






Internet Use Habits and Risk Behaviours in Preadolescence

Hábitos de uso y conductas de riesgo en Internet en la preadolescencia

-  Dr. Javier Fernández-Montalvo is Tenured Professor in the Department of Psychology and Pedagogy at the Public University of Navarra (Spain) (fernandez.montalvo@unavarra.es).
-  Dr. Alicia Peñalva is Adjunct Professor in the Department of Psychology and Pedagogy at the Public University of Navarra (Spain) (alicia.penalva@unavarra.es).
-  Dr. Itziar Irazabal is Psychologist and School Counsellor in the Education Department of the Government of Navarra (Spain) (itziarirazabal@hotmail.com).

ABSTRACT

A striking increase in the use of new information and communication technology has come about in recent years. This study analysed the characteristics and habits of Internet use in a sample of pre-adolescents between 10 and 13 years of age, enrolled in the 6th grade of primary school in Navarra (Spain). Likewise, the existence of differential patterns in Internet use by sex was analysed, and risk behaviours were detected. The sample was composed of 364 students (206 boys and 158 girls) who were evaluated at their schools. Information about socio-demographic characteristics, Internet use habits, and online behaviours was collected using a data-gathering tool specifically designed for the study. The results demonstrated high Internet use by the adolescents studied. Girls used the Internet more for social relationships, whereas boys tended to use it differently, including accessing online games. Moreover, some risky behaviours were found, including interactions with strangers, giving out personal information, and sending photos and videos. Likewise, behaviours associated with «cyber-bullying» were detected. These results indicate the necessity of establishing prevention programs for safe and responsible Internet use.

RESUMEN

En los últimos años se ha producido un aumento espectacular del uso de las nuevas tecnologías de la información y de la comunicación. En este estudio se analizaron las características y el patrón del uso de Internet en una muestra de preadolescentes de entre 10 y 13 años, que cursan 6º curso de Educación Primaria en Navarra (España). Asimismo, se analizó la existencia de un perfil diferencial en el uso de Internet en función del sexo y se detectó la existencia de conductas de riesgo. La muestra estaba compuesta por 364 estudiantes (206 chicos y 158 chicas), que fueron evaluados en sus centros educativos. Se recogió información sobre las características sociodemográficas, los hábitos de uso de Internet y los comportamientos desarrollados en la Red a través de un instrumento de recogida de datos diseñado específicamente para la investigación. Los resultados mostraron un uso elevado de Internet por parte de los adolescentes estudiados. Las chicas usaban más Internet para las relaciones sociales, mientras que los chicos tendían a darle otro tipo de usos, como el acceso a juegos online. Además, se encontraron algunas conductas de riesgo, como quedar con desconocidos, dar datos personales o enviar fotos y vídeos. Asimismo, se encontraron comportamientos relacionados con el «ciberbullying». Estos resultados indican la necesidad de establecer programas de prevención para el uso seguro y responsable de Internet.

KEYWORDS | PALABRAS CLAVE

New technology, Internet, social networks, preadolescence, use profile, risk behaviours, cyberbullying, gender.
Nuevas tecnologías, Internet, redes sociales, preadolescencia, patrón de uso, conductas de riesgo, ciberbullying, género.

1. Introduction and background

In recent years, there has been a spectacular increase in the use of information and communication technologies (ICT). The Internet has gone from being a limited tool used by groups of scientists and academics to a resource for the general population and, especially, for young people (Estévez & al., 2009; Gallagher, 2005; Holtz and Appel, 2011; Labrador and Villadangos, 2009). Studies show Internet usage rates of more than 90% in teenagers, primarily for the purpose of online communication – communication in real time through the Internet. (García & al., 2013; Gross & al., 2002; Valkenburg & Peter, 2007; Van-der-Aa & al., 2009).

The dizzying advance of new technologies and their use in families has opened a digital gap between adults and adolescents (Aftab, 2005; Echeburúa & al., 2009; Sureda & al., 2010; Thurlow & McKay, 2003). Children become the experts, whereas many parents lack even the most basic knowledge of new technologies (Mayorgas, 2009). As a result, parents worry when they see how their children develop behaviours associated with ICT that are very different from what they would expect. Parents do not understand why their children spend hours in front of a computer screen or a mobile phone. It is hard for parents to understand that instead of playing with friends outside, their children either close themselves up at home and speak with their friends using instant messengers and cell phones or connect to virtual social networks (Echeburúa & al., 2009).

However, parental concern is not always justified. In many cases, it arises more from the lack of knowledge of ICT than from its incorrect use. Thus, it is essential to establish clear criteria regarding the appropriate use of a computer, along with indicators of its inappropriate use. Alarm signals should sound when the adolescent avoids homework and academic performance suffers, when he or she reacts with anger if interrupted or if time limits are placed on computer use, when meet-ups with friends happen less frequently, or when children give up on their real friendships to spend more time in front of a computer connected to virtual friends (Becoña, 2006; Echeburúa & Requesens, 2012; García-del-Castillo & al., 2008; Mayorgas, 2009; Milani & al., 2009; Van-der-Aa & al., 2009).

Some studies performed by the Spanish NGOs *Protégeles* [Protect them] (2002) and *Foro Generaciones Inter-*

activas [Interactive Generation Forum] (Bringué & Sádaba, 2011) have produced some worrying data on the use of Internet by minors. According to these studies, 18% of minors who access the Internet do so specifically to join sex-related chat rooms, 30% of minors who habitually use the Internet have given out their phone number at some time, 14% have arranged some type of meet-up with a stranger, and 44% of minors have felt sexually harassed (Melamud & al., 2009).

However, there appear to be differences related to Internet use arising out of the factor of gender. Different studies demonstrate that boys primarily access video game pages, whereas girls prefer to use the Internet for online communication through social networks (Gentile & al., 2004; Holtz and Appel, 2011; Jackson, 2008; Rideout & al., 2005). It is important to account for these differences in Internet use because in general, it appears that time spent online has a positive correlation with better academic performance (Jackson & al., 2006; 2008). However, some studies note that time specifically dedicated to online video games is related to both poorer academic results (Jackson & al., 2008) and poorer social and familial relationships (Punamäki & al., 2009). These are preliminary results that require greater research. It is necessary to obtain more precise data on the characteristics of Internet use by adolescents, the type of content that adolescents access, and their real knowledge about aspects of ICT, particularly the Internet.

Accordingly, this study's primary objective is to ascertain the characteristics of Internet use in a sample of preadolescents in the 6th grade of primary school. It attempts to determine the real level of ICT penetration, particularly that of the Internet, in this particular age group. Once an Internet use pattern has been established, more specific objectives include determi-

Table 1. Sample Socio-demographic Characteristics

Variables	Total N=364 Mean (SD)	Boys N=206 Mean (SD)	Girls N=158 Mean (SD)	t
Age	11.00 (0.41)	11.05 (0.41)	10.94 (0.40)	2.71*
Variables	Total N=364 N (%)	Boys N=206 n (%)	Girls N=158 n (%)	X ²
High School				
Public	121 (33.2%)	66 (32%)	55 (34.8%)	0.30
Private	243 (66.8%)	140 (68%)	103 (65.2%)	
Location				
Rural	37 (10.2%)	17 (8.3%)	20 (12.7%)	1.9
Urban	327 (89.8%)	189 (91.7%)	138 (87.3%)	
* p < 0.01				

ning whether there is a different use profile based on gender by comparing results for boys and girls for all variables studied. Another goal is to detect the existence of risk behaviours in the sampled subjects. These data allow an evaluation of whether a real problem exists, along with the need to implement specific prevention programs.

2. Materials and methods

2.1. Participants

The study sample is composed of 364 6th grade primary school students at different schools in Navarra. Specifically, 8 schools (4 public, 4 private) located in urban and rural areas participated. These schools were chosen at random and represent the current situation of the Navarra (Spain) school system. After the schools were selected, all students in the schools' 6th grades participated in the study. The evaluation was performed at the beginning of the school year, between September and October 2011.

The following selection criteria were considered: a) enrolled in the 6th grade; b) aged between 10 and 13; and c) voluntarily participating in the study after parents and teachers were duly informed of its characteristics.

With respect to the sample's socio-demographic characteristics (table 1), the median age of the subjects was 11 (range=10-13). 56.6% of the sample was boys (N=206) and 43.4% were girls (N=158).

2.2. Evaluation measures

To gather the necessary information for this study, we made a list of 142 questions pertaining to 11 areas related to new technologies: introduction of ICT in homes, introduction of Internet in homes, the place held by the Internet in the child's daily life, training (either formal or informal) received in ICT, degree of conceptual digital literacy, degree of procedural digital literacy, degree of attitudinal digital literacy, Internet user profiles, mobile-phone user characteristics, access

Table 2. In-home availability and use of ITC

Variables	N	Total N (%)	Boys N (%)	Girls N (%)	X ²
Computer	364				
Yes		355 (97.5%)	198 (96.1%)	157 (99.4%)	3.91
No		9 (2.5%)	8 (3.9%)	1 (0.6%)	*
More than one computer	364				
Yes		236 (64.8%)	131 (63.6%)	105 (66.5%)	0.32
No		128 (35.2%)	75 (36.4%)	53 (33.5%)	
Knows how to use computer	361				
Yes		355 (98.3%)	199 (98%)	156 (98.7%)	0.27
No		6 (1.7%)	4 (2%)	2 (1.3%)	
Has own computer	364				
Yes		107 (29.4%)	62 (30.1%)	45 (28.5%)	0.11
No		257 (70.6%)	144 (69.9%)	113 (71.5%)	
Cell phone	362				
Yes		214 (59.1%)	122 (59.5%)	92 (58.6%)	0.03
No		148 (40.9%)	83 (40.5%)	77 (41.4%)	
Video game console	361				
Yes		351 (97.2%)	202 (98.5%)	149 (97.2%)	3.0
No		10 (2.8%)	3 (1.5%)	7 (4.5%)	
Has home Internet connection	352				
Yes		328 (93.2%)	184 (92%)	144 (92.7%)	1.01
No		24 (6.8%)	16 (8%)	8 (5.3%)	
Knows how to use the Internet	355				
Yes		345 (97.2%)	198 (97.5%)	147 (96.7%)	0.21
No		10 (2.8%)	5 (2.5%)	5 (3.3%)	
Uses Internet	354				
Yes		336 (94.9%)	191 (95.5%)	145 (94.2%)	0.32
No		18 (5.1%)	9 (4.5%)	9 (5.8%)	

* p < 0.05

to and creation of Internet content, and activities carried out online. In general, the questions called for yes/no answers.

2.3. Procedure

Data collection was performed by two professionals from the research team: an educational psychologist and a teacher, both experienced in this type of issue. After the necessary permissions had been granted by the Government of Navarra to enter the schools, the evaluation was performed in a single session. The two aforementioned professionals were present during the evaluation, along with the teacher in every classroom evaluated.

2.4. Statistical analysis

The statistical analyses have been performed using the SPSS program (version 15.0 for Windows). To determine the sample's characteristics, a descriptive analysis was performed (percentages, medians, and standard deviations). The comparison between

groups was performed using a chi square test in the case of categorical variables and Student's T-test in the case of quantitative variables.

3. Analysis and results

3.1. Availability of new technologies and Internet use

Almost the entire sample has a home computer and knows how to use it. The majority also has a video game console and more than half have a mobile phone. Moreover, an Internet connection and Internet use is present for the majority of the adolescents studied.

With respect to Internet use characteristics, the majority of adolescents in the sample use the Internet at home and (for the most part) alone, without any parental oversight (table 3). Webcam use is observed in one-third of the cases, with significant differences according to sex. Girls use webcams with significantly greater frequency than do boys.

One important figure to note is daily Internet use. The majority of the students surveyed go online every day, and few stop during the weekends, which are a period of heavy Internet use. Accordingly, the use of social networks stands out (Messenger, Facebook, Tuenti, etc.) in spite of the fact that the students are below the legal age to access those networks. When the type of people with whom they communicate using these networks is analysed, there are significant differences between boys and girls. The girls use the Internet more for communication with other people, primarily friends and family. The boys use it significantly less than girls for communicating with other

Table 3. Internet Use Characteristics

Variables	N	Total N=364 N (%)	Boys N=206 N (%)	Girls N=158 N (%)	X ²
Who taught you to use it	355				
Family		292 (82.3%)	172 (86.4%)	120 (76.9%)	6.26
Friends		31 (8.8%)	18 (9.8%)	13 (7.6%)	
Teacher		31 (8.8%)	12 (6.1%)	19 (12.2%)	
Others		15 (4.2%)	11 (5.6%)	4 (2.6%)	
Place of Use					
In my home	357	329 (92.2%)	183 (90.1%)	146 (94.8%)	5.14
At my friend's home	357	79 (22.5%)	36 (17.7%)	43 (27.9%)	
At a family member's home	355	92 (25.9%)	51 (25.2%)	41 (26.8%)	
In a public place	357	64 (17.9%)	30 (14.8%)	23 (14.9%)	
At school	356	52 (14.6%)	23 (11.4%)	29 (18.8%)	
Other	357	30 (8.4%)	24 (11.9%)	17 (11%)	
Most often when using the Internet, you tend to be					
Alone	355	257 (72.4%)	142 (69.6%)	115 (76.2%)	6.56
With my father	356	101 (28.4%)	56 (27.5%)	45 (29.6%)	
With my mother	356	120 (33.7%)	62 (30.4%)	58 (38.2%)	
With friends	356	99 (27.8%)	50 (24.5%)	49 (32.2%)	
With siblings	356	120 (33.7%)	58 (28.4%)	62 (40.8%)	
With a teacher	356	12 (3.4%)	10 (4.9%)	2 (1.3%)	
Webcam use	351				
Never		232 (66.1%)	149 (74.1%)	83 (55.3%)	13.5***
Sometimes		114 (32.5%)	50 (24.9%)	64 (42.7%)	
Always		5 (1.4%)	2 (1%)	3 (2%)	
What do you use it for					
Chatting	347	179 (51.6%)	91 (47.2%)	88 (57.1%)	3.42
Downloading music...	349	131 (37.5%)	68 (35.1%)	63 (40.6%)	1.15
Sharing videos, photos...	349	132 (37.8%)	80 (41.2%)	52 (33.5%)	2.16
Messenger	349	126 (36.1%)	50 (25.8%)	76 (49%)	20.2***
Email	349	156 (44.7%)	69 (35.6%)	87 (56.1%)	14.7***
Other	348	176 (50.6%)	102 (52.6%)	74 (48.1%)	0.70
I don't use the Internet	350	13 (3.7%)	7 (3.6%)	6 (3.8%)	0.01
Daily use time on weekdays	331				
Less than an hour		164 (49.5%)	89 (48.4%)	75 (51%)	1.19
Between 1 and 2 hours		66 (19.9%)	36 (19.6%)	30 (20.4%)	
More than 2 hours		5 (1.5%)	2 (1.1%)	3 (2%)	
I don't use the Internet on weekdays		96 (29%)	57 (31.6%)	39 (26.5%)	
Daily use time on weekends	347				
Less than an hour		145 (41.8%)	81 (41.3%)	64 (42.4%)	1.12
Between 1 and 2 hours		118 (34%)	67 (34.2%)	51 (33.8%)	
More than 2 hours		53 (15.3%)	28 (14.3%)	25 (16.6%)	
I don't use the Internet on weekends		31 (8.9%)	20 (10.2%)	11 (7.3%)	
Use of social networks	353	211 (59.8%)	115 (57.8%)	96 (62.3%)	0.74
What social network do you use					
Messenger/Skype	246	127 (51.6%)	68 (50.7%)	59 (52.7%)	0.09
Facebook	248	64 (25.8%)	36 (26.7%)	28 (24.8%)	0.11
Twitter	247	13 (5.3%)	6 (4.5%)	7 (6.2%)	0.36
My Space	248	8 (3.2%)	3 (2.2%)	5 (4.4%)	0.95
Tuenti	248	154 (62.1%)	84 (62.2%)	70 (61.9%)	0.002
LinkedIn	248	2 (0.8%)	1 (0.7%)	1 (0.9%)	0.01
With whom do you tend to communicate most often					
Virtual friends who I know face to face	333	81 (24.3%)	39 (21.2%)	42 (28.2%)	2.18
Virtual friends who I don't know face to face					
	333	37 (11.1%)	27 (14.7%)	10 (6.7%)	5.28*
I don't communicate with anyone	333	63 (18.9%)	51 (27.7%)	12 (8.1%)	20.7***
With my friends	333	237 (71.2%)	115 (62.5%)	122 (81.9%)	15.07***
With my family	333	148 (44.4%)	61 (33.2%)	87 (58.4%)	21.2***
Others	332	16 (4.8%)	9 (4.9%)	7 (4.7%)	0.009

* p < 0.05; ** p < 0.01; *** p < 0.001

people, and communicate to a greater extent than girls with virtual friends whom they do not know face to face.

Thus, it is important to note that the median number of friends that adolescents have on social networks

is 82.4 (SD=74.8), with a significantly higher number ($t=2.89$; $p<0.01$) in the case of boys ($M=96.9$ friends; $SD=82.9$) in comparison with girls ($M=67.8$ friends; $SD=62.1$).

3.2. Internet behaviour

The primary results for online behaviour are shown in table 4.

The primary Internet behaviours involve the development of social relationships. The Internet is used to make plans or hang out with friends, to add them to social networks, to send them messages, or to converse with them in real time.

However, behaviours are also observed that should be highlighted, although they are less frequent: Between 20% and 30% of the sample use the Internet to lie, saying that they are older than their real age or even saying that their physical appearance is different. In fact, 59.8% use social networks while below the legal age of access, thus lying about their real age.

Noticeably risky behaviours are also observed in the results, when taking into account the age of the sample: sending photographs or videos to strangers, adding strangers to friend lists, giving out telephone numbers or other types of personal information, sending photos or videos through the network, or the most dangerous behaviour of all: meeting up directly with strangers. The comparison based on gender reflects significant differences in three of the variables studied. Boys are more likely to meet with strangers, whereas girls use the Internet more to send personal messages to friends and to lie about their age.

Finally, it is important to highlight some observed cases of harassment behaviour. Nine point four percent have received email threats, and 13.7% have been insulted online. Twelve point

three percent note having insulted other classmates while online.

It is worth highlighting that in 13.5% of cases, the Internet is used to speak about things that one would not discuss face to face, and that in 22.2% of cases, it is easier for students to be themselves while online. In both cases, there are significant differences based on gender, with boys using the Internet for such purposes significantly more frequently.

4. Discussion and conclusions

The results obtained in this descriptive study demonstrate that Internet use is extensive among the preadolescents studied. Nearly the entire sample has at least one computer in the home and Internet access. Likewise, in most cases, the daily median Internet use is around an hour. These data coincide with data found in recent studies showing Internet use rates of more than 90% in different samples. The study conducted in Austria by Holtz and Appel (2011), for example, used a sample of 205 students between 10 and 14 years of age and showed that 98% of sampled adolescents had a home computer, with nearly half (48.8%) having one in their bedroom. As in our study, this Austrian study showed a daily median connection time of between 1 and 1.5 hours, without any difference according to sex. Similar results have been found in Spain (Viñas, 2009) and other countries: Holland (Van-der-Aa & al., 2009). Finland (Punamäki

Table 4. Behaviours Related to Internet Use

Variables	N	Total N=364 N (%)	Boys N=206 N (%)	Girls N=158 N (%)	X ²
Meet or make plans with friends	340	187 (55%)	100 (52.9%)	87 (57.6%)	0.75
Make new friends	346	67 (19.4%)	41 (21.1%)	26 (17.1%)	0.88
Meet in person with a stranger	355	20 (5.6%)	17 (8.5%)	3 (1.9%)	7.07**
Share personal information	352	49 (13.9%)	25 (12.6%)	24 (15.7%)	0.70
Send personal messages to your friends	350	146 (41.7%)	72 (36.4%)	74 (48.7%)	5.36*
Add friends to your social network	346	177 (51.2%)	94 (48%)	83 (55.3%)	1.84
Have a private conversation with a friend	352	147 (41.8%)	75 (37.9%)	72 (46.8%)	2.80
Say that you are older	349	104 (29.8%)	49 (24.9%)	55 (36.2%)	5.24*
Pretend you are someone you are not	348	21 (6%)	9 (4.6%)	12 (7.9%)	1.64
Share others' personal information	353	20 (5.7%)	12 (6%)	8 (5.2%)	0.11
Say that your physical appearance is other than it is	350	80 (22.9%)	42 (21%)	38 (25.3%)	0.86
Give someone else your telephone number	351	105 (29.9%)	64 (32.3%)	41 (26.8%)	1.25
Add strangers to your friend list	345	44 (12.8%)	29 (14.8%)	15 (10.1%)	1.70
Send a photo or a video of yourself to a stranger	345	10 (2.9%)	7 (3.6%)	3 (2%)	0.79
Speak about things you wouldn't face to face	304	41 (13.5%)	26 (15.4%)	15 (11.1%)	9.32**
It is easier to be yourself	297	66 (22.2%)	39 (23.5%)	27 (20.6%)	8.57*
You have insulted someone via the Internet	349	43 (12.3%)	25 (12.8%)	18 (11.8%)	0.07
You have received email threats	350	33 (9.4%)	15 (7.6%)	18 (11.8%)	1.83
You have been insulted via the Internet	350	48 (13.7%)	27 (13.7%)	21 (13.7%)	0.00

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

& al., 2009) and the United States (Gross & al., 2002).

An important aspect to highlight in this study involves the differences found related to gender. Although both boys and girls show high rates of Internet use, there are still significant differences regarding not only the type of content that they access but also their risk behaviours and the precautions that are taken as a result. The results demonstrate that girls are more likely to use the Internet for everything related to social relationships (social networks, email, etc.). Boys tend to use it for different purposes, including access to online gaming. These results support the data from some previous studies (Gentile & al., 2004; Jiménez & al., 2012; Rideout & al., 2005). The difference in the content accessed by each group likely explains the significantly higher use of webcams by girls than by boys.

These differences in usage according to sex are significant. In the study by Punamäki & al. (2009) of 478 preadolescents in Finland, the results show that the greater the amount of Internet use for entertainment purposes (online games and navigation), the poorer the relationship with both friends and parents. That notwithstanding, use of the Internet for communication (email and chat) is related to better friend relationships but poorer parental relationships. This study does not result in those types of conclusions. However, the data found support the need to study the relationship between differential use and the quality of not only social and family relationships but also academic performance.

This study has also found some behaviours that represent an alarm signal related to preadolescent Internet use. Approximately 1 in 10 students use the Web to relate to virtual friends they do not know. This behaviour stands out, particularly in the case of boys, a significantly higher percentage of whom than girls make contact with strangers. Moreover, in some cases (5.6% of the sample) students have even met strangers in person. Fortunately, the great majority of the sample studied does not show these behaviours. Still, the cases found demonstrate the need to implement preventive measures for these ages. Similar results have been found in other studies (Brenner, 1997; García-del-Castillo & al., 2008; Jackson & al., 2006; Jiménez & al., 2012), but it is especially novel to find them in such an early age range.

From a different perspective, some of the behaviours detected in the sample relate directly to «cyber-bullying». The data found are clearly worrying, particularly when one considers the age studied. The spectacular growth of Internet use has transformed many

harassment (bullying) practices into Web-based harassment (cyber-bullying). This type of virtual harassment behaviour is the subject of many new studies (Buelga, 2013; Félix & al., 2010; Perren & Gutzwiller-Helfenfinger, 2012), but it is notable to find them at such young ages. It is difficult to understand that more than 12% of students in the 6th grade of primary school have used the web to insult other classmates, that more than 13% have been direct victims of others' insults and that more than 9% have received threats via email. There can be no doubt that these results should alert the educational community and the family regarding the online behaviours of 11-year-old children. It is surprising, therefore, that in the majority of cases, the Internet is used at home and alone, without any type of parental oversight. Again, these results indicated the necessity of establishing prevention programs for the secure and responsible use of the Internet.

Likewise, it is worth mentioning the use of the Internet for behaviours that would not occur outside of the Internet. The results show that for approximately 2 of every 10 preadolescents studied find it easier to be themselves while online and to speak about things that they would never discuss face to face. The Internet facilitates the creation of virtual relationships with friends and strangers. Anonymity and an absence of nonverbal communication elements make interaction with others easier and make it possible to hide one's identity. The possibility of developing problems, especially for those with difficulty with interpersonal relationships and social anxiety, is thus increased (Carbonell & al., 2012; Chóliz & Marco, 2011; Echeburúa & al., 2009).

This study has some limitations, however. First of all, it is a descriptive study that covers a concrete sampling of students in the 6th grade of primary school in Navarra. It would help to conduct studies analysing broader samples, with a greater age range, thus making it possible to establish specific use patterns for each age group. Second, given their descriptive nature, the results do not allow for uncovering risk factors and specific vulnerabilities for developing problematic behaviours online. It is necessary to design longitudinal studies demonstrating risk behaviours and the consequences arising from those behaviours. Thus, it is possible to develop preventive guidelines for developing safe and healthy online behaviours. Conversely, the results demonstrate differences based on gender. Future studies must account for this difference and carefully analyse the differential behaviours of boys and girls. Finally, it would be helpful to analyse the existing

relationship between Internet use and other variable types such as academic performance or familial relationships, supplementing the study with a qualitative analysis of the topic.

In any case, this study presents an approach to understanding the characteristics of preadolescent Internet use. The results constitute an alarm signal and point to the need to establish preventive programs for safe and responsible Internet use. Used correctly, the Web represents an extraordinary tool for information and communication, but it also poses risks. For this reason, it is necessary to develop guidelines that clearly draw the line between appropriate Internet use, inappropriate Internet use, and abuse (Gallagher, 2005; Tejedor and Pulido, 2012). It is necessary to give Internet use a natural place in a subject's activities, while avoiding the risks and dangers of indiscriminate use. In this environment, the great challenge is to maximise positive effects and minimise negative effects.

References

- AFTAB, P. (2005). *Internet con los menores riesgos*. Bilbao: Observatorio Vasco de la Juventud.
- BECOÑA, E. (2006). *Adicción a nuevas tecnologías*. Vigo: Nova Galicia Edicións.
- BRENNER, V. (1997). Psychology of Computer Use: Parameters of Internet use, Abuse and Addiction: The First 90 Days of the Internet Usage Survey. *Psychological Reports, 80*, 879-882. (DOI: <http://doi.org/cq5>).
- BRINGUÉ, X. & SÁDABA, C. (2011). *Menores y redes sociales*. Madrid: Colección Foro Generaciones Interactivas/Fundación Telefónica.
- BUELGA, S. (2013). El ciberbullying: cuando la red no es un lugar seguro. In E. ESTÉVEZ (Ed.), *Los problemas en la adolescencia: respuestas y sugerencias para padres y profesionales* (pp. 121-140). Madrid: Síntesis.
- CARBONELL, X., CHAMARRO, A. & AL. (2012). Problematic Internet and Cell Phone Use in Spanish Teenagers and Young Students. *Anales de Psicología, 28*, 789-796.
- CHÓLIZ, M. & MARCO, C. (2011). Patterns of Use and Dependence on Video Games in Infancy and Adolescence. *Anales de Psicología, 27*, 418-426.
- ECHEBURÚA, E., LABRADOR, F.J. & BECOÑA, E. (2009). *Adicción a las nuevas tecnologías en adolescentes y jóvenes*. Madrid: Pirámide.
- ECHEBURÚA, E. & REQUESENS, A. (2012). *Adicción a las redes sociales y nuevas tecnologías en niños y adolescentes*. Madrid: Pirámide.
- ESTÉVEZ, L., BAYÓN, C., DE-LA-CRUZ, J. & FERNÁNDEZ-LIRIA, A. (2009). Uso y abuso de Internet en adolescentes. In E. ECHEBURÚA, F.J. LABRADOR & E. BECOÑA (Eds.), *Adicción a las nuevas tecnologías en adolescentes y jóvenes* (pp. 101-128). Madrid: Pirámide.
- FÉLIX, V., SORIANO, M., GODOY, C. & SANCHO, S. (2010). El ciberacoso en la enseñanza obligatoria. *Aula Abierta, 38*, 47-58.
- GALLAGHER, B. (2005). New Technology: Helping or Harming Children. *Child Abuse Review, 14*, 367-373. (DOI: <http://doi.org/10.1002/car.923>).
- GENTILE, D.A., LYNCH, P.J., LINDER, J.R. & WALSH, D.A. (2004). The Effects of Violent Video Game Habits on Adolescent Hostility, Aggressive Behaviors, and School Performance. *Journal of Adolescence, 27*, 5-22. (DOI: <http://doi.org/d3b6dd>).
- GARCÍA, A., LÓPEZ DE AYALA, M.C. & CATALINA, B. (2013). Hábitos de uso en Internet y en las redes sociales de los adolescentes españoles. *Comunicar, 41*, 195-204. (DOI: <http://doi.org/tj7>).
- GARCÍA-DEL-CASTILLO, J.A., TEROL, M.C. & AL. (2008). Uso y abuso de Internet en jóvenes universitarios. *Adicciones, 20*, 131-142.
- GROSS, E.F., JUVONEN, J. & GABLE, S.L. (2002). Internet Use and Well-being in Adolescence. *Journal of Social Issues, 58*, 75-90. (DOI: <http://doi.org/d5bxfid>).
- HOLTZ, P. & APPEL, M. (2011). Internet Use and Video Gaming Predict problem Behavior in Early Adolescence. *Journal of Adolescence, 34*, 49-58. (DOI: <http://doi.org/dwkv5q>).
- JACKSON, L.A. (2008). Adolescents and the Internet. In D. ROMER & P. JAMIESON (Eds.), *The Changing Portrayal of American Youth in Popular Media* (pp. 377-410). New York: Oxford University Press.
- JACKSON, L.A., VON EYE, A. & AL. (2006). Children's Home Internet Use: Antecedents and Psychological, Social, and Academic Consequences. In R. KRAUT, M. BRYNIN & S. KIESLER (Eds.), *Computers, phones, and the Internet: Domesticating Information Technology* (pp. 145-167). New York: Oxford University Press.
- JACKSON, L.A., ZHAO, Y. & AL. (2008). Race, Gender, and Information Technology Use: The New Digital Divide. *Cyberpsychology & Behavior, 11*, 437-442.
- JIMÉNEZ, M.I., PIQUERAS, J.A. & AL. (2012). Diferencias de sexo, características de personalidad y afrontamiento en el uso de Internet, el móvil y los videojuegos en la adolescencia. *Health and Addictions/Salud y Drogas, 12*, 61-82.
- LABRADOR, F.J. & VILLADANGOS, S.M. (2009). Adicciones a nuevas tecnologías en jóvenes y adolescentes. In E. ECHEBURÚA, F.J. LABRADOR & E. BECOÑA (Eds.), *Adicción a las nuevas tecnologías en adolescentes y jóvenes* (pp. 45-75). Madrid: Pirámide.
- MAYORGAS, M.J. (2009). Programas de prevención de la adicción a las nuevas tecnologías en jóvenes y adolescentes. In E. ECHEBURÚA, F.J. LABRADOR & E. BECOÑA (Eds.), *Adicción a las nuevas tecnologías en adolescentes y jóvenes* (pp. 101-128). Madrid: Pirámide.
- MELAMUD, A., NASANOVSKY, J. & AL. (2009). Usos de Internet en hogares con niños de entre 4 y 18 años. Control de los padres sobre este uso. Resultados de una encuesta nacional. *Archivos Argentinos de Pediatría, 107*, 30-36.
- MILANI, L., OSUALDELLA, D. & BLASIO, P. (2009). Quality of Interpersonal Relationship and Problematic Use in Adolescence. *Cyberpsychology & Behavior, 12*, 681-684. (DOI: <http://doi.org/dccsz2>).
- PERREN, S. & GUTZWILLER-HELFFENFINGER, E. (2012). Cyberbullying and Traditional Bullying in Adolescence: Differential Roles of Moral Disengagement, Moral Emotions, and Moral Values. *European Journal of Developmental Psychology, 9*, 195-209. (DOI: <http://doi.org/tj8>).
- PROTÉGELES (Ed.) (2002). *Seguridad infantil y costumbres de los menores en Internet*. (<http://goo.gl/bwGLw5>) (08-08-2012).
- PUNAMÁKI, R.J., WALLENIUS, M., HÖLTTÖ, H., NYGARD, C.H. & RIMPELÄ, A. (2009). The Associations between Information and Communication Technology (ICT) and Peer and Parent Relations in Early Adolescence. *International Journal of Behavioral Development, 33*, 556-564. (DOI: <http://doi.org/bn9sk7>).
- RIDEOUT, V.J., ROBERTS, D.F. & FOEHR, U.G. (2005). *Generation M: Mediam in the Lives of 8-18 year-olds*. Menlo Park, CA: Henry J. Kaiser Family Foundation.
- SUREDA, J., COMAS, R. & MOREY, M. (2010). Menores y acceso a Internet en el hogar: las normas familiares. *Comunicar, 34*, 135-143. (DOI: <http://doi.org/b3jp2h>).
- TEJEDOR, S. & PULIDO, C. (2012). Retos y riesgos del uso de Internet por parte de los menores. ¿Cómo empoderarlos? *Comunicar, 39*, 65-72. (DOI: <http://doi.org/tkb>).

- THURLOW, C. & MCKAY, S. (2003). Profiling 'New' Communication Technologies in Adolescence. *Journal of Language and Social Psychology*, 22, 94-103. (DOI: <http://doi.org/bzz6z2>).
- VALKENBURG, P.M. & PETER, J. (2007). Preadolescents' and Adolescents' Online Communication and their Closeness to Friends. *Developmental Psychology*, 43, 267-277. (DOI: <http://doi.org/dwmd5z>).
- VAN-DER-AA, N., OVERBEEK, G. & AL. (2009). Daily and Compulsive Internet Use and Well-being in Adolescence: A Diathesis-stress Model Based on Big Five Personality Traits. *Journal of Youth and Adolescence*, 38, 765-776. (DOI: <http://doi.org/bktkbf>).
- VINAS, F. (2009). Uso autoinformado de Internet en adolescentes: perfil psicológico de un uso elevado de la red. *International Journal of Psychology and Psychological Therapy*, 9, 109-122.