

What are young people doing on Internet? Use of ICT, parental supervision strategies and exposure to risks

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Abstract

Introduction. Current research emphasizes young people's access to and use of social networks, chat and WhatsApp. However, this situation is not associated with active parental mediation to protect them from the risks involved. This study analyzes Murcian students' perception of cell phone and computer use, parental mediation strategies and their relation to cyberbullying and problematic use of technologies.

Method. The sample was composed of 1914 students between the ages of 11 and 21 years ($M = 13.83$, $SD = 2.03$), from primary or secondary public and private schools in the Region of Murcia (Spain). Stratified random sampling was used. Information was collected through a self-report, structured survey.

Results. Internet access by cell phone (70%) or computer (99%) was widespread, with 68.9% of students using cell phones and 67.1% using a computer 1-2 hours per day. Moreover, 10-15% of students used technologies more than four hours per day. There were significant gender differences in the time spent using a cell phone, as well as differences by gender and stage of education in what the cell phone or computer was used for. The most common use of both technologies was communicating and relating, using WhatsApp and social networks. Findings showed limited parental supervision; the most common strategies were asking questions and limiting the time allowed online. Significant relations were noted between parental supervision, cyberbullying and behaviors related to problem use of ICT.

Discussion and conclusions. Family involvement to guide and supervise young people when connected to ICT is an important factor in protecting them against Internet risks like cyberbullying or cyberaddiction. We underscore the need to reinforce parental supervision so that young people may be able to make more responsible use of ICT and avoid the risks involved.

Keywords: young people, parental supervision, Internet risks, cyberbullying.

Resumen

Introducción. Las investigaciones actuales insisten en la accesibilidad y consumo que los menores hacen de las redes sociales, chats y WhatsApp. Sin embargo, esta realidad no va asociada a una supervisión parental activa que los proteja de los numerosos riesgos existentes en la red. Este trabajo analiza la percepción de estudiantes de Murcia sobre los usos que hacen del móvil y el ordenador, las estrategias de supervisión de sus progenitores y su relación con experiencias de *cyberbullying* y uso problemático de las tecnologías.

Método. La muestra estuvo compuesta por 1914 estudiantes con edades comprendidas entre los 11 y 21 años ($M = 13.83$, $DT = 2.03$) de centros públicos y privados de educación primaria y secundaria de la Región de Murcia (España). La selección muestral fue aleatoria por conglomerados. La recogida de información se realizó a partir de una encuesta estructurada autoinformada diseñada *ad hoc*.

Resultados. El acceso a internet a través del teléfono móvil (70%) y el ordenador (99%) está generalizado con un 68.9% que dicen dedicar entre 1-2 horas/día al móvil y un 67.1% al ordenador. Sin embargo, destaca que entre un 10%-15% digan dedicar más de cuatro horas diarias a ambas tecnologías. Aparecen diferencias significativas por sexo en el consumo del móvil, como también por sexo y nivel educativo en los diferentes usos del teléfono y el ordenador. Para ambas tecnologías impera el uso comunicativo y el social a través del WhatsApp y las Redes Sociales. Los resultados sobre la supervisión parental manifiestan su escasez entre los menores, siendo las estrategias más comunes preguntar y limitar el tiempo de conexión. Destaca la relación significativa entre supervisión parental, experiencias de *cyberbullying* y conductas relacionadas con el uso problemático de las TIC.

Discusión y conclusiones. La implicación de la familia a modo de supervisión durante la conexión de los menores a las TIC es un importante factor de protección ante los riesgos a los que se exponen los menores como son el *cyberbullying* y la ciberadicción. Se advierte la necesidad de reforzar la mediación parental para el logro de un uso más responsable de las TIC y evitar riesgos.

Palabras Clave: adolescentes, supervisión parental, riesgos en la red, *cyberbullying*.

Introduction

Analysis of cyberbullying, also known as electronic bullying, has attracted worldwide attention since the last decade (Smith, 2016). The first pertinent study goes back to the year 2000, when Finkelhor, Mitchell and Wolak found that 6% of school children were already involved. Today, there are numerous research studies that have inquired into the nature of this form of harassment, its causes, and its severe emotional and psychological impact, primarily on the victims (Giménez, Hunter, Durkin, Arnaiz & Maquilón, 2015; Hase, Goldberg, Smith, Stuck & Campain, 2015; Kowalski, Giumetti, Schroeder & Lattaner, 2014; Mishna, McInroy, Lacombe-Duncan & Daciuk, 2015), as well as its impact on students' academic performance (Bellamy & Yousef, 2015). Recent studies confirm that there is a relationship between increased cyberbullying and a rise in non-natural childhood deaths (Fu, Chan & Ip, 2014).

Elsewhere, worldwide data report the dangerous spread and increase of cyberbullying among the adolescent population (Lucas, Pérez & Giménez, 2016). In the USA, Hinduja and Patchin (2015) studied a sample of 457 schoolchildren between the ages of 11 and 15, of which 34.4% reported having been a victim of cyberbullying at least once, compared to 14.6% who say they have practiced cyberbullying at some time. Considering the past month, 21% reported frequent victimization (on one or more occasions) and 5.5% reported frequent practice of bullying. In Australia, the figures are lower, at about 11% in boys between the ages of 10 and 17 (Sakellariou, Carroll & Houghton, 2012), similar to results found in the European Union, with 12% (Dalla, Di Pietro, Morel & Psaila, 2016). The latest report from Save the Children (Calmaestra et al., 2016) indicates the incidence of bullying at 9.3%, and cyberbullying at 6.9%. The percentage of cyberbullying in the Region of Murcia was higher than the national average for Spain, along with other regions such as Andalusia and Melilla. One of the most frequent forms is the insult made over the cell phone or computer on WhatsApp, Messenger or social networks. Social networks are adolescents' preferred means for communication and other purposes, and are increasingly so for children. They have become the perfect tool for practicing or suffering from this type of abuse (Del Río, Sádaba & Bringué, 2010). Being a frequent user of social networks has also been confirmed to increase one's possibilities of becoming a cyberbully or cybervictim (León, Felipe, Fajardo & Gómez, 2012). Families are often unaware of this, and do not even know that their children have profiles on these networks, or what material or information they are sharing and with whom (Cloquell, 2015).

The increasing use and consumption of ICT on the part of children and adolescents exposes them to an array of different risks, most notably: access to inappropriate content, contact with strangers, grooming, threats to privacy, identity theft, sexting, cyberbullying itself, and the ever-growing problem of addiction to Internet, cell phones and ICT in general (Carbonell et al., 2012; Fajardo et al., 2013). In Spain, data from the National Observatory on Telecommunications (ONTSI, for its Spanish initials), places Internet access on the part of boys and girls at 94.6%, and cell phone access at 69.8%. When regions of Spain are broken down, Murcia shows 89% of underage children have access to a computer and 73% to a cell phone, in most cases their own device (ONTSI, 2016). Reflecting excessive Internet consumption, Ochaíta, Espinosa and Gutiérrez (2011) indicate aimless browsing behaviors (31%), a constant need to be connected (12%) and feeling upset when not connected (16%) as the primary symptoms found in young people. More recent studies indicate 13.6% of adolescents recognize problematic use of Internet, and 2.4% of their cell phone (Muñoz et al., 2016).

In the face of this situation, parental supervision and mediation is key for educating children and making them aware of a more responsible use of ICTs. This effort is very important to keep children safe from the online risks that have such a great impact on their personal and social context (Navarro & Serna, 2016). In recent years, subsequent studies have tried to determine what strategies are being used by fathers and mothers in seeking to supervise. In most of these studies, a large proportion of school children report that they are not being supervised by their parents when accessing Internet, nor are time limits imposed (Berríos, Buxarraís & Garcés, 2015); at the same time, parents tend to overestimate their involvement (Garmendia, Casado, Martínez & Garitaonandia, 2013). Colás, González and de Pablos (2013) further specify that social networks are adolescents' tool of choice for communication and socialization, and that only 22% claim to have any kind of regulation from their parents when they use them.

The most common forms and strategies of supervision can be classified as restrictive, instructive or active, in addition to other technical strategies (Garmendia et al., 2013; Martínez de Morentin & Medrano, 2012). Qualitative analyses carried out in a sample of English parents with children between the ages of 7 and 10 concluded that the most commonly reported strategies included technical supervision, where the child's Facebook account was connected to their own, computer restrictions were imposed, and/or the cell phone was checked

(Monks, Mahdavi & Rix, 2016). This concurs with results found in the report *EU Kids Online*, where most parents claim to exercise active, restrictive mediation, as compared to more passive attitudes (Helsper, Kalmus, Hasebrink, Sagvari & de Haan, 2013). From the earliest studies carried out on the subject of parental control and mediation, one gathers that parents from different countries and cultures exercise shared parent/child usage of Internet, more than technical types of restrictions (blocked web pages) or time limitations (Kirwill, 2009).

According to the children's reports, other steps taken by their parents include: limiting connection time, reviewing their browsing history, asking what they are doing, or the father or mother may even join their social network (García & López de Ayala, 2013). In a later study, findings show that the children perceived their parents' interest in knowing what they were doing (55%), followed by those who say they were checked more closely to see who they were talking to or where they were browsing (37.5%), in comparison to 30% who indicate that their parents did nothing (30%) (Moreno, León & Contreras, 2014). Recent studies confirm the effects of certain parental strategies on children's relationship to ICT, especially in their attitudes and online behaviors, acting at times as protection factors (Hui-Lien, Chien, Chao-Hsiu, 2016). Based on these opinions, we may gather that asking what the child is doing, limiting their connection time on Internet, reviewing their browsing history, or even linking a child's Facebook account to one's own, is not sufficient to keep children from being exposed to online risks, including cyber addiction, contact with strangers, grooming or cyberbullying.

Objectives and hypotheses

It seems necessary, therefore, to continue to inquire into parents' and students' perceptions about the task of family-based supervision, in order to establish channels for working with both groups in the area of online safety for underage children. Given the lack of pertinent research studies in the context of Murcia, the present study analyzes consumption and use of cell phones and computers on the part of primary, secondary and college preparatory students, the forms of parental supervision in their family context, and how this relates to problematic ICT use and experiences with *cyberbullying*.

Method

Participants

The sample was representative of the Region of Murcia (Spain) and was composed of 1914 students (49.3% male, 50.7% female) between the ages of 11 and 21 years ($M = 13.83$; $SD = 2.03$) from a total of 38 schools. Of these, 61.4% ($n = 1175$) attended public schools, and 36.6% attended private schools. Distribution by year in school was as follows: Sixth-graders, primary school ($n = 561$, 29.3%), compulsory secondary education (ESO) ($n = 1169$, 61.1%) and college preparatory ($n = 184$, 9.6%). Random, stratified cluster sampling was used. The school, randomly selected by strata (type of school funding), was taken as the primary unit of analysis, with stage of education as the secondary unit.

Instruments

The self-report, structured survey was designed *ad hoc*, and is part of a broader instrument (Giménez, Arnaiz & Maquilón, 2013) that includes five blocks: the child's relationship to technology (ICT), experiences with bullying, experiences with cyberbullying, strategies for coping with cyberbullying, and cyberbullying witnesses. The instrument's validity was confirmed in several rounds of expert judgements. For this investigation, only four groups of questions were selected, in order to focus ICT access and use, involvement in cyberbullying, problematic uses of ICT, parental supervision and main strategies in use.

For the first construct related to children and ICT, we used yes/no filter questions ("do you have a cell phone of your own?", "do you use a computer or laptop?"), followed by an assessment question about their main uses of the cell phone and computer, measured on a Likert type scale with five response options, where 1 = never and 5 = always. Some of the options offered were: "making phone calls", "sending SMS", "sending WhatsApp", and "playing". In the case of the computer, items were included that refer to academic uses ("doing assignments for school", "looking up information on what I am studying"), recreational uses ("playing") and communicative uses ("using chat", "sending emails", "connecting to social networks"). Internal consistency of this question was $\alpha = .601$. Next, a multiple-choice question asked about the time spent daily on the cell phone and computer ("less than 1 hour/day", "1-2 hours/day", "2-4 hours/day", and "more than 4 hours/day").

In order to analyze problem behaviors with ICT use, students were asked if they had experienced different behaviors, through nine items that were grouped into three conceptual categories: a) aggressivity (“I get angry when people interrupt me and I’m on my cell phone or computer”, “I argue with a family member about spending too much time on the cell phone or computer”); b) change of interests (e.g. “I go to bed late because I am on my cell phone or computer”, “I spend a lot of time in my bedroom”), and c) anxiety (e.g. “I feel bad when I cannot use my cell phone”, “I need to use my cell phone”). This scale was designed by adapting the DENA questionnaire (Labrador & Villadangos, 2010), and reliability values of $\alpha = .735$ were obtained. For the cyberbullying analysis, we used the two dichotomous questions about one’s participation (yes/no) as a bully or victim.

Parental supervision was assessed through an initial filter question about whether they were watched or controlled in their Internet access or when they were online (yes/no). This was followed by two assessment questions on a Likert scale where 1 = never and 5 = always, where they were asked who does the supervising (e.g. “father/mother”, “grandparents”, “older brother or sister” or “teacher”) and how this supervision was carried out (strategies). Some examples of strategies offered were: “they ask me what I am doing, what I am looking at”, “they keep track of the time that I am online”, “they control what web pages I visit” and “we look at things together”. This question showed a reliability of $\alpha = .746$.

Procedure

The data was collected between February and June of 2012, after requesting participation from the schools through a telephone contact. Once the confirmation was received, the principal investigator visited the schools and students completed the questionnaires. The data matrix was then generated for later analysis using SPSS version 21.0.

Data analyses

The present study is quantitative, nonexperimental, and cross-sectional; it is descriptive and exploratory in nature. After checking for sample normality and equality of variances, the parametric route was selected. First, the Likert scale variables were recategorized from five options to three (1 = *never*, 2 = *usually*, 3 = *almost always/always*) in order to avoid dispersion in the responses. Chi squared was used to check for a significant association between nominal variables and Spearman’s Rho correlation (ρ) for ordinal variables (age and stage of education). The descriptive analysis used frequencies and percentages. In order to verify the

two-group hypotheses, we used Student's t with Cohen's d to measure effect size, and for verifying more than two groups, we used a single-factor ANOVA, with the partial eta square (η^2_p). Significance level was set at $p < .05$.

Results

Use and access to ICT

Of the 1707 students who answered this question, 89.2% claimed to have a cell phone of their own, of which 69.4% had access to Internet. As for computers, 96.4% claimed to have one, with 98.9% of these having Internet access through their computer. Most of those surveyed claimed to have low cell phone consumption, 1-2 hrs/day (68.9%), while 16.2% reported 2-4 hrs/day and 14.9% more than 4 hrs/day. On the computer, level of consumption was also mainly between 1-2 hrs/day (67.1%), with 22.5% reporting 2-4 hrs/day and 10.4% reporting more than 4 hrs/day. The girls showed greater daily use of cell phones both in the 2-4 hrs/day range (male = 44.6%, female = 55.4%) and in the range of more than 4 hrs/day (male = 30.6%, female = 69.4%) [$t = -6.874$, $df = 1705$, $p < .000$, $d = 0.28$]. Differences were not significant in the case of computer use, although girls did stand out again in the range of more than 4 hrs/day (54.7%) as compared to the boys (45.3%).

As for the students' different uses of ICT (Table 1), most notable was use of the cell phone for communicating, via WhatsApp, telephone calls, and text messages (SMS), with significant gender differences in favor of the girls [$t = -3.770$, $df = 1705$, $p < .000$, $d = 0.26$], while the boys showed a preference for recreational use of their cell phone [$t = 3.347$, $df = 1705$, $p < .001$, $d = 0.20$]. In the case of the computer, priority use was given to interpersonal communication, especially on social networks, although in this case the differences were not statistically significant [$t = -1.493$, $df = 1844$, $p = .136$]. Gender differences did appear in recreational use of the computer, more typical of boys than girls [$t = -10.231$, $df = 1844$, $p < .000$, $d = 0.44$]. The girls, for their part, made more academic use of the computer, for school assignments or for information searches, in comparison to the boys [$t = -6.591$, $df = 1844$, $p < .000$, $d = 0.09$]. When crossing this variable with stage of education, no differences were found in the recreational use of the cell phone, but they did exist in communicative uses [$F = 43.926$, $df = 2$, $p < .000$, $\eta^2_p = .05$], more typical of college preparatory students than of compulsory secondary or primary students. Uses of the computer also differed according to stage

of education, both in its academic use, most typical of primary schoolchildren [$F = 9.761$, $df = 2$, $p < .000$, $\eta^2_p = .01$], and in its recreational use [$F = 31.253$, $df = 2$, $p < .000$, $\eta^2_p = .03$] or communicative use [$F = 36.014$, $df = 2$, $p < .000$, $\eta^2_p = .04$] more typical of adolescents in secondary school.

Table 1. Summary of cell phone and Internet uses, by gender

Cell phones ($n = 1707$)	Gender	$M (SD)$	$t (df)$	df	p	d
Calls	Male	2.02 (0.85)	-2.22	1705	.026	ns
	Female	2.11 (0.83)				
SMS	Male	1.43 (0.71)	-7.91	1705	< .000	.35
	Female	1.74 (0.84)				
MMS	Male	1.11 (0.41)	.95	1705	.344	ns
	Female	1.09 (0.38)				
WhatsApp	Male	1.80 (0.94)	-.69	1705	.486	ns
	Female	1.83 (0.96)				
Playing	Male	1.71 (0.85)	6.16	1705	< .000	.27
	Female	1.47 (0.77)				
Internet	Male	1.87 (0.92)	-.45	1705	.652	ns
	Female	1.89 (0.94)				
Emails	Male	1.22 (0.56)	1.84	1705	.066	ns
	Female	1.18 (0.52)				
<i>Computer ($n = 1846$)</i>						
School assignments	Male	1.67 (0.77)	-7.27	1844	< .000	.31
	Female	1.94 (0.85)				
Information searches	Male	1.49 (0.73)	-4.12	1844	< .000	.16
	Female	1.63 (0.81)				
Playing	Male	1.94 (0.89)	10.23	1844	< .000	.45
	Female	1.53 (0.81)				
Chat	Male	2.13 (0.92)	-1.49	1844	.134	ns
	Female	2.19 (0.91)				
Emails	Male	1.61 (0.81)	-.71	1844	.476	ns
	Female	1.63 (0.84)				
Social networks	Male	2.46 (0.82)	-1.12	1844	.263	ns
	Female	2.50 (0.81)				

Parental supervision of ICT access

Regarding parental supervision during Internet access, 69% ($n = 572$) of those surveyed reported being supervised by some family member during their Internet connection, specifically on the computer. According to gender, more girls claimed to be supervised than boys [$t = -5.229$, $df = 1844$, $p < .000$, $d = .18$]. When asked who handles this supervision, mother and father were the primary parties, followed by older siblings. Again, the girls reported more supervision from parents than did boys [$t = -1.900$, $df = 571$, $p = .050$, $d = .16$], but there were no gender differences with regard to the others who played a supervisory role.

There were also differences by age [$F = 3.160$, $df = 2$, $p = .043$, $\eta^2_p = .01$] and stage of education [$F = 6.435$, $df = 2$, $p = .002$, $\eta^2_p = .02$], with significant negative correlations between family supervision and age ($\rho = -.111$, $p = .008$) and between family supervision and stage of education ($\rho = -.138$, $p < .001$).

Next, we analyzed strategies used by the family during Internet connection time, as reported by the students. The most common type of supervision was through direct questions, followed by keeping track of and limiting the time spent, and reviewing the browsing history. Less frequent strategies were “shared access” or “inspecting the computer”. Gender differences appeared only in the strategy of asking direct questions, which was more frequent towards girls than towards boys [$t = -2.292$, $df = 571$, $p = .022$, $d = .18$]. As seen in Table 2, significant differences appeared based on stage of education for the variables of inspection, control of browsing history, and shared access, being applied more frequently with children in primary education and decreasing throughout compulsory secondary and college preparatory education.

Table 2. Parental supervision strategies by age and stage of education

Strategies (n = 573)	Stage of Education	M (SD)	F(df)	df	p	η^2_p
Questions	Primary	2.17(0.87)	1.907	2	.149	ns
	Comp. Secondary	2.08 (0.89)				
	College Prep	2.00 (0.92)				
Time limit	Primary	2.01 (0.93)	.854	2	.426	ns
	Comp. Secondary	1.92 (0.91)				
	College Prep	1.85 (0.82)				
Computer inspection	Primary	1.45 (0.79)	13.611	2	< .000	.05
	Comp. Secondary	1.19 (0.65)				
	College Prep	1.07 (0.53)				
Control of browsing history	Primary	1.77 (0.89)	31.090	2	< .000	.09
	Comp. Secondary	1.29 (0.65)				
	College Prep	1.07 (0.27)				
Shared access	Primary	1.57 (0.82)	7.670	2	< .001	.03
	Comp. Secondary	1.33 (0.66)				
	College Prep	1.26 (0.59)				

Parental supervision and its association with ICT-related risks

After analyzing consumption and uses of ICT and the principal parental supervision strategies, we analyzed how these might be related to cell phone and computer use and their associated risks, such as problematic use or possible cyber addiction, and cyberbullying experiences. For the first case, no statistically significant association was found between parental supervision and students' greater or lesser use of the cell phone. However, parental control was associated with greater *computer* use on the part of the school children [$\chi^2 = 7.99$, $df = 2$, $p = .018$; $\rho = -.054$, $p = .020$]. With regard to problematic use and possible cyber addiction, no significant differences were found between school children who claimed to be supervised and those who did not. On the contrary, when the analysis was carried out according to each of the three dimensions or categories (anxiety, aggressive behaviors and change of interests), parental supervision was observed to have a significant association with behaviors reflecting a change of interests [$\chi^2 = 18.74$, $df = 12$, $p = .019$; $\rho = -.067$, $p = .004$]. School children who claim to not be supervised showed a significantly higher mean score on behaviors reflecting change of interests than did those who are supervised [$t = 2.356$, $df = 1844$, $p = .019$]. Likewise, a statistically significant association was found between parental supervision and involvement in cyberbullying dynamics [$\chi^2 = 31.01$, $df = 1$, $p < .000$; $\rho = .130$, $p < .000$]. Of the schoolchildren who claim to be supervised by their family, 87.9% are not involved as cyber victims. In the case of cyber aggression, the association with parental control was not significant [$\chi^2 = 3.62$, $df = 1$, $p = .057$; $\rho = .044$, $p = .057$].

Discussion and Conclusions

The results regarding children's and adolescents' generalized access to and use of the cell phone and computer confirm the ease and widespread nature of ICT use that has already been demonstrated in previous studies in Spain (Alfaro et al., 2015; Berríos et al., 2015; Ministerio del Interior, 2014; ONTSI, 2016). Although most schoolchildren from the Region of Murcia claimed to use the cell phone and computer between one and two hours per day, 10-15% confirmed that they spend more than four hours per day on the cell phone and on the computer, respectively. These results are similar to those found by Rial, Gómez, Braña and Varela (2014) in a sample of adolescents in Galicia (northwest Spain). In addition, significant gender differences appeared, with girls showing greater cell phone consumption, concurring with Malo, Casas, Figuer and González (2006).

Uses of the cell phone were primarily WhatsApp, telephone calls and SMS. The girls showed a preference for communicative uses of the cell phone, while the boys leaned toward its recreational use. In the case of the computer, significant gender differences appeared again, with girls making greater academic use, while boys preferred playing. The Internet tool par excellence were the social networks, a data point that conflicts with European data reported by Ólafsson et al. (2013), who noted computer use for school assignments and for recreation. A surge in the generalized use of social networks among the adolescent population is a reality (Ministerio del Interior, 2014), now even among preadolescents in primary school (Fernández, Peñalva & Irazabal, 2015). Furthermore, Martínez-Ferrer and Moreno (2017) confirmed a relationship between social network dependency and relational violence behaviors among school peers. This leads us to reflect on the dangers that these children are facing during their network connection time, when moreover, parental supervision is rather questionable. There seems to be a clear need to advocate for and work toward “cyber coexistence”, by educating minor children in the safe and responsible use of ICT (Ortega & Zych, 2016). In this way they may avoid and be able to confront and denounce situations of cyberbullying or virtual violence in other contexts, and make cyberspace a safe place to relate to others, to form and maintain new friendships, to become informed, to learn and to communicate in a positive way.

Family involvement, in any case, is key and decisive. To consider this scenario as the exclusive responsibility of the school, being an environment for learning and living together, would be a narrow and small-minded view of a process that must be based on educational models of the school and the family. The risk involved in cyberbehavior is an explicit, present-day reality. We face a venture into the unknown, where as adults we must explicitly accompany our children, because “educating is not, and cannot be, to frighten the child. Instead, it is illustrating, accompanying, doing things together, expressing opinions, mediating, explaining, measuring, reflecting ...” (Luengo, 2014, 8). It is a matter of creating shared spaces and moments with the children for reflection, through parent and teacher mediation during times of ICT use, for the purpose of learning healthy, responsible civic behavior online. Recent research studies confirm that parental mediation decreases the probability of minor children becoming involved in cyberbullying experiences (Navarro, Serna, Martínez & Ruiz-Oliva, 2013), even through specific tools like Facebook (Saunders & Varma, 2015), while at

the same time empowering them to use Internet responsibly and to take advantage of the opportunities it offers (Blinka, 2013).

Our results continue in this line, finding a significant relationship between a lack of family supervision and involvement in cyberbullying dynamics, as well as problematic and excessive use of the computer, and possible cyber addiction. Authors such as Blinka (2013) and Kalmus, Blinka and Ólafsson (2015) conclude that parental control, including the restrictive type of limiting connection time, reduces excessive consumption of Internet and ICT. Similar results were obtained by Saunders and Varma (2015), who found that parental supervision through counseling and guiding their children reduced Facebook connection time, as well as the possibility of being victimized through this tool. In our case, children who say they are less supervised showed more change-of-interests behaviors (staying alone in the bedroom to use the cell phone, computer or video games; preferring ICT activities to playing sports or being with friends), than did children who had more supervision.

Moreover, seven out of ten students state that they are not supervised when online; and of those who have supervision, girls are more controlled than boys, similar data to those from Garmendia et al. (2013). International results, furthermore, indicate that families are largely unaware of the risks on Internet or of their children's activities online (Symons, Ponnet, Emmery, Walrave & Heirman, 2017). Age also seems to be a factor in parental supervision, with parental supervision declining as the children become adolescents, confirmed also in previous studies (Berríos et al., 2015). This is a bit striking, concurring with the fact that the peer group becomes the primary point of reference for the adolescent, and becomes the adolescent's support in online activities and its dangers (Jiménez, Garmendia & Casado, 2015).

Supervision reported by the children surveyed was primarily active and direct, through questions about what they are doing on Internet, who they talk to, etc., followed by restriction and control of connection time. Even though sharing time on Internet is a good strategy for mediation, and gives rise to communicative exchange and relations between parents and children, this strategy was among the least reported by adolescents, contrary to conclusions from Symons, Ponnet, Walrave and Heirman (2017) in their qualitative study, where open communication with children and shared access were the preferred strategies for parental mediation. Gender and stage of education were significantly associated with the application of different mediation strategies. According to the children in our sample, the girls more often claimed to

be questioned, and primary schoolchildren more often reported that their computer and their browsing history were checked, and that their parents shared time online with them, as compared to adolescents from secondary education.

This research study presents several *limitations* with regard to the instrument used for collecting information. The selection of questions with different structures and response options makes it difficult to perform a factor analysis, as does the length of the question that refers to parental supervision strategies. Future studies should begin from current advances in the subject of parental supervision and the use of more standardized instruments, so as to obtain a broader view of this reality, in the context of the framework applied for this initial analysis of parental control and exposure to risks among underage children in Murcia (Spain). It would also be interesting to compare the views of parents and children about parental supervision, with express attention to the phenomenon of sexting. The need for better understanding of the patterns of technology use, of children's perception of parental supervision, and how these are associated with online risks, motivates further active work in how the school and family should design and develop strategies for responding, for dealing with and overcoming situations that threaten the integrity of possible victims, with marked consequences in the shaping and expression of their personality, self-concept, self-esteem, interpersonal relations and affective safety.

References

- Alfaro, M., Vázquez, M. E., Fierro, A., Herrero, B., Muñoz, M. F., Rodríguez, L., & Grupo de Educación para la Salud de la AEPap (2015). Uso y riesgos de las tecnologías de la información y la comunicación en adolescentes de 13-18 años. [Use and risks of information and communication technologies in adolescents ages 13-18.] *Acta Pediátrica Española*, 73(6), 146-151.
- Bellamy, A., & Yousef, W. (2015). The impact of cyberbullying on the self-esteem and academic performance of Arab-American high school students. *Electronic Journal of Research in Educational Psychology*, 13(3), 463-482. <https://doi.org/10.14204/ejrep.37.15011>

- Berríos, L., Buxarrais, M. R., & Garcés, M. S. (2015). Uso de las TIC y mediación parental percibida por niños de Chile. [Use of ICT and perceived parental mediation of children in Chile.] *Comunicar*, 45(XXIII), 162-168. <https://doi.org/10.3916/C45-2015-17>
- Blinka, L. (2013). *The “good” and the “bad” of the Internet: Studying subjective well-being as an outcome of young people’s online practices* (Thesis Dissertation). University of Tartu, Estonia.
- Calmaestra, J., Escorial, A., García, P., del Moral, C., Perazzo, C., & Ubrich, T. (2016). *Yo a eso no juego. Bullying y ciberbullying en la infancia*. [That’s not my game. Bullying and cyberbullying during childhood.] Madrid: Save The Children.
- Carbonell, X., Fúster, H., Chamarro, A., & Oberst, U. (2012). Adicción a internet y móvil: Una revisión de estudios empíricos españoles. [Addiction to Internet and cell phones: A review of empirical studies in Spain.] *Papeles del Psicólogo*, 33(2), 82-99.
- Cloquell, A. (2015). Usos sociales de internet entre los adolescentes españoles. [Social uses of Internet among Spanish adolescents.] *Revista sobre la infancia y la adolescencia*, 8, 1-14. <https://doi.org/10.4995/reinad.2015.3649>
- Colás, P.; González, T. & de Pablos, J. (2013) Juventud y redes sociales: motivaciones y usos preferentes. [Youth and social networks: motivations and preferred uses.] *Comunicar*, 40, v. XX, pp.15-23. <https://doi.org/10.3916/C40-2013-02-01>.
- Dalla, V., Di Pietro, A., Morel, S., & Psaila, E. (2016). *Cyberbullying among young people*. London: Policy Department for Citizen's Rights and Constitutional Affairs.
- Del Río, Sádaba, C. & Bringué, X. (2010). Menores y redes ¿sociales?: de la amistad al *cyberbullying*. [Children and “social” networks? From friendship to cyberbullying.] *Revista de Estudios de Juventud*, 88, 115-129.
- Fajardo, M. I., Gordillo, M., & Regalado, A. B. (2013). Sexting: Nuevos usos de la tecnología y la sexualidad en adolescentes. [Sexting: new uses of technology and sexuality in adolescents.] *International Journal of Developmental and Educational Psychology*, 1, 521-533.
- Fernández, J., Peñalva, A., & Irazabal, I. (2015). Hábitos de uso y conductas de riesgo en internet en la preadolescencia. [Internet usage habits and risk behaviors in pre-adolescence.] *Comunicar*, 44(XXII), 113-120. <https://doi.org/10.3916/C44-2015-12>
- Finkelhor, D., Mitchell, K. J., & Wolak, J. (2000). *Online victimization: A report on the nation’s youth*. Alexandria, VA: National Center for Missing and Exploited Children.

- Fu, K.-W., Chan, C.-C., & Ip, P. (2014). Exploring the relationship between cyberbullying and unnatural child death: an ecological study of twenty-four European countries. *BMC Pediatrics, 14*, 195-200. <https://doi.org/10.1186/1471-2431-14-195>
- García, B. C., & López de Ayala, M. C. (2013). *Los padres ante el uso de internet y redes sociales por menores. Control y protección*. [Parents' response to children's use of Internet and social networks: control and protection.] Presented at the 5th *Congreso Internacional Latina de Comunicación Social*, University of La Laguna, Spain.
- Giménez, A. M., Arnaiz, P. & Maquilón, J. J. (2013). *CYBERBULL Questionnaire* [Database record]. APA PsychTest. <https://doi.org/10.1037/t40201-000>
- Giménez, A. M., Hunter, S. C., Durking, K., Arnaiz, P., & Maquilón, J. J. (2015). The emotional impact of cyberbullying: Differences in perceptions and experiences as a function of role. *Computers & Education, 82*, 228-235. <https://doi.org/10.1016/j.compedu.2014.11.013>
- Garmendia, M., Casado, M. A., Martínez, G., & Garitaonandia, C. (2013). Las madres y padres, los menores e internet. Estrategias de mediación parental en España. [Mothers and fathers, children and Internet. Parental mediation strategies in Spain.] *Doxa Comunicación, 17*, 99-117.
- Hase, C. N., Goldberg, S. B., Smith, D., Stuck, A., & Campain, J. (2015). Impacts of traditional bullying and cyberbullying on the mental health of middle school and high school students. *Psychology in the Schools, 52*(6), 607-617. <https://doi.org/10.1002/pits.21841>
- Helsper, E. J., Kalmus, V., Hasebrink, U., Sagvari, B., & de Haan, J. (2013). *Country classification: opportunities, risks, harm and parental mediation*. London: EU Kids Online, The London School of Economics and Political Science.
- Hinduja, S., & Patchin, J. W. (2015). *2015 Cyberbullying Data*. Retrieved from <http://cyberbullying.org/2015-data>
- Hui-Lien, C., Chien, C., Chao-Hsiu, C. (2016). The moderating effects of parenting styles on the relation between the internet attitudes and internet behaviors of high-school students in Taiwan. *Computers & Education, 94*, 204-214. <https://doi.org/10.1016/j.compedu.2015.11.017>
- Jiménez, E., Garmendia, E., & Casado, M. A. (2015). Percepción de los y las menores de la mediación parental respecto a los riesgos en internet. [Children's perception of paren-

- tal mediation with regard to online risks.] *Revista Latina de Comunicación Social*, 70, 49-68. <https://doi.org/10.4185/RLCS-2015-1034>
- Kalmus, V., Blinka, L., & Ólafsson, K. (2015). Does it matter what mama says: Evaluating the role of parental mediation in European adolescents' excessive internet use. *Children & Society*, 29(2), 122-133. <https://doi.org/10.1111/chso.12020>
- Kirwill, L. (2009). Parental mediation of children's internet use in different European countries. *Journal of Children and Media*, 3(4), 394-409. <https://doi.org/10.1080/17482790903233440>
- Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: a critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin*, 140(4), 1073-1137. <https://doi.org/10.1037/a0035618>
- León, B., Felipe, E., Fajardo, F., & Gómez, T. (2012). Cyberbullying in a Sample of Secondary Students: Modulating Variables and Social Networks. *Electronic Journal of Research in Educational Psychology* 10(2), 771-788.
- Lucas, B., Pérez, A., & Giménez, M. (2016). La evaluación del ciberbullying: Situación actual y retos futuros. [Assessment of cyberbullying: the current situation and future challenges.] *Papeles del psicólogo*, 37(1), 27-35.
- Luengo, J. A. (2014). *Ciberbullying, prevenir y actuar*. [Cyberbullying, preventing and taking action.] Madrid: Colegio Oficial de Psicólogos de Madrid y Fundación A3Media.
- Malo, S., Casas, F., Figuer, C., & González, M. (2006). El teléfono móvil: disponibilidad, usos y relaciones por parte de los adolescentes entre 12 y 16 años. [The cell phone: availability, uses and relationships of adolescents between the ages of 12 and 16.] *Estudios sobre Educación*, 10, 55-78.
- Martínez-Ferrer, B. & Moreno, D. (2017). Dependencia de las redes sociales virtuales y violencia escolar en adolescentes. [Online social network dependency and school violence in adolescents.] *International Journal of Developmental and Educational Psychology*, 2(1), 105-114. <https://doi.org/10.17060/ijodaep.2017.n1.v2.923>
- Martínez de Morentin, J. I., & Medrano, C. (2012). La mediación parental y el uso de internet. [Parental mediation and Internet use.] *International Journal of Developmental and Educational Psychology*, 1(1), 549-556.
- Ministerio del Interior (2014). *Encuesta sobre hábitos de uso y seguridad de internet de menores y jóvenes en España*. [Survey on the Internet usage and safety habits of children and youth in Spain. Retrieved from http://www.interior.gob.es/prensa/noticias/-/asset_publisher/GHU8Ap6ztgsg/content/id/2735634

- Mishna, F., McInroy, L., Lacombe-Duncan, A., & Daciuk, J. (2015). *Motivations for cyberbullying: A longitudinal and multi-perspective inquiry*. Toronto: University of Toronto.
- Monks, C. P., Mahdavi, J., & Rix, K. (2016). The emergence of cyberbullying in childhood: Parent and teacher perspectives. *Psicología Educativa*, 22, 39–48. <https://doi.org/10.1016/j.pse.2016.02.002>
- Moreno, D. E., León, G. A., & Contreras, C. R. (2014). El uso seguro de internet y el rol de los padres. [Safe use of Internet and the role of parents.] *Revista Internacional de Tecnologías en la Educación*, 1(1), 47-56.
- Muñoz, R., Ortega, R., López, M. R., Batalla, C., Manresa, J. M., Montellá, N., & Torán, P. (2016). The problematic use of Information and Communication Technologies (ICT) in adolescents by the cross sectional JOITIC study. *BMC Pediatrics*, 14, 140-151. <https://doi.org/10.1186/s12887-016-0674-y>
- Navarro, R. & Serna, C. (2016). Spanish youth perceptions about cyberbullying: Qualitative research into understanding cyberbullying and the role that parents play in its solution. In R. Navarro, S. Yubero & E. Larrañaga (eds.), *Cyberbullying across the globe. Gender, family, and mental Health* (pp. 193-218). Switzerland: Springer.
- Navarro, R., Serna, C., Martínez, V., & Ruiz-Oliva, R. (2013). The role of internet use and parental mediation on cyberbullying victimization among Spanish children from rural public schools. *European Journal of Psychology of Education*, 28(3), 727-745. <https://doi.org/10.1007/s10212-012-0137-2>
- Ochaita, E., Espinosa, M. A., & Gutiérrez, H. (2011). Las necesidades adolescentes y las nuevas tecnologías de la información y la comunicación. [Adolescent needs and new information and communication technologies.] *Revista de Estudios de Juventud*, 92, 87-110.
- ONTSI: Observatorio Nacional de las Telecomunicaciones y de la SI (2016). *Indicadores sobre uso de TIC por menores en España*. [Indicators of ICT use by underage children in Spain.] Madrid: Ministerio de Energía, Turismo y Agenda Digital.
- Ortega, R. & Zynch, I. (2016). La ciberconducta y la psicología educativa: retos y riesgos. [Cyberbehavior and educational psychology: challenges and risks.] *Psicología Educativa*, 22(1), 1-4. <https://doi.org/10.1016/j.pse.2016.04.001>
- Rial, A., Gómez, P., Braña, T., & Varela, J. (2014). Percepciones y uso de internet y las redes sociales entre los adolescentes de la comunidad gallega (España). [Perceptions and use

- of Internet and social networks among adolescents from the region of Galicia (Spain)] *Anales de Psicología*, 30(2), 642-655. <https://doi.org/10.6018/analesps.30.2.159111>
- Sakellariou, T., Carroll, A., & Houghton, S. (2012). Rates of cyber victimization and bullying among male Australian primary and high school students. *School Psychology International*, 33(5), 533-549. <https://doi.org/10.1177/0143034311430374>
- Saunders, C., & Varma, P. (2015). The relationship between parental mediation and facebook victimization and in-person victimization, both directly and indirectly being mediated by the intensity of facebook use by middle school students in an international school in Bangkok, Thailand. *Scholar*, 8(1), 201-213.
- Smith, P. K. (2016). Foreword: An international perspective on cyberbullying. In R. Navarro, S. Yubero & E. Larrañaga (eds.), *Cyberbullying across the globe. Gender, family, and mental health* (pp. v-vi). Switzerland: Springer.
- Symons, K., Ponnet, K., Emmery, K., Walrave, M. & Heirman, W. (2017). Parental knowledge of adolescents' online content and contact risks. *Journal of Youth and Adolescence*, 46, 401-416. <https://doi.org/10.1007/s10964-016-0599-7>
- Symons, K., Ponnet, K., Walrave, M. & Heirman, W. (2017). A qualitative study into parental mediation of adolescents' internet use. *Computers in human behaviour*, 73, 423-432. <https://doi.org/10.1016/j.chb.2017.04.004>