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## **The ConRed Program, an Evidence-Based Practice**

### **El programa ConRed, una práctica basada en la evidencia**

#### **Abstract**

The incredible force with which ITCs have arrived in society and the consequent risks to children when dealing with the Internet and social networks make it necessary for the domain of virtual environments to be included in the school curriculum. However, the initiatives in this direction are limited and there is a lack of rigorously evaluated programs that might act as a basis for designing educational lines of action. The ConRed Program is based on the theory of normative social behavior and aims to reduce problems such as cyberbullying and addiction to the Internet and refocus the misadjusted perception of information control in the social networks in order to promote their use in a more beneficial way. The ConRed Program has been evaluated using a quasi-experimental methodology, with an experimental group (N=595) and a quasi-control group (N=298) consisting of 893 students (45.9% girls) with an average age of 13.80 years (SD= 1.47). The reduction of problems in the experimental group and the lack of change in the control group is evidence of the program's validity, and show that by working and collaborating with the whole educational community it is possible to improve the quality of the virtual and, therefore, the real life of adolescents.

#### **Resumen**

La vertiginosa incorporación de las TIC a la sociedad y los consecuentes riesgos a los que los menores se enfrentan en Internet y las redes sociales han dejado en evidencia la necesidad de incorporar en el currículum escolar el dominio de los entornos virtuales. En cambio, son escasas las iniciativas en esta dirección y más aún programas rigurosamente evaluados de modo que sirvan de fundamento para el diseño de las líneas de acción educativa. El programa ConRed está basado en la teoría del comportamiento social normativo y persigue los objetivos de mejorar y reducir problemas como el cyberbullying, la dependencia a Internet y la desajustada percepción del control de la información en las redes sociales, para así potenciar el uso beneficioso de éstas. La evaluación del ConRed se ha desarrollado mediante una metodología cuasi experimental, con un grupo experimental (N=595) y uno cuasi-control (N=298). Del total de los 893 estudiantes, el 45,9% eran chicas y la edad media 13,80 años (DT=1,47). Los resultados positivos de reducción de problemas en el grupo experimental y la ausencia de cambio en el grupo control son muestra de su validez y demuestran que trabajando con toda la comunidad educativa y en colaboración con ella es posible mejorar la calidad de la vida virtual y, por tanto, real de los adolescentes.

#### **Keywords / Palabras clave**

Cyber-bullying, addiction, privacy, psycho-educational intervention, evaluation, social networks, Internet. Ciberbullying, adicción, privacidad, intervención psicoeducativa, evaluación, redes sociales, Internet.

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## **1. Introduction**

### **1.1. Internet and social networks: a new social environment**

The increasing use of information and communications technologies (ICTs) in everyday life has brought about considerable changes in many areas. One such area is that of interpersonal relationships, which are now no longer exclusively direct but also indirect and conducted by means of digital devices. We now live in what Azuma (1997) calls «augmented reality»: our activities tend to combine physical reality with virtual elements capable of supporting and improving them. Internet, and in particular social networks, plays a major role in this augmented reality, especially among young people, a group which uses these resources to an increasingly greater extent. Latest figures in Spain show that 55% of regular Internet users access social networks, rising to 84% among young people aged between 10 and 18 (Garmendia, Garitaonandia, Martínez & Casado, 2011), an age group in which nine out of 10 boys and girls have a social network profile.

Social networks represent the most important facet of Internet's social dimension. They are essentially web services that are used for regular communication and sharing information, in which users make up an online community where they can interact with other people who share some or all of their interests (Boyd & Ellison, 2007). The key to the potential of social networks as a unique, attractive environment for interpersonal relationships lies in this element of self-selection. It has been claimed, perhaps with some exaggeration that the social situation of a person who lacks friends or contacts in a social network differs from that of a person with real friends and online contacts (Christakis & Fowler, 2010). Life is now lived in both physical and virtual environments. In terms of cultivating interpersonal relationships these virtual environments offer new opportunities, creating what Azuma (1997) calls «augmented reality» in which the interdependence of the physical and virtual worlds is taken for granted and the differences between the two are passed over. Virtual resources offer several social advantages: they make it easier to establish interpersonal relationships, they contribute to diversity in the types of social relationships cultivated, they facilitate ubiquity and they increase the amount of information available in real time (Winocur, 2006). But these advantages can become disadvantages if they are used incorrectly. Belonging to a social network means making decisions about our own intimacy (Liu, 2007), and those decisions are not always made consciously or sensibly (Stuzman, 2006). In other words, virtual life involves certain identity-related issues that people need to learn to deal with (Reig & Fretes, 2011).

### **1.2. Risks posed by Internet and social networks**

The use of Internet and social networks involves certain risks which are particularly serious among children and young people (Dinev & Hart, 2004; Echeburúa & Corral, 2009; 2010; Graner, Beranuy-Fargues, Sánchez-Carbonell, Chamarro & Castellana, 2007; Ortega, Calmaestra & Mora-Merchán, 2008). They include: a) loss of control over personal information accessible on Internet; b) addiction to this type of technology and the consequent absence or decline of activities or relationships necessary for healthy development; and c) cyber-harassment, as an indirect form of the age-old problem of school bullying.

Lack of control over information can be exploited by others to ridicule, intimidate or blackmail (Dinev & Hart, 2004; Dinev, Xu & Smith, 2009). The information uploaded by a person, or by others, constitutes the basis for the virtual identity that is being created for that person. Although it may not affect the person's everyday life (Turkle, 1997), manipulation of that information by others or lack of control over it by the person in question may place that person in a position of vulnerability by removing their intimacy (Nosko, Wood & Molema, 2010) thereby damaging their social relationships. One example of this is «sexting» (McLaughlin, 2010; Stone, 2011), a practice which is becoming increasingly widespread among Spanish teenagers (Agustina, 2010) and which involves posting half-naked pictures in virtual environments. This is inevitably harmful for minors, who believe that their conduct in those virtual environments is in no way connected to their real lives (Menjivar, 2010).

Internet activity can create addiction. Boys and girls who spend a lot of time in front of a computer screen, neglecting their duties and their own leisure time and basing their relationships with others on technological interaction, may begin to show signs of unease when they are not using a computer or a cell phone. ICTs abuse is a risk which may negatively affect quality of life for teenagers in a hyper-technological world, reducing their freedom and possibly creating addiction (Echeburúa & Corral, 2009; 2010).

Cyberbullying is another risk posed by the virtual world for teenagers and young people. For bullies this virtual environment offers a space less invigilated by adults and by the authorities (Tejerina & Flores, 2008). Cyber-harassment can be divided into two main types: «grooming» and

«cyberbullying». Grooming, also known as «child-grooming» in legal parlance, refers to the procedure by which an adult establishes a relationship with a minor in order to achieve some kind of sexual satisfaction (Monge, 2010). Cyberbullying is defined as aggressive intentional acts carried out by a group or individual, using electronic forms of contact, repeatedly and over time against a victim who cannot easily defend him or herself (Smith, Mahdavi, Carvalho & Tippett 2006). Many researchers consider it an indirect form of traditional bullying (Ortega & Mora Merchán, 2008; Smith & al., 2006), characterized by a series of specific features which include: a) the channels of communication are always open, and aggression can therefore take place at any time and in any place; b) attacks can be witnessed an indefinite number of times by large numbers of spectators and c) victims may never know who their attackers are because the channels used allow a high degree of anonymity.

These risks have increased because it is precisely teenagers and young people who have become computer literate much faster and to a much broader extent than the adult population, thus giving rise to what is known as the digital gap (Piscitelli, 2006, Marín and González-Piñal, 2011). Significantly, 80% of young Spaniards say they learned to use Internet without the help of an adult (Bringué & Sádaba 2011).

### **1.3. School: a key area for encouraging cyber-socialization**

Schools play a crucial role in developing children's technology skills (OECD, 2005). Such skills should not be seen merely as familiarity with tools and devices, but should be addressed jointly with other capabilities, such as those of citizenship and personal autonomy (Ricoy, Sevillano & Feliz, 2011). In the new skills-based approach to syllabus design, the functional, healthy mastery of ICTs constitutes a basic building block for the development of personal autonomy, learning-to-learn skills and a cosmopolitan sense of citizenship (Ortega, Del Rey & Sánchez, 2011). The need to take action and help the whole education community is also a priority issue in new psychosocial models based on scientific evidence (Del Rey & Ortega, 2011). Schools should be seen as learning communities in which interaction between the players involved can be analyzed in terms of their mutual support as complementary elements within the task of educating. Schools are places of convivencia (harmonious interaction) and development in which young people should play a major role as learners: in the field of digital literacy, they are often ahead of their own responsible adults. This may upset the teaching-learning pattern and make it necessary to rethink conventional approaches. Teenagers and young people, considered digital natives (Prensky, 2001), may be quicker and more efficient in the use of digital devices but they nevertheless need support and supervision in the psychosocial processes which take place when socializing is conducted via digital activity. The generation gap mentioned above needs to be narrowed so that it can be the corresponding adults –teachers and families– who educate minors in the new facet of life represented by Internet.

But the same thing has happened here as so often happens in education. The need to take action has arisen before the scientific community and, above all, the public authorities, have the information necessary to be able to establish suitable procedures. Although in Spain a series of good practices do exist with this objective in mind (Luengo Latorre, 2011; Del Rey & al., 2010; Mercadal, 2009, and others), no empirically proven practices, procedures or evidence –based programs are yet available (Navarro, Giribet & Aguinaga, 1999; Sackett, Richardson, Rosenberg & Haynes, 1997). Nevertheless, any decision regarding a plan of action to be implemented at school should ideally first be corroborated scientifically (Davies, 1999; Granero, Doménech, Bonillo & Ezpeleta, 2001; Hunsley & Johnston, 2000; Lindqvist & Skipworth, 2000; Stoiber & Kratochwill, 2001). Scientific research is therefore necessary to determine whether a given program or procedure is effective, by analyzing the significant changes brought about by a program and comparing the outcome to what would have happened if that program had not been implemented.

ConRed (Discover, Construct and Live in Harmony on Internet and in Social Networks), the action program presented here, is designed to encourage the correct use of Internet and Social Networks. It was developed in line with the tenets of «Evidence Based Practice» (EBP), taking into account scientific evidence presented in different research papers describing programs which successfully molded or modified behavior in cases where technology was being used incorrectly or as a vehicle for inappropriate conduct (Borsari & Carey, 2003; Haines & Spear, 1996; Wechsler & Kuo, 2000).

### **1.4. The ConRed program**

The ConRed program adheres to the tenets of the «theory of normative social behavior» (Lapinski & Rimal, 2005; Rimal & Real, 2005; Rimal, Lapinski, Cook & Real, 2005), which argues that human behavior is heavily influenced by perceived social norms and their interpretation as an indi-

cation of social consensus. In other words, a close relationship is identified between the behavior and actions of the majority and what that majority perceives as being socially acceptable, normal or legally justifiable. In some action programs based on this theory and aimed at addressing teen problems such as alcohol consumption, links have been found between the belief that consuming alcohol is good for establishing social relationships or belonging to a peer group and increased alcohol consumption (Borsari & Carey, 2003).

According to the theory of normative social behavior, beliefs can be measured in terms of the three aspects which constitute what are known as normative mechanisms (Rimal & Real, 2003): a) injunctive norms; b) expectations and c) group identity. Injunctive norms are rules subject to sanctions or social punishment. In the case of action taken to reduce alcohol abuse, for example, laws exist which penalize drunken driving and there is a clear social rejection of people guilty of this type of conduct. Expectations are what each individual, depending on his/her beliefs, hopes to gain from engaging in a given type of conduct (Bandura, 1977; 1986). Going back to the example of alcohol consumption, evidence that drinking alcohol reduces behavioral inhibitions reinforces the belief that alcohol will aid social communication. Finally, group identity refers to the motivational urge to belong to social groups sharing the same collective sense of identity, and the belief that conduct or attitudes shared with other members of the group are legitimate and justifiable insofar that they reinforce that group identity. To modify or change a given type of conduct, a program based on this theory must therefore have an impact on these three aspects, and this was the approach adopted when designing the ConRed action plan.

The program's three key overall objectives are: 1) to show the legal implications and the damage that can be caused through bad conduct in virtual environments; 2) to highlight specific actions which are closely linked to Internet's risks but very far removed from Internet's benefits and 3) to reveal how certain forms of conduct do not reflect specific social groups or make a person more acceptable as a member of such groups. Taking these three considerations as a point of departure, the ConRed program is designed to aid and sensitize the education community in the safe, positive, beneficial use of Internet and social networks.

To attain these goals, the following specific objectives were established: a) to stress the importance of familiarity with safety and personal information protection mechanisms on Internet and in social networks, to avoid the bad use of the same; b) to learn to use Internet safely and healthily, fully aware of its potential benefits; c) to find out how widespread cyber-harassment and other risks are in secondary education; d) to prevent involvement in acts of aggression, harassment, denigration, etc., either as victims or perpetrators, in social networks; e) to help and encourage an attitude of resilience in people affected by violent or harmful conduct on Internet; f) to find out how users perceive the degree of control they exert over the information they share on social networks and e) to prevent ICTs abuse and show the consequences of technology addiction.

The ConRed action program was aimed at the whole education community: training sessions were held with teachers and the families of schoolchildren, with the schoolchildren themselves forming the principal target group.

The work done with each group revolved around three areas: a) Internet and social networks; b) benefits of Internet use and instrumental skills and c) risks and advice on usage.

The sequence followed, both for the training and the measures implemented, started with a brainstorming session to explore the children's/teachers'/parents' prior knowledge about technology use, functions and Internet. Content was then introduced to look at the opportunities offered by social networks. Particular attention was paid to the importance of privacy and identity and the negative consequences of not having them. The themes of pro-social behavior and solidarity in social networking were examined, with special attention to the main risks posed by social networks and the consequences of using them inappropriately. Last but not least, the main strategies for dealing with social networking problems were described, together with the most important tips on how to use ICTs properly.

Taking school as a place of social interaction and convivencia, ConRed launched an awareness-raising campaign using materials like leaflets, posters, stickers, bookmarks, etc. to keep the initiative going over a period of time.

The starting hypothesis was that the implementation of the ConRed program would alleviate and reduce problems such as cyberbullying, Internet addiction and erroneous perceptions regarding the degree of control exerted over information in social networks.

## **2. Materials and Methods**

The program was evaluated with a quasi-experimental, ex post facto, longitudinal design, with pre- and post- measurements, covering two groups, one of which was a quasi-control group (Mon-

tero & León 2007). The target population comprised adolescents between the ages of 11 and 19. The program was carried out directly in the classroom.

**The sample group.** The sample group was made up of 893 students - 595 in the experimental group and 298 in the control group - from 3 secondary schools in the city of Cordoba, Spain. 45.9% of the group were girls, and the students' ages ranged from 11 to 19 years ( $M=13.80$ ;  $DT=1.47$ ).

**Instruments.** Three instruments were used, relating to cyberbullying, the addictive use of Internet and perceived control over information. They were: the European Cyberbullying Questionnaire (Del Rey, Casas & Ortega, 2011), comprising 24 Likert items with five frequency options ranging from never to several times a week and with adequate internal consistency:  $\alpha$  total=0.87, a victimization=0.80 and  $\alpha$  aggression=0.88; a version of the CERI (Internet-related Experiences Questionnaire) adapted by Beranuy, Chamarro, Graner and Carbonell-Sánchez (2009) and comprising 10 Likert items with four options (not at all, little, somewhat and a lot), with acceptable internal consistency:  $\alpha$  total =0.781,  $\alpha$  intrapersonal=.719 and  $\alpha$  interpersonal=.631 ; and the Perceived Information Control scale (Dinev, Xu & Smith 2009), a 4-item Likert-type scale with seven answer options reflecting the degree of agreement (from not at all to very much) and a good level of internal consistency:  $\alpha=0.896$ .

**Procedure.** The ConRed program was implemented over a period of 3 months during the 2010/2011 school year, with schools timetabling and providing facilities for several work sessions. Two groups were created: the measures prescribed in the program were adopted in one of them (the experimental group) and not in the other (the control group). Data was collected on two occasions: once before program implementation (pre-measurements) and once after (post-measurements).

**Analysis.** Data was analyzed using SPSS statistical software, Version 18.0, in Spanish. The mean factors obtained were compared using a Student's T-test to compare the significance of the difference in the mean scores obtained for individuals in the experimental and control groups on the two occasions when measurements were taken.

### 3. Results

Possible differences between the experimental and control groups prior to the implementation of the ConRed program were first analyzed using a Student's T-test for independent samples. No significant starting differences were found in the variables: cyberbullying ( $t=-1.421$ ;  $p>0.05$ ), cyberbullying aggression ( $t=-1.858$ ;  $p>0.05$ ), cyberbullying victimization ( $t=0.567$ ;  $p>0.05$ ), addiction to Internet ( $t=0.560$ ;  $p>0.05$ ), interpersonal addiction ( $t=0.527$ ;  $p>0.05$ ), intrapersonal addiction ( $t=0.323$ ;  $p>0.05$ ) and control over information ( $t=1.754$ ;  $p>0.05$ ).

Differences between the experimental and control groups and between pre-test and post-test measurements were then analyzed using a Student's T-test for related samples. With regard to cyberbullying, no differences were found in the control group between pre-test and post-test values: Cyberbullying ( $t=-0.143$ ;  $p>0.05$ ), Cyberbullying aggression ( $t=0.152$ ;  $p>0.05$ ), Cyberbullying victimization ( $t=-0.182$ ;  $p>0.05$ ) (see table 1).

		M	D.T.	t	P
Victimization	Pre-test	,1360	,27702	-,182	,855
	Post-test	,1403	,34056		
Aggression	Pre-test	,0924	,27128	,152	,879,
	Post-test	,0892	,30346		
Cyberbullying	Pre-test	,1106	,25050	-,143	,887
	Post-test	,1135	,28487		

**Table 1. Cyberbullying Control Group.**

Differences were, however, found in the experimental group: Cyberbullying ( $t=-2.726$ ;  $p>0.05^*$ ), Cyberbullying aggression ( $t=1.644$ ;  $p>0.05$ ), Cyberbullying victimization ( $t=-2.726$ ;  $p>0.05^*$ ). Here, values were lower after program implementation (see table 2).

		M	D.T.	t	P
<b>Victimization</b>	Pre-test	,1188	,26425	2,726	,007*
	Post-test	,0811	,23000		
<b>Aggression</b>	Pre-test	,0682	,22816	1,644	,101
	Post-test	,0502	,14701		
<b>Cyberbullying</b>	Pre-test	,0924	,20203	2,717	,007*
	Post-test	,0645	,16500		

**Table 2. Cyberbullying Experimental Group.**

Likewise, in the control group no significant differences were found between the pre-test and post-test values with regard to the abusive use of/addiction to Internet (see Table 3): Addiction to Internet ( $t=0.233$ ;  $p>0.05$ ), Interpersonal addiction ( $t=0.128$ ;  $p>0.05$ ), Intrapersonal addiction ( $t=-0.273$ ;  $p>0.05$ ). But differences were found in the experimental group: Addiction to Internet ( $t=.458$ ;  $p>0.05$ ), Interpersonal addiction ( $t=2.300$ ;  $p<0.05^*$ ), Intrapersonal addiction ( $t=-1.596$ ;  $p>0.05$ ) (see Table 4).

		M	D.T.	T	P
<b>Intrapersonal addiction</b>	Pre-test	,92	,657	-,273	,785
	Post-test	,93	,697		
<b>Interpersonal addiction</b>	Pre-test	1,46	,697	,128	,898
	Post-test	1,46	,682		
<b>Addiction to Internet</b>	Pre-test	1,19	,595	,233	,816
	Post-test	1,18	,624		

**Table 3. Addiction to Internet Control Group.**

		M	D.T.	T	P
<b>Intrapersonal addiction</b>	Pre-test	,90	,691	-1,596	,111
	Post-test	,95	,730		
<b>Interpersonal addiction</b>	Pre-test	1,45	,712	2,300	,022*
	Post-test	1,39	,730		
<b>Addiction to Internet</b>	Pre-test	1,18	,643	,458	,647
	Post-test	1,17	,691		

**Table 4. Addiction to Internet Experimental Group.**

Finally, with regard to perceived control over information, the results for the control group were similar ( $t=-0.692$ ;  $p>0.05$ ) whereas analysis of the results for the experimental group revealed significant differences between pre-test and post-test measurements ( $t=3.762$ ;  $p<0.01^*$ ) (see Table 5).

		M	D.T.	T	P
<b>Control group Control over Information</b>	Pre-test	5,26	1,860	-1,596	,490
	Post-test	5,34	1,791		
<b>Experimental Group Control over Information</b>	Pre-test	5,51	1,631	3,762	0,000*
	Post-test	5,15	1,844		

**Table 5 Perceived Control over Information Control Group and Experimental Group.**

#### 4. Discussion

The ConRed program produced positive results with regard to the three main objectives proposed: a) to reduce students' involvement in cases of cyberbullying; b) to reduce the excessive use of Internet and the risk of addiction; and c) to alter students' perception of the amount of control they had over personal information uploaded to social networks. The results obtained reflected significant changes in the impact of these three proposed training objectives. The experimental group

obtained better results after the program's implementation than the control group, in which some types of conduct and attitudes (for example, perceived control over information) even increased. This would seem to support the starting hypothesis that implementation of the ConRed program would lead to a decrease in certain undesirable forms of adolescent behavior.

Among the students who took part directly in the ConRed program there was a general decrease in involvement in cyberbullying, in the abusive use of Internet and in the false perception of control over information; this latter result suggests a greater awareness of the students' own lack of information about how to control their own data, their subsequent vulnerability and the usefulness of learning and using strategies to augment their control and keep the personal information they upload to Internet private.

Previous scientific literature contains no consolidated groundwork regarding the implementation of action programs to combat cyberbullying in schools, although work has been done on traditional school bullying and specific programs have been proposed to prevent harassment and violence among schoolchildren. Such programs have produced positive results, demonstrating that sustained, controlled, whole policy action can improve interpersonal harmony and prevent school violence and bullying. One example is the SAVE project (Seville Anti School Violence), an action approach based on scientific evidence (Ortega, 1997; Ortega & Del Rey, 2001). ConRed adopted the same parameters (working with students, teachers and families to improve knowledge and raise awareness about how information can be controlled) and produced comparable results (Tofi & Farrington, 2009). We believe that cyber-harassment is an indirect form of traditional bullying - i.e., indirect bullying (Smith & al., 2008) - ; and that whole policy preventive models are therefore still valid. This is fully coherent with the importance now being attached to the school as the place where this type of problem can best be dealt with (Luengo Latorre, 2011). The results of this study support the idea that whole policy measures are an effective means of reducing high risk behavior. We have shown how by raising risk awareness and training teachers and parents to guide young people's behavior it is possible to reduce high risk conduct, increase the taking of precautionary measures and induce protective attitudes in online activity, without creating undue alarm among schoolchildren. From our point of view this is one of the key results because help given to victims, and their awareness that they have someone there to help them and advise them, reinforces their confidence and dispels the sense of weakness and isolation which prevents them from facing up to these kinds of problems (Hunter & Boyle, 2004).

ConRed itself illustrates the need to curb the potentially excessive use of Internet and to reduce the risk of addiction to online activity by raising students' capacity to deal with the online challenges they may face. It should be remembered that addiction is one of the great risks to development during adolescence (Echeburúa & Corral, 2009; 2010). However, addiction to Internet is best addressed through action on a very personal level, more comparable to that which might be taken by a clinical psychologist (Griffiths, 2005). Studies into the importance of the interpersonal aspect of addiction have shown that it is necessary to educate students in Internet use and encourage healthy attitudes and conduct in online activity (Machargo, Lujan, León, López & Martín, 2003).

The pre-test showed that young people generally have very little idea about the business dimension of the online platforms to which they belong. ConRed demonstrated how a specific educational program can effectively contribute to redressing this potentially dangerous lack of information about social network usage, and we feel this is one of the program's most positive achievements. Our results reveal how important it is that risk prevention on Internet and in social networks should form part of the school syllabus: They also show that this training does not necessarily have to be carried out in a virtual environment. The action taken should be seen as part of the job of educating the young; part of the students' learning process and just another subject teachers are required to impart as part of the syllabus. Teachers should receive ongoing training in this field, thereby narrowing the digital gap which separates them from their students and enabling them to provide help and guidance. In the same vein, families should know about their children's online social environment in order to be able to help and support them. To conclude, ConRed has shown how, by working in collaboration with the whole education community, it is possible to improve the quality of adolescents' lives, both virtual and real.

The ConRed program is the beginning of a series of evidence-based practices aimed at improving the society in which we live through education. Nevertheless, this study inevitably has certain limitations and further research yet needs to be carried out. For example, our data was collected from only three schools and the research team played a very active role in the action taken with the students. In the future, more schools should be included in the research and responsibility for

the program should be passed on to each school's teaching staff, providing them with the autonomy they should ideally enjoy when implementing programs of this type.

Despite its limitations, the study allows us to conclude that projects implemented today to encourage harmonious interpersonal relationships (*convivencia*) in schools should at least be supported by short term initiatives addressing social relationships in virtual environments. We know that by involving students, teachers and families it is possible to improve young people's knowledge of and control over social networks, narrow the generation gap which exists between digital natives and immigrants and alleviate the problems associated with the inappropriate use of ICTs. And that is how cyberbullying, and especially cyber-victimization, can be reduced. In view of all this, at least four things should be taken into consideration by the education authorities: the vital importance of awareness-raising campaigns in the education community; the main line of action should be teacher training and the boosting of teachers' confidence in their ability; this should ideally be articulated through the introduction of new education legislation; and financial support is needed to make it possible.

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## References

- Agustina, J.R. (2010). ¿Menores infractores o víctimas de pornografía infantil? Respuestas legales e hipótesis criminológicas ante el Sexting. *Revista Electrónica de Ciencia Penal y Criminología*, 12, (11), 1-44.
- Azuma, R. (1997). A Survey of Augmented Reality. *Presence: Teleoperators and Virtual Environments*. 6, (4), 355-385.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliff, NJ. Prentice Hall.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliff, NJ. Prentice Hall.
- Beranuy, M., Chamarro, A., Graner C. & Sánchez-Carbonell, X. (2009). Validación de dos escalas breves para evaluar la adicción a Internet. *Psicothema* 3, 480-485.
- Borsari, B. & Carey, K.B. (2003). Descriptive and injunctive norms in college drinking: A meta-analytic integration. *Journal of Studies on Alcohol*, 64, 331-341.
- Boyd, D.M. & Ellison, N.B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13 (1), 210-230.
- Bringué, X. & Sádaba, Ch. (2011). Menores y redes sociales. Colección Foro Generaciones Interactivas/Fundación-Telefónica. ([www.generacionesinteractivas.org/?page\\_id=1678](http://www.generacionesinteractivas.org/?page_id=1678)).
- Christakis, N. & Fowler, J. (2010). *Conectados*. Madrid: Taurus.
- Davies, P. (1999). What is Evidence-based Education? *British Journal of Educational Studies*, 47, 108-121.
- Del Rey, R. & Ortega, R. (2011). An Educative Program to Cope with Cyberbullying in Spain: CONRED. In *Conferencia Evidence-based prevention of bullying and youth violence: European innovation and experience*, Cambridge, UK on 5 and 6 July 2011.
- Del Rey, R., Flores, J., Garmendia, M. & al. (2010). *Protocolo de actuación escolar ante el cyberbullying*. Bilbao: Gobierno Vasco.
- Del Rey, R., Casas, J.A. & Ortega, R. (under review). Spanish Validation of the European Cyberbullying Questionnaire from Daphne Project.
- Dinev T. & Hart, P. (2004). Internet Privacy Concerns and Their Antecedents, Measurement Validity and a Regression Model. *Behaviour & Information Technology* 23 (6), 413-422.
- Dinev, T., Xu, H. & Smith, H. J. (2009). Information Privacy and Correlates: An Attempt to Navigate in the Misty Conceptual Waters, *Proceedings of 69th Annual Meeting of the Academy of Management (AOM 2009)*, Chicago: Illinois.
- Echeburúa, E. & Corral, P. (2009). Las adicciones con o sin droga: una patología de la libertad. In E. Echeburúa, F.J. Labrador & E. Becoña (Eds.). *Adicción a las nuevas tecnologías en adolescentes y jóvenes* (pp. 29-44). Madrid: Pirámide.
- Echeburúa, E. & Corral, P. (2010). Adicción a las nuevas tecnologías y a las redes sociales en jóvenes: un nuevo reto. *Adicciones*, 22, (2), 91-96.
- Garmendia, M., Garitaonandia, C., Martínez, G. & Casado, M.A. (2011). *Riesgos y seguridad en internet: Los menores españoles en el contexto europeo*. Universidad del País Vasco/Euskal Herriko Unibertsitatea, Bilbao: EU Kids Online.
- Graner, P., Beranuy-Fargues, M., Sánchez-Carbonell, C. & al. (2007). ¿Qué uso hacen los jóvenes y adolescentes de Internet y del móvil? *Congreso Comunicación e Xuventude: Actas do Foro Internacional / L. Alvarez Pousa & J. Evans Pim (Eds.), O. Crespo Argibay (ed. lit.)*, 71-90.
- Granero, R., Doménech, J.M., Bonillo, A. & Ezpeleta, L. (2001). *Psicología basada en la evidencia: Un nuevo enfoque para mejorar la toma de decisiones*. Madrid: VII Congreso de Metodología de las Ciencias Sociales y de la Salud.
- Griffiths, M.D. (2005). Internet Abuse in the Workplace, Issues and Concerns for Employers and Employment Counselors. *Journal of Employment Counseling*, 40, 87-96.



- Haines, M. & Spear, S.F. (1996). Changing the Perception of the Norm: A Strategy to Decrease Binge Drinking Among College Students. *Journal of American College Health*, 45, 134-140.
- Hunsley, J. & Johnston, C. (2000). The Role of Empirically Supported Treatments in Evidence-Based Psychological Practice: A Canadian Perspective. *Clinical Psychology: Science & Practice*, 7, 269-272.
- Hunter, S. & Boyle, J. (2004). Appraisal and Coping Strategy Use in Victims of School Bullying. *British Journal of Educational Psychology*, 74, 83-107.
- Lapinski, M.K. & Rimal, R.N. (2005). An Explication of Social Norm. *Communication Theory*, 5, (2), 127-147
- Lindqvist, P. & Skipworth, J. (2000). Evidence-Based Rehabilitation in Forensic Psychiatry. *British Journal of Psychiatry*, 176, 320-323.
- Liu, H. (2007) Social Network Profiles as Taste Performances. *Journal of Computer-Mediated Communication*, 13 (1), 252-275.
- Luengo-Latorre, J.A. (2011). Cyberbullying, guía de recursos para centros educativos. La intervención en los centros educativos: Materiales para equipos directivos y acción tutorial. Madrid: Defensor del Menor.
- Machargo, J., Luján, I., León, M.E., López, P. & Martín, M.A. (2003). Videojuegos por los adolescentes. *Anuario de Filosofía, Psicología y Sociología*, 6, 159-172.
- Marín, I. & González-Piñal, R. (2011). Relaciones sociales en la sociedad de la Información. *Prisma Social*, 6, 119-137.
- McLaughlin, J.H. (2010). Crime and Punishment: Teen Sexting in Context. ([http://works.bepress.com/-julia\\_mclaughlin](http://works.bepress.com/-julia_mclaughlin)) (02-02-2012).
- Menjivar, M. (2010). El sexting y l@s nativ@s neo-tecnológic@s: Apuntes para una contextualización al inicio del siglo XXI. *Actualidades Investigativas en Educación*, 10, (2), 1-23.
- Mercadal, R. (2009). Pantallas amigas. *Comunicación y Pedagogía*, 239, 55-57.
- Monge, A. (2010). De los abusos y agresiones sexuales a menores de trece años tras la reforma penal de 2010. *Revista de Derecho y Ciencias Penales*, 15, 85-103.
- Montero, I. & León, O.G. (2007). Guía para nombrar los estudios de investigación en Psicología. *International Journal of Clinical and Health Psychology*, 7, 847-862.
- Navarro, F., Giribet, C. & Aguinaga, E. (1999). Psiquiatría basada en la evidencia: Ventajas y limitaciones. *Psiquiatría Biológica*, 6, 77-85.
- Nosko, A., Wood, E. & Molema, S. (2010). All about Me: Disclosure in Online Social Networking profiles: The Case of Facebook. *Computers in Human Behavior*. 26, (3), 406-418
- OECD (Ed.) (2005). Policy Coherence for Development. Promoting Institutional Good Practice. The Development Dimension Series. Paris: OECD.
- Ortega, R. (1997). El proyecto Sevilla Anti-violencia Escolar. Un modelo de intervención preventiva contra los malos tratos entre iguales. *Revista de Educación*, 313, 143-158
- Ortega, R. & Del Rey, R. (2001). Aciertos y desaciertos del proyecto Sevilla Anti-violencia Escolar (SAVE). *Revista de Educación*. 324, 253-270.
- Ortega, R. & Mora-Merchán, J.A. (2008). Las redes de iguales y el fenómeno del acoso escolar: explorando el esquema dominio-sumisión. *Infancia y Aprendizaje*, 31 (4), 515-528.
- Ortega, R., Calmaestra, J. & Mora-Merchán, J. (2008). Cyberbullying. *International Journal of Psychology and Psychological Therapy*, 8(2), 183-192.
- Ortega, R., Del Rey, R. & Sánchez, V. (2011). Nuevas dimensiones de la convivencia escolar y juvenil. *Ciberconducta y relaciones en la Red: Ciberconvivencia*. Madrid: Observatorio Estatal de la Convivencia Escolar. Informe interno.
- Piscitelli, A. (2006). Nativos e inmigrantes digitales, ¿Brecha generacional, brecha cognitiva, o las dos juntas y más aún? *Revista mexicana de investigación educativa*, 11 (28), 179-185.
- Prensky, M. (2001). Digital Natives, Digital Immigrants, *On the Horizon*, 9, 1-6.
- Reig, D. & Fretes, G. (2011). Identidades digitales: límites poco claros. *Cuadernos de Pedagogía*, 418, 58-59.
- Ricoy, M.C., Sevillano, M.L. & Feliz, T. (2011). Competencias necesarias para la utilización de las principales herramientas de Internet en la educación. *Revista de Educación*, 356, 483-507.
- Rimal, R., Lapinski, M., Cook, R. & Real, K. (2005). Moving Toward a Theory of Normative Influences: How Perceived Benefits and Similarity Moderate the Impact of Descriptive Norms on Behaviors. *Journal of Health Communication*, 10, 433-50.
- Rimal, R.N. & Real, K. (2003). Understanding the Influence of Perceived Norms on Behaviors. *Communication Theory*, 13, 184-203.
- Rimal, R.N. & Real, K. (2005). How Behaviors are Influenced by Perceived Norms: A Test of the Theory of Normative Social Behavior. *Communication Research*, 32, 389-414.
- Sackett, D.L., Richardson, W.S., Rosenberg, W. & Haynes, R.B. (1997). *Medicina basada en la evidencia: Cómo ejercer y enseñar la MBE*. Churchill Livingstone.
- Smith, P.K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S. & Tippett, N. (2008). Cyberbullying: its Nature and Impact in Secondary School Pupils. *Journal of Child Psychology and Psychiatry*, 49, 376-385.
- Smith, P.K., Mahdavi, J., Carvalho, C. & Tippett, N. (2006). An Investigation into Cyberbullying, its Forms, Awareness and Impact, and the Relationship between Age and Gender in Cyberbullying. *Research Brief RBX03-06*. London: DfES. ([www.antibullyingalliance.org.uk/downloads/pdf/cyberbullyingreportfinal-230106\\_000.pdf](http://www.antibullyingalliance.org.uk/downloads/pdf/cyberbullyingreportfinal-230106_000.pdf)) (10-06-2007).
- Stoiber, K.C. & Kratochwill, T.R. (2001). Evidence-based Intervention Programs: Rethinking, Refining, and Renaming the New Standing Section of School Psychology Quarterly. *School Psychology Quarterly*, 16, 1-8.

- Stone, N. (2011). The 'Sexting' Quagmire: Criminal Justice Responses to Adolescents' Electronic Transmission of Indecent Images in the UK and the USA. *Youth Justice*, 11, 3, 266-281.
- Stutzman, F. (2006). An Evaluation of Identity-sharing Behavior in Social Network Communities. *Journal of the International Digital Media and Arts Association*, 3 (1), 10-18.
- Tejerina, O. & Flores, J. (2008). *E-legales*. Bilbao: Edex.
- Tofi, M.M. & Farrington, D.P. (2009). School-based Programs to Reduce Bullying and Victimization. *Campbell Systematic Reviews*. Oslo: Campbell Collaboration.
- Turkle, S. (1997). *La vida en la pantalla*. Barcelona: Paidós
- Wechsler, H. & Kuo, M. (2000). College Students Define Binge Drinking and Estimate its Prevalence: Results of a National Survey. *Journal of American College Health*, 49, 57-64.
- Winocur, R. (2006). Internet en la vida cotidiana de los jóvenes. *Revista Mexicana de Sociología*, 68, (3), 551-580.