Confronting the Pedagogical Challenge of Cyber Safety

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Abstract: Cyber violence and the antidote of cyber safety are fast becoming a global concern for governments, educational authorities, teachers, parents and children alike. Despite substantial funding for information dissemination on preventative strategies and the development of electronic responses to hinder perpetrators, the phenomenon of cyber violence has received little attention in the educational research literature. This review paper outlines the status on existing research into cyber violence. Documenting and summarizing the facts on the nature and extend of the issue will inform future debate. It also highlights the need for pre-service and in-service teacher education programs to prepare educators to manage this phenomenon.

Introduction

This review paper outlines developments around the globe in research on cyber violence in order to raise awareness of the issue and inform the subsequent debate on the matter. Cyber violence is a relatively new phenomenon, with most of the reports emerging through publicity in the mass media. Despite the public interest and impact of cyber violence on children and adolescents, the educational community around the world has only made a small contribution. Scholarly writings in the disciplines of technology concentrate on the development, improvement and effectiveness of prevention and detection software and the effects; and in psychology on the profile and behavior patterns of the perpetrator as well as impact and counseling of the victim. Assumptions are often derived from familiar abuse scenarios in conventional, real life contexts. Few writings explore the complexities of cyber violence from an educational perspective. There are limited empirical studies available and little knowledge has been gathered to understand the issue, to identify occurrence patterns and to support the most effective counter approach. Work in this area is necessary to inform and engage the teaching profession and to address issues emerging from the research. Findings will have pedagogical implications for classroom practice and for teacher education programs.

The main goal of this review essay is to examine existing research and literature from the educational domain to document and present publications around the globe to gain a comprehensive picture of the work done so far. It begins with background on the definitions, forms and characteristics of cyber violence and specifically cyber bullying.

Next, it analyses and synthesizes findings from the present body of work, alerting to the need for empirical data to investigate the research vacuum. Finally, the most prominent issues are identified as a starting point for the debate on this issue, to trigger discussion on the pedagogical implications, stimulate best practice through teacher education programs that deal with the concerns and develop more effective combat strategies to extinguish cyber violence.

Definitions

Cyber violence

A range of harmful activities through the use of Information and Communication technologies fall under the term of cyber violence (i.e. hate-speech, threats, stalking, harassment, sexual remarks, vulgar language and cyber bullying). The work of Herring (2002), Barak (2005) and (Belsey n.d.) were merged to compile the diagram below, which provides a starting point for the development of a proper conceptual taxonomy.
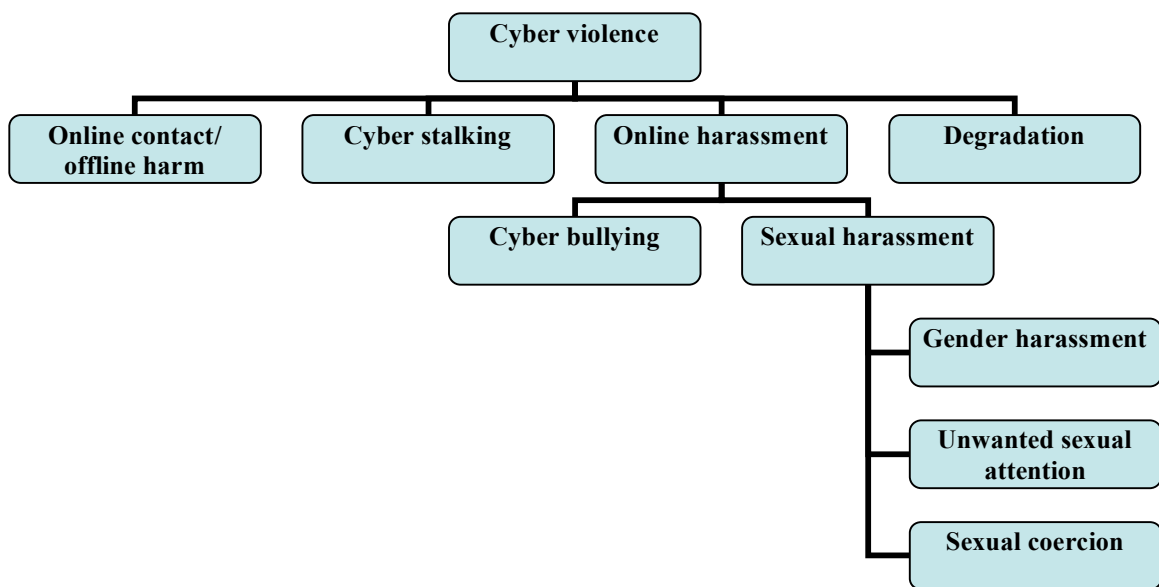
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Figure 1: Overview of cyber violence

Herring (2002) had identified four different forms of cyber violence: online contact/ off line harm, cyber stalking, degradation and harassment. Online contact that leads to off line harms is signified by one person aiming to gain the trust of another in order to abuse them in real life, either physically, sexually or financially. It has criminal intent at its core. Cyber stalking is a form of intimidation that occurs through online monitoring of a person's activities; unwanted contact that invades the person's privacy and causes fear. At its basis is the perpetrator's desire for control and power. Cyber stalking has the potential to move from online to real life environment. The category of online harassment comprises words or actions that bother, alarm or abuse others. Examples are threads, rumors, mocking, defamation of character, coarse language, name

calling, personal attacks and so on. Degrading is a type of cyber violence that refers to disrespectful images or words that cause harm to individuals and groups. This is particularly wide spread in the sexual arena but also pertains to racial, religious and political insults.

Within the area of cyber violence, Barak (2005) focused on the examination of sexual harassment. Within this section, the categories of gender harassment, unwanted sexual attention and sexual coercion were identified. It covers behaviors such as inappropriate sexual messages, offensive nicknames or online identities (i.e. bigdick, hotpussy) and unwanted pornographic material.

Cyber bullying

Bill Belsey, a Canadian Educational Advisor, coined the term of cyber bullying to describe the annoying, abusing, threatening or harassing of another person through electronic means. He names the Word Wide Web (i.e. websites, blogs, emails, instant messaging, text messages, online games) mobile phones (i.e. messages and pictures) and pagers as locations for cyber bulling. (Belsey, n.d.)

A rather divergent view with more differentiated breakdown of the variations within cyber bullying has been proposed by Kowalski, Limber & Agatston (2007). The graphic (below) was developed to present their observations. Although the boxes are of equal size, it is not to suggest that each sub-set of inappropriate behavior is equally present online. Some forms of cyber bullying are less frequent than others as they demand higher levels of technical skills. Impersonation for example requires pretending to be someone else online, thus taking on their electronic identity. The various levels of technological expertise may underpin particular cyber bullying behaviors, the frequency of their occurrence, the profile of the perpetrator and potential identification and thus elimination strategies.
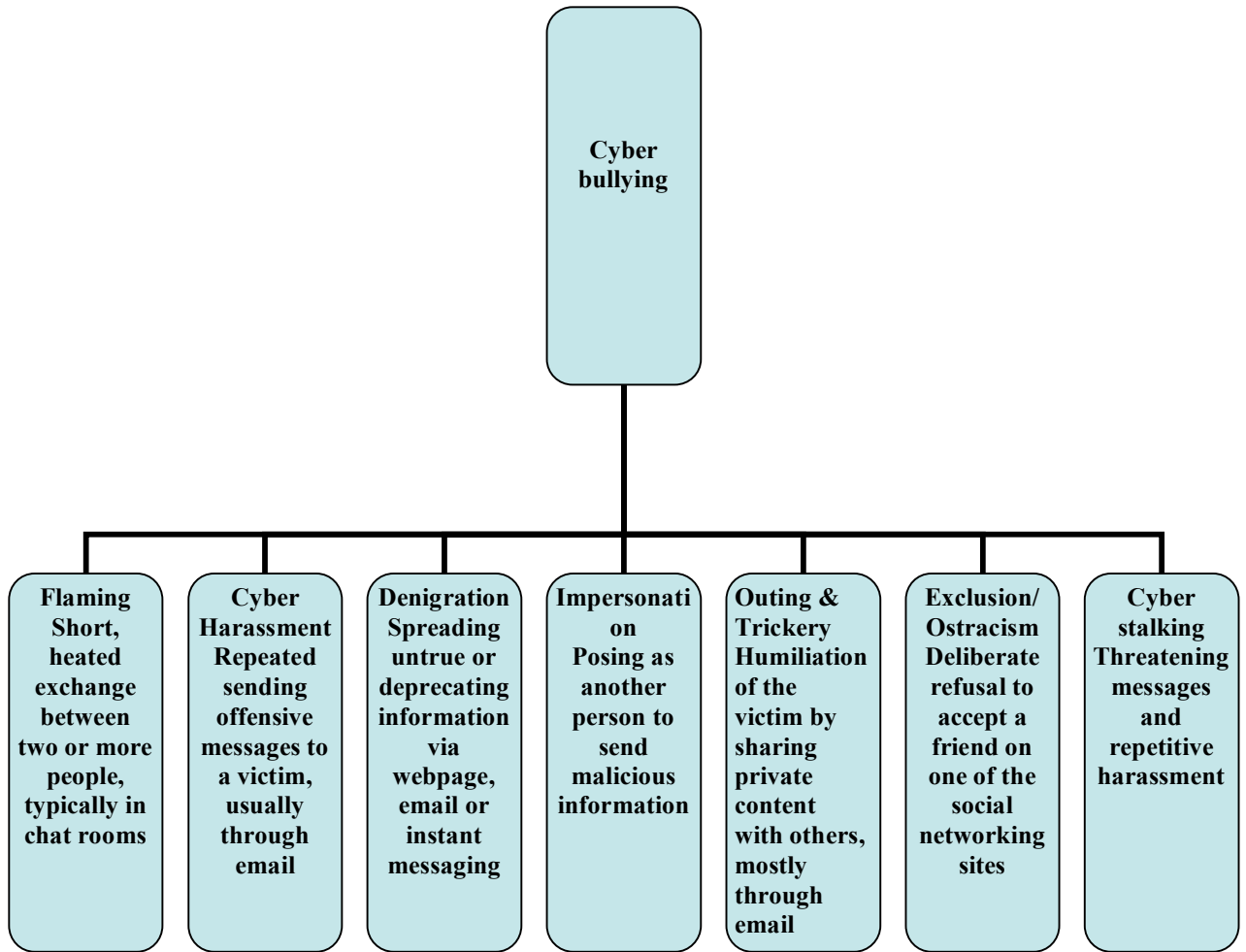
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| Flaming Short, heated exchange between two or more people, typically in chat rooms | Cyber Harassment Repeated sending offensive messages to a victim, usually through email | Denigration Spreading untrue or deprecating information via webpage, email or instant messaging | Impersonation Posing as another person to send malicious information | Outing & Trickery Humiliation of the victim by sharing private content with others, mostly through email | Exclusion/ Ostracism Deliberate refusal to accept a friend on one of the social networking sites | Cyber stalking Threatening messages and repetitive harassment |

Figure 2: Overview of cyber bullying

In their work, Kowalski, Limber & Agatston (2005) identify flaming, cyber harassment, denigration, impersonation, outing & trickery, exclusion or ostracism and cyber stalking as sub-categories of cyber bullying. In addition, they suggest a relationship between certain types of online abuse and the preferred electronic environment for them. However, further investigation is needed to verify possible correlations.

The development of both models has shown the discrepancy in labeling the gamut of inappropriate online behaviors. It has also shown the divergent views on the hierarchy of cyber violence and the need for research to establish the various forms and their linkage. Accurate labels and definitions are necessary to develop a common understanding.

For educationalists it is important to be able to have awareness of the different types of cyber violence and cyber bullying. This will help to identify the violation and provide the appropriate vocabulary for discussions. It will also assist in report each incident correctly and in providing the corresponding support.

A brief history of the field and existing studies

Cyber violence and its most prevalent sub-form of cyber bullying is a very recent phenomenon. There is little material that explores the complexities of cyber abuse from an educational perspective. The most abundant scholarly writings on the subject have been from the legal perspective (i.e. policing and regulating of cyber crimes, the prosecution of cyber criminals), the technological area (i.e. prevention and detection software) and the discipline of psychology (i.e. study of human relationship, counseling of victims).

Few empirical studies in educational contexts have been conducted around the globe. A first series of surveys during 2000 and 2005 yielded some empirical data on the increasing trend in cyber violence and the escalation of cyber bullying. Most investigate children in middle schools or adolescents and are concerned with the tools of cyber bullies, the extent of the abuse, its frequency and duration, the anonymity and profile of the perpetrator, the level of reporting and attention from the authorities. Table 1 below gives an overview and highlights the fact that it is an understudied area.
Identifying the relevant studies, organizing the field and scoping future research priorities will assist in defining and addressing the concerns while highlighting the urgent need for investigation of this matter.

Year	Country	Sample size	Age group	Author/ Source
2000	USA	1,501	10-17 years	Finkelhor, Mitchell & Wolak (NCMEC)
2002	UK	770	11-19	NCH, National Children's Home
2005	UK	770	11-19	NCH & Tesco Mobile
2006	UK	92	11-16 years	Smith, Mahdavi, Carvalho & Tippett
2004	USA	1,566	Grade 4-8	i-SAFE America
2005	Australia	120	Year 8	Campbell & Gardner (Brisbane)
2005	Canada	3,700	Middle school	Robin Kowalski, Clemson University
2005	Canada	177	Grade 7	Qing Li, University of Calgary
2006	USA	1,500	10-17	Wolak, Mitchell & Finkelhor (NCMEC)

Table 1: Empirical studies on cyber bullying in educational contexts

The first national survey, focusing especially on sexual solicitation and pornography was carried out by the National Center for Missing & Exploited Children (NCMEC). It was directed by the US congress, which has recognized the risk to young people on the internet as a problem in the USA as early as 1999. Subsequently, work on matters of danger and protection on the Internet was commissioned by the Department of Justice, Washington DC and conducted by Finkelhor, Mitchell & Wolak during 2000. This first study on the risk in online environments for children and adolescents was titled "Online victimization: A Report on the Nations' Youth". It looked particularly at unwanted sexual material, solicitation and harassment. The findings were used to make the internet safer through education and prevention programs. Substantial funding was given to the development of materials and the establishment of combat organizations. Five years later an identical second *Youth Internet Survey* was executed by the same research team to investigate potential changes over that period of time. Despite

significant cyber safety campaigns, they found that even more youngsters than previously received unwanted sexual material and online harassment.

The escalation of the problem was notwithstanding the increased use of filtering and blocking software in their computers. Basically, online harassment of young internet users had increased from 6 % to 9 % and cyber bullying had risen from 28 % to 48 % over five years (from the first study in 2000 to the second study in 2005). Apart from the startling increase of cyber violence in the face of expensive, time and effort consuming cyber safety programs and sophisticated protection software, it also surfaced that those incidents of cyber abuse amongst young people stemmed from a conflict ,which had started at school. Subsequently, online harassers were offline acquaintances (mostly peers).

While the American NCMC investigated children and adolescents aged 10 – 17 years in their nation wide study, the American *Foundation for Internet Safety Education* investigated a younger cohort of children in their nation wide study. It focused on elementary school students and uncovered that cyber bullying was pervasive even at this young age. Meanwhile in Britain, the National Children's Home (2002) conducted the first-ever survey on electronic bullying. It was half the size of the American studies, with only 770 young people, with a difference of a couple of years in the age group selection as these youngsters were between 11 and 19 years old. It found that one in five "…admitted they had experienced some sort of bullying or threat via email, internet chat room or text. Some experienced more than one." Repeated occurrences were emerging as a trend.

Numerous incidents of cyber bullying were also found in the London based study by Smith et al (2006). The incidents of cyber bullied – showing that that 22 % of children had been cyber bullied at least once - were consistent with other findings in the UK and the US. However, it was discovered that almost 7 % of those students had experienced cyber bullying more frequently. Contrary to previous assumptions where cyber bullying happened exclusively outside school hours, it surfaced in this study that cyber bullying occurred both inside and outside of school although more cyber bullying still occurred outside school. Similarly to the American findings, the British children kept silent about the abuse; with a third of victims telling no one about the bullying. In Canada, the two studies concerned with cyber violence took place during 2005. One was by Qing Li, who surveyed 177 grade seven students from two schools in Calgary, a large western Canadian city. Her findings about the pervasiveness of cyber violence were consistent to the UK and USA; as almost 25 % of students were cyber bully victims. However, repeated incidents of online harassment (between one and three) were at an unprecedented high of 60 %. Also, Li (2005) uncovered that more than 40 % of the cyber bullying was conducted through multiple sources. Opposite to the British findings were chat room bullying was the least common form of cyber bullying, it was the most popular form in Canada, with over 36 % of cyber bullying occurring in that environment. Further research is needed to investigate this reversal. The second Canadian study was executed by researchers at Clemson University. The survey of 3,700 middle schoolers indicated that cyber violence peaks at about age 13. It is long known that the majority of traditional bullying in schools involves boys but newly discovered is the fact that girls are the

primary perpetrators in online environments. Nearly 30 % of girls reported being bullied online compared with 10 % of boys. (Chu, 2005).

In Australia, the only available study on the issue of cyber violence was carried out in Brisbane with 120 students in year 8. It showed that cyber bullying was less rampant than in other countries (i.e. Canada, UK and USA) as only 14 % of children were cyber victims. Most victims were contacted by texting, followed by chat rooms and then email; little is known about the reasons for this usage pattern. Over half the students thought that cyber bullying was increasing. (Campbell & Gardner, 2005)

Educators need to be aware that cyber violence exists and that action is required to combat the growth of this problem.

Statistics on cyber violence

This section presents the current extent of empirical data on cyber violence in various countries around the world. The scope and process of the literature search comprised a Boolean search technique with various combinations of carefully selected key terms (i.e. bullying, cyber, computer, electronic, internet, prevention, safety, violence). Three different web-based databases were used: ERIC, Scirus and Google Scholar. The existing literature indicates that cyber violence in its various forms is a world-wide occurrence that is becoming increasingly widespread.

In Canada, a survey of 177 grade seven students from two schools in Calgary found that almost 25 % of students were cyber bully victims, with nearly 60 % experiencing between 1 to 3 incidents of online harassment. (Li, 2005). Another Canadian study of 3,700 middle schoolers revealed that in the preceding two months alone, cyber bullying affected 18 % of youngsters. In Grade 8, reports of recent incidents of cyber bullying peaked at 21 %. (Kowalski, 2005).

The Australian situation is similar; a study of 120 students in year 8 was carried out in Brisbane by Campbell & Gardner (2005). They found that 14 % of children were cyber victims and 11 % identified themselves as cyber bullies. Over half the students thought that cyber bullying was increasing.

In the United States, the *Foundation for Internet Safety Education* conducted a nation wide study with a younger group. During 2004, a total of 1,566 elementary students (from grades four to eight) were probed. The results of this *National i-Safe Survey* uncovered that 57 % of students had experienced hurtful comments, 35 % of students had been threatened and 42 % had been bullied. Astonishingly, more than half (58 %) of the cyber victims did not tell their parents or another adult of their online experiences. Also in America, a study of 1,501 youngsters aged between 10 and 17 years was conducted during 2000. It surfaced that 6 % had experienced online harassment. Five years later, this figure had increased to 9 %. Beside online harassment, cyber bullying emerged during the investigation at 28 % in 2000; it had risen to 48 % in 2006. (Finkelhor, Mitchell & Wolak, 2000; Wolak, Mitchell & Finkelhor, 2006).

A study in the United Kingdom of 770 youngsters found that 16 % of youth were bullied through electronic media. (National Children's Home, 2002) Only a few years later there was already a marked increase. An investigation by the *Anti-bullying Alliance*

of Goldsmiths College, University of London showed that 22 % of children had been cyber bullied at least once, almost 7 % had experienced cyber bullying more frequently (Smith, Mahdavi, Carvalho & Tippett, 2006).

The trend will continue due to the availability of numerous, cheap and easy to use devices as all communication tools (email, instant messages, website, phone calls, text messages, chatrooms) can be used for abuse.

Preferred tools for electronic abuse

A study funded by the Anti-bullying Alliance by Goldsmiths College, University of London and conducted by Smith, Mahdavi, Carvalho & Tippett (2006) provided some insights on the preferred tools for electronic abuse. In 14 different schools across London, 92 youngsters aged 11-16 years were asked to fill out a questionnaire. The data indicated that phone calls, text messages and email were the most widespread form of cyber bullying, with chat room bullying the least common. In addition, gender differences emerged which indicated that girls were more likely than boys to be involved in cyber bullying both as perpetrators and as victim. Girls had a preference for the use of mobile phones; boys used text messaging as the most usual form, followed by picture or vide clip and website bullying. In terms of impact, picture/video clip and phone call bullying were perceived as most harmful whereas text or website bullying were equal to other forms. The frequency ranking for each medium was lead by text (14%), followed by internet chat rooms (5%) and then email (4%) according to the National Children's Home study carried out in the UK during 2002. The Australian study showed similar results to the United Kingdom data, with most cyber bullies using text messaging, followed closely by chat rooms and then by electronic mailing. (Campbell & Gardner, 2005). The Canadian data indicated that almost 41% of cyber bullying took place through multiple sources (i.e. email, chat room, mobile phone). The most frequent single source was chat rooms (36.4%) and email (22.7%) (Li, 2005).

Perspectives on cyber bullying

There are a number of differing views on cyber violence. For example, Li (2004) believes that cyber bullying is simply bullying in a new territory. This stance merely assumes a shift. It sees traditional bullying behavior patterns moving into a new context, namely electronic devices. Cyber bullying seems to be instead of traditional bullying. Arguably, this might be seen as "safer" due to absence of physical violence. In traditional bullying kicking, pushing and spitting are common deeds. Cyber bullying takes place in front of computer screens and thus prevents physical contact, limiting the bullying to emotional and psychological abuse. However, the impact on the victim might be greater and these aspects need greater investigation.

Another point of view is put forward by Shariff (2005:2), who argues that "…cyber-bullying is an extension of general bullying in school…" In this case, online harassment stems from the traditional bullying behavior in the face-to-face environments of the school. Cyber bullying seems to be in addition of traditional bullying.

A role reversal position is put forward by Ybarra & Mitchell (2004), who deduced from their findings that the victims of real-life bullying turn into perpetrator online. It seems intuitively correct that a face-to-face bullied victim takes revenge on their tormentor through cyber bullying while hiding their identity behind the compute screen. However, it is also feasible that a defenseless victim in traditional bullying situations may use cyber bullying to act out. Tormenting innocent strangers online (rather than taking revenge on their real life bully for fear of discovery) may create a feeling of power and vindication, thus propagating the cruelty. As these speculations show, the face-to-face bulling and cyber bullying cycle is unclear and possible correlation of these behaviors need further research. What is clear is the fact that "Cyber bullying seems to be a type of bullying which is becoming increasingly prevalent, as the use of the technology increase by young people." (Smith, Mahdavi, Carvalho & Tippet, 2006)

This should be a concern for any teacher as it has practical pedagogical implication for their classrooms.

Characteristics of bullying and cyber bullying

Bullying is occurring in educational institutions is and teachers are often aware of the traditional forms of bullying that may happen at schools. Cyber bullying manifests in different ways and Table 2 below gives educators an overview. This will help in developing identification, prevention and counteraction strategies.

Comparison	Traditional bullying	Cyber bullying
Mode	Face to face	Electronic media
Frequency	Decreasing	Increasing
Time frame	At, before or after school	Anytime, anywhere
Audience	Immediate bystanders	World wide exposure
Impact on victim	Small scale	Large scale
Identity of perpetrator	Known to victim	Anonymous
Primary targets	Boys	Girls
Duration	One off	One week
On-lookers	Stay passive (as bystanders)	Become active (as perpetrators)
Reports to adults	High reporting rate	Low reporting rate
Intervention	Acceptable level	Insufficient level
Punitive action	Frequent	Rare

Table 2: Comparison of traditional bullying to cyber bullying in educational context

Traditional bullying and cyber bullying have in common that they are both "…always unwanted, deliberate, persistent, and relentless…" (Shariff, 2005:2-3) but there end the commonalities as the various comparison factors indicate. A brief discussion on each shows the opposing position across almost every aspect.

Mode

The most obvious difference is the necessity of face-to-face interaction of traditional bullying versus the remote cyber bulling that can happen while hiding behind a computer screen.

Frequency

Traditional bullying is decreasing to awareness raising campaigns, improved pastoral care in school, provisions of school counseling services and implementation of prevention and intervention strategies. Cyber bullying on the other hand is set to rise as children and adolescents gain more access to computers, develop more proficiency in using electronic media and spend more time online.

Time frame

Conventional bullying takes place either before, during or after school as students arrive or depart and during snack or lunch breaks. In contrast, cyber bullying is happening anytime and anywhere. The British National Children's Home (2005) found that 50 % of cyber bullying happened at school or college; 17 % at the weekend; 21 % after school or college and 6 % during the school holidays.

Audience

Shariff & Gouin (2005:4) point out that cyber-space allows hundreds of abusers to become involved. This mass of potential perpetrators is matched by the extent of the audience. Shariff (2005:6) terms it the "Infinite audience" of cyber bullying. Unlimited viewers spanning the whole globe are able to witness the abuse; this is contrary to traditional school bullying incidents where only the immediate on-lookers are exposed. Arguably, this increases exposure to large crowds assists the multiplication of cyber-bulling due to the copy-cat effect.

Impact on victim

Anecdotal evidence suggests that the effect of cyber bullying is more damaging than traditional bullying and has longer lasting effects. Shariff (2004:9) believes that cyber bullying"…creates a hostile and negative school environment…" and that this substantially disrupts learning, causing damage to the emotional wellbeing of youth in schools.

Identity of perpetrator

The difficulty in stopping cyber bulling is the anonymity of the perpetrator. Shariff & Gouin (2005:3) found that "Disturbingly, most cyber-bullying is anonymous because perpetrators are shielded by screen names." A Canadian study of 177 middle school students uncovered that 41 % of victims did not know the identity of their perpetrators (Li, 2005). Anonymity and the ability to conceal one self behind the technology also impacts on by-standers as Shariff & Gouin (2005:4) declare. They claim that "…class-mates who may not engage in the bullying at school, can hide behind technology to inflict more serious abuse."

Primary targets

Shariff & Gouin (2005:4) suggest that girls and women are the "…primary targets in cyber-space." Smith, Mahdavi, Carvalho & Tippet (2006) and Li (2005) found that girls were significantly more likely victims of cyber bullying than boys. Finkelhor, Mitchell & Wolack (2000) reported from a study of 1500 youngsters that girls are targeted twice as much as boys. Adams (2001) conveys that one in three girls have suffered from electronic harassment. In terms of gender, Chu (2005) and Li (2005) found that both males and female engage in cyber bullying. Although the statistics show some disparity; the underpinning notion of males as perpetrators and females as victims needs to be investigated further.

Duration

Li (2004) investigated the most frequent incidents of cyber bullying. Almost 60 % of victims reported 1-3 times; nearly 23% reported 4-10times and over 10 times were reported by more than 18 %. This seems to occur over a number of days.

On-lookers

The secrecy of the bully, the potential lack of discovery and thus repercussions aids the temptation. It allows youngsters to try cyber-bullying without fear of detection and consequences, which would have remained on-lookers in real life bullying situations. This assumption seems to be confirmed by Ybarra and Mitchell (2004) who established that victims of face to face bulling are much more prone to harass online.

Reports to adults

The British National Children's Home (2005) survey on bullying discovered that 58 % of students have not told their parents or any other adult about their online experiences. The majority (31%) said that they did not report it because they did not think that it was a problem. Multiple replies indicated that 12 % thought that there was no one

they wanted to tell, 11 % did not report it because they thought it would not stop the bullying or threats and 10 % simple did not know what to do to get help.
This silence of the victims is directly linked to the lack of confessing by cyber bullies. Ybarra and Mitchell (2004:12) found that "Males and females were equally likely to report harassing another person online in the past year." Interestingly, there was a relation between admitting to online bullying and age. While 13-14 year olds owned up to cyber bulling at 27 %, only 8% of the 10-12 year olds acknowledged their online harassment. Chu (2005:42) reminds that"…incidents of online bullying are like roaches: for everyone that's reported, many more go unrecorded".

Intervention

This lack of documentation may explain why few teachers and administrators are aware that students are being cyber bullied (Beran & Li, 2004). Some teachers, principals and school administrators actually ignore the issue of cyber bullying. Giroux (2003) argues that and the neglect to address it thus propagates the behavior.

Punitive action

Traditional bullying involves physical aggression (i.e. kicking, pushing, hitting) and sexual contact, which is often followed up with some form of disciplinary action or 'punishment' (i.e. detention, suspension from school). This unpleasant consequence and the recording of the incident may shock or frighten the offender enough to prevent repetition of the behavior. The very nature of electronic communication facilitates abuse through audio, video or text while allowing the perpetrator to remain anonymous; which prevents any follow up.

Combating cyber bullying

Cyber violence is a world-wide phenomena, not bound by national borders. Governments and educational authorities in Australia, Canada, the UK, and the United States have recognized the spreading of cyber bulling and its devastating effects. In response, funding has been designated to address the ethical, legal, safety and security implications of technology. Educational outreach initiatives such as awareness raising and behavior changing programs, free help lines for support, and provisions of protective software are some of the strategies employed.
The diagram below is an attempted overview of the various approaches to combat cyber bullying. However, future research is crucial to help understand and identify the most appropriate strategies for reducing or eliminating cyber bullying.
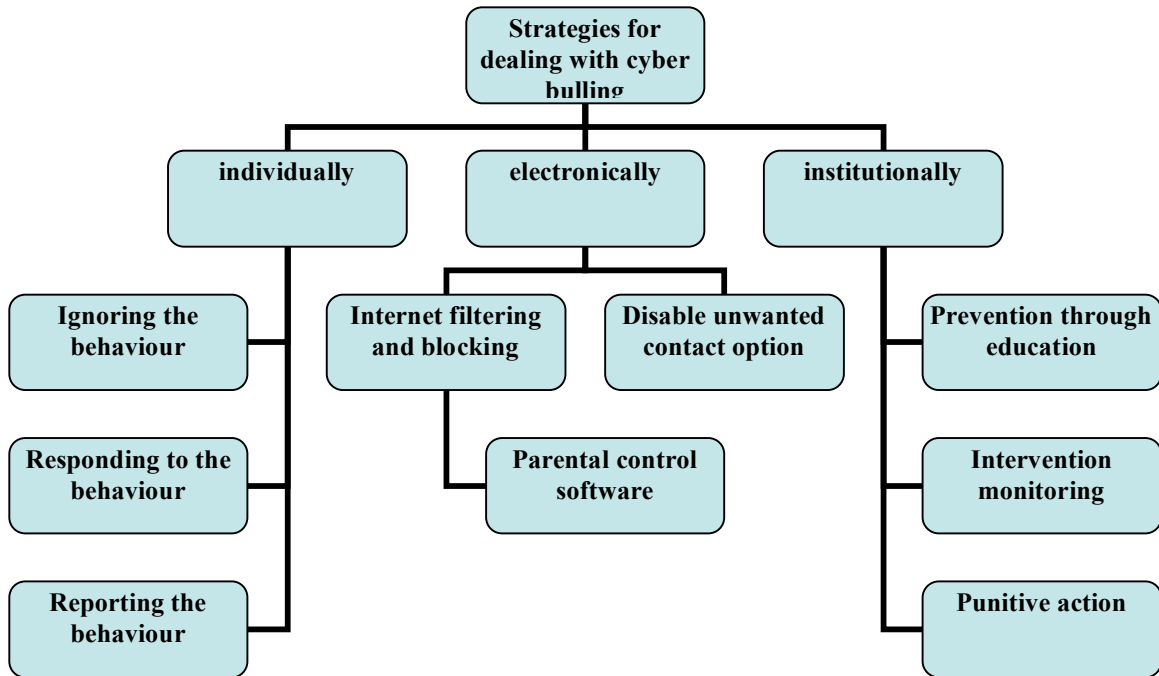
Figure 3: Strategies for dealing with cyber bullying

Schools and educational authorities may set up educational programs to alert to cyber bullying, inform about its potential damage and thus prevent incidents. Establishing of school policies and monitoring school computers accordingly are intervention approaches available to the institutions to curve or eradicate the abuse. Punitive action such as the loss of internet privileges for perpetrators, detention or even dismals from school for sever or repeat offenders are other measures.

The battle against cyber bullying can be fought electronically by institutions and individuals through the installation of filtering and blocking software. Parents may wish to invest into specific parental control software, which is easily switched on and off. If activated, it restricts their children's access to Internet content. Disabling unwanted contact option is a very effective method for blogs, websites, emails and mobile phone users.

Individuals affected by cyber bullying may be victims and onlookers, who are witnessing the online abuse. Paying no attention to the cyber bulling behavior in the hope that the perpetrator will loose interest and stop the abuse; responding to the behavior by deleting it or reporting the abuse to the authorities are some tactics. The effectiveness of each method, particularly in response to a specific form of abuse has not been investigated and recommendations can not be made.

Conclusion and Recommendations

This review paper focused on cyber violence, namely cyber bullying and the pedagogical challenge of confronting this problem to ensure that all children and adolescents are safe online. It highlighted the lack of available scholarly work and the

limited knowledge of the issue. The few empirical studies available suggest a number of important issues to be considered and explored. Without doubt, cyber violence is an understudied area and researchers have yet to examine the extent, nature and implications of it. This understanding can then lead to the development of the most effective strategies for combating it. Nevertheless, the available research clearly indicates the increasing spread of this phenomenon, its insidious nature and the tremendous damage that it causes. Therefore, vigorous research is needed to investigate the attitudes and experiences of youngsters and to devise a successful approach to increase cyber safety. In the endeavor to find counter strategies quickly and easily, it is tempting to look for parallels between cyber bullying behavior and traditional face-to-face bullying behavior to adopt successful strategies across. However, applying the approaches used in fighting face-to-face bullying to cyber bullying scenarios and expecting similar results would be simplistic. Table 2 has shown that there are distinct differences, often juxtaposing each other. While there is a correlation between face-to-face bulling and cyber bullying, the relationship is unclear. Because of this uncertainty, teachers, school counselors and administrators can not be given any evidence based principles in dealing with this problem.

Given the rapid spreading of cyber bullying and its harmful effect, research is needed to investigate the nature of cyber bullies to develop a profile and identify the perpetrators. Once a perpetrator profile has been established, the cyber bully can be tracked down more easily and held accountable. In the meantime, recommendations on the best method of dealing with an incident can not be made as scientific research is lacking. Tactics like paying no attention to the cyber violence in the hope that the perpetrator will loose interest and stop the abuse; deleting offensive messages (if technically possible) or alternatively reporting the abuse to the authorities may be more or less effective depending upon a number of factors.

The effectiveness of each method abuse has not been investigated and evidence based advice can not be given. While individual cases provide insight into the motives of single perpetrators, they do not give a comprehensive picture of the motivations for choosing a particular deed and the reasons for choosing one kind of abuse over the other. Once again, such data sheds light on the motivation, helps understanding the origins of the abuse and thus aids in the elimination of it.

Research evidence is needed to design cyber violence prevention programs for parents and children. Awareness raising and training to enhance cyber safety is also important for teachers. Well researched and designed instruction course could be incorporated in pre-service teacher education programs. In addition, professional development programs for in-service teachers, school counselors and school leaders are necessary. This will assist in identifying and responding appropriately to cyber bullying incidents; which is a crucial first step. This notion is supported by research from traditional bullying, which indicates that teachers without training frequently overlook bullying and do not intercede. If they become involved, they respond inappropriately to bullying episodes. (O'Moore, 2000; Hazler, Miller, Carney & Green, 2001).

Currently, mandatory reporting for teachers exists in relation to physical and sexual abuse of children. This could be extended to include online maltreatment or exploitation. An obligation by law for teachers to report specific forms of cyber violence needs to be supported by adequate training of teachers to become aware and deal with those incidents. Acceptable use policies and codes of practice for appropriate behaviour for

students, teachers and parents are crucial in order to prevent, uncover and assist with the investigation of cyber violence. Mandatory training for teachers on all aspects of online safety, privacy, responsible use, and security and curriculum integration are also vital.

In closing, the data shows clear evidence that the number of students affected by cyber bullying will increase and schools will need to develop strategies for prevention, intervention and counseling. Research evidence based guidelines have to be developed to help educators deal with the pedagogical challenge posed by cyber violence.

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