Assessing Concerns and Issues about the Mediation of Technology in Cyberbullying

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Abstract

Cyberbullying has emerged as a recent form of peer aggression in our communities. As its name implies, cyberbullying occurs through the use of an electronic medium with the purpose to harm others. Although research has already demonstrated a number of serious consequences of cyber-victimization, many questions remain unanswered concerning the impact of cyberbullying. Longitudinal data do not yet exist to provide empirical evidence concerning the long-term effects of cyberbullying, but many researchers believe that these might be as bad, if not worse, than those resulting from traditional bullying. In the debate on the true impact of cyberbullying, various concerns related to the mediation of technology, have been raised by numerous researchers and writers. These concerns include new media’s potential to safeguard anonymity, to intrude 24/7 in peers’ lives, to remain unnoticed for teachers, parents and educators and to strip away cues of non-verbal communication by the victim. To meet the demand for more conceptual clarity on the terrain of cyberbullying, this article offers a conceptual framework by bringing together these issues and critically discussing them within the scope of the current knowledge on cyberbullying.

Key words: cyberbullying, teenagers, online harassment

Introduction

Due to its extreme popularity among teens, the Internet and mobile phone have become a platform for cyberbullying. Today’s computers and cell phones belong to the most commonly used media to start electronic bullying towards peers (Li, 2006; Patchin & Hinduja, 2006; Willard, 2007). In this introducing paragraph first a brief summary will be given on the varying prevalence rates of cyberbullying across cultures and studies worldwide. Next, attention is focussed on similarities and differences between traditional bullying and cyberbullying. Also, the consequences of both types of bullying for victimized pupils will be summarized. In this context, some issues that have been raised in previous writings will be scrutinized with the purpose to assess the particularities of electronic bullying compared to traditional bullying and to discuss under which circumstances these issues may potentially differentiate the impact of cyberbullying.

Prevalence

International quantitative researches show a significant magnitude of cyberbullying among pupils, although specific results vary considerably across cultures and across studies (David-Ferdon & Feldman, 2007; Smith et al., 2008). This can be partially explained by the disparate definitions and methods utilized so far by different studies. Therefore it seems problematic to compare prevalence rates. The UK NCH-study (2005) reports that 20% of questioned pupils have ever been cyberbullied and 11% claim to have sent a bullying or threatening message to someone else. Higher estimates were found in Li’s Canadian study: 25% of pupils have ever been a victim of cyberbullying and 17% have cyberbullied others (Li, 2006). In the USA, Ybarra and Mitchell (2004) challenged the dichotomized perception of either cyberbullies or online victims, and compared the prevalence rates of four groups: 4% are a target of online aggression, 12% are online aggressors, 3% of the youngsters are both aggressors and targets of online bullying, whilst 81% are not involved in online bullying. A more recent study stated that prevalence rates of cyberbullying are lower compared to those in traditional bullying (Smith et al., 2008).

Although a minority of today's youngsters is confronted with cyberbullying, the growing number of cybervictims is worrisome. In a longitudinal study, involving two waves so far, Wolak and others compared YISS1-data (2000) and YISS2-data (2005) and found that the percentage of young people victimized by electronic means has increased with 50% in five years time (from 6% in YISS1 to 9% in YISS2) (Finkelhor, Mitchell, & Wolak, 2000; Wolak, Mitchell, & Finkelhor, 2007). The reported frequency of cyberbullying also varies depending on the way the involvement in cyberbullying is questioned. In Belgium researchers utilized a more subtle, implicit way by confronting respondents with asking for their involvement in different deviant ICT-uses. This alternate questioning led to surprisingly high victimization and perpetration rates. Nearly six out of ten teens (64.3%) declared having experienced one or several of the described situations, while four out of ten (39.9%) have perpetrated at least one action (Walrave, Lenaerts, & Demoor, 2008). Parallel
discrepancies in prevalence rates were obtained in a Canadian study (Churchill & Shariff, 2008). These findings may indicate that perceptions of the concept 'cyberbullying' held by children are different from those assumed by researchers.

An old problem in a new guise?

Is cyberbullying merely an electronic transmutation of an old problem or is it a somewhat unique phenomenon that deserves a different understanding and prevention? Cyberbullying, by its very name, remains a form of bullying (Kowalski, Limber, & Agatston, 2008), which reveals itself most clearly, if we compare Olweus’ definition (2001) of traditional bullying and Bill Belsey’s definition of cyberbullying (2008).

“A student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other students.” (Olweus, 2001, p.5)

"Cyberbullying involves the use of information and communication technologies to support deliberate, repeated, and hostile behaviour by an individual or group, that is intended to harm others." (Belsey, 2008, p.1)

Both definitions associate bullying behaviour with repeated negative behaviour by one or more students towards one or more victims. Belsey’s definition specifies the bullying behaviour by adding the employed means to bulling: information and communication technology. Beyond the conceptual level also other similarities can be detected. First, traditional bullying and cyberbullying share in common that they both have direct (in-the-face) and indirect (behind-the-back) forms (Spitzberg & Hoobler, 2006). Secondly, other researchers, such as Williams and Guerra (2007) have found that key predictors of physical and verbal bullying (e.g. normative beliefs approving of bullying, a negative school climate and negative peer support) also predict cyberbullying. Thirdly, previous research has also found a strong interrelation between different roles involved in as well traditional as cyberbullying. Ybarra and Mitchell (2004) found that many of their respondents, who were cyberbullies or victims were also involved in traditional bullying. For example, six out of ten (65%) pupils who are both aggressor and target of online aggression, also report being an offline target. Likewise, in most other studies the involvement in traditional bullying is often mentioned as the most significant predictor of becoming a cyberbully victim or perpetrator (Beran & Li, 2007; Li, 2005, 2006, 2007; Vandebosch, Van Cleemput, Mortelmans, & Walrave, 2006; Wolak, Mitchell, & Finkelhor, 2007; Ybarra & Mitchell, 2004). Given the previous discussed similarities, another question arises: does cyberbullying have comparable consequences to traditional bullying?

Consequences of offline bullying

Much has been written on the impact of traditional bullying and there is ample evidence that few victimized pupils get through bullying unscathed. We limit ourselves here to discuss the consequences for the victim. In summary, academic performances deteriorate due to diminished concentration during lessons, chronic absenteeism and poor relationships with peers (Gini & Pozzoli, 2006; Rigby, 2003; Smokowski & Kopasz, 2005). Bullying behaviour is also moderately correlated with experiencing general health problems like for example sore throats, coughs and colds (Rigby, 2003). At the emotional level victimized pupils feel humiliated, unhappy, confused and nervous (Olweus, 1999). The impact of bullying surpasses the emotional level, especially in cases of chronic bullying. Longitudinal research has shown that chronic victimization leads to loneliness caused by the inability to get involved in intimate peer relationships, making problems worse (Bond, Carlin, Thomas, Rubin, & Patton, 2001). At the psychological level victimization can lead to internalizing difficulties such as depression (Craig, 1998; Salmon, James, Cassidy, & Javaides, 2000), chronic anxiety and low self-esteem (Gini & Pozzoli, 2006; Ybarra & Mitchell, 2004). Bullied pupils are more likely to develop later aggression and conduct problems (Coe, Lochman, Terry, & Hyman, 1992) and suffer from emotional and social maladjustments in later life stages (Olweus, 1999). In extreme cases, chronic bullying can have a fatal outcome with homicide and suicide (‘bullycide’) (Gamil, Hoover, Daughtry, & Imbra, 2003; Gini & Pozzoli, 2006). In a Japanese case the tormented victim left a suicide note naming his tormenters (Stassen Berger, 2007).

Consequences of cyberbullying

Due to its recent nature, less is known about the impact of cyberbullying on pupils. Certainly concerning the long term impact of cyberbullying questions remain unanswered. As far as researchers know now, the consequences of cyberbullying tend to parallel those of traditional bullying (Kowalski et al., 2008). According to the research by Ybarra and Mitchell (2004) a majority of pupils (61.5%) is relatively unaffected by the harassment. The authors stated in the same study that especially preadolescent and chronically victimized pupils reported being emotionally distressed by the events (Ybarra, Mitchell, Wolak, & Finkelhor, 2006). Furthermore, other authors have found that online victimization can result in elevated daily levels of anxiety (Nishina, Juvenon, & Witkow, 2005; Ybarra et al., 2006). Breguet (2007) found that the victims of electronic bullying are left feeling lonely, insecure and humiliated. In recent study of regular internet users, Patchin and Hinduja (2006) demonstrated that common emotions experienced are frustration and anger. A recent survey involving 432 students from Alberta (Canada) indicated that more than half of cybervictims (57%) felt angry on numerous occasions and about one third (37%) felt sad and hurt (Beran & Li, 2007). Cybervictims may also suffer from low self-esteem, feelings of hopelessness, and withdrawal (Patchin & Hinduja, 2006; Strom & Strom, 2005; Vandebosch, Van Cleemput, Mortelmans, & Walrave, 2006). Online victimization is also associated with clinical features of depression (Ybarra, 2004; Ybarra et al., 2006). This result is specified by a longitudinal study (Vandebosch, Van Cleemput, Mortelmans, & Walrave, 2006), which found that victims of cyberbullying have a threelfold increased likelihood of reporting depression. Unfortunately, in extreme cases cyberbullying has lead to fatal outcomes. For example, in 2005, a 13 year old boy took his life after being continually teased through instant messaging (Breguet, 2007).
Issues and concerns on the mediation of technology in cyberbullying

Although longitudinal data do not yet exist to provide empirical support for this, many researchers believe that the long-term effects of cyberbullying might be as bad, if not worse, than those resulting from traditional bullying (Kowalski et al., 2008; Vandeboescho, 2006; Willard, 2007; Ybarra & Mitchell, 2004). In the debate on the impact of cyberbullying some issues are the subject of public concern, all of them related to the ICT-mediation in cyberbullying. Diverse scientific publications have in this regard separately from one another described the anonymity in online communication (Kowalski & Limber, 2007; Patchin & Hinduja, 2006; Strom & Strom, 2005), the furtive nature of online communication (Williams & Guerra, 2007; Wing, 2005), the absence of non-verbal cues in online communication (Kowalski & Limber, 2007; Kowalski et al., 2008; Patchin & Hinduja, 2006; Ybarra & Mitchell, 2004), the 24/7-attainability provided by online communication (David-Ferdon & Feldman, 2007; Kowalski & Limber, 2007; Patchin & Hinduja, 2006; Reid, 2005) and the quick distribution of electronic messages to infinite audiences (David-Ferdon & Feldman, 2007; Kowalski & Limber, 2007; Kowalski, Limber, & Agatston, 2008; Sullivan, 2006).

The different issues raised before will be scrutinized in the following paragraphs, based on the following three interrogations:

(a) Can these issues also have a beneficial outcome, when communication technologies are used in a prosocial way?

(b) Do these issues merely manifest themselves in the context of cyberbullying or can they also be applied in traditional bullying forms?

(c) Can these issues differentiate the impact of cyberbullying?

Anonymity

The potential to safeguard anonymity is not necessarily a negative feature of online communication. On the contrary, it can have some beneficial outcomes for both the sender and the receiver of online messages. Engaging in social relations, disclosing personal information and asking for advice on a delicate matter all require a certain degree of trust in online communication, and this is enabled by a sense of anonymity or confidence in the online environment (Walther, 1996). Thanks to anonymity actions and thoughts can be separated from the real world and real identity. In psychology this is called dissociation, and applied on online anonymity it is referred to as ‘dissociative anonymity’ (Suler, 2004). For example, the phenomenon of people disclosing their most intimate secrets to complete strangers online is called ‘The-stranger-on-the-train’ effect (Bargh, McKenna, & Fitzsimons, 2002; Kowalski, Limber, & Agatston, 2008; Livingstone & Bober, 2004; Livingstone & Helsper, 2007). Concerning anonymity, previous research has also pointed out that children and teens who are less satisfied with their lives and who have become more frequent and skilled internet users are more likely to value the internet as a communicative environment in which they feel more confident than in the offline world, particularly in relation to the potential of anonymous communication (Livingstone & Helsper, 2007).

Anonymity is not a completely new aspect in the context of bullying, since acts of indirect conventional bullying can also be carried out in an anonymous way. Especially relational bullying (e.g. spreading gossips) and behavioural bullying (e.g. stealing a lunchbox) can occur without revealing the perpetrator’s identity. Also verbal bullying does not necessarily imply that the identity of the perpetrator is known, for example when a nasty message in unrecognizable handwriting is passed on in the classroom. Concerning anonymity in cyberbullying, several studies have found that a considerable proportion of victims do not know the identity of the online bully. For example, Kowalski and Limber (2007) surveyed 3,767 middle school students in various states of the US and found that 48% of the victimized students did not know the name of their perpetrator. Also other researches confirmed this result (Kowalski & Limber, 2007; Vandeboescho, Van Cleemput, Mortelmans, & Walrave, 2006; Ybarra, Espelage, & Kimberly, 2007; Ybarra, Mitchell, Wolak, & Finkelhor, 2006). The highest anonymity rate was found in an American research in 2004 (Ybarra & Mitchell, 2004), indicating that 69% of the cybervictims was not sure about the identity of the bully. Remarkably, in contradiction to the previous results, Juvenen and Gross (2008) found in their research that 73% of the respondents were “pretty sure” to “totally sure” of the identity of the perpetrator.

Despite the fact that anonymity is a feature not exclusively related to cyberbullying, Smith et al. (2008) found in focusgroup interviews that it is perceived by pupils as being the main difference with traditional bullying: “with cyber, you never know who it really is” (p. 381). American focus groups by Kowalski et al. (2008) show also clearly that minors believe that anonymity can perform as a facilitator for engaging in cyberbullying: the perpetrator is less likely to get caught and thereby “safer” to bully by electronic means. In Belgian focus groups one pupil made a comment that fits with this explanation: “I mean, I think it is safer to bully online, because who will find out that you were the bad guy sending the offending e-mail?” (Vandeboescho, 2003). This motivation suggests that youngsters prefer to cyberbully, because in real life bullying they might be afraid that their identity is revealed. Further, some authors suggest that anonymity online is fairly easy to realize, by the large availability of free communication services (e.g. IM, e-mail accounts), which allow teens to create multiple identities and pseudonyms (Kowalski & Limber, 2007; Li, 2007; Patchin & Hinduja, 2006; Strom & Strom, 2005). Similar possibilities are offered by anonymous remailers forwarding e-mail messages without revealing their origin.

Several reasons can be mentioned why anonymity under certain circumstances can differentiate the impact of bullying behaviour. In quite a lot of cyberbullying cases the victim has no way of finding out whether the bullying is being perpetrated by one or more individuals, whether this person is a boy or a girl, a friend or an enemy, a stranger or an acquaintance, older or younger, a classmate or a person met elsewhere. Furthermore, Kowalski et al. (2008) suggest that not knowing an enemy is probably a more distressing experience than knowing one. Almost every person the child meets can potentially be the perpetrator, causing great emotional distress (Kowalski & Limber, 2007). What is more, anonymity limits the victim, teachers and parents from responding in a way that might stop a peers’ aggressive behaviour or influence the probability of future acts in ordinary circumstances (David-Ferdon & Feldman, 2007; Patchin & Hinduja, 2006; Shariff, 2005). Finally, it is reasonable to believe that once minors have anonymously
perpetrated cyberbullying and experienced the feeling of power and getting away with it, it is more likely that they will continue their bullying behaviour online (Kowalski, Limber, & Agatston, 2008).

Infinite audiences

In the online environment the relatively easy and quick distribution of online messages among large audiences can be beneficial. The Internet is not only an endless library in which students can browse, it also has the potential of increasing students’ social interaction and of enhancing collaborative learning experiences by easily exchanging data-files online (Beran & Li, 2007; Li, 2006). Furthermore, whilst pupils in the pre-digital era had to pass very complex formal procedures to get in touch with experts from various organizations, most people can now easily be reached by means of e-mail. Next to quick distribution by e-mail or IM, other applications are available to reach a broad audience (e.g. posting a video on YouTube, Google Video). Very popular among young people are social networking sites, which allow them to express their feelings, needs and desires to a broad public of both offline and online contacts (Dwyer, 2007). This own webspace to tell all friends what is going on in life may be a very beneficial experience during adolescence, a period in which the development of an own identity is very important (Calvert, 2002).

The involvement of a large audience of bystanders is certainly not a new aspect in the bullying context. Traditional bullying is a social process, often transcending the relationship between a bully and a victim. The involvement of a more or less large audience is hereby not exceptional in conventional types of bullying. Different roles can be distinguished in the process of bullying: bullies, victims and bystanders (Salmivalli, 1999; Salmivalli, Lagerspetz, Bjorkqvist, & Kaukinen, 2006). The bystanders provide schoolyard bullies with an audience, and research has already shown that bullies partially draw motivation for their behaviour out of this audience. Especially in cases of proactive aggression, bullies will display dominance, with the goal to bolster power and to win admiration and support amongst peers (Unnever, 2005). Whereas traditional forms of bullying are limited in extent to the peers of the local school community, the hurrlext texts and images in cyberbullying can be communicated to a theoretically unlimited audience in a very short period of time (Kowalski, Limber, & Agatston, 2008; Patchin & Hinduja, 2006; Shariff, 2005; Strom & Strom, 2005). A very illustrative quote in this regard was provided by David Knight, when some schoolmates made a website dedicated to him in a negative way: “Rather than just some people, say 30 in a cafeteria, hearing them all yell insults at you, it’s up there for 6 billion people to see.” (CBC, 2005).

The potential to reach theoretically infinite audiences is a feature that only occurs in cyberbullying. However, it is important to realize that only in extreme cases people beyond the confines of the local school community get involved as audience in cyberbullying. In many cases the extent of cyberbullying remains limited to the local level (Kowalski, Limber, & Agatston, 2008). Some considerations have to be made when trying to assess the impact of cyberbullying with regard to the potential involvement of an infinite audience. Cyberbullying casts a wide net of forms: cyberbullying today no longer occurs only through phone calls, text messages, e-mail and IM, but also by sending pictures and videos and building hatewebsites, Smith et al. (2008) suggest that, rather than globally approaching the phenomenon, differentiation should be made depending on the medium employed for cyberbullying. In a survey by Smith et al. (2008) was found that especially picture and videoclipbullying (e.g. ‘Happy Slapping’) had more negative impact on victimized pupils, and chatroom bullying was reported as having less impact. Text message bullying, e-mail bullying, IM-bullying, Phone Call bullying and website bullying were perceived to have a similar impact as traditional bullying. The authors suggest that this may be attributed to the fact that Videoclips and pictures (e.g. posted on Youtube or Flickr) can achieve wide audiences.

The most frequennt media used for cyberbullying purposes are mobile phone bullying and IM bullying, both of them having a similar impact as traditional bullying. These media are mostly used in a private environment between only a handful of peers. Also a study by Van de Bosh, Van Cleeemput, Mortelmans and Walrave (2006) among 1312 pupils in Flanders found that the impact of cyberbullying strongly depends on the nature of the cyberbullying act: e.g. sending viruses was perceived as having far less impact than those acts involving an overt humiliation of the victim. When a cyberbullying story (e.g. ‘The Star Wars Kid’) does spread worldwide, one can hardly imagine the devastating impact on the victimized person: the humiliation can be countless and endless on a world-wide scale (David-Ferden & Feldman, 2007). In this context, it may well be that the insecurity of not knowing how many people are online witnessing increases the emotional damage and leaves lifelong scars (Kowalski, Limber, & Agatston, 2008).

24/7-attainability

The 24/7-attainability provided by ICT is a very lucrative aspect of online communication. It enables us to take our social networks wherever and whenever we want to. Psychologically, the world-wide introduction of cellular phones and portable computers has bridged private and public sphere and has founded ‘privatised mobility’: the opportunity to feel at home without even being home (Moores, 2000). Simultaneously, the distance between worlds, which are separated by time and space in reality, is shrinking. This has far-reaching consequences for the way in which human experiences are socially organised. Time and space fall together more easily and allow us to arrange meetings in a quick and effective way. This phenomenon, connecting private contexts and spheres in only a few seconds is called ‘connected privacy’ (Kitzmann, 2004). Personal experiences are connected or shared by electronic means. For youngsters this means a victory over and even a liberation from the regulation, the discipline, the structuring, and the supervision parents try to impose by limiting the time and space frames of young people’s lives (Valentine & Holloway, 2001).

Traditional types of bullying occur mostly at school, on the school bus, or walking to and from school. Although it is true that bullying can take place elsewhere in the community, there usually is a confined period of time during which bullies have access to their victims. Most victims of conventional bullying can thus find a safe retreat at home, a sanctuary where they don’t have to be afraid for being harassed, unless they are bullied by siblings (Kowalski, Limber, & Agatston, 2008). When pupils are victimized by technological means the physical separation of the bully and the victim is no longer a limitation in being bullied. When used in a cyberbullying context, ICT allow minors to penetrate the walls of the victim’s home environment. This is enabled especially by the inseparability of the cellular phone and its owner. As teenagers address great importance to their mobile phones, they are a perpetual target for
cyberbullying (Patchin & Hinduja, 2006). In this regard cyberbullying victim David Knight said during a television interview: "The one thing about being beaten up at school is, that you at least know you're at school from 9 o'clock in the morning until 3 o'clock in the afternoon and then you can go home where it is safe..." (CBC, 2005). Several studies found that cyberbullying for the most part takes place off school grounds (Kowalski, Limber, & Agatston, 2008; Slonje & Smith, 2007; Smith et al., 2008). Also mobile phone bullying happens more outside the school. This can be explained by the fact that many schools regulate mobile phone use by their pupils very strictly (Smith et al., 2008).

The 24/7-attainability by mobile phone or internet may facilitate cyberbullying behaviour since boundaries of time and place no longer exist for potential bullies (David-Ferdon & Feldman, 2007; Kowalski & Limber, 2007; Patchin & Hinduja, 2006; Reid, 2005). The fact that cyberbullying happens away from school, has lead some teachers and school officials to question whether it is the school's responsibility to intervene and prevent cyberbullying. When pupils are victimized through the use of school computers, then school administrators will be more likely to punish the offenders. But when cyberbullying occurs off schoolgrounds, intervention will be less likely to occur (Kowalski, Limber, & Agatston, 2008). Nevertheless, it is of utmost importance that schools intervene since cyberbullying may commence anonymously in a virtual environment, but it impacts learning in the physical school environment and creates a hostile school atmosphere (Shariff, 2005). Furthermore, the 24/7-attainability may lead to a severe emotional impact on the victim, since the only bully-free environment of the victim is deprived (Kowalski, Limber, & Agatston, 2008). What also complicates the potential outcome of cyberbullying, is that the victim is confronted with the electronic bully message, when he or she is alone without direct support from friends and peers (Juvonen & Gross, 2008).

In the context of this issue, related to the intrusiveness of communication technology, some solutions can be easily imagined to prevent cyberbullies from penetrating the home environment. Why not switch off mobile phones and stop reading e-mails at home? It is true that computers and mobile phones can be easily switched off, but as soon as they are switched on again the unread messages will still reach the inbox, and negative comments will have accumulated during the offline period. Therefore, denying or removing technology access is not a feasible solution (King, Walpole, & Lamon, 2007; Vandeboesch et al., 2006). What is more, as communication technology is often employed to construct their social identity (Calvert, 2002), teenagers experience constant social pressure to be online and to send messages with their mobile phones.

However terrible cyberbullying may be, most teenagers do not even consider stopping their internet or mobile phone activities (Smith et al., 2008; Vandeboesch, Van Cleemput, Mortelmans, & Walrave, 2006), since it would create another problem: namely social isolation caused by cutting off of the entire online social network (Kowalski et al., 2008). Some authors suggest that cyberbullying, in comparison to conventional bullying, may offer better chances to escape from bullies (Juvonen & Gross, 2008; Smith et al., 2008). The argument is that unlike the school environment, cyberspace affords potential victims an array of tools to prevent further incidents. Youth can delete a malicious e-mail before reading it, e-mail filters can be installed to prevent that hurting messages reach the inbox, contact persons can be blocked and buddy lists on IM can be restricted. Although these avoidance techniques can prove to be effective in several cyberbullying incidents, they obviously do not protect victims against all forms of cyberbullying, like for example posting defamatory material about a person on a website, although many social networking sites describe cyberbullying as violation in the terms of service. Once the material appears online, it can turnout to be extremely difficult to remove them.

Private nature of online communication

Thanks to the private nature of the internet teens have started to use the internet with the purpose to establish, maintain and reinforce social relations (David-Ferdon & Feldman, 2007; Walrave et al., 2008). In focus groups with Canadian children (grades 4-11) respondents viewed the internet as "an opportunity to explore the adult world without supervision" (Wing, 2005). It is clear that without the private character of online communication, new media would probably never have boomed as a medium to stay in touch with peers (Patchin & Hinduja, 2006). Contributing to the success is the increasingly common presence of computers in the private environment of adolescent bedrooms. In the last decade, the amount of spare time spent in bedrooms has increased. New media technology has certainly made a significant contribution to this evolution, referred to as the "Bedroom Culture" (Bovill & Livingstone, 2001). Having an own computer on one's bedroom is seen as the absolute privacy (Patchin & Hinduja, 2006).

In the context of traditional bullying some forms of bullying share an increased likelihood of getting passed unnoticed for teachers and school administrators. Especially, indirect types of bullying (behind-the-back bullying) like relational bullying (e.g. isolating a pupil from peers) and verbal bullying (e.g. making derogatory remarks) are most likely to remain unnoticed (Griffin & Gross, 2004). Conversely, physical bullying is the most obvious and visible type of bullying behaviour: a punch in the face is recognized not only by adults, but also by children of the peer group (Smith, Cowie, Olafsson, & Liefooghe, 2002). Research has found that teachers tend to intervene more quickly in this overt type of bullying, since the physical integrity of victimized pupils is directly at stake (Bauman & Del Rio, 2006) and that children are more likely to report these direct type of bullying (Griffin & Gross, 2004). Intervention by adults is less likely for covert types of bullying. Williams and Guerra found that young people may be facilitated to engage in covert types of bullying, because they believe that adults and bystanders are unlikely to intervene (Williams & Guerra, 2007).

Cyberbullying is even harder to detect than most covert types of traditional bullying, since many cyberbullying acts happen beyond the boundaries of school supervision. The Belgian TIRO-study shows that the possession of an own computer significantly increases the chance of perpetrating cyberbullying (Walrave & Heirman), which is worrisome, when taking into account the evolution towards a "Bedroom culture". In this regard, school computers are subject to a better supervision. One might conclude that this control is effective; nevertheless, conducted focus interviews in the US reveal that minors use different techniques to circumvent supervision in the school context (Agatston, Kowalski, & Limber, 2007). These range from simply choosing a strategic position (hard to supervise) in the classroom to using a smart-button on a keyboard which makes all messenger-windows disappear. A girl in a Belgian interview said: "Most of the time we choose a strategic position, somewhere in the back of the classroom." (BELSPO, in press). Since online communications and behaviours are difficult to control, cyberbullying easily escapes the supervision of adults and this allows damage
Another reason why cyberbullying is hard to detect is that victimized pupils often remain silent about it, more than victims of traditional bullying do (Kowalski et al., 2008). Many studies have reported this result: in an English study 43.7% of cybervictims chose not to talk about the online victimization, in a Canadian study by Li (2007) this proportion amounted to 65%. Several authors suggest (Juvonen & Gross, 2008; Li, 2007) that this can partially be explained by the fact that victims don’t believe that adult intervention can ameliorate their painful situation, especially when the identity of the perpetrator is unknown. Juvonen et al. (2008) found that about one third (31%) reported that the reason not to tell an adult was that parents might find out and restrict the internet access. As a consequence, the furtive nature of cyberbullying and the reluctance to tell adults about it, can turnout to be extremely painful. In this way cyberbullying can go unnoticed for a long period allowing emotional and psychological damage to accumulate (Juvonen & Gross, 2008; Williams & Guerra, 2007).

The absence of non-verbal communication cues

When information communication technologies are used in a prosocial way, the absence of non-verbal communication cues may motivate people to share their most intimate stories, emotions, fears and desires with each other (Kowalski & Limber, 2007; Patchin & Hinduja, 2006). Psychologists call this a 'benign disinhibition effect' (Suler, 2004); people may talk nineteen to the dozen online, since ICT strips away many non-verbal cues, such as body language and voice fluctuations. For example, even a negligible change in the facial expression of an offline conversation partner, can prevent the other from telling what’s on his mind. Conversely, the interpretation of online communication, by lack of non-verbal cues, is sometimes challenging and can easily derail into misunderstandings (Ybarra, Diener-West, & Leaf, 2007). Yet, disinhibition can also result in the use of rude language, hatred and threats leading to ‘toxic disinhibition’ (Suler, 2004). In that case, communication technology seems to place an ‘electronic wall’ between both the sender and the receiver of electronic communication, allowing people to be extremely vicious against one another without fear for retaliation and seeing the other person suffer (Kowalski et al., 2008; Suler, 2004).

One can rightly suggest that the lack of direct contact between bully and victim also occurs in specific forms of traditional bullying. For example, in behavioural bullying, the personal belongings of a pupil can be deliberately damaged by a schoolyard bully during the playtime. In real life however, people usually modulate their behaviours or comments, when they notice they have (un)willingly hurt someone based on emotional feedback. Seeing tears, shaking heads, staring eyes, a frown, a bored expression and other more or less subtle face-to-face cues can slam the breaks on what people are saying or doing. By actually being able to ‘read’ the emotional reactions of the other person, one is able to scan the faces of potential bullies for signs stating that a tease is really just a tease and not bullying (Suler, 2004). Cyberbullying rarely occurs face-to-face, since perpetrator and victim mostly are at a relatively great distance from one another. So, when communicating online reactions such as crying, which might lead people to realize that their comments have been too harsh or have been misinterpreted, are no longer visible (Ybarra & Mitchell, 2004). Since emotional feedback is missing, cyberbullies may assess quite wrongly the damage he or she is causing. A highschool student being interviewed in the focus groups conducted by Kowalski said: “It’s hard to remember that the other person is really seeing it.” (Kowalski et al., 2008). A pupil in the Belgian focus groups added: “It was a kind of joke to me, but when I saw him at school I realized that I had driven things too far” (Vandebosch, 2003).

A striking analogy between warfare and cyberbullying needs to be mentioned. Various psychologists, like Lorenz (1974) and Kulka, Schlinger, Fairbank, Hough, Jordan, Marmar et al. (1990) have studied the mental condition of soldiers after being part of World War II and the Vietnam War. Their findings revealed that infantryman with high war-zone exposure, constantly facing death in direct confrontation with individual enemies, reported a higher level of post-traumatic stress-syndromes (PTSD) than fighter pilots, throwing bombs which devastated entire villages and killed hundreds of people each time they flew. “Good husbands and fathers have laid carpets of bombs on civilized people and societies” (Lorenz, 1974). Sitting in a cockpit, from a great distance of their (human) targets, pilots did not have to directly observe the suffering and the killing they caused, making it easier to kill more with less psychological damage for the perpetrator (De Laender, 1996). Foot soldiers however caused comparatively less pain and death, but suffered more of post-traumatic stress-syndromes during their further lives (Lorenz, 1974). In a similar way, due to absent face-to-face-cues, the bully sitting in front of his/her computer display, like a pilot in a cockpit, feels disinhibited and is facilitated in his/her bullying behaviour since he/she cannot directly observe the emotional reaction of his/her target. In imitation to modern weapon technology also modern information communication technology has created distance between perpetrator and target and thereby has eliminated pity and empathy as powerful inhibitions for human aggression (De Laender, 1996).

Does the lack of face-to-face contact leads to merciless online bullies and does this ‘cockpit-effect’ differentiate the impact of cyberbullying? There are two sides to this question. The three primary motivations for conventional bullying are the need to demonstrate dominance, to receive a reward (e.g. admiration by peers) and finally, the satisfaction of causing suffer and injury towards a victim (Olweus, 1993; Olweus et al., 2007; Salmivalli et al., 2006). In cyberbullying, the ‘cockpit-effect’ may undermine these core motivations, since no suffer is visible and cyberbullies do not have a peer audience to whom their power can be demonstrated. So in cyberbullying, the perpetrator is less likely to see any suffering from the victim, which might reduce the gratification for cyberbullies who enjoy watching pain and suffer. The other side of the medal is that the inhibition of inflicting pain might be reduced due to a lack of empathy (Smith et al., 2008). Further, not seeing the victim may cause some perpetrators to remain unconvinced that they are actually harming or hurting someone badly. In psychology this phenomenon is referred to as ‘dissociative imagination’. People may be convinced that their virtual characters only exist in cyberspace, which they consider to be a dream world or a fictional computer game, because they dissociate online fiction from offline reality. Cyberbullies who argue this way, may be genuinely convinced that they are not doing anything wrong, since they consider cyberbullying to be an imaginary act of bullying (Kowalski & Limber, 2007).

Conclusion
In this article the authors have discussed some often raised concerns and issues associated with the mediation of communication technologies in cyberbullying. These issues have been scrutinized based on the following three interrogations:

(a) Can these issues also have a beneficial outcome, when communication technologies are used in a prosocial way in a non-bullying context?

The answer is affirmative. Outside the bullying context, all distinguished issues can have a beneficial outcome. For people who experience difficulties in engaging in social relationships, online anonymity may lower the barriers to meet new friends. By using social networking sites today's teens are able to reach large audiences to tell what's going on in their lives and how they are feeling. Furthermore, technology's potential to extend the period of time in which peers can communicate with each other, may enhance collaborative learning efforts and consolidate offline peer relationships. In a similar way, the often private nature provided by ICT attributes largely to the success of mobile phone and internet to communicate with peers beyond the borders of adult supervision. Finally, the absence of non-verbal communication may take away inhibitive elements to tell about fears, emotions and desires and thus foster genuine communication among peers.

(b) Do these issues merely manifest themselves in the context of cyberbullying or can they also be applied in traditional bullying forms?

There is no univocal answer to this question. The answer is negative with regard to the issues concerning the anonymity, the furtive nature and the lack of face-to-face contact in online communication; although, the identity of offline perpetrators is relatively often known to the victim, there are plenty of examples conceivable in which conventional types of bullying (e.g. relational and behavioural bullying) can happen by doing this in a furtive way without revealing the identity of the bully. Further, it is true that the lack of direct contact between bully and victim also occurs in specific forms of traditional (behind-the-back) bullying. For example, the perpetrator can steal personal belongings out of the victim's briefcase, without the victim noticing it. Also the involvement of a large audience of bystanders is not an issue that can exclusively be related to cyberbullying, since gaining admiration of the peer audience is an important motivation for traditional bullies to initiate and continue their practices. In this regard, it has to be mentioned that in traditional bullying these issues rarely if ever go beyond the boundaries of the local school community, whereas cyberbullying is a detached problem in some extreme cases (e.g. bullying in the community than school, cyberbullying can by using communication technology in an anti-social way penetrate the walls of the victim's home environment, if the victimized teen prefers not to switch off the cellular phone at night, he or she may be a perpetual target for cyberbullies, whereas the victim of traditional bullying can find a safe retreat at home).

(c) Can these issues differentiate the impact of cyberbullying?

This question can only be answered by taking into account the specific circumstances of a cyberbullying incident. Anonymity may differentiate the impact of cyberbullying, if it limits the victim, schooladministrators and parents from responding to the peers' aggressive behaviour in a way that otherwise may stop the bullying episodes. Another problematic consequence of anonymously perpetrating cyberbullying is that pupils perceive it as a "safer" form to bully, which may on the one hand negatively decrease the punitive fear of being caught and on the other hand increase the likelihood of future cyberbullying. The furtive nature of online communication may also differentiate the impact of cyberbullying, since adults are limited in responding to cyberbullying for two reasons. Firstly, most cyberbullying practices are hard to detect due to their covert and furtive nature. Secondly, many victimized pupils opt to suffer in silence. This may lead to painful cyberbullying incidents, which can continue unnoticed for a long time. Also the involvement of theoretically large audience can differentiate the impact of cyberbullying in a negative way, certainly when huge audiences get involved. As discussed before the impact of cyberbullying according to pupils' belief varies depending on the medium employed for perpetrating online bullying. Especially those forms achieving wide audiences are perceived as having a heavier impact than traditional bullying. Finally, the absence of non-verbal communication cues in cyberbullying may lead to a decrease of empathy for the victim.

Future research should aim at gaining further insight in the long term effects of cyberbullying. Since cyberbullying is a societal problem related to the quickly evolving information and communication technologies, future research should also take into account the general introduction of new ICT-applications. Further research focussing on characteristics of both victims and perpetrators of cyberbullying, can inspire future prevention programs in detecting cyberbullying more easily and prevent the accumulation of harmful effects. During the research the authors of this article were confronted with a variety of definitions and methods used in diverse studies. In order to better compare the extent of cyberbullying internationally, the research field would benefit from a further harmonization in the conceptual framework regarding cyberbullying.

More information could be obtained concerning the possible relationship between cyberbullying involvement, reporting, coping and the parenting styles in general and parents' commitment with and control of their children ICT-use in particular. Besides, perpetration and victimization of cyberbullying could be related to other online and off line risk taking and coping behaviour.

Aknowledgements

The results referred to concerning Belgian minors were obtained via three research projects. The first project dedicated to the study of cyberbullying was ordered by viWTA – ‘het Vlaams Instituut voor Wetenschappelijk en Technologisch Aspectenonderzoek’ is an independent and autonomous institute, associated with the Flemish Parliament - at the request of the Commission for Culture, Youth, Sports and Media of the Parliament. This survey was conducted in October 2005 among 536 primary school children and 1,416

A complementary qualitative research was conducted by prof. dr. Heidi Vandeboech and Katrien Van Cleemput. A second survey dealing with teens & ICT was conducted in March 2007 among 1,318 secondary education pupils in both the French and Flemish Community of Belgium. This research was conducted within the framework of and financed by the Federal Science Policy’s programme Society & Future. The survey and focus groups were conducted by prof. dr. Michel Walgrave, Sunna Lenaerts and Sabine De Moor. The research project entitled TIRO (Teens & ICT: risks & opportunities) did not only focus on the risks teens can be confronted with online, the use of ICT at home and at school has also been surveyed. Next to the survey and focus groups which was taken care of by the University of Antwerp, in-depth interviews and an online diary research were conducted by SMIT VUB (Brussels) and CITA FUNDP, whereas the legal aspects were analysed by CRID FUNDP (Namur) (http://www.ua.ac.be/tiro).

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