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**Electronic Aggression and Cyberbullying.
An Old House with a New Facade?
New Communication Technologies
in Young People's Lives**



The widespread use of new media (mainly the Internet and cell phones) has altered many areas of life of adults as well as children and young people. Great many of them view this change either as positive or neutral, e.g. in Poland as many as 49% citizens believe that the advent of new technologies has made the world a better place, to 30% it is neither better nor worse and only 13% believe it has now become worse (CBOS, 2008).


However, a new picture emerges when we approach the issue of young people using new technologies. Research shows that a significant number of parents and adults are deeply concerned about the impact of the Internet and cell phones on young generation. At times, they are convinced a prevalent access to new media is going to dehumanise personal relations; equally devastating might be its impact on their life in communication and generation-raising areas (Nissenbaum & Walker, 1998).

In the course of the 1990s a number of researchers in social sciences reiterated their concerns about negative impact of new technologies on young people with regard to social relations they establish as well as their general psychic well-being (Valkenburg & Peter, 2009). Do we now find those concerns justified or were they exaggerated? What exactly did the impact of new communication technologies change in young people's lives?

Research confirms that adolescents are the population group which most often uses the Internet: in Poland, 97% of children aged between 11 and 19 admit they use new technologies, and sharing a household with school-age children is an important factor behind the decision the computer at home should be provided with an Internet access.

The Internet takes up a large portion of time in young people's lives: Polish pupils aged 13-16 are online approximately 17.5 hours per week (Diagnoza szkolna, 2009); young people with special educational needs use the Internet no less often (Lathouwers, de Moor & Didden, 2009). An important remaining question is not only how often young people use the Internet but also what this use is based on.

The authors of *Living and Learning with New Media* (Ito et al., 2008), a report based on in-depth qualitative research (mainly interviews and observations), have determined that young people use so-called computer-mediated communication (web portals, instant messaging services, chat-rooms, etc.) mainly to sustain and develop relations with peers they know from the real world. New technologies give those relations a continuity of a great degree. In consequence, many young people remain online virtually all the time and practically never lose touch with their group of friends, a boyfriend or



a girlfriend (Ito et al., 2009; Subrahmanyam & Greenfield, 2008). On the other hand, a significant number of young people surf the Internet looking for social networks which may help broaden their personal interests (e.g., in music, art or hobby). In this case, joining a social network is less important than personal interests which come to the fore (Ito et al., 2008). We can therefore claim that young people not only use new technologies very frequently but also do so in order to reach goals which are important to them and to their social functioning. It is therefore obvious they are going to be exposed to advantages of new media as well as to negative consequences of their use. Multiple factors confirm that the negative opinions on the impact of the Internet commonly expressed by researchers in the 1990s were unfounded. Moreover, the results of a currently conducted research demonstrate that the very quality of social relations may benefit from acts of communication established by young people with the use of new technologies. This phenomenon may as well have a positive future impact on the functioning of young people in a broader social context (Valkenburg & Peter, 2009).

The fact that we should not overgeneralise the negative impact of information technologies in general and the Internet in particular should not make us insensitive to potentially dangerous aspects of Internet use to which children and young people are likely to be exposed. Electronic aggression is one such aspect. In broad terms, it stands for hostile actions committed against others by means of the Internet and cell phones (Pyżalski, 2009). In certain cases – we are going to explore them further below – electronic aggression may take the form of cyberbullying (electronic mobbing).

Electronic Mobbing (Cyberbullying)

Peer-to-peer aggression has not been brought on only by the widespread use of modern communication technologies. It existed before the arrival of the Internet and cell phones as well as in a time when their use was far less common than it is nowadays. Simply, their impact on the lives of children and young people was more limited. Bullying (mobbing) is a type of peer-to-peer aggression which brings on the most profound negative consequences for persons who are engaged in it, for its perpetrators as well as victims. Not each act of aggression classifies as bullying (Stassen Berger, 2007). The authors of a review of the research over the last twenty years on the problems of mobbing (Monks et al., 2009) indicate that the majority of researchers agree to the following: bullying is an act of aggression, in which hostile intentions of a perpetrator or group of perpetrators are acted out on repetitive basis; due to psychological or physical advantage of aggressors, a victim finds it extremely difficult to defend oneself. Moreover, the authors indicate that aggressive actions may include physical



aggression (beating, pushing, etc.), verbal aggression (name-calling, offending, etc.) or can aim at isolating and excluding the victim from a group of peers (Monks et al., 2009).

Therefore, cyberbullying can be regarded as a typical act of bullying which is perpetrated by means of contemporary communication technologies. However, here arise two particularly pregnant questions with regard to prevention and intervention issues. Firstly, we should consider whether and how cyberbullying and bullying differ in respect to their forms and consequences. Secondly, we should ask whether preventive measures and interventions applied in the context of traditional peer-to-peer aggression are going to prove equally useful and effective in the case of electronic forms of aggression.

Before exploring the issue any further, let us note at the outset that 'electronic aggression' is an umbrella term which includes multiple and diverse hostile actions. However, they are all linked by one denominator, i.e. in all of those cases technology is used in order to perpetrate aggression.

Multiple Forms of Electronic Aggression

Research findings on the experience of Polish teenagers aged 14-15 as perpetrators of electronic aggression well demonstrate abundant possibilities of perpetrating those acts (tab. 1) – at this point, I do not yet wish to determine whether they have been directed against peers or whether the three aforementioned characteristics have been present, i.e.: intentionality, repetition and imbalance of force. The research was conducted on a large (N=2143) sample collected all over Poland¹. The top rows of table 1 show forms of electronic aggression chosen by the largest percentage of adolescents. The data provides an overview of the diverse methods for perpetrating electronic aggression; we may also observe which forms of electronic aggression are most common.

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Table 1.
Students of Polish secondary schools (gymnasium) who have become perpetrators of electronic aggression (N=2143)

		It never happened to me	It did not happen over the past year but it happened before	Over the past year			
				One or more times over the past year	One or more times over the past month	One or more times over the past week	One or more times over the past day
				%	%	%	%
1.	I insulted others during a chat conversation.	55,9	16,4	15,3	5,1	3,2	4,1
2.	I sent messages through instant messaging service in order to offend or scare other people.	60,3	16,9	13,7	4,8	1,9	2,3
3.	I commented on posts by others in order to ridicule/embarrass/scare them.	61,5	13,6	17,2	4	1,5	2,2
4.	I offended/insulted others while playing online games (e.g., Tibia, World of Warcraft, Counter Strike).	63,2	7,3	9,1	5,4	4,8	10,1
5.	I purposely excluded or not accepted a person to a 'group of friends' in the Internet in order to tease him/her.	68,7	13,2	11,8	2,5	1,3	2,5
6.	I sent text messages to tease/annoy/scare other people.	69,1	13,1	12,4	2,4	1,3	1,6
7.	In order to distress others I made comments on their online profiles on web portals such as nasza-klasa.pl, fotka.pl or on their blogs.	71,4	12	10,6	2,9	1,4	1,9
8.	I lied to other people in the Internet/by phone in order to distress or ridicule them.	73	13,8	9,4	1,9	1	0,8
9.	I sent unpleasant messages or links to disturbing content even though other people did not want it.	77	10,5	7,4	2,4	1	1,7
10.	I created a false account, which was embarrassing for other person on web portal (e.g., nasza-klasa.pl, fotka.pl or other).	84,3	6,4	5,7	1,1	0,6	1,8
11.	Without permission, I used other person's Internet account/phone/messenger in order to send unpleasant messages to other people.	84,8	7,2	4,8	1,5	0,8	1



		It never happened to me	It did not happen over the past year but it happened before	Over the past year			
				One or more times over the past year	One or more times over the past month	One or more times over the past week	One or more times over the past day
				%	%	%	%
12.	I purposely sent out content containing computer viruses to other person.	86,8	5,9	3,5	1,5	0,9	1,5
13.	I posted in the Internet or sent via e-mail the picture of other person, which I had taken in a situation which was embarrassing for him/her.	87,8	5,9	4	1,1	0,2	0,9
14.	I gained access to someone's e-mail/messenger and divulged his or her personal information.	88	5,7	3,4	1	0,6	1
15.	I posted private pictures/conversation in the Internet, which belonged to other people and did so against their will.	88,1	6,1	3,1	1,1	0,6	1
16.	I altered/posted in the Internet or distributed among friends a film or image of other person showing him/her in an unfavourable light.	88,2	6,2	3,3	1,1	0,4	0,9
17.	I posted in the Internet / distributed among friends a film or images of a person, whom I had provoked to behave in a strange way.	90,4	4,3	2,8	0,8	0,5	1,3
18.	I placed a false ad with information about other people in dating services portals.	90,6	4	3	1,1	0,3	1
19.	I sent e-mails in order to insult/scare other person.	91,1	4,5	1,8	1,1	0,5	1
20.	I created a web-site presenting other person in an unfavourable light.	94	2,6	1,8	0,5	0,3	0,8

As we can observe, although the use of the Internet or cell phones links all the above-listed forms of aggression, there are many important differences between each particular method of perpetrating aggressive acts: some are based on a direct contact with the victim (e.g. name-calling in instant messaging services), others involve posting material about the victim (e.g. creating a ridiculing profile



on social service web-sites) (Hanewald, 2008). The present research still lacks a complete typology of the acts of electronic aggression with regard to the means by which it may be perpetrated. Yet, in order to clarify that point, I shall present a summary of one the first overviews provided by Kowalski, Limber & Agatson (2007). Table 2 shows a brief overview of the types which were distinguished by the authors, to which I add an additional type of 'technical' aggression.

Table 2.
Typology of electronic aggression by Kowalski, Limber & Agatson (2008) (modified).

Flaming	Flaming is an aggressive word exchange among users in communication channels, which are public by their nature, e.g., chat-rooms and discussion forum. This type implies the participation of two or more persons.
Harassment	Harassment is sending hostile messages (e.g., aggressive, derisive) to the victim through electronic communication channels (instant messaging services or short text messages). This type of aggression is also present in online gaming. Harassment implies there are only two agents directly engaged in the act; it differs it from flaming.
Impersonation	Impersonation or identity theft means the aggressor takes on the identity of his victim in the cyberspace. This can be achieved by obtaining someone's e-mail, messenger or profile password (aggressor can either steal it or get it from the victim's friend). The aggressor may impersonate his victim in order to perpetrate aggression against a third party, e.g., by using a stolen account to send offensive content to peers or teachers.
Outing	Outing refers to divulging private information about or belonging to the victim, which the aggressor had intercepted (e.g. chat history, letters, images) and made electronically accessible to a third party. The content is either stolen from the victim's computer or cell phone, or was obtained by the aggressor during the time he or she was on close terms with the victim, who showed their trust and was willing to share their secrets (e.g. over a chat on instant messaging service).



Cyberstalking	Cyberstalking means stalking of an individual and flooding them with unwelcome messages. This type of aggression happens most often in cases when the victim and aggressors previously maintained a close relationship, e.g. former boyfriend or girlfriend (Spitzberg & Hoobler, 2002).
Happy slapping	It refers to provoking and attacking a person and recording this event on film or pictures. Further on, the aggressor publishes the embarrassing content in the Internet.
Denigration	It means publishing of false and denigrating content by means of electronic media or any other material related to the victim, e.g., altered images suggesting the victim engages in sexual acts, or false information about events in which the victim presumably participated.
Exclusion	Exclusion is an act of a deliberate excluding/banning of the victim from a list of Internet contacts (e.g. a list of friends on social service web-sites).
'Technical' aggression	The aggressor directs actions towards the victim's computer, software or electronic infrastructure (e.g. a web-site) rather than directly towards the victim. This action includes deliberate spreading of computer viruses as well as hacking other peoples' computers.

Although a young person may act as victim or aggressor in all aforementioned types of electronic aggression, not all cases can be classified as acts of cyberbullying (electronic mobbing). Firstly, not each case is an act of peer-to-peer aggression. For example, 83% of 14 and 15 year olds who, in the year previous to the research, had committed acts of electronic aggression, indicated their action was directed against their close male and female peers (circa 26%), but also against young people from school and home area that they hardly knew. In all of those cases they indeed engaged in acts of peer-to-peer aggression. However, their victims could as well be strangers whose choice was purely accidental (24%), teachers (9%), celebrities (e.g. actors, sportsmen) (11%), or even entire groups of strangers, e.g. fans of a particular music band (15%).

Moreover, not each act of electronic aggression in which children and teenagers participate either as aggressors or victims fulfils the criteria of intentionality, repetition and imbalance of force between the victim and aggressor. And yet it is those three features that collectively determine whether a given act may be classified as an act of bullying (Stassen Berger, 2007). It is worth stressing that at least in a number of occasions these criteria are going to prove contentious. Let us then take a closer look at 'repetition': in the case of bullying, it means an individual aggressor or a group of aggressors



perpetrate their actions against the victim on a repetitive basis. This criterion may be equally valid in cases of electronic mobbing; however, it may so happen that the aggressor performs his/her act once only, e.g. by posting offensive content on the Internet. Later on it is copied by other users, therefore becomes accessible to a wide and practically unlimited audience. This means the suffering to which the victim was initially exposed is now multiplied despite the fact that it is no longer inflicted directly by the original aggressor. Equally disputable is the criterion of the intentionality of the aggressor's action. The research conducted in Poland, which we have referred to earlier, demonstrates that as much as 37% of teenagers admit that on one occasion or another they had indeed sent out messages (either on the Internet or by cell phones) which in the end turned out to have a harmful effect on other people although the aggressors did it for no other reason than fun. This in turn means that many aggressive and therefore harmful actions are the result of a sheer lack of imagination and/or ability to foresee consequences. As regards the third criterion: imbalance of force in a school environment may be a result of the victim being physically disadvantaged, outnumbered by the aggressors, or demonstrating less effective communication skills. However, in electronic media the imbalance of force may be determined by the peculiarities of the computer-mediated communication, such as the anonymity of the aggressor. We should point out that these descriptive complications will concern only certain cases of electronic mobbing. Therefore, encountering a case when the characteristics of electronic mobbing should be interpreted in different terms than in the case of bullying, should be seen as a purely hypothetical possibility only.

How can electronic mobbing (cyberbullying) differ from bullying?

Researchers of electronic mobbing as well as practitioners working on the issue find it a valid task to determine whether the phenomenon is accompanied by circumstances and mechanisms which are not at work in cases of bullying (Dooley, Pyżalski & Cross, 2009).

In the literature on the subject we come across the following set of criteria describing cyberbullying, which may distinguish it from bullying: anonymity, continuity of affect, unlimited or so-called invisible audience, and a cockpit effect (Walrave & Heirman, 2009).



Anonymity

The anonymity of cyberbullying may provoke disinhibition of aggressor's behaviour. Under cover of anonymity, the aggressor is able to engage in perpetrating actions which otherwise he/she would not perform, e.g. in face-to-face contact with their victim (Joinson, 2009). By reducing the risk of being identified and punished, in certain cases anonymity may as well create the feeling of one's being beyond punishment. Also the victim is now confronted with new circumstances, therefore the toll taken by aggressive anonymous actions may be more severe. According to Walrave and Heirman (2009, p. 32), when this happens, one has no knowledge whether the attack comes from a single person or a group, whether the aggressor is a boy or a girl, a fellow student or a stranger. Estimating a possible threat becomes even more complicated (Mishna, Saini & Solomon, 2009).

The continuity of affect

The continuity of aggressive action means that the access to the victim is practically unlimited and one has no place to hide (Slonje & Smith, 2008; Walrave & Heriman, 2009). In cases of traditional aggression, which does not involve new media, the picture is much different: a person who is attacked in a school environment may seek refuge in places such as one's home, where one remains out of reach for potential aggressors. The continuity of aggressive action is particularly strong in cases which involve publication of embarrassing material (such as an image or texts) on the Internet. When this happens, the victim remains constantly aware that the content is accessible to other users and each new access may be experienced as yet another act of victimisation. The continuity of aggression therefore means that it is restricted neither by time nor by space (Walrave & Heirman, 2009).

Unlimited audience

In certain cases, cyberbullying involves, in Boyd's terms, the so-called unlimited or invisible audience (Boyd, 2007). The term refers to all Internet users who may gain access to the uploaded content: if it contains compromising or offensive information, the victim is going to suffer great mental strain (Dooley, Pyżalski & Cross, 2009). Worse, the latter may become aggravated far more than in the case of bullying, due to the range of access as well as to the sheer number of potential viewers who become witnesses to the victim's humiliation.



Cockpit effect

An act of communication between the aggressor and his victim is mediated by computer screen and computer or cell phone's keyboard. The communication channel is restricted to written text while non-verbal channel, which in regular circumstances transmits emotions, remains extremely limited. This means that certain people may engage in aggressive actions with no conscience they may harm other people (Pyżalski, 2009). This in turn may create a so-called cockpit effect. Walrave and Hairman (2009) compare the perpetrator of an aggressive action to a bomber pilot who can bomb entire cities because he does not directly witness the suffering of his victims.

To conclude the present comparison of electronic and traditional aggression, I would like to point out that each of 'new' attributes may only potentially appear in a given act of electronic aggression. This means that none of them can become a clear-cut metric for unambiguously differentiating between acts of electronic and traditional aggression.

A good example of the potential character of these characteristics is provided by research results on the anonymity of the acts of electronic aggression. According to Hinduja and Patchin, who conducted their research in the United States (2009), as much as 80% of all victims were able to identify people who attacked them on the Internet. Juvonen and Gross (2008) provide similar results. According to them, as much as 2/3 of all victims knew their aggressor, with nearly half of interviewees pointing out to students attending the same school. The Polish research concerning students aged 14-15, which we have quoted earlier, indicates that only one third of the children who became victims of electronic aggression in the previous year have been able to identify their aggressor.

All the aforementioned criteria may apply in equal measure to acts of traditional aggression (in which new media are not involved), as they too may be perpetrated anonymously or involve a larger number of people. What we can do is to rethink the quantity-related aspect of the issue, i.e. proportions between acts of electronic and traditional aggression in which the aforementioned characteristics appear.



The consequences of experiencing cyberbullying

It is beyond any doubt that young people who have been subjected to traditional bullying pay large psychological costs in form of mood swings, clinical depression, concentration problems, fears, feeling helpless (Griffin & Gross, 2004; Monks et al., 2009). Electronic aggression may be associated with similar consequences if only by the fact that in a number of cases its victims experience other forms of traditional peer-to-peer aggression at school (Ybarra & Mitchell, 2004). According to Kowalski, Limber and Agatson (2008), only few students became victims or aggressors of cyberbullying without being simultaneously subjected to traditional bullying. This means that in a number of cases we are going to deal with a situation in which an act of electronic aggression continues and strengthens the victimological aspect inflicted by traditional bullying, for example, by the presence of one or more of the above-mentioned mechanisms.

Recent research carried out in Poland by Łukasz Wójcik (2009) confirms the emotional consequences of experiencing violence on the Internet. The victims of aggressive actions pointed to a wide range of negative emotions they had experienced. Almost 60% of those who were humiliated, ridiculed or denigrated on the Internet, confirmed this experience had made them angry, 42% felt sorrowful, 18% were scared and 13% embarrassed.

The emotions which result from experiencing various kinds of electronic aggression have different frequencies depending on a given kind of aggression. According to both Polish and international research (Wojtasik 2009; Slonje & Smith, 2008), the most negative emotions are experienced by those who become victims of aggression which involves publication of visual content (films and images) on the Internet.

To summarize, cyberbullying, just like traditional bullying, leads to many short- and long-term negative consequences for its victims.



Is a threat of cyberbullying particularly relevant to young people with special educational needs?

Children and young people with special educational needs, just as their fully-abled peers, live in the cyber era. Contemporary research on the issue is limited, however it confirms that the amount of time and the range of use of new communication technologies are similar for both groups (Lathouwers, de Moor & Didden, 2009; Plichta, 2009). Therefore, one should not expect that the dangers of electronic aggressions will not affect young people with special educational needs. It is worth adding that cyberbullying in this population group has rarely been investigated in previous research work (see: Plichta, 2009).

Yet, the research data confirm that certain individuals with special educational needs may be more prone to become victims as well as perpetrators of electronic aggression, which may be a consequence of at least two reasons.

Firstly, children and teenagers with special educational needs are more likely to fall victim to every type of peer-to-peer aggression. They attract attention of potential perpetrators and are very often easy targets, with serious difficulty undertaking adequate self-defence (e.g. Hershkowitz, Lamb & Horowitz, 2007; Plichta, 2009). Some young people with special educational needs may as well easier become perpetrators of electronic aggression. One reason for the latter is that they give in more easily to the pressure exerted on them by their peers (this may refer, among others, to mentally disabled persons).

Secondly, it may be that young people with special educational needs use new media in a specific way. A good example is provided by quality research by Plichta (2009). On the basis of interviews with young people aged 13-17 with mild mental disability, he devised a few usage patterns in this regard.

Many of his disabled interviewees construed of their online behaviour in a particular way, often linking it to the way they functioned in the off-line world (e.g. school environment). The extent of their engagement in electronic aggression was quite substantial: 1/3 of the respondents confirmed they had been aggressors, while c. 50% were aggression victims. At the same time, the interviewees seemed to comprehend the dangers connected to electronic aggression mostly in terms of 'technical' threats, such as computer viruses or a possible explosion of the screen. We may therefore conclude that a lack of awareness of possible dangers by members of this particular group may signify their being more prone to victimisation.



At this point it is worth adding that possibly unique patterns of use of contemporary communication technologies by other groups of children and young people with special education needs have not yet been sufficiently analysed to-date. Therefore, it is difficult at this stage to devise any specific recommendations to prevent electronic aggression for these groups.

What can be done in school about cyberbullying?

The work on preparation and testing prevention methods which might become an efficient tool in preventing cyberbullying among students is still very much in progress and there is much to be done in this area. However, some actions which may help reduce the spreading of electronic mobbing and limit its negative consequences have already been devised and at least partially put to the test. These can be classified as follows:

1. Measures promoting positive use of new communication technologies in didactics and within a broader context of communication in educational environments

A prerequisite for teachers – if they are to take measures and initiate actions in this field – is to gain knowledge about the ways of using communication technologies by children and young people (DSCF, 2007). This knowledge is certainly a dynamic field which needs to be constantly updated. Many schools which are aware of the dangers of using new technologies apply solutions based on banning or significantly limiting the use of those technologies by students in the school. Many factors, however, suggest that such measures do not bring satisfying effects. Banning the access is difficult to enforce; moreover, the school becomes a sole environment where new technologies are prohibited while their role in the lives of young people is nonetheless significant. Such prohibitions also strengthen the ‘digital divide’ between teachers and students; meanwhile the causes underlying electronic aggression are left untouched until a real problem of aggression occurs in a given school community.

The measures which have a chance to change this situation are school projects in which the use of new technologies is required, e.g. taking pictures, making cell phone films, building web sites as well as using electronic communication channels in order to contact other students (e.g. in online class



forums); they may also include activities in which students take on the task informing and educating their teachers about how they use new technologies. The latter may be carried out by means of an online demo session conducted by the students.


An educational environment which works according to these principles facilitates both effective communication and intervention when a dysfunctional use of new media becomes the issue.

2. Programs/lessons focused on the specificity of new media as well as safety issues regarding their use

An often-proposed solution regarding prevention of cyberbullying or electronic aggression understood in broader terms are educational programs whose content refers to the accompanying use of new media. Those measures may be divided into two kinds: the first one is focused on an analysis of negative aspects and a demonstration of possible dangers; the second promotes responsible and thoughtful use of new media. We need to be aware that the results of the first program, particularly when it is not conducted professionally, may turn out to be directly opposite to ones intended. For example, a presentation of various kinds of electronic aggression may be interpreted by some students as a form of instruction for perpetrating aggression. On the other hand, the programs focused on safety issues in using new media as well as on norms of behaviour abiding in cyberspace (so-called netiquette) do not pose such threats. Other issues regarding the use of new media, such as its technical aspects, may also be included in this sort of program, e.g. how can one safely set up an account to prevent others from accessing it or how to block phone numbers to prevent unwelcome text messages. Also, peer-to-peer educational programs which have been devised for younger peers may bring particularly promising effects. They focus on the same set of issues but are conducted by well-prepared older peers and require using new media in the classroom (e.g. educational games). These programs must certainly be well tailored to the children's age as well as to their particular educational needs (Plichta, 2009). An education focused on witnesses of traditional as well as cyberbullying is equally important as it teaches students how to react to attacks against others and how to behave in order not to give their support to aggressive acts (Salmivalli, 2010).

3. Co-operation with parents

The research data analysing the questions about whether young people talk with their parents about their experience of falling victim to peer-to-peer electronic aggression provide very coherent results. Only few students tell parents about their experience and even a smaller percentage inform their



teachers (Mishna, Saini & Solomon, 2009; Wojtasik, 2009). This is the result of many factors, e.g. worried parents might want to cut off the Internet access altogether and by doing so deprive a student of great many ways of communication with his/her peers. Moreover, a great number of acts of electronic aggression against peers happen outside the school environment although their consequences directly influence relations among students within their school. For that reason, being open to the threats posed by the use of new media as well as providing professional support to parents so that they can effectively deal with any such problems are necessary ingredients of any efficient prevention of cyberbullying as well as of a meaningful intervention when aggression does take place. The measures in this field may as well include providing professional education to parents with regard to social aspects of using new media by their children. Such an educational program should certainly be tailored to the IT competencies of a given group of parents.

4. Technical solutions

Cyberbullying is directly connected to the use of new communication technologies; we should therefore look for prevention methods also in the field of technical solutions which might be applied at school. Stachecki (2009) offers a framework for a comprehensive school policy with regard to those issues. Such a policy should include the following:

- Separating the administrative network from the computers used by students; this prevents students from gaining access to private data, e.g. personal information about their peers.
- Creating clear rules regulating the use of electronic infrastructure in school. These rules should equally apply to students, teachers and administration workers.
- Students should have no access to teacher's workstation.
- Providing safety to school Internet services – the content uploaded by students should be supervised, e.g. material which might be hostile to other students and teachers should be blocked.
- When the school has an internal online forum, it should have a moderator; the most active students may be entrusted with this task; they will monitor if the standards of the discussion are sufficiently high.
- Avoiding anonymity; each user of the school web should be provided with an individual name and password; by limiting the anonymity we may hope to lower its negative consequences, e.g. the aforementioned disinhibition.



To summarise the present discussion of technical solutions, I should stress it would be pointless to limit the preventive measures only to technical aspects without applying other educational solutions we have already talked about earlier on.

5. Incorporating the issue of electronic aggression into internal school regulations and procedures, as well as gaining expertise about relevant legal regulations

Official school documents such as the charter and school regulations should be reviewed with regard to issues of electronic aggression. Are there any procedures which should be applied when the most serious acts of electronic aggression take place? Does a school have employees with knowledge about current legal regulations in this field? Are school documents in compliance with any such legislation?

We should also point out that most of the specialists share the view that legal and penal solutions should only supplement educational solutions and be applied only in most drastic cases (Shoka & Thierer, 2009).

In this paper we have provided only a draft overview of possible actions to be undertaken with regard to electronic aggression. Each of them lends itself to further localisations and practical applications. It is worth stressing that a number of methods tested out successfully in the context of traditional bullying will also be of use in the context of electronic mobbing. Certainly, the decisions about which measures should be implemented in a school should be preceded with a careful diagnosis of the local situation and necessarily involve an in-depth discussion involving those in charge of implementing such strategies in a given context.



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