International Journal of Conflict and Violence

Knowing, Building and Living Together on Internet and Social Networks: The ConRed Cyberbullying Prevention Program

Rosario Ortega-Ruiz, Department of Psychology, University of Cordoba, Spain, and Visiting Professor at Department of Psychology and Counselling, University of Greenwich, United Kingdom
Rosario Del Rey, Department of Developmental and Educational Psychology, University of Seville, Spain
José A. Casas, Department of Psychology, University of Cordoba, Spain

Vol. 6 (2) 2012

Knowing, Building and Living Together on Internet and Social Networks: The ConRed Cyberbullying Prevention Program

Rosario Ortega-Ruiz, Department of Psychology, University of Cordoba, Spain, and Visiting Professor at Department of Psychology and Counselling, University of Greenwich, United Kingdom
Rosario Del Rey, Department of Developmental and Educational Psychology, University of Seville, Spain
José A. Casas, Department of Psychology, University of Cordoba, Spain

An evaluation of the success of the evidence-based ConRed program, which addresses cyberbullying and other emerging problems linked with the use of the internet and seeks to promote a positive use of this new environment. The main aims of the ConRed program are a) to improve perceived control over information on the internet, b) to reduce the time dedicated to digital device usage, and c) to prevent and reduce cyberbullying. The impact of the program was evaluated with a quasi-experimental design with a sample of 893 students (595 experimental and 298 control). The results of the mixed repeated measures ANOVAs demonstrate that ConRed contributes to reducing cyberbullying and cyber-dependence, to adjusting the perception of information control, and to increasing the perception of safety at school.

Research into bullying and action programs aimed at preventing bullying or alleviating its effects have a history stretching back over more than three decades (Rigby and Smith 2011). In recent years traditional forms of bullying – physical, verbal, and relational aggression – have been joined by cyberbullying, a new phenomenon which reflects the increasingly widespread use of digital devices in peer interaction among adolescents and young adults (Baldry and Farrington 2007; Ttofi and Farrington 2011). The use of information and communications technologies, henceforth referred to as ICTs, can be said to be altering many aspects of young people's social lives, with traditional bullying now being replaced by more specific forms of abuse, intimidation, and harassment perpetrated via the digital devices they use to contact and communicate with each other (Mitchell, Finkelhor, and Wolak 2004). Action programs therefore need to include scientifically proven strategies focusing not only on bullying but also on cyber-behavior, the prevention of cyber-aggression and support for victims of cyberbullying.

1. Cyberbullying

Many researchers consider cyberbullying as merely an extension of traditional bullying and therefore define it as a series of intentional, repeated acts of aggression based on the establishment of some kind of power imbalance and carried out using technological devices (Slonje and Smith 2008; Tokunaga 2010). The use of such devices partially alters the nature of the contact between victims and aggressors and introduces specific new factors and risks, such as the anonymity of the aggressor, the greater social dissemination of the abuse being perpetrated, and the practical difficulties involved in halting the aggression and, by extension, shortening the victims' suffering (Patchin and Hinduja 2006). Some authors believe that these factors aggravate cyberbullying's effect on its victims (Dooley, Pyżalski, and Cross 2009), while others argue that cyberbullying, which is less common than traditional bullying in schools (Olweus 2012), offers victims opportunities to respond and defend themselves that are not available in face-to-face bullying scenarios (Law et al. 2012).

Scientific literature on bullying risk factors has established two basic categories: factors based on the personal characteristics of the people involved (basically aggressors and victims, although bystanders also play a significant role) and factors based on certain elements in the social context in which the bullying takes place. These contextual elements include empathy (or its absence among aggressors), social incompetence in victims, and school climate (Meraviglia et al. 2003; Nickerson, Mele, and Princiotta 2008; Sherer and Nickerson 2010). School climate, which essentially encompasses interpersonal affection and relationships and commonly accepted rules for social interaction (both implicit and explicit), is the setting in which bullies and victims play out their roles. Because cyberbullying is an indirect form of bullying, it should be remembered that risk factors present in the traditional bullies' and victims' social system are also risk factors for cyberbullying, although cyberbullying also has its own more specific risk factors (Bear et al. 2011). In terms of school climate, perceived safety and the absence of problems at school impede the emergence and consolidation of cyberbullying in relationships between classmates (Brand et al. 2003). Of the personality-based factors, empathy is as a particularly important factor which is typically absent or deficient among bullies (Jolliffe and Farrington 2004); it may also be lacking among cyber-aggressors (Gini et al. 2007). Card and Hodges (2008) found a lack of social skills/competence among the victims of violent bullying, and this may also be mirrored in cyberbullying (Gradinger et al. 2012).

Factors associated exclusively with cyberbullying include lack of control over personal information made available on the internet and the compulsive use of the internet, which may lead to addiction and personality disorders (Ybarra and Mitchell 2004) and increases the risk of exposure to abuse via the internet (Dinev, Hart, and Mullen 2008). High-risk actions such as sharing passwords, talking to strangers, and uploading intimate information on social networks make victims more vulnerable (Gradinger et al. 2012; Hinduja and Patchin 2009). The disordered, compulsive use of the internet or social networks also distances individuals from direct social relationships and productive work or leisure time, leading to personality disorders and increasing the possibilities of indulging in

or becoming exposed to aggressive behavior (Ybarra and Mitchell 2004).

2. Tackling Cyberbullying

Thirty years of psycho-educational research into bullying have provided us with a wide range of preventive and palliative resources for dealing with the phenomenon (Ttofi and Farrington 2011), and much of this knowledge has been found also to be valid when addressing cyberbullying (Pearce et al. 2011). However, programs are needed that are capable of combining bullying prevention procedures of proven efficiency (Olweus 2012) with initiatives geared towards the prevention of cyberbullying and its associated contextual risks. And that is the aim of ConRed (Programa Conocer, Construir y Convivir en la Red, or the Knowing, Building, and Living Together on the Internet Program).

ConRed is an evidence-based intervention. Implemented using the procedures described in successful anti-bullying programs (Baldry and Farrington 2007; Olweus 2012; Pearce et al. 2011; Ttofi and Farrington 2011), it focuses on the cyberbullying risk factors mentioned above. ConRed is based on the following previously successful strategies:

a) *Proactive policies, procedures, and practices:* the implementation of clear policies with practical procedures for reducing bullying (Ttofi and Farrington 2011) and organizational support (Rigby and Slee 2008; Vreeman and Carroll 2007). ConRed implements a specific action plan to combat the risks involved in using the internet and social networks, improving technical and procedural skills with digital devices, and teaching how to use ICTs safely and healthily.

b) S*chool community key understandings and competencies:* the implementation of mechanisms which help to develop skills for preventing, identifying, and reacting to the problem (Baldry and Farrington 2007; Ttofi and Farrington 2011). ConRed's basic function is to instruct schoolchildren, teachers, and parents and improve their skills, to facilitate the safe, healthy use of the internet and social networks. The program focuses mainly on raising individuals' awareness and procedural skills in digital communication, the aim being to improve students' online social competence.

c) *Protective school environment:* the provision of safe spaces and facilities positively influences student behavior (Pearce et al. 2011; Ttofi and Farrington 2011). ConRed helps schools to create safe, healthy virtual communication environments for students, fomenting in them a culture of mutual support, empathy with the weakest, and better social relationships (including digital communication) between the three groups involved in the school: students, teachers, and families.

d) *School–family–community partnerships* to promote cooperation between the school, the families, and the leading local organizations through greater participation, as a means of encouraging support and reducing intimidating behavior (Hemphill et al. 2009; Ttofi and Farrington 2011; Hong and Espelage 2008). The ConRed program encourages cooperation between the three groups – students, teachers, and families – through joint activities, offering a virtual environment where the school community can meet to discuss the problems of bullying and cyberbullying (www.uco.es/laecovi/conred).

3. The Theory of Cyber-Behavior Risk Analysis and the Educational Criteria of the ConRed Program

The ConRed program embraces the theory of normative social behavior (Rimal et al. 2005) that has been employed in various action programs to modify juvenile attitudes and behavioral patterns such as alcohol consumption (Borsari and Carey 2000). This theory argues that human behavior and attitudes are heavily influenced by perceived social conventions. Applying the theory of normative social behavior to cyberbullying, adolescents may possibly see much of their own online communication and exchanges of information as quite normal and inevitable, without being aware of the consequences of their conduct. According to Rimal and Real (2003), this influence of social conventions on individual behavior takes place via three mechanisms: a) injunctive norms; b) social expectations; and c) group identity processes. The ConRed program takes these three mechanisms into account, making them part of the key training content in instructional work sessions conducted with students. They thus become material for debate among the schoolchildren. Laws which regulate and sanction certain forms of conduct on the in-

ternet and in social networks are analyzed, along with the consequences of breaking them. With respect to expectations, defined as the perceived benefits and/or disadvantages of engaging in certain forms of conduct (Bandura 1986), ConRed stresses the importance of critical awareness regarding the compulsive use of the internet and social networks, the naivety and mistakenness of believing that one has total control over the personal information uploaded to cyber-environments, and the negative consequences of misusing language online. Finally, with regard to group identity, defined as the unquestioning, uncritical adoption of the peer group's attitudes and conduct by an individual (Tajfel 2010), ConRed engages adolescents in debate about the morally devastating effects that may ensue when an individual is attacked on the internet and/or in social networks.

The ConRed program was designed and developed to prevent cyberbullying by raising levels of technical, procedural, and communications expertise and improving social skills in virtual scenarios, especially the internet and social networks. Although the approach was "holistic," taking into consideration all three social groups in the school community – students, teachers and families –, the most important element was the work carried out with the students, who received eight training sessions conducted by external experts (the researchers). The experts worked in collaboration with each school's school climate planning team for three months.

The work carried out with the students was aimed at:
a) Improving the schoolchildren's ICT usage habits, especially those related to controlling personal information as a form of reducing vulnerability; b) raising their awareness of time spent using ICTs, especially excessive time devoted to internet activities, and the risk of addiction; and c) analyzing the morally unjust, unhealthy nature of cyberbullying and the risks facing victims of abuse perpetrated via digital devices.

The ConRed program concentrated on working directly with the schoolchildren. Over a period of three months, weekly contact was maintained with the participating schools and eight classroom sessions were conducted (see Table 1). These sessions were structured to form three

units: a) The internet and social networks unit focused on the importance of privacy and control over shared content and processes and highlighted the negative consequences of failing to control or establish safety measures in online communication processes; b) In the unit on the benefits of using the internet and social networks healthily and intelligently, students were taught to improve their technical skills, to prioritize prosocial spaces and practices, and to exercise moral awareness and fairness by avoiding and reporting cyberbullying; c) The unit on dealing with the problems that may arise if the internet and social networks are used in a naive or malicious manner provided students with strategies for addressing the problems associated with inappropriate, irresponsible usage, with special attention being paid to the prevention of cyberbullying and internet addiction (abuse). Table 1 details the three conceptual units covered in the eight sessions conducted with the students. The same content was addressed in two sessions with the teachers and in one session with the students' families.

Table 1: ConRed teaching sessions

Session 1: What do the ICTs mean to you? And to people generally?

Session 2: How do you use social networks?

Session 3: Our plan of action to became an expert

Session 4: How do I feel doing different activities on the internet?

Session 5: How can the internet help me and others? How can I help others?

Session 6: What do we do on the internet and why it may be damaging?

Session 7: The advantages and disadvantages of social networks

Session 8: Reflection: quiz game for consolidating knowledge

The instructional stage with the students began by exploring their preconceived ideas about the issues involved. A picture, video, news item, or case description was then used to generate a debate, chaired and guided by one of the researchers. The aim was to provoke cognitive conflict and sensitize the participants to conceptual errors and false beliefs. The

session ended with a personalized exercise on internet and social network use which drew together what the students had learned about internet practice. The results were published in a manual (Ortega-Ruiz, Del Rey, and Casas 2012).

Concurrently with this direct intervention involving students, teachers, and families, the ConRed program also implemented an awareness-raising campaign, using materials like leaflets, posters, stickers, bookmarks, etc., to support the continuity of the measures being taken in the schools. Simple, clear messages were presented, providing information about how to use the internet and social networks correctly and how to prevent the risks that may be encountered if such resources are used inappropriately (see Table 2).

Table 2: Advice for teachers and families in the ConRed awareness-raising campaign

Advice for teachers	Advice for families
1. Make knowledge and command of the potential of ICTs, internet and social networks one of your objectives.	1. Teach your children to move around on the internet in the same way that you taught them to move around in the street: to be careful not to bump into anyone or let anyone bump into them.
2. Creating spaces for dialog and engagement is crucial for bringing the school closer to students and avoiding alienating them.	2. Protect your children from harmful elements on the internet just as you taught them to protect themselves against the cold, the rain, and dangers in the street
3. Include the social climate in cyberspace part of your school climate project, because relationships between students are continued in social networks.	3. Teach your children to be wary of invitations and messages from strangers. On the internet not all friends are real friends.
4. Adapt detection and deterrence procedures to emerging problems such as cyberbullying.	4. Don't forget the keys. On social networks the keys are the passwords. Teach your children how to use them safely.
5. Ask for guidance if our intervention is not having the desired effect.	5. Help your son or daughter to make their own decisions when they are online, and not to be swept along by what others do or say

4. ConRed Evaluation: Evidence of the Program's Preventive Efficiency

4.1. Hypothesis

Our starting hypothesis was that after implementing ConRed with the three groups (students, teachers, and families) and carrying out the accompanying information campaign, improvements would be seen in all three proposed objectives.

4.2. Objectives

a) Improve perceived control over information on the internet and promote safety and privacy.

b) Promote healthy use of the internet and a reduction in time dedicated to digital device usage, in order to prevent possible overuse and addiction.

c) Reduce involvement in cyberbullying, in all roles, by reducing risk factors in order to create a greater sense of safety at school.

5. Methodology

5.1. Participants

The sample comprised 893 students at secondary schools in the city of Cordoba, Spain: 595 (45 percent female) in the experimental group and 298 (47.6 percent female) in the control group. The students' ages ranged from 11 to 19 years (M =13.8; SD= 1.47).

5.2. Instruments

- The Perceived Information Control Scale (Dinev and Hart 2004), comprising four Likert-type items with seven answer options ranging from "totally disagree" to "strongly agree" (α = .896).
- Adaptation of the Internet-Related Experiences Questionnaire (CERI) (Beranuy et al. 2009), comprising ten Likert-type items with four answer options (1 to 4) reflecting behavior frequency ranging from "never" to "quite a lot." This questionnaire has two scales: intrapersonal conflicts, covering aspects of substance abuse and addictive/pathological gambling, and interpersonal conflicts, covering key elements in ICT-based interpersonal relationships. Its reliability levels are acceptable (α total= .78; α intrapersonal= .719; α interpersonal= .631).
- The European Cyberbullying Intervention Project Questionnaire (ECIPQ) (Brighi et al. 2012a), comprising twenty-two Likert scale items with five answer options for frequency ranging from never to more than once a week. This questionnaire has two dimensions, cybervictimization and cyberaggression, with good reliability levels (α total= .87; α victimization= .80; α aggression= .88).
- The European Bullying Intervention Project Questionnaire (ECIPQ) (Brighi et al. 2012b), comprising fourteen Likert-type items with five answer options for frequency ranging from "never" to "yes, more than once a week." This questionnaire has two scales, victimization and aggression, with acceptable reliability levels (α total = .82; α victimization = .85; α aggression = .77).
- The Basic Empathy Scale (Jolliffe and Farrington 2006), comprising twenty Likert items with five answer options reflecting level of agreement. This questionnaire has two dimensions, cognitive empathy and affective empathy, with acceptable reliability levels (α total = .70; α cognitive= .79; α affective = .85).
- The School Climate Scale (Brand et al. 2003), in which we used the Safety Problems subscale Likert items with five answer options (6 items, α = .71).

5.3. Procedure

As mentioned above, ConRed is a holistic program similar to those models which have proven successful in preventing traditional bullying (Olweus 2012) and which were already present in the schools in which it was implemented. Three schools were chosen for the program. Two of them were public schools (one with relatively high socioeconomic indicators, the other less so). The third was a private school. At each school a meeting was arranged with management and the person in charge of improving school climate (*convivencia* in Spanish) and the nature, objectives, and implementation conditions of the ConRed program were explained. The three schools accepted the conditions, the timetabling proposal, and the program agenda. The program researchers also agreed with the schools which classes would take part as the experimental and control groups. The experimental group was larger at the specific insistence of the managements of the participating schools. The program was evaluated with a quasi-experimental, ex post facto, longitudinal design, with pre-post measurement, covering two groups (one experimental and one quasi-control) (Montero and León 2007).

5.4. Analysis

To evaluate the impact of the program, repeated measures general linear models or mixed repeated measures AN-OVAS were applied. Homogeneity of covariance matrices and covariance matrix sphericity, or multi-sample sphericity requirements (Keselman and Keselman 1988; Hyunh 1978), were tested using Box's M-test, which gave p > 0.05 in all cases except for the cyberbullying and bullying dimensions. As violence dimensions, these were corrected using Friedman's F-test. As an analysis strategy we chose

the repeated measures ANOVA because, when the univariate conditions for the matrix are satisfied, as in this case, this technique is stronger and more powerful than other analyses in longitudinal studies (Albert 1999; Rogan, Keselman, and Mendoza 1979).

6. Results

The mean scores obtained highlight the differences between the experimental group and the control group (see Table 3).

Table 3: Mean scores

	Experimental group (n=595)		Control group (n=296)	
	Pre-test M (SD)	Post-test M (SD)	Pre-test M (SD)	Post-test M (SD)
Information control	5.51 (1.630)	5.01 (1.961)	5.25 (1.860)	5.33 (1.793)
Addiction to internet	1.18 (0.641)	1.16 (0.687)	1.19 (0.596)	1.18 (0.625)
Intrapersonal addiction	0.90 (0.687)	0.94 (0.725)	0.92 (0.658)	0.93 (0.698)
Interpersonal addiction	1.45 (0.713)	1.39 (0.727)	1.46 (0.699)	1.45 (0.683)
Cyberbullying	0.09 (0.196)	0.07 (0.165)	0.11 (0.313)	0.11 (0.285)
Aggressor cyberbullying	0.06 (0.220)	0.05 (0.147)	0.09 (0.272)	0.09 (0.304)
Victim cyberbullying	0.12 (0.262)	0.08 (0.258)	0.14 (0.277)	0.14 (0.341)
Bullying	0.37 (0.430)	0.24 (0.317)	0.34 (0.401)	0.30 (0.397)
Aggressor bullying	0.25 (0.398)	0.18 (0.306)	0.22 (0.353)	0.19 (0.290)
Victim bullying	0.50 (0.641)	0.32 (0.463)	0.49 (0.645)	0.42 (0.657)
Empathy	1.84 (0.370)	1.85 (0.350)	1.88 (0.418)	1.89 (0.344)
Cognitive empathy	2.19 (0.467)	2.16 (0.439)	2.21 (0.464)	2.22 (0.397)
Affective empathy	1.53 (0.460)	1.57 (0.486)	1.63 (0.508)	1.61 (0.448)
Safety problem	0.31 (0.409)	0.28 (0.403)	0.31 (0.439)	0.30 (0.400)

The mixed model analysis of repeated measurement variables (see Table 4) shows that for both boys and girls perception of control over information was significantly lower in the experimental group than in the control group (F= 10.320 df=1. p<.01* d =0.278). Among boys, there was a significant drop in internet addiction (F= 4.353 df=1. p<.05* d = 0.1), especially interpersonal internet addiction (F= 4.708 df=1. p< .05* d = 0.126). The level of cyberbullying also dropped significantly (F=6.695 df=1. p<.01* d = 0.2), with regard both to aggression (F=6.047 df=1. p<.05* d = 0.5) and victimization (F=5.530 df=1. p<.05* d = 0.154), as did that of traditional bullying (F=7.859 df=1. p <.01* d =

0.348). Statistical testing showed that these changes occurred principally in the aggression scale corresponding to boys (versus girls) (F=11.940 df=1. p<.01* d = 0.243) and in victimization among both boys and girls (F=6.571 df=1. p<.05* d = 0.326), although there was a much more marked drop among boys (F=8.131 df=1. p<.01* d =0.433). With regard to empathy there was a significant increase in affective empathy (F=3.953 df=1. p<.05* d = -0.085), this change being more noticeable among girls (F= 17.822 df=1. p<.01* d = -0.2). The level of perception of safety problems was significantly lower among boys than it was for girls (F=8.545 df=1. p<.01* d =0.221).

Table 4: Repeated measurement ANOVA

	Group	M		F (Anova index)	P	M ♂♀		F (Anova Index)	P
		Pre	Post			Pre	Post		
Information control	Experimental	5.51	5.01	10.320	0.001*	♂5.39	5.01	0.857	0.355
						♀5.66	5.28		
	Control	5.25	5.33			♂5.33	5.29		
						♀5.16	5.38		
Addiction to internet	Experimental	1.18	1.16	0.002	0.968	♂1.11	1.07	4.353	0.037*
						♀1.27	1.29		
	Control	1.19	1.18			♂1.22	1.16		
						♀1.15	1.19		
Intrapersonal addiction	Experimental	0.90	0.94	0.087	0.768	♂0.81	0.85	0.010	0.921
						♀1.02	1.07		
	Control	0.92	0.93			♂0.94	0.95		
						♀0.89	0.90		
Interpersonal addiction	Experimental	1.45	1.39	2.361	0.125	♂1.38	1.29	4.708	0.030*
						♀1.54	1.51		
	Control	1.46	1.45			♂1.47	1.41		
						♀1.44	1.50		
Cyberbullying	Experimental	0.09	0.07	6.695	0.010*	♂0.10	0.07	0.525	0.469
						♀0.08	0.06		
	Control	0.11	0.11			♂0.11	0.14		
						♀0.11	0.08		
Aggressor cyberbullying	Experimental	0.06	0.05	6.047	0.014*	♂0.08	0.06	0.345	0.557
						♀0.05	0.04		
	Control	0.09	0.09			♂0.10	0.12		
						♀0.08	0.06		
Victim cyberbullying	Experimental	0.12	0.08	5.530	0.019*	♂0.13	0.08	0.151	0.698
						♀0.11	0.09		
	Control	0.14	0.14			♂0.13	0.16		
						♀0.14	0.11		
Bullying	Experimental	0.37	0.24	7.859	0.005*	♂0.42	0.25	15.005	0.000*
						♀0.29	0.23		
	Control	0.34	0.30			♂0.33	0.36		
						♀0.34	0.25		
Aggressor bullying	Experimental	0.25	0.18	0.022	0.882	♂0.31	0.21	11.940	0.001*
						♀0.18	0.13		
	Control	0.22	0.19			♂0.24	0.23		
						♀0.20	0.15		
Victim bullying	Experimental	0.50	0.32	6.571	0.011*	♂0.55	0.31	8.131	0.004*
						♀0.45	0.33		
	Control	0.49	0.42			♂0.49	0.48		
						♀0.48	0.36		
Empathy	Experimental	1.84	1.85	1.287	0.257	♂1.81	1.77	0.030	0.673
						♀1.88	1.94		
	Control	1.88	1.89			♂1.84	1.84		
						♀1.93	1.94		
Cognitive empathy	Experimental	2.19	2.16	0.911	0.340	♂2.20	2.10	0.024	0.878
						♀2.19	2.24		
	Control	2.21	2.22			♂2.18	2.10		
						♀2.24	2.26		
Affective empathy	Experimental	1.53	1.57	3.953	0.047*	♂1.51	1.51	17.822	0.000*
						♀1.57	1.66		
	Control	1.63	1.61			♂1.55	1.53		
						♀1.71	1.70		
Safety problem	Experimental	0.31	0.28	0.081	0.775	♂0.34	0.31	8.545	0.004*
						♀0.27	0.26		
	Control	0.31	0.30			♂0.35	0.35		
						♀0.26	0.24		

7. Discussion and Conclusions

The ConRed program produced positive results with regard to the three main objectives: the experimental group showed a noticeable global improvement both in comparison with the control group and in the pre-post measurement. With regard to the first objective, there was a significant decrease in perception of control over personal information on the internet and in social networks. We interpret this as an increase in awareness of the risks that may affect personal information and of the need to enhance safety measures to protect private content made available on the internet. Given that all the information displayed on the internet has effects on the construction of adolescents' personal identity (Nosko, Wood, and Molema 2010) there is a need to control it. Therefore, the above-mentioned decrease can be identified as a better-adjusted adolescent perception of the real control they have over their personal information on the internet which, in turn, can be identified as a greater awareness of situations of potential insecurity.

With regard to the second objective, that of training for healthier online behavior, the decrease in addiction-related problems differed between boys and girls. Among boys, there was a significant decrease in the need to be online interacting with others on social networks (interpersonal addiction), whereas the girls maintained higher levels of frequency of online communication with others and their behavior was not significantly modified by ConRed. Similar results have been obtained in other studies. For example, Echeburua and Corral (2009) and Ruiz-Olivares, Lucena, Pino, and Herruzo (2010) describe how girls are more likely to develop a certain level of addiction to online activity in the fields of communication and social networking. More work therefore seems to be necessary to achieve this objective among the female population.

The drop in cyberbullying, in terms of both aggression and victimization, proves that ConRed successfully achieved objective three. Levels of involvement in both roles decreased, and we consider this a major success of the program: other equally ecological programs encompassing all the agents involved have not altered the frequency with which schoolchildren play the role of aggressor, although

they have brought about a decrease in the number of those involved as victims (Ttofi and Farrington 2011). The decrease in offensive behavior and, by extension, in the number of schoolchildren who describe themselves as online bullies, may be explained by the training the children have received and the awareness-raising concerning the moral implications of aggressive or offensive content in social network communication. Raising awareness of the harm that can be caused to others by content manipulation, offensive language, social exclusion, threats, etc. has proved to be one of ConRed's most interesting achievements. The program was designed specifically to prevent teenagers from perpetuating the old problem of traditional bullying, which actually decreases during the years of adolescence, in the new online environment. The evaluation shows that risk awareness and the training of teachers and parents to monitor and guide youth behavior reduce high risk conduct, induce the taking of precautionary measures, and encourage protective attitudes in online activity. This is important because it offers victims a way out of their isolation, helping them to feel supported by influential adults and better able to handle cases of gratuitous and sometimes cruel aggression (Hunter and Boyle 2004). This interpretation is reinforced by the changes observed in ConRed's empathy measurements, with increases in feelings of understanding, recognition, and affection towards cyberbullying victims.

ConRed produced gender-differentiated benefits: among boys, bullying dropped in terms of both aggression and victimization, but that was not the case with girls involved as aggressors. In contrast, affective empathy rose significantly among girls but not among boys. That is to say, after the ConRed program had been implemented perception of school *climate* was seen to have changed as intended, but there are a number of sex-related considerations which require further attention. The same thing happened with perception of safety: the boys now feel their school is safer, but the girls do not.

Although the overall evaluation of ConRed as an action program was positive with regard to its proposed objectives, attention must be drawn to some limitations: since the program was implemented by the researchers them-

selves working directly with schoolchildren, teachers, and families, ConRed still lacks a mechanism by which responsibility for training can be transferred to the members of the school community. This would give education agents the autonomy to directly implement the program themselves. The main limitation of the research design was that the experimental and control groups came from the same schools, with the consequent risk of contamination. We fully acknowledge this limitation and the risks it implies for achieving a greater level of homogeneity and comparability

between the groups (Trochim 1984). One important topic for future research and action will be an evaluation of the impact of the program once a certain period of time has elapsed. Accordingly, it would be necessary to verify if the positive effects of ConRed are long-lasting even when there is no ongoing intervention or if the benefits disappear gradually. It would be significant to confirm whether these positive effects remain when the program is implemented by the natural agents, the teachers, in which it could be considered a valid program for general use by schools.

References

Albert, Paul S. 1999. Longitudinal Data Analysis (Repeated Measures) in Clinical Trials. *Statistics in Medicine* 18 (13): 1707–32. doi:10.1002/(SICI)1097-0258(19990715)18:13<1707::AID-SIM138>3.0.CO;2-H

Baldry, Anna C., and David P. Farrington. 2007. Effectiveness of Programs to Prevent School Bullying. *Victims and Offenders* 2 (2): 183–204.

Bandura, Albert. 1986. *Social Foundations of Thought and Action.* Englewood Cliffs, NJ: Prentice-Hall.

Bear, George G., Clare Gaskins, Jessica Blank, and Fang Fang Chen. 2011. Delaware School Climate Survey-Student: Its Factor Structure, Concurrent Validity, and Reliability. *Journal of School Psychology* 49 (2): 157–74. doi:10.1016/j.jsp.2011.01.001

Beranuy, Marta, Andrés Chamarro, Carla Graner, and Xavier Carbonell-Sánchez. 2009. Validation of Two Brief Scales for Internet Addiction and Mobile Phone Problem Use. *Psicothema* 21 (3): 480–85.

Borsari, Brian, and Kate B. Carey. 2000. Effects of a Brief Motivational Intervention with College Student Drinkers. *Journal of Consulting and Clinical Psychology* 68 (4): 728–33. doi:10.1037/0022-006X.68.4.728

Brand, Stephen, Robert Felner, Minsuk Shim, Anne Seitsinger, and Thaddeus Dumas. 2003. Middle School Improvement and Reform: Development and Validation of a School-level Assessment of Climate, Cultural Pluralism, and School Safety. *Journal of Educational Psychology* 95 (3): 570–88. doi:10.1037/0022-0663.95.3.570

Brighi, Antonella, Rosario Ortega, Jacek Pyzalski, Herbert Scheithauer, Peter. K. Smith, C. Tsormpatzoudis, V. Barkoukis, et al. 2012a. European Bullying Intervention Project Questionnaire (ECIPQ). University of Bologna. Unpublished manuscript.

Brighi, Antonella, Rosario Ortega, Jacek Pyzalski, Herbert Scheithauer, Peter. K. Smith, C. Tsormpatzoudis, V. Barkoukis, et al. 2012b. European Cyberbullying Intervention Project Questionnaire (ECIPQ). University of Bologna. Unpublished manuscript.

Card, Noel A., and Ernest V. E. Hodges. 2008. Peer Victimization Among Schoolchildren: Correlations, Causes, Consequences, and Considerations in Assessment and Intervention. *School Psychology Quarterly* 23 (4): 451–61. doi:10.1037/a0012769

Dinev, Tamara, Paul Hart, and Michael R. Mullen. 2008. Internet Privacy Concerns and Beliefs about Government Surveillance: An Empirical Investigation. *Journal of Strategic Information Systems* 17 (3): 214–33. doi:10.1016/j.jsis.2007.09.002

Dinev, Tamara and Paul Hart. 2004. Internet privacy concerns and their antecedents -measurement validity and a regression model. *Behaviour and Information Technology* 23 (6): 413-22. doi:10.1080/01449290410001715723

Dooley, Julian J., Jacek Pyżalski, and Donna Cross. 2009. Cyberbullying Versus Face-to-Face Bullying. *Zeitschrift Für Psychologie/Journal of Psychology* 217 (4): 182–88. doi:10.1027/0044-3409.217.4.182

Echeburúa, Enrique, and Paz Corral. 2009. Las adicciones con o sin droga: una patología de la libertad. In *Adicción a las nuevas tecnologías en adolescentes y jóvenes*, ed. Enrique Echeburúa, Francisco J. Labrador, and Elisardo Becoña, 29–44. Madrid: Pirámide.

Gini, Gianluca, Paolo Albiero, Beatrice Benelli, and Gianmarco Altoè. 2007. Does Empathy Predict Adolescents' Bullying and Defending Behavior? *Aggressive Behavior* 33 (5): 467–76. doi:10.1002/ab.20204

Gradinger, Petra, Dagmar Strohmeier, Eva Maria Schiller, Elisabeth Stefanek, and Christiane Spiel. 2012. Cyber-victimization and Popularity in Early Adolescence: Stability and Predictive Associations. *European Journal of Developmental Psychology* 9 (2): 228–43. doi:10.1080/17405629.2011.643171

Hemphill, Sheryl A., Rachel Smith, John W. Toumbourou, Todd I. Herrenkohl, Richard F. Catalano, Barbara J. McMorris, and Helena Romaniuk. 2009. Modifiable Determinants of Youth Violence in Australia and the United States: A Longitudinal Study. *Australian and New Zealand Journal of Criminology* 42 (3): 289–309. doi:10.1375/acri.42.3.289

Hinduja, Sameer, and Justin W Patchin. 2009. Bullying Beyond the Schoolyard: Preventing and Responding to Cyberbullying. Thousand Oaks, CA: Corwin.

Hong, Jun Sung, and Dorothy L. Espelage. 2008. A Review of Research on Bullying and Peer Victimization in School: An Ecological System Analysis. *Aggression and Violent Behavior* 17 (4): 311–32. doi:10.1016/j.avb.2012.03.003

Hunter, Simon C, and James M. E Boyle. 2004. Appraisal and Coping Strategy Use in Victims of School Bullying. *British Journal of Educational Psychology* 74 (1): 83–107. doi:10.1348/000709904322848833

Hyunh, Hyunh. 1978. Some Approximate Tests for Repeated Measurement Designs. *Psychometrika* 43: 383–86.

Jolliffe, Darrick, and David P. Farrington. 2004. Empathy and Offending: A Systematic Review and Meta-Analysis. *Aggression and Violent Behaviour* 9 (5): 441–76. doi:10.1016/j.avb.2003.03.001

Jolliffe, Darrick, and David P. Farrington. 2006. Development and Validation of the Basic Empathy Scale. *Journal of Adolescence* 29 (4): 589–611. doi:10.1016/j.adolescence.2005.08.010

Keselman, Harvey J., and Joanne C. Keselman. 1988. Comparing Repeated Measures Means in Factorial Designs. *Psychophysiology* 25 (5): 612–18. doi:10.1111/j.1469-8986.1988.tb01898.x

Law, Danielle M., Jennifer D. Shapka, José F. Domene, and Monique H. Gagné. 2012. Are Cyberbullies Really Bullies? An Investigation of Reactive and Proactive Online Aggression. *Computers in Human Behavior* 28 (2): 664–72. doi:10.1016/j.chb.2011.11.013

Meraviglia, Martha G., Heather Becker, Barri Rosenbluth, Ellen Sanchez, and Trina Robertson. 2003. The Expect Respect Project: Creating a Positive Elementary School Climate. *Journal of Interpersonal Violence* 18 (11): 1347–60. doi:10.1177/0886260503257457

Mitchell, Kimberly J., David Finkelhor, and Janis Wolak. 2004. Victimization of Youths on the Internet. *Journal of Aggression, Maltreatment and Trauma* 8 (1–2): 1–39. doi:10.1300/J146v08n01_01

Montero, Ignacio, and Orfelio G. León. 2007. A Guide for Naming Research Studies in Psychology. *International Journal of Clinical and Health Psychology* 7 (3): 847–62.

Nickerson, Amanda B., Danielle Mele, and Dana Princiotta. 2008. Attachment and Empathy as Predictors of Roles as Defenders or Outsiders in Bullying Interactions. *Journal of School Psychology* 46 (6): 687–703.

Nosko, Amanda, Eileen Wood, and Seija Molema. 2010. All About Me: Disclosure in Online Social Networking Profiles: The Case of FACEBOOK. *Computers in Human Behavior* 26 (3): 406–18. doi:10.1016/j.chb.2009.11.012

Olweus, Dan. 2012. Cyberbullying: An Overrated Phenomenon? *European Journal of Developmental Psychology* 9 (5): 520–38.doi:10.1080/17405629.2012.682358

Ortega-Ruiz, Rosario, Rosario Del Rey, and José A. Casas. 2012. *El programa ConRed: Un programa Psicoeducativo para el uso seguro y saludable de Internet y las Redes Sociales.* Córdoba: Laecovi.

Patchin, Justin W., and Sameer Hinduja. 2006. Bullies Move Beyond the Schoolyard: A Preliminary Look at Cyberbullying. *Youth Violence and Juvenile Justice* 4 (2): 148–69. doi:10.1177/1541204006286288

Pearce, Natasha, Donna Cross, Helen Monks, Stacey Waters, and Sarah Falconer. 2011. Current Evidence of Best Practice in Whole-School Bullying Intervention and Its Potential to Inform Cyberbullying Interventions. *Australian Journal of Guidance and Counselling* 21 (1): 1–21.

Rigby, Ken, and Phillip Slee. 2008. Interventions to Reduce Bullying. *International Journal of Adolescent Medicine and Health* 20 (2): 165–83.

Rigby, Ken, and Peter K. Smith. 2011. Is School Bullying Really on the Rise? *Social Psychology of Education* 14 (4): 441–55.

Rimal, Rajiv N., Maria K. Lapinski, Rachel J. Cook, and Kevin Real. 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 (5): 433–50.

Rimal, Rajiv N., and Kevin Real. 2003. Understanding the Influence of Perceived Norms on Behaviors. *Communication Theory* 13 (2): 184–203. doi:10.1111/j.1468-2885.2003.tb00288.x

Rogan, Joanne C., H. Joanne Keselman, and Jorge L. Mendoza. 1979. Analysis of Repeated Measurements. *British Journal of Mathematical and Statistical Psychology* 32 (2): 269–86. doi:10.1111/j.2044-8317.1979.tb00598.x

Ruiz-Olivares, Rosario, Valentina Lucena, Maria J. Pino, and Javier Herruzo. 2010. Analysis of Behavior Related to Use of the Internet, Mobile Telephones, Compulsive Shopping and Gambling Among University Students. *Adicciones* 22 (4): 301–10.

Sherer, Yiping C., and Amanda B. Nickerson. 2010. Anti-Bullying Practices in American Schools: Perspectives of School Psychologists. *Psychology in the Schools* 47 (3): 217–29. doi:10.1002/pits.20466

Slonje, Robert, and Peter K. Smith. 2008. Cyberbullying: Another Main Type of Bullying? *Scandinavian Journal of Psychology* 49 (2): 147–54. doi:10.1111/j.1467-9450.2007.00611.x

Tajfel, Henri. 2010. *Social Identity and Intergroup Relations.* New York: Cambridge University Press.

Tokunaga, Robert S. 2010. Following You Home from School: A Critical Review and Synthesis of Research on Cyberbullying Victimization. *Computers in Human Behavior* 26 (3): 277–87. doi:10.1016/j.chb.2009.11.014

Trochim, William M. K. 1984. . Beverly Hills, CA: Sage.

Rosario Ortega
ed1orrur@uco.es

Rosario Del Rey
delrey@us.es

José A. Casas
m22caboj@uco.es