

Cyberbullies, the Cyberbullied, and Problematic Internet Use: Some Reasonable Similarities

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Abstract

Background: The spread of the internet and Information and Communications Technologies (ICT) have completely changed society in the last few decades. The transfer of traditional face-to-face bullying to the virtual environment is one of the risks adolescents face in this new reality. The present study sought to explore the relationship between involvement in cyberbullying and behaviours such as internet and mobile usage and other risky online behaviours. **Method:** The sample consisted of 3,188 adolescents aged 12-17 years old (Mean= 14.44; SD= 1.67). **Results:** The application of the European Cyberbullying Intervention Project Questionnaire (ECIPQ) found that 5.2% were victims, 4.5% perpetrators and 4.3% bully-victims. **Conclusions:** Results also showed that cyberbullying seems to be associated with both Problematic Internet Use and behaviours such as sexting, gambling and contacting strangers, which suggests a need for a comprehensive approach for preventing all these issues. Moreover, parental monitoring could serve as a modulating factor, which should also be taken into account in the development of appropriate prevention strategies.

Keywords: Cyberbullying, problematic internet use, adolescence, online risks.

Resumen

Ciberacosados, Ciberacosadores y Uso Problemático de Internet: Algunos Parecidos Razonables. Antecedentes: el uso generalizado de Internet y de las Tecnologías de la Información y las Comunicaciones (TIC) ha cambiado completamente la sociedad en las últimas décadas. La transferencia del tradicional acoso escolar al entorno virtual es uno de los riesgos a los que se enfrentan los adolescentes en esta nueva realidad. El presente estudio se planteó como objetivo explorar la relación entre ciberacoso y uso de Internet y teléfono móvil y otras conductas de riesgo en línea. **Método:** la muestra estuvo compuesta por 3.188 adolescentes de entre 12 y 17 años (Media= 14,44; DT= 1,67). **Resultados:** tras aplicar el European Cyberbullying Intervention Project Questionnaire (ECIPQ) se encontró que el 5,2% eran víctimas, 4,5% agresores y el 4,3% víctimas-agresoras. **Conclusiones:** el ciberacoso parece estar asociado tanto al uso problemático de Internet como a comportamientos como el sexting, el juego online o el contacto con desconocidos a través de la Red, lo que sugiere la necesidad de un enfoque integral a nivel de prevención. Además, la supervisión parental constituiría un importante elemento modulador, lo cual debe ser tenido en cuenta para la elaboración de estrategias preventivas eficaces.

Palabras clave: ciberacoso, uso problemático de internet, adolescencia, riesgo online.

The spread of Internet and Information and Communications Technologies (ICT) has completely changed society in the last few decades. Although the internet and other ICT have many positive aspects and provide a great opportunity to improve the lives of people in general and adolescents in particular, they also have a darker side. One of the main concerns linked to the widespread use of ICTs, particularly pertaining to youngsters, is the possible involvement in risky online behaviours. These are defined as behaviours that facilitate the appearance of situations that endanger the mental and physical well-being and/or development of the adolescent, either through self-exposure or by exercising them on others (Montiel & Carbonell, 2016). Some examples are:

gambling (De Luigi et al., 2017), contacting strangers (Smahel et al., 2020), or the exchange of self-produced erotic content or sexting (Barrense-Dias et al., 2017). Furthermore, some authors have referred to the possibility of developing an addiction to internet itself (Jorgenson et al., 2016). As this disorder has not yet been included in diagnostic manuals, other authors suggest using the term "Problematic Internet Use" instead (Anderson et al., 2016). Problematic Internet Use suggests an inability to control the use of the cyberspace, generating discomfort from abstinence and negative repercussions in everyday life (Gómez et al., 2014). This is in any case a topic of great controversy, both in its conceptualization (being even described as a "Conceptual Minefield" by Ryding & Kaye, 2018), and in its operationalization, which has serious implications for the physical and mental health and personal development of adolescents (Durkee et al., 2012; Odaci & Cikricki, 2017; Rial, Golpe et al., 2015; Rial et al., 2018); Strong et al., 2018).

The transfer of traditional face-to-face bullying to the new virtual environment is another harmful situation for adolescents.

Cyberbullying has been defined as a type of bullying carried out through technological means (Olweus, 2012), described as 'negative or hurtful, repetitive behaviour, by means of electronic communication tools, which involve an imbalance of power with the less-powerful person or group being unfairly attacked' (Smith et al., 2008). Other experts suggest that cyberbullying has its own characteristics and differences regarding traditional bullying (Hinduja & Patchin, 2013; Tokunaga, 2010). The online environment provides a space where there is no necessity for repetition or power imbalance for bullying to occur (Slonje et al., 2013), as one act can be spread and forwarded with no further intervention from the original perpetrator (Manesini et al., 2012) and the anonymity that internet can provide is sufficient to establish the power imbalance (Sticca & Perren, 2013). However, a single act of aggression online still does not immediately constitute cyberbullying (O'Moore, 2014), so this kind of bullying is particularly difficult to assess. As such, a wide range of cyberbullying prevalence rates have been reported by different studies internationally (Foody et al., 2019; Sabella et al., 2013; Zych, Ortega-Ruiz, & Marín-López, 2016).

Despite the difficulties even in defining what is meant by cyberbullying (Baldry et al., 2018; Olweus & Limber, 2018; Zych, Ortega-Ruiz, & Marín-López, 2016), there is little discussion about the negative impact it has on those involved, both victims and perpetrators (Alonso & Romero, 2020; Garaigordobil, 2011; WHO, 2015). A negative impact in mental health (Bruckauf, 2017), different internalizing and externalizing problems (Tsitsika et al., 2015), and even suicidal ideation (Hinduja & Patchin, 2018; Quintana-Orts et al., 2020), are some of the consequences that highlight the importance of preventing cyberbullying. All of them result in the need for more research and updated data on prevalence and characteristics of cyberbullying (Baldry et al., 2018). Even a recent report emphasizes the need to address this issue, as it could pose a substantial threat for young internet users during the period of confinement caused by the Covid-19 pandemic (UNICEF, 2020).

It has been theorized that the appearance of some behaviours online may be indicative of the presence of others, as if there were a generalized pattern for online vulnerability (Montiel & Carbonell, 2016). This might explain the close relationship sometimes found between several online behaviours that could be considered risky (Gómez, Rial et al., 2017). Some international research has also detected that those involved in cyberbullying tend to spend more time online (Görzig & Ólafsson, 2013), have higher social media use (Craig et al., 2020), show several online risky behaviours (Cooper et al., 2016; Zsila et al., 2018) and higher Problematic Internet Use (Gámez-Guadix et al., 2013).

From a more positive perspective, some research has also focused on how parental monitoring could moderate the online risks their children undertake (Garmendia et al., 2019; Garmendia et al., 2020; Gómez, Harris et al., 2017; Livingstone et al., 2017; Rodríguez-de-Dios et al., 2018). Parents may control the internet usage of their children with norms and limits (Valkenburg et al., 2013) or supervising the activity and advising about the proper use of the Net (Livingstone et al., 2011). Parents could also help adolescents to develop skills to function effectively by themselves in the online environment, taking advantage of the wide range of opportunities while avoiding the risks (Rodríguez-de-Dios et al., 2018). Furthermore, parental mediation can also help reduce cyberbullying involvement (Garaigordobil & Machimbarrena, 2017; Martínez et al., 2019; Zych, Farrington, & Tofi, 2016).

Therefore, the present study sought to explore the possible relationship between involvement in cyberbullying and other related behaviours such as internet and mobile usage or online risky behaviours. It is part of a larger research agenda investigating internet use and online risks for adolescents in Galicia (Spain). A similar study was conducted in the past with around 44000 adolescents, finding a close relationship among several online risky behaviours and cyberbullying, and the results were presented elsewhere (Gómez, Rial et al., 2017). That study had the limitation of not being specifically about cyberbullying, and it had simply been recorded with one self-reported item about perpetration and another one about victimization among other online behaviours. However, the need to apply multi-item questionnaires in order to be as precise as possible when assessing bullying has been reported by different authors (Sabella et al., 2013; Zych, Ortega-Ruiz, & Marín-López, 2016). The present study attempts to rectify such limitation by applying the *European Cyberbullying Intervention Project Questionnaire* [ECIPQ] (Del Rey et al., 2015), a tool validated in the Spanish context, which has shown adequate psychometric properties and is brief enough to be easy to apply in the educational context. The ECIPQ also allows identifying three separate profiles of involvement in cyberbullying: victims, perpetrators, and the bully-victims who are both at the same time. The last profile seems to be the least studied in the literature.

There were three specific aims in this research. The first was to update the rates of cyberbullying among a large sample of adolescents from Galicia. The second was to characterize the Internet and mobile use habits of the three profiles of cyberbullying involvement, as well as their online risky behaviours. Lastly, from the point of view of prevention work, it was also considered relevant to explore the possible moderating role that parents could undertake in their children's online behaviour.

Method

Participants

This research was carried out in Galicia, a north-western region of Spain. It consisted of a paper survey administered to Secondary students between the ages of 12 and 17. For the selection of the sample, an intentional sampling was used, contacting 13 Secondary Education schools, with 12 of them agreeing to participate in the study. The initial sample consisted of 3431 subjects from all year groups whose parents consented to their participation and at the same time individually agreed to participate, of which 243 were removed from the database because they had too many missing values in the questionnaire (more than 5%) or were outside the age range targeted (12 to 17 years old). The final sample was composed of 3188 participants with a mean age of 14.44 years old ($SD = 1.67$), of which 49.6% were boys and 50.4% girls.

Procedure

Collaboration with the management of the educational centres was secured prior to data collection. The principals delivered letters to the adolescent participants explaining the objective and date of the data collection and asking their parents for consent to include their children in the study. The questionnaire was administered by the researchers to small groups in a classroom setting. Participants were informed of the objective of the study and received a detailed

explanation and set of instructions for completing the paper survey. They were also informed that participation was voluntary, that they were free to complete or to refuse to fill the questionnaire, and that the possibility to opt-out was available at any time. The average time to complete the questionnaire was 30 minutes. The study was approved by the first authors' Bioethics Committee at their University.

Instruments

The questionnaire was structured into three different blocks (outlined in the following sections) with a fourth section relating to socio-demographic information at the end of the instrument (including questions on age, sex - being either "boy" or "girl", educational centre, and grade).

One block was the Spanish version of the *European Cyberbullying Intervention Project Questionnaire* (ECIPQ; Del Rey et al., 2015) for calculating the rate and roles of cyberbullying involvement (victims, bullies, or bully-victims). This scale has 22 items, 11 for victimization and 11 for perpetration, relating to different types of cyberbullying behaviours (e.g., "Someone threatened me through texts or online messages", "I have created a fake account, pretending to be someone else", "Someone posted embarrassing videos or pictures of me online", "I excluded or ignored someone in a social networking site, internet chat room, or a messenger app"). The frequency of these behaviours is estimated by taking the last two months as a reference timeframe using a Likert scale with 5 response options: "No"; "Yes, once or twice"; "Yes, once or twice a month"; "Yes, once a week"; "Yes, several times a week". The Cronbach alpha coefficient obtained in the present study was .78 for both the victimization scale and the perpetration scale.

Another block consisted of the *Escala de Uso Problemático de Internet en adolescentes* [EUPI-a], a 11-item screening measure for Problematic Internet Use (PIU) in adolescents (Rial, Gómez et al., 2015). The items referred to scenarios linked to their internet use during the previous year (e.g., "When you connect you feel that time flies and hours go by without you noticing"; "You need to spend more and more time connected to the Internet to feel comfortable"; "You've connected to the Internet even though you knew it could be a problem for you"). The response options were presented in a Likert scale ranging from "Strongly disagree" to "Strongly agree", with the sum of all responses determining whether there is PIU. The internal consistency evaluated through the Cronbach alpha coefficient obtained in the present study was .88.

Finally, the last block included questions developed for the present study on adolescents' internet and mobile habits and usage during last year (e.g.: "In how many social networking sites do you have an account?"; "How often do you use your mobile phone after midnight?"). The online risky behaviours carried out in the last year were posed as No/Yes questions about gambling, access to erotic websites, sending or receiving self-made erotic content (active and passive sexting, respectively), accepting or contacting strangers through social networking sites, and physically meeting these strangers offline. Two items related to perceived parental supervision of mobile phones, internet and social networking sites were also included: "Do your parents control or limit your internet and mobile usage?" and "Do your parents teach or advise you about the responsible use of social networking sites?".

Data Analysis

The five items included in the first block about internet and mobile habits and usage were converted to Yes/No answers (whether they had or not connected every day; more than 5 hours per day; had accounts in more than 5 social networking sites; used the mobile phone every day in class; or used the mobile phone every day after midnight). The EUPI-a was coded such that a total score equal or superior to 16 would be equivalent to PIU, the same criteria proposed by the scale developers using the same anchor points (0-4; Rial et al., 2015). In the ECIPQ, answers from "once or twice a month", "once a week" and "several times a week" were coded as involvement in either victimization, perpetration, or both (bully-victims), as the original authors consider repetition to be a requirement for cyberbullying (Del Rey et al., 2015). The analyses were performed with the IBM SPSS Statistics 24 statistical package. Bivariate tabulations were carried out, with the application of contrasts χ^2 for the comparison of percentages and contingency coefficients (CC) to calculate the effect size. The CC can only present positive values and is interpreted in terms of 0 to 1, being greater the relationship between the explored variables the closer the CC value is to 1. Binary logistic regression analysis were also performed to estimate the grade in which PIU influences involvement in Cyberbullying across the different profiles.

To study the dimensionality or factor structure of the scales, a Confirmation Factor Analysis (CFA) was performed with AMOS 23. The Unweighted Least Squares (ULS) method was used, which in addition to robustness requires no further assumptions as to its distribution (Jöreskog & Sörbom, 1989). The model's goodness of fit was evaluated with the following indexes: GFI (Goodness of Fit Index), the AGFI (Adjusted Goodness of Fit Index), and the NFI (Normed Fit Index). In accordance with the criteria of Byrne (2009) and Kline (2005), the adjustment values were high in the case of EUPI-a (GFI = .993; AGFI = .990; and NFI = .989), and in the ECIPQ both for the victimization scale (GFI = .984; AGFI = .976; and NFI = .963) and for the perpetration scale (GFI = .967; AGFI = .950; NFI = .919).

Results

The rates of cyberbullying ranged between 5.2% for victims, 4.5% for perpetrators and 4.3% for bully-victims, summing up a total of 14% of involvement in cyberbullying across all roles. The rates by sex and age were explored and presented in Table 1. No statistical significance was found regarding sex, but the older participants showed higher perpetration rates, while the 14-15-year-olds showed higher victimization rates. The rate of bully-victims was the same for both age ranges and lesser for 12-13-year-olds.

The relationship between mobile and internet usage and cyberbullying profiles was explored (see Table 2). Adolescents not involved in cyberbullying presented lower rates in daily connection, in connecting more than five hours per day, in having an account in more than five social networking sites, in using the mobile phone every day in class and in using their mobile phone after midnight every day. Victims presented higher rates for all of the above, while bullies and bully-victims showed even higher rates in every case. All these results were statistically significant. A significant effect of PIU was also found in the Logistic Regression for victims ($\beta = 0.87$; SE = 0.18; OR = 2.39; $\chi^2 = 20.64$; $p < .001$), perpetrators ($\beta =$

1.30; SE = 0.18; OR = 3.68; $\chi^2 = 45.81$; $p < .001$) and bully-victims ($\beta = 1.18$; SE = 0.19; OR = 3.26; $\chi^2 = 35.04$; $p < .001$).

The results also found an association between cyberbullying and all the risky behaviours explored (see Table 3). Cybervictims exhibited a higher percentage of engaging in all the behaviours than those not involved, yet bullies presented even higher rates in almost all the behaviours, only surpassed by the bully-victims. Perpetrators showed the highest rates of all groups in accessing erotic or pornographic websites, accepting and contacting strangers in social networking sites. The only behaviours where victims presented higher percentages than bullies were those linked to other types of sexual abuse, such as being pressured to send erotic content or being threatened with dissemination of erotic content. However, the bully-victim group scored the highest in this regard.

Finally, it was found that those not involved in cyberbullying reported higher rates of parents controlling or limiting of their

internet and mobile use, and more teaching or advising on the responsible use of social networking sites (see Table 4). Perpetrators reported the least parental supervision and bully-victims rated between the perpetrators and victims.

Discussion

The current study had an exploratory nature and sought to determine the rates of cyberbullying among a large sample of adolescents from Galicia (Spain). It also aimed to explore the relationship between cyberbullying profiles and other aspects such as internet and mobile usage or online risky behaviours, and to investigate the possible moderating role that parents could have in their children's online behaviour.

The sample of the present study show an involvement in cyberbullying ranging from 5.2% for pure victims, 4.5% for pure

Table 1
Rates of the different profiles involved in cyberbullying. Overall and by sex and age

	SEX				AGE (years)					
	Overall (n = 3188)	Boys (n = 1577)	Girls (n = 1602)	χ^2	CC	12-13 (n = 1101)	14-15 (n = 1086)	16-17 (n = 1001)	χ^2	CC
Victims	5.2%	4.4%	5.9%	3.18	.03	3.7%	6.2%	5.6%	7.62*	.05
Perpetrators	4.5%	4.6%	4.5%	0.001	.001	1.5%	3.6%	8.9%	70.02**	.15
Bully-victims	4.3%	4.5%	3.9%	0.67	.02	2.5%	5.2%	5.2%	13.31**	.06

* $p < .05$; ** $p < .001$

Table 2
Internet and mobile usage habits by involvement in cyberbullying (N = 3188)

	Not Involved (n = 2748)	Victim (n = 162)	Perpetrator (n = 143)	Bully-victim (n = 135)	χ^2	CC
Daily connection	82.6%	90.1%	96.5%	97%	42.51**	.11
Connecting more than 5 hours/day	25.3%	40.7%	46.9%	53.3%	90.41**	.16
Having 5 or more social networks	14.4%	27.2%	32.9%	37.8%	91.75**	.17
Daily mobile use in class	8.9%	18.5%	31.5%	30.4%	130.86**	.20
Daily mobile use after midnight	18%	30.4%	54.9%	41.8%	155.26**	.22
Problematic Internet Use	12.4%	29.2%	38%	35.6%	141.02**	.21

** $p < .001$

Table 3
Online risky behaviours by involvement in cyberbullying (N = 3188)

	Not Involved (n = 2748)	Victim (n = 162)	Perpetrator (n = 143)	Bully-victim (n = 135)	χ^2	CC
Active sexting	6.3%	15.6%	24.5%	24.4%	120.51**	.19
Passive sexting	18%	37.7%	44.1%	56%	179.93**	.23
Being pressured to send erotic content	6.2%	18.2%	13.4%	21.5%	75.02**	.15
Threatened with dissemination of erotic content	1.2%	3.8%	0%	6.7%	32.46**	.10
Accepting strangers on social networks	47.7%	65.6%	85%	79.7%	133.24**	.20
Contacting strangers online	33.5%	58.7%	71.6%	71.2%	180.89**	.23
Meeting in person with online acquaintances	13.6%	32.3%	33.3%	39.1%	121.85**	.19
Accessing erotic or pornographic webs	32.7%	40.6%	64.3%	57.6%	91.16**	.17
Online Gambling	7%	11%	17.9%	24.2%	67.24**	.15

** $p < .001$

Table 4
Parental supervision by involvement in cyberbullying (N = 3188)

	Not Involved (n = 2748)	Victim (n = 162)	Perpetrator (n = 143)	Bully-victim (n = 135)	χ^2	CC
Control or limit internet and mobile use	30.6%	28.4%	18.2%	20.9%	15.30*	.07
Teach or advise on the responsible use of social networks	62.5%	57.4%	39.2%	46.7%	43.27**	.11

* $p < .05$; ** $p < .001$

perpetrators and 4.3% for those who were both at the same time (bully-victims). This indicates that almost one in ten students (9.5%) would be suffering victimization, even though some of those are also involved in perpetration. This rate would be quite lower compared to other national literature, as a meta-analysis had established the mean prevalence of cybervictimization in Spain to be 26.65% (Zych, Ortega-Ruiz, & Marín-López, 2016). On the other hand, even if girls show a slightly higher rate of victimization than boys, the results in the present study showed no statistical significance, in line with previous research concluding that neither sex nor gender seem to be associated with cyberbullying (Hinduja & Patchin, 2008; Smith et al., 2008; Tokunaga, 2010). In terms of age, there appears to be a greater tendency to bully among older participants, while the greatest number of victims is found in the 14-15-year-olds group. This is also coherent with research that shows that even if traditional bullying decreases in late adolescence, cyberbullying rates increase (Ryoo et al., 2014), and there seems to be a peak of cyberbullying around the age of early adolescence (Görzig & Ólafsson, 2013; Tokunaga, 2010). Therefore, the right time for prevention would be before the onset of adolescence, trying to avoid the appearance of cyberbullying behaviours as much as possible and providing victims with the tools to seek help when it happens.

It could also be noted that age could be affecting other variables that may serve as facilitators for cyberbullying, as older students are more likely to have their own mobile phone or other devices that will allow them to be connected and be victimized or target others by these means. Precisely, when exploring the possible link between internet and mobile usage with cyberbullying, it was found that people involved in cyberbullying tend to be heavy users, as well as to have more presence on social networking sites. The higher rates in daily connection, connecting more than 5 hours per day and having more than five social networking sites are among the bully-victims. Perpetrators present the highest rates in mobile use in class and after midnight. Victims have lower rates than the other cyberbullying groups, while adolescents not involved show the lowest rates in all the explored behaviours. Of course, it must be noted the high access to internet across all the groups. Even if they are the group who spend less time online, those not involved in cyberbullying still present a rate of 82.6% in daily connection and 1 in 4 (25.3%) do it more than 5 hours per day. Two of the explored behaviours deserve special attention, as some cyberbullying roles double the rates with respect to those not involved. Half of the bully-victims spend more than 5 hours online per day (53.3%) and half of the perpetrators report using their mobile phone after midnight (54.9%). The same happens with Problematic Internet Use (PIU). Those not involved have less than half the percentage of PIU than victims (12.4% vs 29.2%), and bully-victims and perpetrators have even higher rates. The logistic regression applied also showed that PIU doubles the risk of being

a victim of cyberbullying (OR = 2.39) and triples the risk of being a perpetrator (OR = 3.68) or bully-victim (OR = 3.26). This could mean that early detection and intervention of PIU might serve as a cyberbullying prevention strategy, especially for pure bullies and bully-victims.

Furthermore, the results link cyberbullying with online risky behaviours like contacting with strangers or engaging in sexting, or even behaviours that could appear totally unrelated to victimization such as accessing erotic or pornographic webs and online gambling. Hereof, the adolescents appear to present a generalized pattern of online vulnerability (Montiel & Carbonell, 2016), like previous research has pointed out (Cooper et al., 2016; Gómez, Rial et al., 2017; Zsila et al., 2018). Victims showing higher percentages of risky behaviours than those not involved in cyberbullying may be an indicator of a higher exposure to risky situations in general. Yet, perpetrators and bully-victims present even higher rates in most of the behaviours explored, with the exception of those linked to some kind of sexual abuse, such as being pressured to send erotic content or being threatened with distribution of said private content. The close relationship between any kind of cyberbullying involvement and different online risky behaviours indicate an improper use of ITCs beyond cyberbullying and may justify the need for a comprehensive or holistic approach, rather than focusing on prevention of specific online behaviours (Beltrán-Catalán et al., 2018). Such prevention would focus on “internet safety” in general, as an overall “school safety” approach has been suggested for tackling traditional bullying (Garmendia, Jiménez, & Larrañaga, 2019; Kingston et al., 2018).

Parents could be the main figure to teach proper internet usage and accompany their children online. In the present study, the group not involved in cyberbullying report the highest rates of being controlled and taught by their parents. Some of the previously discussed behaviours may also serve as indirect indicators of the lack of monitoring, such as using the mobile phone after midnight or being online more than 5 hours per day. This suggests again that parental monitoring is generally helpful in the online context (Livingstone et al., 2011). This is particularly evident when considering the perpetrators, a group where the rates of controlling and limiting internet and mobile use does not surpass 18.2%, and parent teaching or advising responsible use of social networks is only 39.2% in the current sample. As stated by previous research (Gómez, Harris et al., 2017; Gómez-Ortiz et al., 2018; Livingstone et al., 2017; Rodríguez-de-Dios et al., 2018), parents need to educate their children on the proper use of the internet. They may need to improve their own digital skills (Livingstone et al., 2017), seek help if required (Gómez, Harris et al., 2017) and avoid ‘turning off the computer or mobile as a solution’, since this will cause their children to miss out on all the benefits internet has to offer (Sabella et al., 2013).

In conclusion, the similarity between victims and perpetrators of cyberbullying when it comes to the use of the Internet and mobile phone can be highlighted. They seem to be heavy users and engage in more online risky behaviours than those not involved in any role of cyberbullying. Not surprisingly, those with the combined bully-victim profile tend to have the highest rates of usage and risky behaviours. This could evidence that the misuse of technologies goes beyond the problems of relationships with others, stating the need of an integral perspective for any prevention and intervention efforts related to cyber safety. Focus should not be put on one particular online behaviour, even not one as intrinsically dramatic as a repetitive hurtful behaviour such as cyberbullying.

However, this study has certain limitations that should be mentioned. The first is the non-probability sampling used. Although it has allowed to analyse a large sample (a total of 3,188 adolescents), the results are less generalizable to the wider population. Second, this work has a transversal nature, so it is not possible to establish causal relationships between the variables under study, but only correlational. Third, all variables have been self-reported, so adolescents may have underestimated or overestimated both their online behaviours and their cyberbullying behaviours. However, self-report questionnaires on drug use have been shown to be reliable and even better than other study methods (Winters et al., 1990), so it might be expected that they would also

be suitable in the present context. Finally, future studies should try to analyse more properly the moderating role of variables such as parental mediation, or even impulsivity, which may lie at the base of some of the results found.

Despite these limitations, the results presented here add to the growing literature investigating cyberbullying, Problematic Internet Use and the role of parents, and they go some way towards informing us of the current situation in Galicia for adolescents in this regard. Beyond the limitations of this work, and the need for further research, it seems impossible to tackle cyberbullying without educating about the healthy and responsible use of ICT. For this purpose, there is a need to involve and empower parents to effectively support and guide their children through their online experience.

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