

One of the most outstanding findings is the use adolescents give to social networks as channels to make contact with strangers. In fact, more than eight out of ten women admit to have made contact with strangers over the Internet, and to have maintained that relationship through a social network (MySpace, Tuenti, etc.). With regards to differences across age groups, the percentage is almost 70% in the 12-14 age group and almost 77% in the 15-17 age group. The rest of the contact options reach low percentages, with small differences between those that made contact via multi-play games, chats, forums and Messenger.

The older group of adolescents (13.3%) and the male group of adolescents (11.6%) are the groups that admit making face-to-face contact with strangers the most, although the frequency has not overcome the five times. The reasons are different according to sex: boys want to "flirt/hook-up" and girls want to expand their circle of friends.

Friends tend to be the main companions when attending these meetings. This is recognised by just under half of the 12-14-year-olds and the girls. The second alternative is to go to meet the stranger alone, and this occurs to a greater extent among 15-17-year-olds and boys. In third position are those who did not go to the meeting, followed by those who went to the meeting with other people (like relatives), which occurs more commonly among older and male adolescents.

Friends are those entrusted the most by adolescents to tell their experiences, even above their parents; but about 12% of adolescents have not told anybody about their adventures.

This type of dating experiences has been generally positive or neutral because a large majority, particularly women (86.4%), claim that they now have a new friend. However, some of them recognise that the experience was unpleasant or dangerous. This mainly occurs among males who, as mentioned, tend to take more risks.

Of the adolescents, 70.1% disclosed their full name in their social network profile –which is not surprising since this is necessary for identifying–- and 25.4% often share personal photos and videos. More problematic is the percentage of adolescents who reveal personal data to strangers: full name (19.4%), email address, Messenger or phone (9%), school (8.1%), personal photos or videos (7.3%) and home address (2.6%). Adolescents aged 15-17 years tend to disclose more personal data to strangers, mainly the name and surnames, email address, phone number, and school.

5.3. Perceptions of personal risk, cyberbullying and harassment

There are remarkable differences across age groups in the perception of the risk situations related to the school mobbing or online harassment of different types: adolescents aged 15-17 years detect these types of situations more clearly in their environment than the younger group, while the identification of this type of offences is even across gender groups.

More than one third of the younger group of adolescents and almost 55% of those aged 15-17 years have detected offensive comments or images in their online environments. Insults, mocking and threats have been detected by four in ten adolescents aged 15-17 years. The perception of these types of harassment in the online environment is higher among adolescents studying in private schools than among those studying in public schools.

Also noteworthy is the fact that a quarter of adolescents know online dating situations that can harm someone, with similar percentages among boys and girls, but with a difference of almost thirteen points between the younger and older age groups (32% 19.5%, respectively). In relation to this, 18% of the younger group of adolescents and a third of the older group of adolescents have identified situations related to sexual activities, like performing obscene acts in the webcam or sending sexual

comments or images. In regards to the genre, three of every ten men compared to 19% of women noted some cases of this type.

With regards to the situations that adolescents experience in their own environment, 35.6% claim to have seen someone intruding in the computer of another person or institution, and this is more frequent among 15-17-year-olds.

The percentages of the risk that directly affect adolescents are considerably lower than those that they have experienced in their own environment. The highest percentage refers to the reception of obscene requests from adolescents aged 15-17 years (12.6%). This situation affects more males (10.1%) that females (7.3%).

In this context, male and older adolescents are the groups that more commonly have received sexually-explicit messages or images. With regards to the rest of the identified risk situations, 1.2% of female adolescents have requested a face-to-face meeting with a stranger while 8% also of female adolescents have been victims of insults, mockery, threats, blackmail and harassment, in general, on the Internet.

Almost half of adolescents, about 47%, acknowledge to have been involved in situations of risk at least on one occasion, being this significantly more common among women (51%) than among men. Again, social networks are the main channel for this kind of behaviour: 59.7% of those who claim to have perceived some of these situations in their environment note that this took place in social networks, and 77.5% of those who received contact requests from strangers or were the target of mockery online, endured this situation through the social networks.

Finally, in addition to the 20% of adolescents who have been victims of impersonation on the Internet, we must add the 15% of adolescents who do not know whether they have been ever affected by this situation.

5.4. Problematic Internet use/perception of Internet dependence

One of the problems associated with the emergence of the internet in the everyday lives of adolescents is the possible problem of dependence. In this sense, 7.5% of adolescents admitted that not having Internet access for several days in a row would affect their mood and 35.3% admitted this would bother them but it would not be a serious problem. The perception of discomfort is higher among female adolescents, older adolescents and those studying in private schools.

The frequency of use is a variable closely linked to the degree of dependence: 11.5% of the adolescents spend between three and five hours on the Internet and 5.5% spend more than five hours on weekdays, and this percentage is higher among older adolescents. This fact is worrying since it can reduce the time adolescents spend on other activities, whether educational, social or family-related, physiological (sleep, eat). In fact, 12.5% admit their school performance decreased as a consequence, 10.7% reduced their sleep hours, and 4.5%, reduced the time they spend with friends.

The data obtained suggests the increasing popularity of the social networks, to the point that 40% admits that it would be hard for them to stay continuously disconnected; a feeling that is more common among female adolescents and those aged 15-17 years. It should also be noted that more than 37% of adolescents claim that it would not be hard for them to leave the websites they regularly visit. However, it is important to talk again about the perceptions which contrast with actual number of hours adolescents spend in front of the Internet.

5.5. Knowledge and practices of Internet security

Almost half of the adolescents trust Internet fully, mainly teen boys. However, almost the same percentage knows that posted pictures can be copied or edited on the Internet and for this reason they claim to be very careful about what they post.

Similar percentages of adolescents recognise that they do not read the privacy policies of the websites that requested their personal data to register, although younger adolescents are more cautious in this regard. This tells us that around 50% of adolescents, regardless of their age or gender, are precautions and take some security measures, which are self-learnt or non-Internet-based tools.

In terms of avoiding parental controls, around 40% of adolescents stated that they have no interest to avoid parental controls and do not even know how to do so. However, 18% of adolescents claim that they often elude the restrictions imposed by their parents, and this percentage is much higher among boys. Moreover, it is important to note that 9.7% of adolescents do not know how to avoid parental control but would like to know how to do it, and this is more common among female and older adolescents.

6. Conclusions and discussion

The objective of this article is to offer a diagnosis of the different risks faced by Spanish adolescents (aged 12-17 years) on the Internet, and to determine the influence of such variables as age, sex and ownership type of the school they attended.

First, the article examined the exposure, both involuntary and voluntary, to inappropriate content in cyberspace such as pornography, violence, racism, promotion of alcohol and drugs and food disorders. The high percentage of adolescents who claim to visit webpages with explicit sexual content is remarkable. The percentage increases significantly when talking about adolescents that involuntarily access these types of contents. This trend is confirmed in the same way also in the context of social networks.

One of the most important uses given to the Internet (by about 20%), in general, and the social networks, in particular, is as a tool to make new friends, including also those that develop into a romantic relationship. This use involves contact with strangers in a significant percentage. On the other hand, 34.9% of adolescents admitted having received contact requests from strangers.

In the same way, various forms of online harassment have become normalised in the online spaces visited by adolescents. More than half of the respondents have directly witnessed harassment-related practices –insults, mockery and threats. The number of those who claim to have suffered harassment is also significant.

Among the direct indicators of problematic Internet use, this study confirms the high percentage of adolescents who spend excessive time on the Internet. Moreover, although to a lesser extent, there are relevant percentages of adolescents who are addicted to some Internet services, who have had a poor school performance as a consequence of their internet dependence, and who use the Internet for long hours and until the early morning.

On the other hand, there are high percentages of adolescents who trust the Internet, but also admit having suffered situations of risk (about 47% and 51%, respectively).

The study detected differences according to age, gender, and ownership of the school. Younger adolescents are less exposed, voluntarily and involuntarily, to inappropriate content, are more cautious about talking to strangers or disclosing personal information on the Internet, although they trust more the Internet and are less interested in avoiding parental controls. In general, as adolescents become older there is an increase in the risk situations they faced online, in the time they spend in the Internet, and in the perception of the effects of Internet use on their school performance, their sleep hours, and relationships with friends.

In terms of the influence of gender, teen boys recognised to a greater extent been involuntarily exposure to inappropriate content, and this is particularly noticeable with regards to websites with sexual content. Teen boys are also seeking greater contact with strangers, whereas the teen girls receive more contact requests from strangers.

The motives to seek contact with strangers were varied: teen boys want to flirt/hook-up and have different experiences while teen girls want to expand their network of contacts. Moreover, teen girls who met with strangers had more positive experiences and shared that with more friends and family. Teen girls also seem more sensitive to the perception of situations related to cyberbullying and harassment that occur in their environment, while male adolescents are more sensitive to the perception of situations of a sexual nature. Teen girls receive more obscene requests and cyberbullying and boys receive more sexual content. Finally, guys trust more on the Internet, avoiding parental controls to a greater extent and are more dependent on online sexual contents.

The ownership type of the school attended by adolescents should be taken into account when examining access to online spaces with sexual content (which is greater among adolescents from public schools) and the perception of situations related to online cyberbullying and harassment (which is greater among adolescents from private schools). However the ownership type of the school attended by adolescents is not significant when examining the situations of harassment and violence experienced directly by adolescents.

In terms of the limitations and future lines of research, it is pertinent to highlight the need to include longitudinal studies that document the evolution of the risks faced by minors on the Internet,

perception and influence of these risk situations, as well as the strategies and practices used by adolescents to cope with these risks. Finally, it would be necessary to analyse in more detail and depth the possible Internet uses which result problematic for adolescents in order to produce a protocol for action according to minors' problematic uses.

Finally, the results obtained highlight the need for a more effective control and counselling from parents and teachers in order to provide adolescents with sufficient information and tools so that they can limit those risks or at least tackle them.

Table 1. Access to inappropriate contents across age groups, sex groups and school ownership types

	12-14 year-olds	15-17 year-olds	Males	Females	Public school	Private school
VOLUNTARY ACCESS TO INAPPROPRIATE CONTENT. I use Internet (very frequently) to:						
Search for information about drugs	0.6%	2.4%	2.3%	0.6%	1.5%	1.1%
Access to sexual websites	3.1%	8.9%	10.7%	0.8%	6.6%	4.0%
Access to gambling or casino websites	2.2%	3.4%	4.7%	0.8%	3.2%	1.8%
Downloading pirated files (music)	31.6%	43.7%	37.4%	36.8%	37.6%	363.1%
UNINTENTIONAL ACCESS TO INAPPROPRIATE CONTENT. I have received the following type of content:						
Pages that defend and promote anorexia or bulimia	22.7%	25.2%	23.5%	24.1%	24.2%	23.0%
Pages that defend and promote alcohol and drug consumption	23.6%	33.3%	32.1%	24.1%	27.4%	29.3%
Pages defending and promoting suicide or deliberate self-harm	12.1%	11.6%	13.0%	11.0%	11.8%	12.3%
Pages with strong sexual content	29.3%	48.5%	45.1%	31.0%	36.6%	41.0%
Pages that defend and promote racism or hatred of certain groups	20.6%	23.5%	23.1%	20.7%	22.1%	21.6%
Pages about fights, beatings or people ridiculing someone	22.7%	26.5%	25.8%	22.9%	24.1%	25.2%
ACCESS TO INAPPROPRIATE CONTENT THROUGH ADVERTISING ON SOCIAL NETWORKS. I have received the following type of advertising in the social networks:						
Contests with money prizes	25.7%	35.5%	33.3%	27.7%	30.8%	29.8%
Horoscopes, future-telling services	21.8%	27.9%	19.9%	29.6%	26.2%	21.9%
Gambling, casinos	14.3%	23.0%	24.7%	12.5%	19.2%	17.2%
Sex pages	12.9%	17.4%	21.0%	9.4%	16.3%	12.8%
Alcoholic beverages	9.8%	20.4%	17.1%	12.8%	15.9%	13.0%

Source: Authors' own creation. Statistically significant differences for $\chi^2 < 0.05$ appear in bold.

Table 2. Contact with strangers and privacy on the Internet across age groups, sex groups and school ownership types

	12-14 year-olds	15-17 year-olds	Males	Females	Public school	Private school
VOLUNTARY CONTACT WITH STRANGERS. I use the Internet (very frequently) to:						
Flirt/hook-up	6.8%	9.7%	12.5%	3.8%	8.1%	8.2%
Find new friends	6.2%	4.0%	6.2%	4.3%	5.0%	5.7%
Talk to strangers of my own age	6.0%	9.6%	9.3%	5.9%	7.3%	8.2%
Talk to younger or older strangers	3.1%	4.8%	5.5%	2.2%	4.0%	3.5%
PEOPLE ACCEPTED IN SOCIAL NETWORKS						
Only friends I know personally	66.9%	59.9%	61.0%	65.9%	61.7%	67.0%
Only friends or acquaintances of my friends	53.3%	58.5%	53.2%	58.4%	56.6%	54.1%
Some strangers, sometimes	9.5%	15.0%	13.8%	10.5%	12.2%	12.1%
Everyone	2.6%	4.0%	4.9%	1.7%	3.7%	2.5%
DATA PROVIDED TO STRANGERS						
My name and surname	16.8%	22.5%	18.4%	20.4%	19.1%	19.9%
My email address/Messenger/phone	5.2%	13.5%	9.8%	8.1%	9.0%	8.9%
Name of my school	6.4%	10.2%	8.8%	7.4%	7.8%	8.7%
Pictures and videos in which I appear	5.6%	9.2%	7.4%	7.1%	7.0%	7.8%
The address of my house	1.5%	3.9%	3.5%	1.7%	2.8%	2.1%
A bank account number or credit card	0.3%	0.6%	0.8%	0.1%	0.5%	0.3%
IDENTIFICATION (name used in social network profiles)						
First and last names	67.1%	73.2%	70.1%	70.1%	69.2%	71.8%
First name	31.1%	26.1%	29.2%	28.2%	30.1%	25.7%
Nickname my friends call me	14.1%	12.6%	16.5%	10.2%	14.0%	12.0%
A funny nickname	10.6%	9.3%	11.3%	8.7%	10.3%	9.3%
A fictitious name	9.5%	9.3%	9.1%	9.7%	9.7%	8.8%
Unanswered	1.4%	0.9%	1.3%	1.0%	0.8%	1.9%

Source: Authors' own creation. Statistically significant differences for $\chi^2 < 0.05$ appear in bold.

Table 3. Contact with strangers across age groups, sex groups and school ownership types

	12-14 year-olds	15-17 year-olds	Males	Females	Public school	Private school
I HAVE REQUESTED STRANGERS TO GET IN TOUCH						
Via phone or email	**2.0%**	**4.5%**	**4.4%**	**1.8%**	3.1%	3.1%
Face to face	**2.2%**	**2.8%**	**3.7%**	**1.2%**	2.4%	2.5%
STRANGERS HAVE REQUESTED ME TO GET IN TOUCH						
Via phone or email	**29.2%**	**41.8%**	**27.9%**	**41.9%**	33.7%	37.5%
Face to face	**9.8%**	**16.3%**	**10.1%**	**15.5%**	12.4%	13.5%
Media used to contact strangers (only those who have received and requested contact with strangers)						
Social networks (Tuenty, my space, etc.)	**69.7% ***	**76.7% ***	69.2%	80.5%	72.8%	75.0%
Multi-play games	**38.4% ***	**36.1% ***	50.1%	16.6%	36.4%	38.6%
Chats and forums	**31.0% ***	**40.8% ***	41.8%	27.5%	31.5%	45.7%
Messenger	**32.5% ***	**37.9% ***	37.9%	31.4%	32.7%	40.7%
Email	**19.7% ***	**20.2% ***	23.4%	14.6%	16.5%	26.7%
Mobile phone message	**7.2% ***	**9.4% ***	7.6%	9.6%	8.2%	8.8%
Unanswered	**6.5% ***	**5.4% ***	6.6%	4.8%	6.9%	4.0%
TIMES THEY AGREED TO MEET WITH STRANGERS						
1-5 times	**7.3%**	**13.3%**	**11.6%**	**8.6%**	10.2%	9.7%
5-10 times	**0.6%**	**1.3%**	**1.2%**	**0.7%**	1.2%	0.3%
+ 10 times	**2.7%**	**3.7%**	**5.4%**	**0.9%**	2.9%	3.8%
Unanswered	**0.4%**	**0.5%**	**0.5%**	**0.4%**	0.3%	0.8%
REASONS TO AGREE TO MEET WITH STRANGERS						
Flirt/hook-up	36.6%	48.7%	**50.7%**	**31.4%**	43.4%	44.4%
Make new friends	39.9%	35.8%	**32.4%**	**46.7%**	39.3%	33.7%
Meet people with same hobbies	21.7%	14.5%	**14.8%**	**22.1%**	16.1%	20.2%
For fun	17.0%	11.0%	**13.8%**	**12.9%**	12.5%	15.6%
To experience something different	8.8%	11.0%	**11.3%**	**8.0%**	10.7%	8.9%
Because my friends do it too	5.1%	9.7%	**7.8%**	**7.7%**	8.6%	6.1%
Other reasons	24.6%	21.2%	**25.3%**	**17.6%**	21.7%	24.4%
Unanswered	2.4%	1.8%	**2.2%**	**1.9%**	1.5%	3.4%
DID YOU ACTUALLY MET WITH THE PERSON YOU AGREED TO MEET AND WHO ACCOMPANIED YOU						
I did not go	12.5%	8.5%	11.9%	7.2%	10.4%	9.7%
I went by my self	29.3%	39.1%	37.3%	31.0%	35.1%	35.0%
I went with friends	49.4%	39.8%	40.7%	49.0%	43.9%	43.3%
I went with other people	4.5%	8.5%	7.4%	6.1%	6.1%	8.6%
Unanswered	5.1%	5.3%	4.4%	6.7%	5.6%	4.4%
IN CASE YOU MEET WITH THE PERSON, WHAT HAPPENED?						
We met, and now I have a new friend	72.4%	75.4%	**67.2%**	**86.4%**	78,0%	66.4%
We met, but we have not seen each other again	9.3%	14.0%	**13.3%**	**10.0%**	10.7%	15.0%
I went, but I did not find anyone	5.2%	2.7%	**4.5%**	**2.3%**	2.2%	6.8%
I went, the person was not who I expected, it was not unpleasant	1.6%	5.0%	**5.0%**	**1.2%**	3.3%	4.3%
I went, but I stayed hidden	6.0%	1.9%	**5.0%**	**1.1%**	3.5%	3.8%
I went and had a very unpleasant and dangerous experience	1.7%	2.0%	**2.5%**	**0.8%**	2.8%	0.0%
I went and had an unpleasant experience	1.0%	0%	**0%**	**1.1%**	0%	1.3%
Unanswered	6.8%	2.6%	**6.8%**	**0%**	3.5%	5.9%
WHO DID YOU TELL ABOUT THE ENCOUNTER						
Friends from school and neighborhood	58.7%	72.1%	**63.7%**	**72,0%**	68.3%	63.4%
Parents	23.8%	18.9%	**16.6%**	**28.2%**	17.8%	27.1%
Siblings	23.7%	15.3%	**13.1%**	**28.2%**	20.9%	13.8%
Friends on forums or social networks	19.8%	12.6%	**13.3%**	**19.1%**	14.5%	17.3%
Nobody	17.0%	9.9%	**15.2%**	**8.4%**	12.0%	14.1%
Other	4.0%	5.8%	**4.4%**	**6.1%**	6.2%	2.8%
Teachers	1.5%	0.6%	**1.5%**	**0.0%**	1.4%	0.0%
Unanswered	2.0%	3.3%	**3.3%**	**1.9%**	2.9%	2.5%

Source: Authors' own creation. Statistically significant differences for $\chi^2 < 0.05$ appear in bold.

Table 4. Perception of personal risk and of cyberbullying and harassment in their environment across age groups, sex groups and school ownership types

	12-14 year-olds	15-17 year-olds	Males	Females	Public school	Private school
IDENTIFICATION OF RISK SITUATIONS THAT HAVE OCCURRED IN THEIR ENVIRONMENT						
Circulation of mockery or offensive comments and images against someone on the net	**38.7%**	**54.9%**	**43.6%**	**48.5%**	**44.0%**	**50.3%**
Sending of insults, taunts, threats, blackmail and harassment over the Internet	**27.7%**	**41.8%**	**31.7%**	**36.6%**	**31.8%**	**39.0%**
Sending of photos with provocative or erotic poses	**17.7%**	**35.5%**	**28.1%**	**23.5%**	**24.8%**	**28.0%**
Organising the beating of someone on the Internet	**19.5%**	**32.0%**	**24.6%**	**25.7%**	**23.3%**	**29.0%**
Performing lewd acts through the webcam, e.g. stripping	**8.5%**	**17.9%**	**14.7%**	**10.9%**	**12.4%**	**13.4%**
Sending of sexually explicit comments or images	**9.6%**	**14.5%**	**15.5%**	**8.2%**	**11.2%**	**13.2%**
Unanswered	**33.6%**	**20.0%**	**29.3%**	**25.5%**	**29.4%**	**23.6%**
IDENTIFICATION OF PERSONAL RISK SITUATIONS						
Receiving requests to perform obscene acts through the webcam, like stripping.	**5.5%**	**12.6%**	**7.3%**	**10.1%**	9.4%	7.2%
Receiving insults, taunts, threats, blackmail and harassment over the Internet	**8.2%**	**8.3%**	**7.6%**	**8.9%**	8.0%	8.7%
Receiving sexually explicit comments or images	**6.7%**	**9.3%**	**10.3%**	**5.6%**	7.5%	8.7%
Being the target of comments or images of mockery or offences on the Internet	**3.4%**	**4.2%**	**4.0%**	**3.5%**	3.8%	3.6%
Asking a stranger to get in touch via phone or email	**2.0%**	**4.5%**	**4.4%**	**1.8%**	3.1%	3.1%
Asking a stranger to meet face to face	**2.2%**	**2.8%**	**3.7%**	**1.2%**	2.4%	2.5%
Unanswered	**3.2%**	**2.0%**	**3.5%**	**1.9%**	3.3%	1.4%
NUMBER OF RISK SITUATIONS IN WHICH YOU HAVE BEEN INVOLVED						
0	59.0%	46.7%	57.8%	49.0%	53.7%	52.9%
1	21.9%	23.6%	19.1%	26.2%	21.8%	24.4%
2	7.7%	14.7%	9.4%	12.4%	10.8%	11.1%
3	4.5%	7.1%	5.1%	6.2%	6.0%	4.9%
4	2.7%	4.7%	4.2%	3.0%	3.3%	4.2%
5 or more	1.0%	1.3%	1.0%	1.3%	1.1%	1.2%
Unanswered	3.2%	2.0%	3.5%	1.9%	3.3%	1.4%
Impersonation: Has somebody (apart from your parents) impersonated you online or hacked your online accounts in order to harm you?						
No, never	**69.6%**	**64.2%**	**68.4%**	**65.9%**	66.6%	68.4%
Yes, in a social network	**9.0%**	**10.5%**	**8.7%**	**10.7%**	9.8%	9.4%
Yes, in Messenger	**6.2%**	**9.2%**	**6.1%**	**9.1%**	7.6%	7.4%
Yes, in chat rooms	**3.2%**	**2.2%**	**3.8%**	**1.7%**	2.8%	2.7%
Yes, in blogs	**0.6%**	**0.7%**	**0.9%**	**0.4%**	0.9%	0.2%
I do not know	**14.0%**	**16.9%**	**15.5%**	**15.1%**	15.5%	14.8%
Unanswered	**0.7%**	**0.5%**	**0.7%**	**0.5%**	0.8%	0.1%

Source: Authors' own creation. Statistically significant differences for $\chi^2 < 0.05$ appear in bold.

Table 5. Internet security practices across age groups, sex groups and school ownership types

	12-14 year-olds	15-17 year-olds	Males	Females	Public school	Private school
DEGREE OF TRUST ON THE INTERNET. Do you feel safe when you surf the Internet?						
Yes, completely	**51.1%**	**49.2%**	**57,0%**	**43.4%**	49.7%	51.2%
A little bit	**28.2%**	**31.2%**	**26.4%**	**32.8%**	30.5%	27.7%
Not at all	**2.6%**	**4.2%**	**3.1%**	**3.6%**	3.2%	3.7%
Have not thought about it	**17.8%**	**15.0%**	**13.0%**	**20.1%**	16.1%	17.4%
Unanswered	**0.3%**	**0.3%**	**0.4%**	**0.2%**	0.5%	
ARE YOU AWARE IMAGES POSTED ON SOCIAL NETWORKS CAN BE DOWNLOADED AND MANIPULATED BY OTHERS?						
Yes and that is why I am very careful about what I post online	**53.7%**	**54.6%**	**49.5%**	**58.7%**	53.6%	55.2%
Yes, but I always protect them	**24.7%**	**25.0%**	**22.3%**	**27.4%**	25.5%	23.6%
Yes, but nothing bad happens	**6.8%**	**9.7%**	**12.2%**	**4.2%**	8.8%	6.9%
Yes, but I know how to avoid it	**7.4%**	**6.6%**	**7.4%**	**6.6%**	7.2%	6.6%
No, I did not know	**7.2%**	**4.0%**	**7.3%**	**4.0%**	5.3%	6.4%
Unanswered	**1.4%**	**1.2%**	**1.7%**	**0.9%**	1.0%	1.8%
KNOWLEDGE AND INTEREST ON HOW TO AVOID PARENTAL CONTROL						
I know and I do it often	**17.3%**	**18.7%**	**22.7%**	**13.2%**	17.8%	18.2%
I know but I do not do it	**27.8%**	**30.6%**	**32.3%**	**25.8%**	28.0%	31.2%
I don't know but I'd like to know	**8.4%**	**11.2%**	**8.0%**	**11.3%**	10.0%	9.1%
I don't know and don't want to know	**43.5%**	**38.3%**	**35.3%**	**46.9%**	41.7%	39.8%
Unanswered	**3.0%**	**1.3%**	**1.6%**	**2.7%**	2.4%	1.7%
BEHAVIOUR TOWARDS PRIVACY POLICIES: Do you read the privacy policies of the websites that request your data in order to register?						
Yes, sometimes	**26.5%**	**29.7%**	27.1%	28.8%	27.2%	29.3%
Yes, always	**16.3%**	**11.9%**	13.8%	14.8%	14.0%	14.9%
No	**44.8%**	**52,7%**	49.8%	46.9%	49.5%	46.2%
I do not know how to do it	**2.5%**	**1.5%**	2.4%	1.7%	2.0%	2.3%
I do not know what it is or do not understand the question	**8.2%**	**3.4%**	5.3%	6.7%	5.8%	6.4%
Unanswered	**1.8%**	**0.9%**	1.7%	1.1%	1.5%	1.0%

Source: Authors' own creation. Statistically significant differences for $\chi^2 < 0.05$ appear in bold.
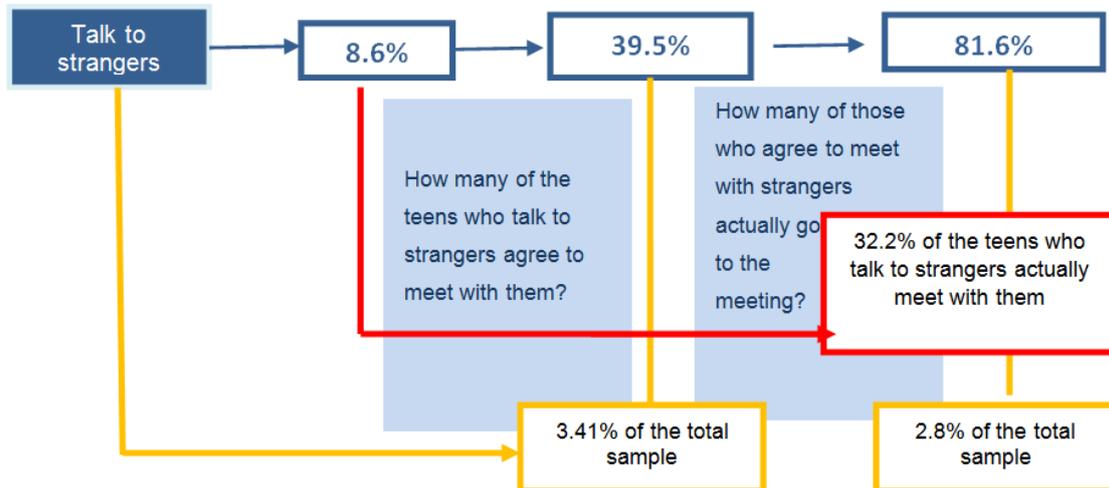
Table 6. Problematic Internet use/perception of Internet dependence across age groups, sex groups and school ownership types

	12-14 year-olds	15-17 year-olds	Males	Females	Public school	Private school
PERCEPTION OF DIFFICULTY TO STOP USING INTERNET: Would it be hard for you not being able to access Internet for several days in a row?						
There would not be a problem	**36.7%**	**28.8%**	**37.3%**	**28.9%**	34.0%	31.3%
It would bother me but it is not a serious problem	**32.5%**	**39.2%**	**33.2%**	**37.9%**	35.2%	36.4%
It would be hard, but sometimes it happens	**18.2%**	**20.5%**	**16.4%**	**22.0%**	17.5%	20.6%
It is very difficult and when that happens I feel bad	**7.3%**	**7.7%**	**7.1%**	**7.9%**	7.4%	7.8%
I do not know	**4.7%**	**3.0%**	**5.1%**	**2.7%**	4.1%	3.5%
Unanswered	0.6%	0.8%	0.9%	0.6%	0.9%	0.4%
INTERNET USE FREQUENCY PER WEEK[1]						
All or almost every day	**61.1%**	**81.4%**	68.9%	71.9%	70.9%	69.3%
3-4 days a week	**21.4%**	**12.3%**	19.0%	15.5%	17.2%	17.4%
2 days a week	**12.3%**	**4.3%**	8.2%	9.1%	7.9%	10.1%
One day a week	**5.1%**	**2.0%**	4.0%	3.5%	4.0%	3.4%
INTERNET USE FREQUENCY ON WEEKDAYS[1]						
Less than 2 hours	**53.8%**	**44.1%**	50,0%	48.8%	**47.9%**	**52.6%**
Between 2 and 3 hours	**24.5%**	**32.5%**	27.3%	28.9%	**28.5%**	**27.3%**
Between 3 and 5 hours	**9.4%**	**14.1%**	11.0%	12.0%	**13.0%**	**8.6%**
More than 5 hours	**4.1%**	**6.9%**	5.8%	4.9%	**6.3%**	**3.4%**
I do not use the Internet	**8.1%**	**2.5%**	5.8%	5.3%	**4.3%**	**8.1%**
INTERNET USE FREQUENCY ON WEEKENDS[1]						
Less than 2 hours	**29.3%**	**19.6%**	26.6%	23.2%	26.3%	22.1%
Between 2 and 3 hours	**34.1%**	**30.5%**	29.5%	35.4%	31.1%	35.3%
Between 3 and 5 hours	**18.3%**	**27.2%**	22.4%	22.2%	22.1%	22.8%
More than 5 hours	**13.6%**	**19.5%**	17.1%	15.5%	16.7%	15.4%
I do not use the Internet	**4.7%**	**3.2%**	4.4%	3.6%	3.8%	4.5%
PERCEPTION OF INTERNET DEPENDENCE. It would be hard for me to stay off:						
My social network all the time	**35.2%**	**47.7%**	**35.1%**	**46.7%**	39.7%	43.5%
Messenger continuously	**11.7%**	**10.3%**	**9.6%**	**12.5%**	10.9%	11.3%
Websites about diets, nutrition	**2.2%**	**3.9%**	**2.0%**	**4.1%**	3.3%	2.4%
Websites about sex	**4.2%**	**8.8%**	**11.4%**	**1.2%**	6.7%	5.5%
Websites about actors/musicians/series	**10.9%**	**10.3%**	**7.1%**	**14.1%**	10.4%	11.1%
Shopping websites	**1.8%**	**4.5%**	**2.7%**	**3.4%**	3.0%	3.1%
Websites about gambling	**0.6%**	**1.5%**	**1.5%**	**0.5%**	1.1%	0.8%
YouTube	**31.3%**	**33.8%**	**30.6%**	**34.3%**	31.3%	34.8%
Other websites	**12.4%**	**10.9%**	**13.8%**	**9.6%**	11.6%	12.0%
None	**41.2%**	**33.7%**	**40.9%**	**34.7%**	39.1%	35.1%
Unanswered	**1.6%**	**1.5%**	**1.9%**	**1.2%**	1.7%	1.3%
CONSEQUENCES OF USING THE INTERNET ON YOUR EVERYDAY LIFE:						
I spend less time with my friends	5.1%	6.1%	4.9%	6.2%	**5.9%**	**5.0%**
My school performances has decreased for spending too much time online	**9.4%**	**16.1%**	12.0%	13.0%	**12.7%**	**12.0%**
I am connected to the Internet until the early morning	**7.0%**	**15.0%**	10.4%	11.0%	**10.5%**	**11.0%**

Source: Authors' own creation. Statistically significant differences for $\chi^2 < 0.05$ appear in bold.

[1] The options "Don't know" and "Unanswered" were eliminated in the Frequency of use variables.

Figure 1. Risk path followed in communication over the Internet with strangers

7. Notes

1. For a review of the scientific literature on the subject published in Spain until early 2011, see García Jiménez, López de Ayala and Gaona (2011).

2. The questionnaire contained two questions investigating the education level and occupation of parents as indicators of respondents' socio-economic family level index (while the question of family income was excluded from the analysis in anticipation of a high rate of non-response among adolescents), but this index was not used due to the high level of non-response to these questions (in particular, 492 respondents could not be classified).

3. According to the results of their study, functional *supraordinada* middle classes (free-lance professionals and technicians, directors of farms, directors of non-agricultural companies and public administrations, salaried professionals and technicians, and heads of departments of non-agricultural

companies and public administrations) have a much higher participation in private education –69.8% in basic general education and 54.4% in *Bachillerato Unificado Polivalente* (comparable to the A Levels in the UK) and *Curso de Orientación Universitaria* (Pre-University Course) – in comparison to the heritage middle classes (entrepreneurs without agricultural and non-agricultural employees and members of cooperatives) – -30.3% and 29.9%, respectively– and the working-classes –23.7% and 17.3% respectively– which have a very low participation.

8. List of references

D Acier, L Kern (2011): "Problematic Internet use: Perceptions of addiction counselors". *Computer & Education*, nº 56, pp. 983-989.

D Aranda, J Sánchez, C Tabernero (2009): Jóvenes y ocio digital. Informe sobre el uso de herramientas digitales por parte de los adolescentes en España. Barcelona: UOC. http://spider-uoc.blogspot.com [14/09/2012].

L Armstrong, J.G Phillips, LL Saling (2000): "Potential determinants of heavier Internet usage". *International Journal of Human-Computer Studies*, nº 53 (4), pp. 537–550.

M Beranuy, U Oberst, J Carbonell, A Chamarro (2009): "Problematic Internet and mobile phone use and clinical symptoms in college students: The role of emotional intelligence". *Computers in Human Behavior,* nº 25, pp. 1182–1187.

KH Bergmark, A Bergmark, O Findahl (2011): "Extensive Internet Involvement -Addiction or Emerging Lifestyle?". *International Journal Environmental Research and Public Health*, *8*, 4488-4501. http://www.mdpi.com/1660-4601/8/12/4488/htm [12/09/2012].

DW Black, G Belsare, S Schlosser (1999). "Clinical features, psychiatric comorbidity, and health-related quality of life in persons reporting compulsive computer use behavior". *Journal of Clinical Psychiatry*, nº 60, pp. 839–844.

X Bonal (2002): "El balance público-privado en el sistema de enseñanza español: evolución y efectos sobre las desigualdades educativas". *Educar*, nº 29, pp. 11-29.

X Bringué, and Ch Sádaba (2011): *Menores y redes sociales*. Madrid: Fundación Telefónica.

MD Cáceres, G Brändle, JA Ruiz San-Román (2013): "Comunicación interpersonal en la web 2.0. Las relaciones de los jóvenes con desconocidos", *Revista Latina de Comunicación Social*, nº 68. Universidad de La Laguna (Tenerife), pp. 436-456, http://www.revistalatinacs.org/068/paper/984_Complutense/18_Caceres.html [8/07/2013]

SE Caplan (2007): "Relations Among Loneliness, Social Anxiety, and Problematic Internet Use". *CyberPsychology & Behavior*. April 2007, nº 10(2), pp. 234-242.

X Carbonell, H Fúster, A Chamarro, U Oberst (2012): "Adicción a Internet y móvil: Una revisión de estudios empíricos españoles". *Papeles del Psicólogo,* nº 33(2), pp. 82-89. http://www.papelesdelpsicologo.es/pdf/2096.pdf [20/08/2012].

M Castellana Rosell, X Sánchez-Carbonel, C Graner, M Beranuy (2007): "El adolescente ante las tecnologías de la información y la comunicación: Internet, móvil y videojuegos". *Papel del Psicólogo*, nº 28 (3), pp. 196-204. http://redalyc.uaemex.mx/pdf/778/77828306.pdf [20/08/2012].

RA Davis (2001): "A cognitive–behavioral model of pathological Internet use". *Computers in Human Behavior*, nº 17, pp. 187-195.

M de Gracia, M Vigo, MJ Fernández, M Marcó, M. (2002): "Behavioral problems related with Internet usage: an exploratory study". *Anales de Psicología*, 18 (2), 273-292.

J del Río, JCh Sádaba, X Bringué (2010): "Menores y redes ¿sociales? De la amistad al cyberbullying". *Revista de estudios de juventud*, 88, pp. 115-129.

AC Douglas, JE Mills, M Niang, S Stepchenkova, S Byun, C Ruffini, SK Lee, J Loutfi, JK Lee, M Atallah, M Blanton. (2008): "Internet addiction: Meta-synthesis of qualitative research for the decade 1996–2006". *Computers in Human Behavior*, nº 24 (6), pp. 3027-3044.

E. Espinar, MJ González (2009): "Jóvenes en las redes sociales virtuales: Un análisis exploratorio de las diferencias de género". *Feminismos*, nº 14, pp. 87-105.

MJ Fleming, S Greentree, D Cocotti-Muller, KA Elias, S Morrison (2006): "Safety in Cyberspace; Adolescents' Safety and Exposure Online". *Youth and Society*, nº 38, 2, pp. 135-154.

JA Gabelas, C Marta (2008): "Modos de intervención de los padres en el conflicto que supone el consumo de pantallas". *Revista Latina de Comunicación Social*, nº 63, pp. 238-252. Universidad de La Laguna (Tenerife), http://www.revistalatinacs.org/_2008/19_25_Zaragoza/Gabelas_y_Marta.html [8/08/2013].

A García, MC López de Ayala, C Gaona (2011): "La investigación sobre los usos y los riesgos de los menores en el ciberespacio. Análisis metodológico", *Doxa Comunicación: revista interdisciplinar de estudios de comunicación y ciencias sociales*, ISSN 1696-019X, nº 13, pp. 13-41.

A García, MC López de Ayala, and B Catalina (2012): "Usos y comunicación digital de los adolescentes. Características y proyección". Paper presented at the *XI edición del Congreso Latinoamericano de Investigadores de la Comunicación, Montevideo.* Available at: http://alaic2012.comunicacion.edu.uy/sites/default/files/gi1_garcia_antonio.pdf

M Garmendia, C Garitaonandia, G Martínez, MA Casado (2011): *Riesgos y seguridad en internet: Los menores españoles en el contexto europeo*. Universidad del País Vasco/Euskal Herriko Unibertsitatea, Bilbao: EU Kids Online.

MD Griffiths (2005): "A components model of addiction within a biopsychosocial framework". *Journal of Substance Use*, nº 10, pp. 191-197

U Hasebrink, K Olafsson, V Stetka (2010): "Commonalities and differences: How to learn from international comparisons of children's online behavior". *International Journal of Media & Cultural Politics*, Vol. 6 Issue 1, pp. 9-24.

Instituto Nacional de Estadística (INE) (2013): Encuesta sobre equipamiento y uso de tecnologías de la información y comunicación en los hogares, 2012. Base de datos INE. http://www.ine.es.

C Jenaro, N Flores, M Gómez-Vela, F González-Gil & C Caballo (2007): "Problematic Internet and cell phone use: Psychological, behavioral, and health correlates". *Addiction Research and Theory*, nº 15(3), pp. 309-320.

FJ Labrador, S Villadongos (2010): "Menores y nuevas tecnologías: conductas indicadoras de posible problema de adicción". *Psicothema*, nº 22(2), pp. 180-188.

BW Lee, LA Stapinski (2012): "Seeking safety on the internet: Relationship between social anxiety and problematic internet use". *Journal of anxiety disorders*, nº *26*(1), pp. 197-205.

S Livingstone, E. Helsper (2007): "Taking risks when communicating on the internet: the role of offline social-psychological factors in young people's vulnerability to online risks". *Information, Communication and Society*, nº 10(5), pp. 619-643.

S Livingstone, H Helsper (2008): "Parental mediation and children's Internet use". *Journal of broadcasting & electronic media*, nº 52 (4), pp. 581-599.

S Livingstone, H Helsper (2010): "Balancing opportunities and risks in adolescents' use of the internet: the role of online skills and internet self-efficacy". *New Media & Society*, nº 12 (2), pp. 309-329

S Livingstone, L Haddon (2008): "Risky Experiences for Children Online: Charting European Research on Children and the Internet". *Children & Society*. Vol. 22, nº 4, pp. 314–323.

QX Liu, XY Fang, LY Deng, JT Zhang et al., (2012): "Parent-adolescent communication, parental Internet use and Internet-specific norms and pathological Internet use among Chinese adolescents". *Computers in Human Behavior*, nº 28, pp. 1269-1275.

K McCabe (2000): "Child Pornography and the Internet", *Social Science Computer Review*, Vol. 18, nº 1, Spring, pp. 73-76.

G Mesh (2009): "Parental Mediation, Online Activities, and Cyberbullying"
Cyberpsychology & Behavior, nº 12 (4), pp. 387-393.
DOI: 10.1089/cpb.2009.0068 .

K Niemz, M Griffiths, P Banyard (2005): "Prevalence of pathological Internet use among university students and correlations with self-esteem, the general health questionnaire (GHD), and disinhibition". *Cyberpsychology & Behavior*, nº 8(6), pp. 562–570.

A Oliva (2007): "Desarrollo cerebral y asunción de riesgos durante la adolescencia". *Apuntes de Psicología Colegio Oficial de Psicología*, nº 25 (3), pp. 239-254.

JW Patchin, H. Sameer (2010): "Trends in online social networking: adolescent use of MySpace over time". *New media & society,* nº 12(2), pp. 197-216.
DOI: 10.1177/1461444809341857.

A Reid (2005): The Rise of Third Generation Phones: The Implications for Child Protection. *Information & Communications Technology Law*, vol. 14, nº 2, pp. 89-113.

J Ringrose, R Gill, S Livingstone, L Harvey (2012): *A qualitative study of children, young people and 'sexting': a report prepared for the NSPCC.* National Society for the Prevention of Cruelty to Children, London, UK.

A Sánchez & M Fernández (2010): *Generación 2.0. Hábitos de los adolescentes en el uso de las redes sociales.* Madrid: Universidad Camilo José Cela.

K Scherer (1997): "College life on-line: Healthy and unhealthy Internet use". *Journal of College Student Development*, nº 38, pp. 655–664.

N Shapira, M Lessig, T Goldsmith, S Szabo, M Lazoritz, M Gold, D Stein. (2003): "Problematic Internet use: Proposed classification and diagnostic criteria". *Depress. Anxiety,* nº 17, pp. 207-216.

D Shek, C Ma (2012): "Consumption of pornographic materials among early adolescents in Hong Kong: profiles and psychosocial correlates". *International Journal of Disabil Hum Dev,* nº 11(2), pp. 143-150.

R Tokunaga, S Rains (2010): "An Evaluation of Two Characterizations of the Relationships Between Problematic Internet Use, Time Spent Using the Internet, and Psychosocial Problems". *Human Communication Research*, nº 36 (4), pp. 512-545.

PM Valkenburg, J Peter (2009): "Social consequences of the Internet for adolescents: a decade of research". *Current Directions in Psychological Science*, nº 18(1), pp. 1–5.

PM Valkenburg, KR Soeters (2001): "Children's Positive and Negative Experiences With the Internet. An Exploratory Survey". *Communication Research*, nº 28 (5), pp. 652-675.

A van den Heuvel, RJJ van den Eijnden, AJ van Rooij, A.J, D van de Mheen (2012): "Meeting online contacts in real life among adolescents: The predictive role of psychosocial wellbeing and internet-specific parenting". *Computers and Human Behavior*, nº 28 (2), pp. 465-472. DOI: 10.1016/j.chb.2011.10.018

S Vandoninck, L D'Henens, RD Cock, V Donoso (2012): "Social networking sites and contact risks among Flemish youth". *Chilhood*, vol. 19, nº 1, PP. 69-85.

F Viñas, J Juan, E Villar, B Caparros, I Perez, M Cornella (2002): "Internet y psicopatología: las nuevas formas de comunicación y su relación con diferentes índices de psicopatología". *Clínica y Salud,* nº 13, pp. 235-256. Retrieved from
http://redalyc.uaemex.mx/redalyc/pdf/1806/180618090001.pdf [23/08/2012].

CHS Wan, WB Chiou (2006): "Why Are Adolescents Addicted to Online Gaming? An Interview Study in Taiwan". *Cyberpsychology & Behavior*, nº 9 (6), pp. 762-766.

L Whang, S Lee, G Chang (2003): "Internet over-users' psychological profiles: A behavior sampling análisis on Internet addiction". *Cyberpsychology & Behavior,* nº 6(2), pp. 143-150.

LS Whang, S Lee, S Chang (2003): "Internet over-users' psychological profiles: a behavior sampling analysis on Internet addiction". *Cyberpsychology & Behavior*. April 2003, vol. 6, nº 2(1), pp. 43-150

SCH Yang, CHJ Tung (2007): "Comparison of Internet addicts and non-addicts in Taiwanese high school". *Computers in Human Behavior*, 23 (1), DOI:10.1016/j.chb.2004.03.037
http://c21ultramom.wikispaces.com/file/view/comparisaon+intnet+addicted.pdf [13/09/2012].

ML Ybarra, JD Korchmaros, (2011): National Trends in Exposure to and Experiences of Violence on the Internet among children. *Pediatrics*, nº 128 (6), pp. 376-386.

_____