Cultivating Digital Citizenship and Peaceful Virtual Interactions through a Cyberbullying Prevention Initiative

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Abstract

This action research study implemented and evaluated a student-created cyberbullying prevention campaign in a Colombian middle school where high rates of online harassment were observed. Qualitative methods examined cyberbullying manifestations through surveys and interviews to inform intervention design and assess outcomes. Prior to the campaign, 77% of the students surveyed reported experiencing cyberbullying victimization involving online aggression, image sharing, impersonation, or exclusion. Students then developed videos, podcasts, and other audiovisual media conveying respectful technology use alternatives leveraging the same digital channels used for cyberbullying. Thematic analysis revealed that students gained knowledge responding to cyberbullying, reflected on consequences, and suggested integrating families and professionals in sustaining prevention. Most notably, cyberbullying cases decreased through participants' conscious technology use promotion. Allowing students' active participation to counteract norms enabling harm with positive peer modeling was beneficial. While technology facilitates cyberbullying, findings indicate that purposeful digital citizenship development reduces risks and supports safe climates. Schools are crucial in fostering responsible use policies spanning home and academic settings. This exploratory study provides an initial evidence base for student-centered, school-based cyberbullying deterrence programs warranting further effectiveness evaluation. Practical implications highlight integrating educational stakeholders while giving students agency in cultivating online ethics.

Keywords: *Cyberbullying, School context, Prevention, Violence.*

Introduction

Since the 15th and 16th centuries, schools have grappled with a persistent and detrimental issue: school violence. Within nearly every classroom, there exists a student who engages in the intimidation of peers, whether verbally or physically. Commonly referred to as a bully, this individual seeks out the vulnerable to extort money or coerce them into completing tasks under the threat of embarrassment or physical harm. This form of violence has evolved into a serious social and educational problem, leading to instances where students opt to avoid school to evade harassment or, in severe cases, relocate to a different school or contemplate self-harm (Masias, 2009). The prevalence of cyberbullying has exacerbated this issue, with research indicating its profound impact on

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victims' psychological well-being and the urgent need for preventive strategies (Smith et al., 2020).

The advent of information and communication technologies (ICT) and widespread Internet access have profoundly impacted bullying behaviors among youth in recent decades (Chacón, 2003). As Chacón (2003) notes, contemporary schoolchildren have embraced the Internet and social media platforms like Facebook, Twitter, and Instagram as socialization and friendship-building tools. Today's youth enjoy unprecedented connectivity and access to real-time information through smartphones and applications enabling instant messaging, texting, photo sharing, and global discussion forums. To keep pace with these technological advances, many schools have dedicated substantial financial resources to upgrading computer technology and Internet connectivity in pursuit of enhanced educational quality. However, the rapidity of these changes has also enabled new manifestations of bullying within online spaces that warrant attention. Overall, while modern ICTs present many academic benefits, researchers must continue investigating their implications for adolescent social behaviors, including cyberbullying.

While acknowledging the educational benefits of recent technological advances, Bilbeny (1997) cautions that many youths cannot use these powerful tools responsibly. Bilbeny argues that we are experiencing an ethical crisis, as early optimism about the Internet as an egalitarian digital realm free from prejudice has given way to recognizing its potential for misuse. After fifteen years, the once idealized "digital superhighway" is now regarded warily for its capacity to amplify harm. Particularly concerning is the surge in youth leveraging information and communication technologies (ICTs) for cyberbullying - harassing peers via text, email, images, memes, and other digital media. Some escalate to threats of violence against classmates or even self-harm. Thus, technologies initially implemented to enhance learning have sometimes facilitated new modes of ridicule and aggression. Educators must recognize technology's dual potential to enrich education or enable harm based on its application. Ongoing research is imperative to develop responsible use policies and curricula that maximize benefits while mitigating risks.

According to Ferran Barri, president of the organization SOS Bullying, traditional bullying has evolved and adapted to incorporate 21st-century technological developments (as cited in Masias, 2009). Whereas classroom bullying once entailed passing around caricatures of victims, contemporary cyberbullying manifests through sharing Photoshopped images or disparaging memes online. Barri explains that intimidation and harassment have shifted from the confined setting of the school to students' cyberspaces and homes. This phenomenon has necessitated the introduction of new terminology, like cyberbullying, to describe technologically-mediated peer aggression. However, many educators struggle to effectively address cyberbullying (Nickerson, 2020) because they fail to recognize its characteristics or how it transpires among students. In recent years, cyberbullying has rapidly escalated from a minor issue to a pervasive global problem. Teachers need training to enhance their understanding of cyberbullying dynamics and implement informed prevention policies. Proactive efforts are critical to curb this burgeoning threat.

Recent studies with Colombian young populations indicate that cyberbullying prevention programs focused on fostering confidence and self-efficacy can enhance participants' comprehension of cyberharassment and capacity to tackle online threats (Sarmiento et al., 2019; Cuesta Medina et al., 2020; Benavides-Vanegas, 2020; Moreno-Carmona et al., 2021). Developing self-regulatory abilities and nonviolent conflict resolution strategies in critical developmental windows better equips youth to confront cyberaggression while internalizing healthy relationship-building tactics. These studies' findings highlight the value of socioemotional learning focused on agency, resilience, media literacy, and peer collaboration in tackling toxic online behaviors. Consequently, the researchers advocate implementing targeted, evidence-based interventions to impart critical knowledge, skills, and support structures that facilitate impactful bystander intervention.

Explicit instruction encouraging young people to identify sources of cyber victimization empowers them to reclaim control of online ecosystems. Furthermore, fostering inclusive communities predicated on collective care and social justice principles may spur broader cultural shifts in addressing oppression's role in propagating cruelty. Scholars, educators, and policymakers must continue advancing multilayered frameworks, coupling cyberbullying education with efforts toward equitable school climates where all youth feel secure, valued, and psychologically equipped to enact positive change.

Given the concerning prevalence of cyberbullying in educational settings, this study aimed to develop and evaluate a pedagogical intervention to prevent cyberbullying among middle school students. This intervention mobilized 6th and 7th-grade students to produce audiovisual content leveraging the digital media technologies involved in cyberbullying perpetration, raising awareness of the detrimental impacts of cyberbullying. Under the guidance of the course instructor, students developed videos and podcasts conveying respectful online behaviors and alternatives to cyberbullying. By leveraging students' digital media skills for prosocial aims, this project endeavored to reduce cyberbullying perpetration and victimization in the middle school context. Further research should build upon these initial efforts by implementing multi-component, evidence-based cyberbullying interventions and evaluating their effectiveness using rigorous designs. Nonetheless, this exploratory study offers a promising student-centered approach to addressing the pressing challenge of cyberbullying in schools.

Based on these reflections, academic institutions must develop mechanisms and interventions to address cyberbullying (Castro, 2016). This study aims to present a technology-integrated educational approach to preventing cyberbullying. Specifically, it examines a school program in which sixth and seventh-grade students, under the guidance of a teacher, created audiovisual media to increase awareness of the consequences of cyberbullying. By leveraging digital tools for cyber harassment, the program enabled students to counter unacceptable online behaviors through positive, prosocial messaging. Such peer-to-peer cyberbullying interventions can equip young people to recognize harm in virtual interactions, empathize with victims, and enact change in their communities.

Cyberbullying background and conceptualization

The origins of cyberbullying can be traced back to the 1970s when Norwegian psychologist Olweus (1970) studied aggression and mistreatment of peers in schools, which was then coined as bullying.

Over the years, this practice has persisted, and harassment and aggression in educational contexts have transcended the barriers of the school classroom. With the evolution of technology, bullying has shifted from physical to virtual spaces and media. In 2005, researcher Belsey (2005) coined the term "cyberbullying" to describe the vexatious use of information and communication technologies (ICT), such as email, cell phone messages, instant messaging, personal sites, or personal online defamatory behavior, by an individual or a group, that deliberately and repeatedly aims to harm another person.

Willard (2007) defined cyberbullying as online harassment or the sending and posting of harmful or cruel text or images over the Internet or other digital media. Professor of Psychology at the University of London, Smith (2012), defined cyberbullying as an aggressive and intentional act carried out repeatedly and consistently over time through the use of electronic forms of contact by a group or an individual against a victim who is unable to defend themselves.

Peter and Petermann (2018) found out that cyberbullying research lacks a universally accepted definition, with researchers unable to agree on its defining attributes. Nevertheless, according to the authors, the concept of cyberbullying involves intentional

and repetitive harmful behavior using information and communication technology (ICT). Different studies may have slightly different definitions, but the main defining attributes remain consistent.

Cheng et al. (2020) pointed out that there is no universally accepted legal characterization or framework that precisely defines cyberbullying across different national contexts. Given the borderless nature of online spaces, developing a standardized conceptualization to inform legal remedies around cyberbullying represents a considerable challenge. Nevertheless, a comparative analysis of how existing laws indirectly regulate cyberbullying-related behaviors could prove informative.

Cyberbullying has become increasingly common, especially among teenagers and adolescents, due to advancements in communication technology and young people's increased use of such technologies. Cyberbullying is a serious issue that can have a profound impact on victims' psychological well-being, leading to the urgent need for preventive strategies.

Cyberbullying signs and symptoms

Prior research on cyberbullying indicates that this harassment and aggression transpires through diverse mediums and manifestations. Mosquete de la Torre (2018) delineated common cyberbullying expressions based on the platform used. These include flaming arguments in online forums, denigrating websites and impersonating profiles, public posting of embarrassing images, videos, or audio, exclusion from online groups, and offensive text messaging, as seen in Table 1.

Table 1 Cyberbullying signs and symptoms

Actions that may be a sign of cyberbullying
1. Aggressive and humiliating messages repetitively to the victim.
2. Online confrontations: electronic messages with offensive and angry language.
3. Online threats and intimidation: actions such as harassment, blackmail, and online surveillance.
4. Spreading rumors about a person to damage his or her social relationships or damage his or her image.
5. False attribution of inappropriate behaviors to the victim, affecting his or her image in the eyes of peers, parents, and teachers.
6. Impersonating another person or remaining anonymous to disseminate information or materials harmful to a particular person and his or her close environment.
7. Publishing secrets or personal information about a person on the Internet.
8. Intentionally excluding a person from a virtual community.
9. Sending malicious software to a specific person or subscribing him/her to websites without his/her consent (e.g., pornography).
10. Recording while physically or psychologically assaulting a person and then uploading it to the Internet for the whole world to see.
11. Sharing sexual recordings of a person without their consent in order to intentionally humiliate them.
12. Creating a blog or web page to humiliate and harm a person.
13. Retouching digital materials, such as photographs, videos, and emails, to make fun of certain people.
14. Usurp passwords of different web spaces to impersonate another person or to know their

personal information, infringing on their privacy.

15.	Creating or participating in online questionnaires denigrating certain people.

Note. Mosquete de la Torre (2018)

Overall, these behaviors may be indicative of cyberbullying perpetration, suggesting that intervention by a professional may be warranted.

Hernández and Solano (as cited in Acuña, 2015) identified two types of cyberbullying. The first type reinforces traditional bullying through technology, while the second type involves cyberbullying without prior face-to-face harassment. Cyberbullying is a sophisticated form of bullying that has become increasingly common, especially among teenagers and adolescents, due to advancements in communication technology and young people's increased use of such technologies. Cyberbullying occurs when someone repeatedly and intentionally harasses, mistreats, or makes fun of another person online or in other digital spaces, particularly on social media sites (Shapiro, 2018). Cyberbullying can take many forms, including cyberstalking, harassment, impersonation, flaming, and cyberbullying in online learning platforms. Cyberbullying can be as simple as continuing to send emails or text messages and harassing someone who has said they want no further contact with the sender. It may also include public actions such as repeated threats, sexual remarks, pejorative labels, and sharing sensitive information to shame the victim. Cyberbullying can have a profound impact on victims' psychological well-being, leading to the urgent need for preventive strategies. Creating welcoming, bully-free online learning environments is essential to ensure the well-being of students and prevent cyberbullying.

The literature delineates two predominant typologies of cyberbullying. The first involves traditional bullying that has moved online after in-person harassment ceased to satisfy the bully. In this type, the aggressor is often easily identified since they previously bullied the victim in person. When the bullying moves online, the victim typically recognizes the harasser.

The second type of cyberbullying transpires without any precedent of traditional bullying behaviors. As Acuña (2015) explains, "the victim begins to be harassed via cell phone, email, social networks, chat, among others" (p. 34). Ultimately, online harassment may escalate to in-person bullying. However, it is important to note that this progression does not always occur. A key distinction between the two cyberbullying types is that when traditional bullying behaviors are absent, identifying the perpetrator of online harassment can prove more challenging (Acuña, 2015). While the first variety stems directly from offline aggression, the second form manifests exclusively through technology channels. Determining the aggressor in these strictly online cases presents difficulties compared to instances preceded by in-person bullying.

Macías (2009) conducted advanced research on cyberbullying and identified two primary forms: direct attacks and harassment through proxies. Direct attacks involve sending hostile messages directly to the victim, such as insulting text messages or emails containing pornography. Harassment through proxies occurs when the bully manipulates others to carry out the harassment, often without their knowledge that they are being used for this purpose. This indirect form of cyberbullying can be especially dangerous, as adults may become unwitting accomplices in the emotional abuse of a child victim. Macías notes that these manipulated proxies are frequently unaware that the target is a minor.

According to the author, cyberbullying can involve sending pornography and harassment of adults. He also indicates that in a direct attack, the aggressor usually sends messages to the victim by any electronic means, including adult content. In contrast, in proxy harassment, the aggressor seeks accomplices to harass the victim. These involved may or may not be minors. When there is induced adult abuse in the case of proxy cyberbullying,

the adults may be unaware that they are harassing a child or adolescent. What is important for Macías is that cyberbullying can occur directly from the bully or by influencing others to commit these acts.

Cyberbullying can have severe psychological consequences for victims, according to Acevedo (2011). These include depression, anxiety, suicidal ideation, and diminished self-esteem. The social and emotional implications of these forms of harassment and abuse can be overwhelming and frightening. Unlike traditional bullying, cyberbullying can occur at any time and in any place, leaving victims feeling helpless and prompting them to isolate themselves (Acevedo, 2011). The persistent harassment leads to feelings of sadness that may eventually progress into clinical depression. In extreme cases, this depression may even result in suicide. Overall, the relentless nature of cyberbullying, coupled with its ability to infiltrate all aspects of a victim's life, can exact a significant psychological toll.

Table 2 Cyberbullying consequences

Role	Consequences
Victim	Detrimental effects on their health and general well-being.
	Psychological problems (depression, anxiety, stress, frustration, irritability, restlessness, insomnia, fear derived from analepsis, very low levels of self-esteem, emotional instability).
	Psychosomatic (stomach ache, nausea, headache.) and physiological disorders (increased levels of CC-reactive protein, generating long-term health problems).
	Alterations in school performance (attention and concentration).
	Psychosocial problems that hinder relationships with others.
	Suicidal thoughts and suicide.
Stalker	Use of violence and aggressiveness to achieve what they want, leading to future delinquency.
	Low level of empathy
	Very low school performance and/or absenteeism.
	Systematic non-compliance with rules.
	Drug addiction, alcoholism, and technophilia.
Observer	Interiorization of the fact that the strongest is the one who wins can transform them into bullies.
	They think they are weak, so they ally themselves with the aggressor to avoid becoming victims.
	Conduct problems and aggressive behavior.
	They learn and internalize inadequate habits that influence their later behavior, being noticeable even in adulthood.
Victim, Stalker, and Observer	Psychological and social imbalances, as well as psychopathological illnesses (short and long-term) Developmental disorders

Note. (Garaigordobil, 2011, Bes et al., 2018)

Cyberbullying prevention measures in the school

Cyberbullying is increasing at an exponential rate in educational settings, necessitating preventative action from all involved in the educational process (Mosquete de la Torre, 2018). Mosquete de la Torre (2018) proposes several best practices for cyberbullying prevention in schools:

−   Educate students on responsible, safe, and respectful use of information and communication technologies.

−   Teach students about privacy, online safety, and the risks of misusing new technologies. Provide guidelines for avoiding these risks.

−   Encourage the healthy development and expression of emotions.

−   Promote healthy social relationships based on mutual respect and tolerance.

−   Teach peaceful conflict resolution strategies.

−   Foster empathy, self-esteem, and self-confidence.

−   Instill values like friendship, cooperation, responsibility, honesty, and sensitivity.

−   Celebrate diversity as an enriching source of uniqueness and learning.

−   Ensure parents and teachers have adequate digital literacy skills to educate students properly.

−   Encourage open communication between students, parents, and teachers.

This multi-pronged approach of education, emotional support, promoting values, and improving digital literacy skills can help schools reduce cyberbullying incidents, according to Mosquete de la Torre's (2018) research.

Sustainable change requires matching disciplinary measures with restorative practices focused on healing harm, shifting unhealthy dynamics and norms, and cultivating mutually enriching relationships rooted in trust and belonging (Kumar & Bhat, 2022). This perception entails reconciliation, growth, and forgiveness between perpetrators and victims. However, it also proactively fosters school-wide inclusion and models positive digital citizenship.

With diligence, compassion, and peer collaboration, schools can become sites where diverse youth feel safe, valued, and empowered, where friendship and interdependence triumph over cruelty. Oppression in all manifestations must be consciously confronted - not amplified through indifference or silence. The epidemic of cyberbullying demands an urgent response, but solutions will necessitate care, courage, and community above all.

Methodology

This study utilizes a qualitative research method with a descriptive, research-action design. The qualitative method was selected to describe and interpret the phenomenon of cyberbullying within the educational environment (Monje Alvarez, 2011). As Monje Alvarez (2011) explains, qualitative research relies on competent observers who can objectively, clearly, and precisely report on their observations and experiences in the social world. Additionally, qualitative researchers approach real subjects and individuals who can provide first-hand information about their experiences, opinions, values, etc. Through techniques like interviews, case studies, and document analysis, the researcher can merge their observations with the direct insights provided by participants (Monje Alvarez, 2011, p. 33). This descriptive, research-action approach will facilitate an in-depth examination of cyberbullying from multiple perspectives within the educational setting.

Research Design

This study utilizes a descriptive, action-research design to examine cyberbullying in the educational setting. As Aguirre (1995) notes, descriptive research aims to provide detailed accounts of events, occurrences, and culture within a specific community or context. In schools, this involves closely examining and reflecting upon school practices and situations that arise within classrooms and centers (Aguirre, 1995, p.3).

Action research was selected as the most fitting design given its key characteristics, as outlined by Cohen and Manion (1990):

–   It is situational, developing diagnoses and solutions for a concrete problem within a specific context.

–   It is collaborative, with researchers and participants working together.

–   It is participatory, with participants taking on researcher roles.

–   It is self-evaluative, involving continuous assessment of changes and innovations for improved practice.

Through this action-research approach of collaborative, contextual diagnosis and intervention, the study aims to understand and address cyberbullying within the given educational setting.

This study utilizes the action-research methodology outlined by Colás (González Pérez, 2016), which consists of four key phases:

–   Diagnosis

–   Planning Phase

–   Observation Phase

–   Reflection Phase

This action-research model aligns with the study's objectives to diagnose, understand, and address cyberbullying through targeted planning, observation, and reflection. The cyclical nature of the phases will facilitate responsive optimization of the interventions.

Study categories

The research categories formulated facilitated the interpretation of the object of study. These categories include:

–   Occurrence of the phenomenon in the educational context.

–   Actions taken by teachers and parents for prevention.

–   Incidence of the intervention program

Unit of Analysis

The unit of analysis corresponds to sixth and seventh-grade students of the educational institution Nuestra Señora de Morca, located in Sogamoso - Boyacá—a total of 60 students.

Procedures - stages of the study

The present study consists of four stages. The first is the diagnostic phase. This stage was linked to the first specific objective of the study, which was to understand the interpretation given by students to the phenomenon of cyberbullying in the educational context. To achieve this objective, a test was administered to determine the use of new information and communication technologies in adolescents' relationships. Additionally, an opinion survey was conducted to characterize cyberbullying in the educational institution.

The second stage involves the design of an action plan to disseminate cyberbullying prevention strategies, addressing the second specific objective, and developing a cyberbullying prevention campaign through a YouTube channel, with videos created by students who have assumed victim and aggressor roles.

The third stage fulfilled the objective of implementing the action plan to transform the investigated reality. Audiovisual creations were uploaded to the YouTube portal to disseminate the preventive campaign. Field diaries recorded students' attitudes and behaviors while developing the preventive strategy using participatory observation.

The fourth and final stage relates to the fourth specific objective of analyzing the effects of the preventive campaign on reducing cyberbullying. A final opinion survey was administered to gauge what the preventive cyberbullying experience meant to students. The campaign's impact on reducing or recurring cyberbullying cases will be analyzed using the opinion survey and field diary records.

Results

As a qualitative study, this research proposed categories of analysis to examine cyberbullying at Nuestra Señora de Morca school in Sogamoso, Boyacá. The categories were:

Cyberbullying rate in the educational setting

In the initial diagnostic stage, the researcher implemented Ortega, Del Rey, and Casas' (2017) cyberbullying assessment scale drawn from two validated measures: the European Bullying Intervention Questionnaire (EBIP-Q) and the European Cyberbullying Intervention Questionnaire (ECIP-Q). These quantitative instruments surveyed students to evaluate cyberbullying experiences and behaviors across four dimensions systematically: 1) digital identity theft through impersonation, 2) online aggression via social media and other virtual contact, 3) denigration involving exposure of images/video, and 4) social exclusion in digital interactions. The results found were as follows:

Digital identity theft. The cyberbullying measurement scale revealed that most students had not been victims or perpetrators of impersonation through social media profiles. However, some cases emerged wherein students had appropriated classmates' identities by creating fake profiles on Facebook or accessing email accounts to pose as the user. Specifically, 22% of the students surveyed reported engaging in impersonation at some point. While not the norm, these instances indicate that assuming another's identity via digital means constitutes one manifestation of cyberbullying occurring among a subset of students, as shown in Figure 1.

Figure 1 Identity theft through digital communication channels
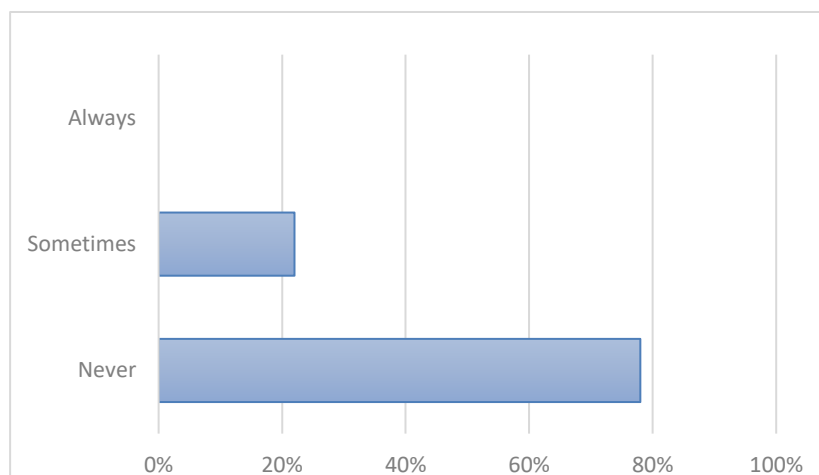
Additional research with larger and more diverse samples is needed to explore further the prevalence and nature of this specific type of cyberbullying behavior. The current findings examine impersonation as a concern that administrators, educators, and parents should be aware of when developing anti-bullying initiatives and digital citizenship curricula.

Social media offenses. The results revealed the presence of cyberbullying among sixth and seventh-grade students at the school under study. Of the fifty students participating, only ten reported never experiencing victimization through cyberbullying. However, 77.4% indicated receiving or committing online aggression against peers via social media, as seen in Figure 2.

Figure 2 Network aggression
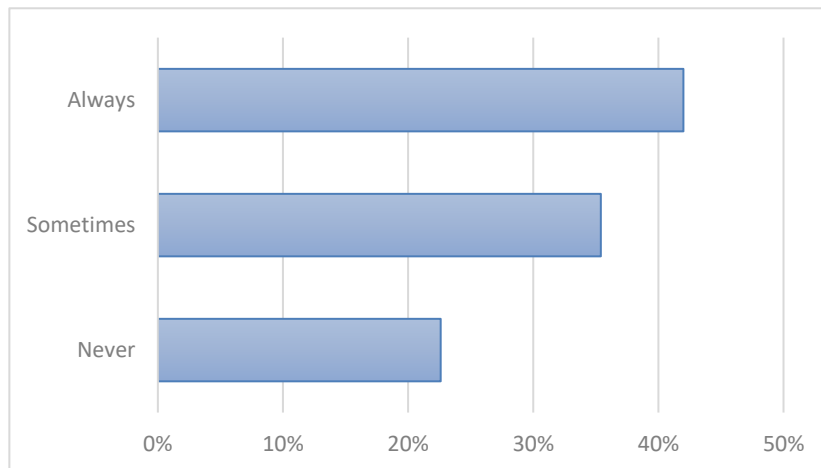
The most frequent abusive behaviors were insults and offensive language delivered through Facebook and WhatsApp aimed at publicly ridiculing victims. Some students also reported receiving threatening messages constituting sexual harassment and other forms of abuse. These experiences generated emotions, including fear, distrust, isolation, and reluctance to attend school or socialize. Specifically, eight severe cyberbullying cases were identified involving victims who expressed the desire to withdraw from school entirely. The majority of identified cyber aggressors were female students.

Denigration. The study found that students have experienced cyberbullying through the non-consensual sharing of images and videos intending to humiliate victims publicly. Fifteen of the fifty students surveyed (30%) reported occasional victimization via this method. In comparison, eight students (16%) faced constant attacks of this nature, as shown in Figure 3.

Figure 3 Denigration through digital media
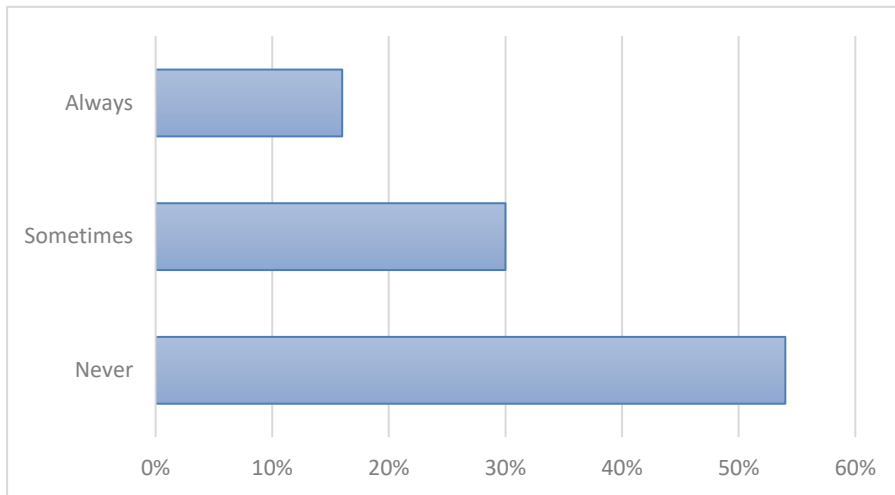
The most common approach identified was filming physical assaults on classmates and distributing the footage through social media. Another frequent method was creating memes using victims' photographs altered in offensive ways and shared to generate ridicule.

Overall, the non-consensual sharing of digitally manipulated or decontextualized visual media with malicious intents emerged as a frequent form of cyberbullying, impacting nearly half of the students sampled either occasionally or consistently.

Exclusion. The diagnostic phase revealed that exclusion in online communications represents another form of cyberbullying occurring in this context. Specifically, students reported occasionally facing social isolation and being intentionally ignored in virtual interactions due to their physical appearance, empathetic nature, or social intolerance exhibited by peers. While not the most frequent or severe manifestation, according to students' accounts, these selective instances of exclusion based on individual traits signify relational biases and digital citizenship deficits among certain school community members.

Figure 4 Exclusion through digital media
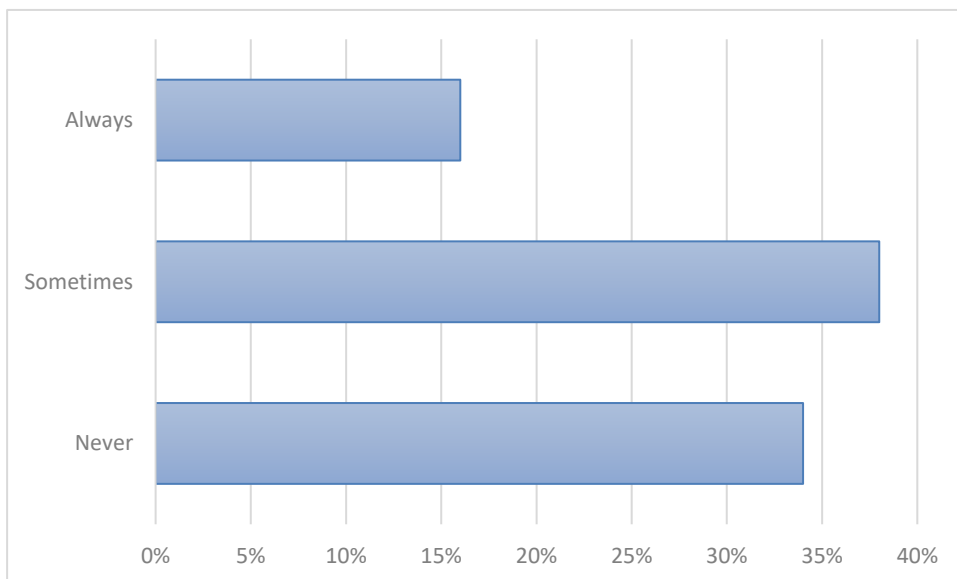
Moving forward, education on diversity, empathy, and responsible online conduct may help ameliorate exclusionary tendencies rooted in intolerance. Additionally, further research should examine the intersecting roles of social identities, relationships, and norms in precipitating the exclusionary behaviors that may comprise episodic cyberbullying among students.

Cyberbullying prevention actions by teachers and parents

The study found limited cyberbullying prevention efforts among parents and educators. Parents often allow unsupervised social media access, with adolescents spending over 4 hours daily interacting via Facebook, WhatsApp, and other platforms. Some parents acknowledged a lack of knowledge of mobile technology and social media risks. Educators typically respond to cyberbullying at school by referring cases to disciplinary coordinators. This punitive approach did not appear to mitigate cyberbullying. Instead, some students reported it escalated aggressors' behaviors and even precipitated physical retaliation.

These findings highlight the need for more proactive cyberbullying prevention versus reactive disciplinary measures alone. Parents require guidance to monitor their children's technology use and model positive digital citizenship. Educators need training in promoting safe online conduct through evidence-based curricula countering the social dynamics, norms, and relational biases catalyzing cyberbullying. Comprehensive prevention initiatives spanning home and school contexts are instrumental.

Stage - Action plan design

The didactic proposal aimed to prevent and reduce cyberbullying among the students in the school, specifically targeting sixth and seventh-grade students at Nuestra Señora de Morca educational institution in Sogamoso, Boyacá, Colombia. The proposal was part of the research project "Participation of Adolescents in an online program for the prevention of cyberbullying." It involved a preventive online campaign to raise awareness about cyberbullying, aiming to help students identify and recognize the causes and consequences of cyberbullying. The didactic sequence was designed to integrate multimedia resources to raise awareness about the implications of cyberbullying and empower students to guide others on the topic. The proposed activities were aligned with the constructivist learning theory and collaborative learning, focusing on understanding and interpreting cyberbullying actions. The didactic sequence was planned to be implemented over 20 sessions, integrating virtual and in-person sessions and employing a service-learning methodology to engage the participants actively in the prevention activities. Table 2 shows the design of the didactic strategy implemented.

Table 2 Didactic strategy Cyberbullying prevention campaign

Title	Preventive Cyberbullying Campaign Through ICT
Grades	6th and 7th
Justification	Reduce cyberbullying cases through student participation and ICT integration for prevention. Raise awareness of causes, risks, and responsibilities.
Objectives	- Adapt wiki as a teaching strategy to strengthen cyberbullying comprehension and prevention actions. - Resignify digital communication channels to improve school climate and

	coexistence.
	- Select digital resources that motivate safe internet use learning.
	- Develop a reflective, critical attitude for student-led cyberbullying prevention.
Location	Rural - Sogamoso, Boyacá
Methodology	Collaborative learning
Theory	Constructivism, meaningful learning
Duration	20 sessions, 12 weeks
Activities	- Cyberbullying conceptualization
	- Subjects involved, causes, consequences
	- Risk factors, identification, Law 1620
	- Prevention strategies, proper ICT use, intervention
Resources	Videos, infographics, PPTs, online forums
ICT Resources	- InShot video editing app
	- WhatsApp messaging
Assessment	Participation, conceptual contributions, collaborative videos, reflections
Training Blocks	- Student to student
	- Parent guidance
	- School role

Note. The table shows the structure of the intervention strategy aimed at preventing cyberbullying in middle school students.

The campaign aimed to transform the use of information and communication technologies (ICT) from tools of aggression to instruments for rejecting and preventing cyberbullying. The academic objective was to adapt the wiki as a didactic strategy to enhance understanding of cyberbullying and provide tools for its prevention. The objectives included reshaping digital communication channels, selecting digital resources to motivate safe internet usage, and fostering a reflective and critical attitude among students to prevent cyberbullying. The didactic innovation involved an active and participatory methodology, incorporating drawing, video, and gaming to allow students to express their experiences with the topic.

The didactic unit was grounded in the principles of the General Law of Education and the specific curricular guidelines for social sciences proposed by the Ministry of National Education. It also aligned with the basic standards of skills in social sciences, focusing on competencies related to citizenship, coexistence, and peace. The didactic strategy

emerged from the need to address the prevalence of cyberbullying in educational institutions and aimed to empower students to actively participate in preventing cyberbullying through the use of ICT. The proposal sought to provide a real application of ICT in basic education to mitigate and prevent cyberbullying, promoting joint participation of educational stakeholders. The proposal's impact centered on transforming ICT into educational resources to combat cyberbullying and promote prevention awareness among students, teachers, and parents. The didactic was designed to foster a culture of prevention and empathy, encouraging students to recognize and address cyberbullying effectively.
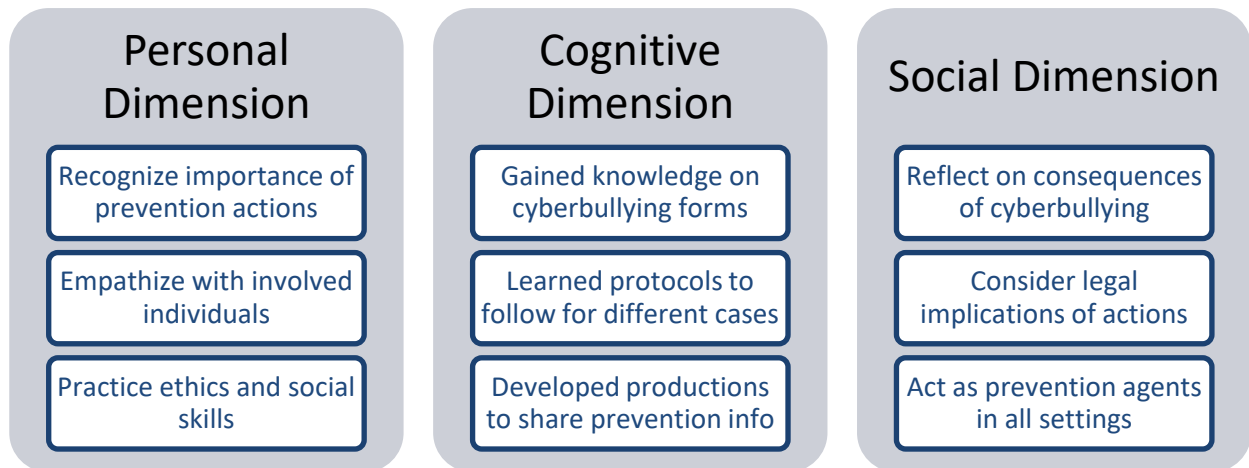
Results Reflection Phase

The study examined students' perspectives on the influence of an information and communications technology (ICT) based cyberbullying prevention campaign implemented at their school. Qualitative data was gathered through a final opinion survey with open-ended questions analyzed using AtlasTi software. Thematic analysis of students' responses revealed several key findings:

−   Students expressed having gained new knowledge and guidelines for responding to different forms of cyberbullying through the prevention campaign materials. Using exemplars and step-by-step protocols was viewed as especially helpful for building competency.

−   Students reported increased awareness of the serious consequences and potential legal implications of engaging in cyberbullying behaviors, which led to greater reflection and caution by students before participating in cyberbullying.

−   Students emphasized the importance of integrating the whole school community - teachers, parents, students, and professionals - in cyberbullying prevention efforts. Each group was seen as providing distinct perspectives and resources to support a comprehensive prevention strategy.

−   Fostering student trust and open communication, particularly with families, was described as critical so that students feel comfortable disclosing experiences with cyberbullying. Students suggested open family dialogues to normalize discussing technology use and risks.

The final opinion survey revealed that students perceived significant improvements in three key dimensions due to participating in the cyberbullying prevention campaign. Specifically, analysis of students' responses indicated beneficial impacts on their personal, cognitive, and social development, as shown in Figure 5.

Figure 5 Dimensions of improvement

Personal Dimension	Cognitive Dimension	Social Dimension
Recognize importance of prevention actions	Gained knowledge on cyberbullying forms	Reflect on consequences of cyberbullying
Empathize with involved individuals	Learned protocols to follow for different cases	Consider legal implications of actions
Practice ethics and social skills	Developed productions to share prevention info	Act as prevention agents in all settings

Note. Self-reported improvements across personal, cognitive, and social dimensions resulting from cyberbullying prevention campaign participation.

Discussion

The current study highlighted the need for cyberbullying prevention and intervention strategies that assist all parties involved in online aggression - perpetrators, victims, and bystanders. Building resilience, improving school climate, establishing coping strategies, and strengthening emotional intelligence should be prioritized (citation). Furthermore, awareness must be raised among the educational community regarding the seriousness of cyberbullying situations. Social skills like empathy and ethical values like responsibility should also be cultivated, leading to negotiated solutions.

Different levels of prevention efforts are recommended centered on providing collective, group, and individual assistance. Primary prevention for the larger community could promote communication solidarity (citation). Secondary prevention for at-risk groups may involve counseling and skill development. Tertiary responses would create assistance programs tailored to affected students' specific needs.

Moreover, training in positive cyber-conduct spanning from early grades onwards is beneficial to circumvent future aggression. Digital citizenship education teaching appropriate technology use, interpersonal skills, and online safety could aid prevention (citation). Victimization risks also decrease when students are guided to build understanding-based relationships and critically consider unknown online friendships.

Equipping students with resilient coping strategies is another protective factor schools can champion. Support systems to bolster self-efficacy, control, and acceptance are suggested alongside institutional reporting procedures and resources.

Finally, psychological treatment plans boosting self-esteem and emotional control may help struggling students reintegrate into the school community while deterring further cyberbullying. Victims often display lower emotional tolerance, as do students exhibiting antisocial tendencies (citation). Having influential peer models who transform negative experiences into prevention advocacy would additionally impact the school climate.

Conclusions

This study examined the occurrence of cyberbullying and the impacts of an ICT-based cyberbullying prevention campaign among 7th-grade students at a Colombian school. Four key conclusions emerged from the research findings.

First, cyberbullying manifestations in forms including online harassment, identity theft, ridicule, and peer aggression were present in the studied population prior to the prevention campaign. Victims reported effects on their interpersonal relationships, school climate, and attendance, which aligns with existing evidence on how unaddressed cyberbullying can increase absenteeism, misconduct, and disengagement at school (Acuna, 2017).

Second, the student-created prevention campaign focusing on conscious technology use and peer advocacy significantly decreased cases of cyberbullying. Involving students as change agents allowed positive uses of ICT for communication, idea sharing, and relationship building to emerge, which supports the need for early cyberbullying education (Castro & Del Barrio, 2013). Students recognized that they play an invaluable role in sustaining cyberbullying prevention when given active participation. Campaign development increased competencies, empathy, and leadership. Ongoing peer support through modeling appropriate online behaviors will strengthen a positive school climate.

Third, technology enables cyberbullying but also supports prevention when applied responsibly. Schools guide ethical digital literacy and citizenship (Castells, 2001). While virtual channels enable cyberbullying, purposeful integration of ICT tools can shift norms towards safe cyber-coexistence. Schools must champion digital citizenship alongside families instead of limiting access to technology embedded in students' lives. Integrating families, professionals, and community resources is vital for sustainable outcomes. Multi-stakeholder collaboration can enhance emotional support, reporting procedures, and specialized assistance.

Finally, cyberbullying involvement was prevalent among students, underscoring the need for comprehensive prevention policies spanning school and community contexts. The student-led campaign stimulated promising outcomes warranting further study. Follow-up efforts should track long-term impacts on school climate and peer dynamics. Further research should quantify campaign effectiveness and explore additional best practices for cyberbullying mitigation in Colombian schools.

References

Acevedo, M. (2011). Matoneo entre los golpes y las redes sociales.

http://maria-consuelo-acevedo-moreno.suite101.net/matoneo-entre-los-golpes-ylas-redes-sociales-a56276

Acuña, Y. M. (2015). Diseño de estrategias psicopedagógicas para el abordaje y la prevención del "cyberbullying" con estudiantes de educación primaria en Costa Rica. [Master's Thesis , Universidad Estatal a Distancia, Costa Rica]. https://repositorio.uned.ac.cr/bitstream/handle/120809/1381/TFG%20Yessy%20Ma.%20Acuna%20Aguilar.pdf?sequence=1&isAllowed=y

Aguirre Baztán, A. (1995). Etnografía. Metodología cualitativa en la investigación sociocultural. Barcelona, España: Marcombo.

Belsey, B. (2005). www.buldying.org: el sitio más reconocido en el mundo cuando

hay intimidación y acoso escolar. Canadá: Universidad de Alberta.

Benavides-Vanegas, F. S. (2020). Emoticons, memes and cyberbullying: gender equality in Colombia. Social Semiotics, 30(3), 328–343. https://doi.org/10.1080/10350330.2020.1731169

Bes, M. Z., & Mena, J. A. C. (2018). Todos contra el bullying. Grupo Planeta. https://www.perlego.com/book/2543259/todos-contra-el-bullying-pdf

Bilbeny, N. (1997). La revolución en la ética. Barcelona, España: Anagrama.

Castro, C. (2016). El fenómeno de la violencia entre iguales en España. Roles, género, edad, actitudes y estrategias de intervención. Revista Cátedra Paralela, 13, 127-54. https://catedraparalela.unr.edu.ar/index.php/revista/article/view/39

Chacón, A. (2003). Una nueva cara de internet: el acoso. Revista de investigación Etic@net, No 1, julio. https://dialnet.unirioja.es/ejemplar/513989

Cheng, L., Hu, X., Matulewska, A., & Wagner, A. (2020). Exploring cyberbullying: a socio-semiotic perspective. International Journal of Legal Discourse, 5(2), 359–378. https://doi.org/10.1515/ijld-2020-2042

Cohen, L., & Manion, L. (1990). Métodos de investigación educativa. Madrid: Ed. La Muralla.

Cuesta Medina, L., Hennig Manzuoli, C., Duque, L. A., & Malfasi, S. (2020). Cyberbullying: tackling the silent enemy. International Journal of Inclusive Education, 24(9), 936–947. https://doi.org/10.1080/13603116.2018.1500648

Del Barrio, C. (2013). Experiencias de acoso y ciberacoso. Revista digital de la Asociación CONVIVES, 25-33.

Garaigordobil, M., (2011). Prevalencia y consecuencias del cyberbullying: una revisión. International Journal of Psychology and Psychological Therapy, 11(2), 233-254. http://www.redalyc.org/articulo.oa?id=56019292003

González Pérez, A. (2016). COLÁS BRAVO, Ma P.; BUENDÍA EISMAN, L. Y HERNÁNDEZ PINA, F. (2009). Competencias científicas para la realización de una tesis doctoral: Guía metodológica de elaboración y presentación. Barcelona: Editorial Davinci. Revista Fuentes, (9), 253–255. Recuperado a partir de https://revistascientificas.us.es/index.php/fuentes/article/view/2551

Gutiérrez, A. (2015). Ciberacoso: propuesta de intervención. [Master's thesis, Universitat Jaume]. http://repositori.uji.es/xmlui/bitstream/handle/10234/151625/tfm_2014_gutierreza%20.pdf?sequence=1&isallowed=y

Hernández, M. y Solano I. (2006). Acoso escolar en la red. Cyberbullying [Doctoral dissertation, Universidad de Deusto].http://www.observatorioperu.com/lecturas/Cyberbullying-eserv.pdf

Kumar, R., & Bhat, A. (2022). A study of machine learning-based models for detection, control, and mitigation of cyberbullying in online social media. International Journal of Information Security, 21(6), 1409–1431. https://doi.org/10.1007/s10207-022-00600-y

Masias, O. S. (2009). Cyberbullying, un nuevo acoso educativo [Master's thesis, Universidad de Salamanca]. https://www.academia.edu/8187730/master_universitario_en_lengua_y_cultura_espa%c3%91o las_cyberbullying_un_nuevo_acoso_educativo

Monje Álvarez, C.A. (2011). Metodología de la investigación cuantitativa y cualitativa - guía

didáctica. Universidad Surcolombiana - Facultad de Ciencias Sociales y Humanas. Programa de Comunicación Social y Periodismo. https://www.uv.mx/rmipe/files/2017/02/Guia-didactica-metodologia-de-la-investigacion.pdf

Moreno-Carmona, N. D., Marín-Cortés, A., Cano-Bedoya, V. H., Sanabria-González, J. A., Jaramillo-Suarez, Á. M., & Ossa-Ossa, J. C. (2021). Parental Mediations And Internet Use By Colombian Children And Adolescents. Interdisciplinaria, 38(2), 275–290. https://doi.org/10.16888/INTERD.2021.38.2.18

Mosquete de la Torre. C. (2018). Estrategias de prevención e intervención del bullying y el

cyberbullying en educación secundaria obligatoria: diseño e implementación de un programa tic para uso en contexto escolar y como herramienta de empoderamiento personal. [Master's Thesis, Universidad de Salamanca]. https://gredos.usal.es/bitstream/handle/10366/138127/2018_TFM_Estrategias%20de%20preve nci%C3%B3n%20del%20bullying%20y%20el%20cyberbullying%20en%20Educaci%C3%B3 n%20Secundaria%20Obligatoria.pdf?sequence=1&isAllowed=y

Nickerson, A. B., & Parks, T. W. (2020). Preventing bullying in schools. In Oxford University Press eBooks (pp. 338–354). https://doi.org/10.1093/med-psych/9780190918873.003.0017

Olweus, D. (1970). Primer estudio de la intervención sistemática en contra de la intimidación en el mundo: Programa de Prevención del Bullying [Doctoral dissertation, Universidad de Bergen]. http://www.clemson.edu/olweus/history.html

Ortega, R., Del Rey, R., & Casas, J.A. (2017). Desarrollo y validación de la Escala de Convivencia Escolar. Universitas Psychologica, 16(1), 1-13. https://doi.org/10.11144/Javeriana.upsy16-1.dvec

Peter, I., & Petermann, F. (2018). Cyberbullying: A concept analysis of defining attributes and additional influencing factors. Computers in Human Behavior, 86, 350–366. https://doi.org/10.1016/j.chb.2018.05.013

Sarmiento, A., Herrera-López, M., & Zych, I. (2019). Is cyberbullying a group process? Online and offline bystanders of cyberbullying act as defenders, reinforcers and outsiders. Computers in Human Behavior, 99, 328–334. https://doi.org/10.1016/j.chb.2019.05.037

Shapiro, G. L. (2018). 62.2 Cyberbullying. Journal of the American Academy of Child and Adolescent Psychiatry, 57(10), S88–S89. https://doi.org/10.1016/j.jaac.2018.07.374

Smith, Peter K., and Jones, Alice P. 2012. The Importance of Developmental Science for Studies in Bullying and Victimization. International Journal of Developmental Science, 6(1-2), pp. 71-74.

Smith, Peter K.; Thompson, Fran; Jessel, John; Kožuchová, Andrea; Ferreira, Irene; Idriceanu, Gabriela; Menesini, Ersilia; Miklosz, Margaret and de Villanueva, Marian. 2020. Training, Implementation, and Potential of a Cybermentoring Scheme in Six EU Countries. Journal of Psychologists and Counsellors in Schools, 30(1), pp. 58-72. ISSN 2055-6365

Willard, N. (2007). Cyberbullying and Cyberthreats: Responding to the Challenge of Online Social Aggression, Threats, and Distress.