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Artificial intelligence and digital educational tools for the prevention of cyber-bullying



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Teacher's Guide to Building Resilience to Cyberbullying

1. Definition of Cyberbullying

1.1. What is cyberbullying?

There is currently a debate on how to define cyberbullying. Some authors say that it would be traditional bullying but that it occurs through electronic devices. Others consider that cyberbullying should have its own definition as it has specific elements such as anonymity and dissemination.

One of the most recent definitions could be the following:

'*Intentional harmful behaviour carried out by a group or individuals, repeated over time, using digital technology to aggress against a victim who is unable to defend him/herself*' (Campbell & Bauman, 2018).

As we can see from the definition, there are four key factors in cyberbullying (Smith & Norman; 2021):

- **Intention to harm**: the concept of cyberbullying entails aggression precisely because of this intentionality to harm. It is sometimes difficult to measure the intention to harm, given that not infrequently, some bullies often interpret their behaviour as 'non-harmful teasing' or 'playing to prod'. Added to this is the difficulty for bullies to understand the seriousness of their actions, even when they know they are causing harm. However, it is usually always perceptible to bullies that such behaviour is harmful or unpleasant to others. This element marks the difference between cyberbullying and other behaviour that towards others may be hurtful, but is not aggressive. Within this intentionality we can find two distinctions:
    - Proactive aggression: when this aggression is premeditated, 'cold-blooded', planned for a purpose. Bullying in general can be seen as a form of social status escalation through dominance of others or for the pleasure of doing harm. This type of behaviour would be the most identifiable type of aggression.
    - Reactive aggression: occurs in response to perceived provocation or threat and is usually impulsive behaviour. Some of these behaviours may not be defined as cyberbullying due to the occasional exchange of offensive comments between peers, for example. However, people who tend to engage in cyberbullying behaviours tend to engage in more proactive aggression and reactive aggression than people who do not engage in cyberbullying.

Questions to think about: Would it be cyberbullying if a powerful person engaged in repetitive behaviour that hurt another person emotionally, even though the harm was completely unintentional? Would it be cyberbullying if a person had the intention to harm and no matter how hard they tried, the alleged victim did not feel hurt in any way?

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- **Power imbalance**: As opposed to being an isolated case of human behaviour, cyberbullying is caused by group dynamics and contextual factors. This power imbalance usually occurs in adolescents due to numerical superiority, strength or the attack on a person's vulnerability, among others. In the specific case of cyberbullying, one form of power differential may be due to greater technological knowledge or possessing tools that place you in a certain position of superiority. Here we refer to both technological equipment and material (such as videos, photos or confidential information) that could do harm. Also relevant are issues such as anonymity, since the aggressor knows the identity of the victim, but the victim does not know the identity of the aggressor. Within the different types of cyberbullying, there is bias-based bullying, which is directed against individuals because of their membership of a social group (ethnicity, gender, sexual orientation or disability). The concept of power imbalance has some problems in defining the construct: what is power, how is an aggressive attitude towards one individual exercised from power as opposed to another who is not in power? If power exists in different dimensions, which one do we take into account to measure whether it is cyberbullying or not?

Questions to think about: Can you tell me three situations in which two individuals interact aggressively with each other without there being a difference in power? If a weak person harasses a very strong person online, should this difference in physical strength be taken into account? How does power function in an individual who is both harasser and harassed at the same time?

- **Repetition**: One of the pillars of considering an attitude as bullying is that it is sustained over time. It has been found that the longer a bullying relationship lasts, the more depressive or anxious symptoms the victims show compared to students who only report one-off incidents. However, it is somewhat ambiguous when we can determine that the behaviour is repetitive. The number of behaviours in a given period of time is often used, with the cut-off point being '2-3 times a month'. Some authors point out the need to understand the concept of repetition also through the repeated transmission of the same act (e.g. the dissemination of explicit material of a person in a classroom), as well as to understand that the concept of repetition, like the imbalance of power, can be shared in the virtual world and in the school.

Questions to think about: If a person bullies 20 people, but does it one person at a time within a week of each other, can we say they are a bully? If you get sensitive information from someone and forward it to someone who forwards it to someone else and so on.... Should you be considered a cyberbully?

- **Virtual space**: the main difference between traditional bullying and cyberbullying is the mediation of new technologies and cyberspace that generates other different dynamics. Some of them we have seen in the previous key concepts, but we will develop the differences in the section '*Differences and similarities between cyberbullying and traditional bullying. Examples of cyberbullying*'.

Cyberbullying can take many forms. It can include harassment (insults or threats), spreading rumours, impersonation, outing and trickery (gaining an individual's trust and then using online media to distribute their secrets) or exclusion (excluding an individual from activities). These activities can be performed via e-mail, instant messaging, text message, social networking sites such as Facebook or Tumblr, and other websites (Peebles, 2014).

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Although different studies have more or less flexible ways of measuring cyberbullying, approximately 23% of young people have experienced a cyberbullying event in their lifetime, while 15% are those who have committed cyberbullying behaviour (Hamm *et al*., 2015), being worse in the LGTBQ population (Abreu & Kelly, 2017).

Regarding the gender of the victim and the aggressor, different studies suggest that each gender has a different way of manifesting and feeling cyberbullying. For example, girls tend to attack more in the form of rumours, while boys tend to attack through insults. Girls are often attacked for their popularity or appearance, or through exclusion, while boys are more likely to receive homophobic comments or ridicule for their physical abilities. The most common form of cyberbullying is insults, name-calling, spreading rumours or pictures, but the most painful form of cyberbullying is often the dissemination of multimedia content such as photos or videos (Hamm *et al*., 2015; Marinoni *et al*., 2023).

1.2. Differences and similarities between cyberbullying and traditional bullying

Some authors tend to share the same definition of bullying and cyberbullying, adding only the virtual component to cyberbullying. This is because people with bullying problems in real life often also have cyberbullying problems (some studies report up to 93%) and the predictors of this behaviour, as well as the consequences, are often very similar (Campbell & Bauman, 2018). While this may be true in the definition of the concept, there is a more complex issue associated with cyberspace.

Cyberspace entails a minimum of technical knowledge to have such electronic equipment connected to the internet and the use of digital platforms. This is why its emergence correlates strongly with the number of hours of use of mobile phones or social networks. Cyberspace also facilitates anonymity in the aggression, although normally in adolescence the aggressors know who their aggressors are. The physical distance means that aggressors are not aware of their victims' reactions, making them less remorseful.

Although cyberbullying does not usually involve physical interaction, it can be more painful than traditional bullying: while traditional bullying usually takes place at school with the home as a safe haven, cyberbullying often has an unlimited and timeless scope.

In traditional bullying there are institutional professionals who watch out for this kind of behaviour, whereas in cyberspace there is no such figure. You only have the tools offered by the platform (often ineffective) and the power to tell an adult, something that is often mediated by young people's fear of losing a certain social status by being singled out as a 'whistleblower' (Peebles, 2014).

Here we illustrate some of the most common cyberbullying behaviours to facilitate their detection (Smith & Norman, 2021):

- **Harassment**: insults and threats, often sent to a person through private channels
- **Denigration**: the use of rumors, defamation, and altered material to spread information about a person that is untrue and damaging to his or her reputation.

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- Doxing: revealing sensitive or secret personal information to harass or expose the intended victim
- Gossip: Sharing information to damage a person's reputation/relationships

- **Impersonation**: The act of using someone else's profile, number, or account to pretend to be that person and to act in that person's name.
- **Outing and trickery**: a person is tricked into disclosing secrets or confidential information which is then shared with others or publicly without their consent
- **Exclusion**: excluding others from online groups or digital communications and interactions
- **Cyberstalking**: a combination of the behaviours above with the target fearing for his or her own safety or the safety of others. This form often results from disappointed romantic feelings of a former partner.
- **Flaming**: heated arguments and mutual insults of two persons of equal strength. This category is widely contested by cyberbullying researchers because it does not fulfill the definition criteria of power imbalance.
- **Happy slapping**: intentional physical attacks, which are perpetrated with the aim to film the attack and later distribute it online.
- **Sexting (unwanted or sextortion)**: the sending of nude or partly nude photos. This in itself is not cyberbullying unless adolescents get unwanted pictures of this type or unless these pictures are used to humiliate, embarrass, or blackmail a person, the recipient respectively.

Question to think about: Physical aggression is something that happens almost exclusively in traditional bullying and not in cyberbullying. can you tell me any of these behaviours that almost exclusively happen in social networks and not in the real world?

2. 2. Identifying Symptoms in the School Setting

2.1. Introduction

In a school setting, early identification of bullying and cyberbullying symptoms is crucial to prevent long-term harm to students. Educators, parents, and peers must remain vigilant in recognizing changes in behavior, peer relationships, and academic performance that may signal victimization. These symptoms can manifest subtly, such as increased anxiety, depression, social withdrawal, or a decline in academic engagement. Because bullying often occurs in hidden spaces—both physical and digital—it is essential to foster open communication and create a supportive environment where students feel safe reporting their experiences. Understanding these indicators is the first step toward effective intervention and ensuring the well-being of all students (Fredrick & Demaray, 2018; Mocanu et al., 2022).

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2.2. Changes in Behavior (Signs of Anxiety or Depression)

2.2.1. Anxiety Related to Bullying

Anxiety is a prevalent response among students who are victims of bullying. These students may display increased nervousness, restlessness, or irritability. They might exhibit avoidance behaviors, such as skipping classes or avoiding certain areas of the school where bullying occurs (Salmivalli, 2010). Physical symptoms often accompany anxiety, including frequent headaches, stomachaches, or other psychosomatic complaints. These symptoms can serve as coping mechanisms for avoiding stressful situations related to bullying (Hase et al., 2015).
In cases of cyberbullying, anxiety can be more pronounced due to the constant accessibility of digital platforms. Victims may feel an incessant need to monitor their online presence, leading to heightened stress and difficulty in disengaging from the harassment (Hinduja & Patchin, 2018). This persistent anxiety can impede a student's ability to concentrate in class and engage in daily activities, further isolating them from their peers (Salmivalli, 2010).

2.2.2. Depression Linked to Bullying

Depression is another critical indicator of bullying and cyberbullying victimization. Students may exhibit signs of persistent sadness, hopelessness, or a lack of interest in activities they previously enjoyed (Fridh et al., 2015). These emotional changes can lead to withdrawal from social interactions, reduced participation in school events, and a general decline in enthusiasm for learning. Cyberbullying often intensifies depressive symptoms because the harassment can be relentless and public, making it difficult for victims to find respite (Hase et al., 2015). The cumulative effect of repeated cyberbullying can result in severe depression, potentially leading to suicidal ideation or attempts if not addressed promptly (Hinduja & Patchin, 2018; Zhu et al., 2024).

2.2.3. Behavioral Shifts and Emotional Distress

Beyond anxiety and depression, victims of bullying may exhibit broader behavioral shifts indicative of emotional distress. These can include:

- Increased irritability or anger: Victims may become more easily frustrated or exhibit aggressive behaviors in response to their distress.
- Changes in eating and sleeping patterns: Significant fluctuations in appetite or sleep disturbances can signal underlying emotional turmoil.
- Decline in self-care: Neglecting personal hygiene or appearance may reflect a loss of self-esteem and increased hopelessness.

These behavioral changes are often interconnected with the emotional symptoms of anxiety and depression, creating a complex web of distress that can severely impact a student's overall well-being (Zhu et al., 2024).

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2.3. Changes in Interaction with Peers

2.3.1. Social Withdrawal and Isolation

Victims of bullying often withdraw from their social circles as a protective measure against further victimization. This withdrawal can manifest as:

- Avoidance of group activities: Reluctance to participate in sports, clubs, or group projects.
- Isolation during breaks: Spending lunch or recess alone to avoid interactions with bullies.
- Reduced communication: Limited engagement in conversations with peers, teachers, and family members.

Social isolation not only exacerbates feelings of loneliness but also diminishes the support network that victims rely on to cope with bullying (Mocanu et al., 2022). Arató et al. (2022) confirm that strong social support networks can act as a buffer against the emotional toll of bullying.

2.3.2. Trust Issues and Relational Struggles

Cyberbullying can severely impact a student's ability to trust others, both online and offline. Victims may develop a heightened sense of paranoia, fearing that anyone could be a potential bully or that their online activities are constantly being monitored (Zhu et al., 2024). This mistrust can lead to difficulties in forming and maintaining friendships, as victims may become suspicious or defensive in social interactions. Additionally, the public nature of cyberbullying can lead to widespread rumors and gossip, further isolating victims from their peers and creating an environment of hostility and fear (Fredrick & Demaray, 2018).

2.3.3. Passive and Submissive Behaviors

Victims of bullying may exhibit passive or submissive behaviors in social settings. This passivity can be a result of diminished self-esteem and a lack of confidence in their ability to defend themselves (Faryadi, 2011). Such behaviors can make victims more vulnerable to further bullying, as their reluctance to assert themselves can be perceived as weakness by bullies. Moreover, these students may become overly compliant, avoiding conflicts at all costs and not standing up for themselves or others, which can perpetuate the bullying behavior and hinder the development of healthy self-advocacy skills (Salmivalli, 2010).

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2.4. Changes in Academic Performance and Family Feedback

2.4.1. Decline in Academic Performance

Bullying and cyberbullying can significantly impair a student's academic performance. The emotional distress caused by victimization often leads to:

- Decreased concentration: Difficulty focusing on lessons and assignments due to preoccupation with bullying incidents.
- Lower grades: A decline in academic achievement as students struggle to keep up with coursework.
- Increased absenteeism: Frequent absences to avoid bullying or due to psychosomatic symptoms related to anxiety and depression (Fredrick & Demaray, 2018; Faryadi, 2011).

For cyberbullying victims, the 24/7 nature of online harassment can disrupt sleep patterns, leading to fatigue and reduced cognitive functioning during school hours. This constant state of alertness can further diminish academic performance and engagement (Ferrer-Cascales et al., 2019).

2.4.2. Impact on School Engagement

Victimized students often show a lack of interest in school activities and a general disengagement from the academic environment. This disengagement can manifest as:

- Reduced participation: Less involvement in classroom discussions, group work, and extracurricular activities.
- Lower motivation: A decrease in the desire to excel academically or pursue educational goals.
- Poor time management: Struggles with organizing and completing assignments on time due to emotional distractions (Hase et al., 2015).

These factors collectively contribute to a downward spiral in academic achievement, making it challenging for victims to recover academically even if the bullying is addressed.

2.4.3. Family Feedback and Observations

Families play a crucial role in identifying and responding to bullying. Parents and guardians may notice several changes in their child's behavior and academic performance, including:

- Emotional shifts: Increased irritability, mood swings, or signs of depression at home.
- Physical symptoms: Frequent reports of headaches, stomachaches, or other unexplained physical complaints.
- Behavioral changes: Withdrawal from family activities, reluctance to discuss school experiences, or a noticeable decline in self-care (Buelga et al., 2017).

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Parents might also observe a child's excessive use of digital devices, either to monitor or avoid online harassment, which can signal cyberbullying involvement (Faryadi, 2011). Open communication between families and schools is essential to address these signs effectively and provide the necessary support to the victim (Fredrick & Demaray, 2018).

2.5. The Role of Family, Social Support, and Emotion Regulation

2.5.1. Family Communication, Cohesion, and Adaptability

Family dynamics significantly influence a student's vulnerability to bullying and cyberbullying. Effective family communication, characterized by open dialogue, active listening, and emotional support, serves as a protective factor against victimization (Buelga et al., 2017). Families that foster strong emotional bonds and cohesion are better equipped to support their children, helping them navigate social challenges and build resilience against bullying (Arató et al., 2022).

Conversely, dysfunctional family communication, marked by conflict, lack of support, or avoidance, increases the risk of both bullying perpetration and victimization. Adolescents from conflictual families may exhibit aggressive behaviors as a form of coping or may be more susceptible to becoming victims due to a lack of support (Ortega-Barón et al., 2019).

2.5.2. Social Support Systems

Social support from peers, teachers, and the broader school community plays a crucial role in mitigating the effects of bullying. Students who feel connected and supported by their peers and educators are less likely to experience severe emotional distress from bullying incidents (Mocanu et al., 2022). Building a strong support network can help victims feel less isolated and more empowered to seek help (Fredrick & Demaray, 2018). Schools can enhance social support through peer mentoring programs, supportive counseling services, and creating inclusive environments where all students feel valued and respected (Buelga et al., 2017).

2.6. Strategies for Early Detection and Intervention

2.6.1. Importance of Vigilance and Communication

Recognizing the signs of bullying and cyberbullying early is paramount to mitigating their negative effects. Educators, parents, and peers should be trained to identify behavioral, social, and academic changes that may indicate a student is being bullied. Open lines of communication between students, teachers, and parents are crucial for early detection and intervention. Creating a safe and supportive environment where students feel comfortable reporting bullying is essential (Fredrick & Demaray, 2018). Early detection requires constant vigilance and understanding of the subtle signs of distress, such as changes in mood, behavior, or academic performance (Mocanu et al., 2022).

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2.6.2. School-Based Interventions and Programs

Schools should implement comprehensive anti-bullying programs that address both traditional and cyberbullying. These programs should include:

- **Educational Workshops**: Teaching students about the effects of bullying and the importance of empathy and respect.
- **Peer Support Systems**: Establishing peer mentoring or buddy programs to provide support to victims and promote positive peer interactions.
- **Counseling Services**: Providing access to mental health professionals who can support victims and address the underlying issues contributing to bullying behavior.
- **Restorative Practices**: Using restorative justice approaches to address bullying incidents, focusing on repairing harm and rebuilding relationships rather than punitive measures (Hase et al., 2015).

2.6.3. Family Involvement and Support

Families play a crucial role in supporting victims of bullying. Schools should engage families in anti-bullying efforts by:

- **Providing Resources**: Offering parents information on recognizing signs of bullying and strategies for supporting their children.
- **Facilitating Communication**: Encouraging regular communication between parents and teachers to monitor and address bullying incidents.
- **Involving Parents in Programs**: Including parents in school-based anti-bullying initiatives to create a unified approach to prevention and intervention (Buelga et al., 2017).

2.6.4. Counseling and Mental Health Support

Providing counseling and mental health support is essential for both victims and perpetrators of bullying. Victims benefit from therapy that helps them build resilience and develop coping strategies, while perpetrators may require counseling to address underlying issues such as aggression or lack of empathy (Hase et al., 2015). Schools should ensure that mental health services are accessible and that students are encouraged to seek help when needed (Fredrick & Demaray, 2018).

2.6.5. Promoting a Positive School Climate

A positive school climate, characterized by mutual respect, inclusivity, and strong student-teacher relationships, can significantly reduce the incidence of bullying. Schools should strive to create an environment where all students feel safe and valued, and where bullying is not tolerated. Strategies to promote a positive school climate include:

- **Inclusive Policies**: Implementing policies that promote diversity and inclusivity, and actively discourage discriminatory behavior.

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- **Engaging Activities**: Organizing school-wide activities that foster teamwork, collaboration, and mutual respect among students.
- **Regular Assessments**: Conducting regular surveys and assessments to monitor the school climate and identify areas for improvement (Fredrick & Demaray, 2018).

2.7. The Role of Technology and Digital Literacy

2.7.1. Understanding the Digital Landscape

In the digital age, understanding the role of technology in bullying is crucial. Cyberbullying utilizes various digital platforms such as social media, messaging apps, online forums, and gaming communities to harass and intimidate victims. Educators and parents must be aware of the different forms of cyberbullying and the technologies that facilitate it (Hase et al., 2015). Continuous awareness of new platforms and trends in online communication is essential to staying ahead of the problem.

2.7.2. Digital Literacy Education

Promoting digital literacy among students is essential for preventing and addressing cyberbullying. Digital literacy programs should teach students how to use technology responsibly, recognize cyberbullying behaviors, and understand the consequences of online harassment. Key components of digital literacy education include:

- **Safe Online Practices**: Educating students on how to protect their privacy, secure their online accounts, and avoid sharing personal information.
- **Recognizing Cyberbullying**: Teaching students to identify various forms of cyberbullying, including flaming, harassment, exclusion, and impersonation.
- **Reporting Mechanisms**: Informing students about how to report cyberbullying incidents to school authorities, online platforms, or law enforcement agencies.
- **Empathy and Respect**: Encouraging students to develop empathy and respect for others in online interactions, fostering a positive digital community (Buelga et al., 2017).

2.7.3. Monitoring and Supervision

While respecting students' privacy, parents and educators should implement appropriate monitoring and supervision strategies to detect and prevent cyberbullying. This can include:

- **Regular Check-Ins**: Engaging in regular conversations with students about their online activities and experiences.
- **Parental Controls**: Using parental control tools to monitor and limit students' access to certain online platforms or content.

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- **School Monitoring Systems**: Implementing school-wide monitoring systems to track online interactions and identify potential cyberbullying incidents (Hase et al., 2015). Schools and parents need to strike a balance between protection and privacy, fostering a supportive environment for students to express concerns (Faryadi, 2011).

3. Direct Intervention

3.1. Communicating with parents

Parents, families and siblings have a key role to play in promoting civil behavior online (UNESCO, 2016).

For this reason, it is important to:

- **work with them** to solve the situation in a sustainable way.

- propose media campaigns to raise awareness and educate parents on how best to keep their children safe online and develop pro-social behavior.

- **meet with parents of pupils affected** by cyberbullying (perpetrators, victims and witnesses) to inform them of the situation, support them and reassure them that their child will be protected in the school.

- **Listen to the parents and try to understand the situation** and the feelings of the pupils/parents concerned.

- **Communicate with parents to make them aware of the possible reasons** for their child's action; make them aware of the consequences of the situation; think with parents about the actions to be taken to stop cyberbullying (who can do what, how, etc.), bearing in mind the effects of each of these possible actions.

For example, French national education curricula suggest conducting interviews with parents of pupils, regardless of their child's role in the situation (perpetrator, victim, witness). The information provided by the people interviewed must be recorded in writing, either in a report or on an interview sheet containing the questions asked. Keeping a written record makes it possible to ensure appropriate follow-up with the people involved, to determine who is responsible for what and to keep a record of the various actions taken.

Receiving parents, welcoming them and informing them of the situation, without making them responsible for the situation (without looking for someone to blame), and trying to talk to them is an essential first step in working together. It is then important to explain to the parents the consequences of the acts committed, the possible sanctions for the children responsible for cyberbullying and the reparation and support measures for each of the children affected by the situation. Finally, parents should be reminded of the protective role of the school and the mobilization of all those involved to fulfil this role; this helps to create a relationship of mutual trust.

See : https://www.education.gouv.fr/non-au-harcelement/phare-un-programme-de-lutte-contre-le-harcelement-l-ecole-323435

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3.2. Communicating with the pupils concerned

It is important **to hear what each pupil affected by the situation has to say,** so that we can understand the situation and take the best possible action. Allowing them to tell the story from their own point of view and to explain their feelings will help them to become aware of the situation and enable adults to identify the problems in the situation.

French national education curricula also recommend that a written record be kept of the information provided by the people interviewed, either in the form of a report or an interview sheet containing the questions asked. Keeping a written record makes it possible to ensure appropriate follow-up with the people involved, to determine who is responsible for what and to keep a record of the various actions taken.

Facilitating expression

To make it easier for pupils to express themselves and collect their feelings, you can set up a box where everyone can put down a note about what they have seen or felt about bullying or fears linked to a situation they have experienced. Allowing perpetrators, victims or bystanders to express themselves anonymously can also make it easier for them to speak out (UNESCO, 2016).

Another way of enabling students to express themselves is to provide a telephone number that they can contact anonymously for help.

Lastly, it is recommended that you set aside time to talk with victims, to help them feel recognized, to break out of their isolation and shame, and to feel that they are understood by others who have been through the same experience (Stassin, 2023). **Be a good listener and show your support for victims and witnesses who dare to speak out.**

Make pupils feel responsible, make them think, don't blame them

The '***shared concern***' method can be used: this involves receiving pupils who are the perpetrators of cyberbullying individually and explaining the facts to them, without blaming them, making them aware of a problem for the pupils being bullied and thus themselves proposing solutions to overcome the problem and avoid it in the future (Senden, M. & Galand, B., 2019). You will get them to sincerely apologize to the victim and commit to changing their behavior. *A study by Li (2010) shows that a sincere apology can often reduce the emotional severity of cyberstalking for the victim, provided that the stalker changes his or her behavior*.

By developing **mediation and restorative justice actions**, you will encourage communication between each of the protagonists in the situation. A mediator, neutral to the situation and trained in non-violent communication or in the fight against cyberbullying, can then bring together the perpetrator(s) and the victim(s) with the aim of allowing each one to express their views on the situation, thereby enabling them to become aware of the effects of the situation, and finally to find solutions together to overcome the problem. The aim is to allow each of the protagonists to speak in turn, giving their version of the facts, then all the protagonists look for the points in common with the facts stated and finally they look together for solutions and undertake to respect the solution or solutions validated by the agreement of all (Senden, M. & Galand, B., 2019).

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3.3. Referring

Your role is also to refer student perpetrators and victims to counsellors or health professionals who can help them understand the causes of their behavior and learn how to manage it. A study by Hemphill and Tollit (2013) indicates that cyberbullying offenders who receive therapeutic support to improve their emotional management are more likely to abandon these behaviors. Prevention programs should be extended to places frequented by young people, such as libraries, community centers and youth centers (Chehab et al., 2016).

- ***What partners can you work with within your school?***
- ***What health partners outside the school could help teenagers who are perpetrators or victims of cyberbullying?***

The scientific literature emphasizes the importance of a multifactorial approach to combating cyberbullying.

Victims should avoid responding impulsively, document incidents and seek help. Witnesses must intervene actively or anonymously, while the perpetrators of cyberstalking must acknowledge their behaviors, apologize and seek help to change.

4. Indirect intervention

What can education professionals do to prevent pupils from becoming involved in cyberbullying?

The scientific studies carried out to date on cyberbullying in adolescence have highlighted several recommendations for preventing such situations.

4.1. The first recommendation concerns the development of skills in understanding and using digital tools.

A study published in the *Journal of Adolescence* shows that individuals with a better command of digital tools are less likely to be victims or perpetrators of cyberbullying (Slonje, Smith, & Frisen, 2013).

You can then develop learning about the use of digital tools, and particularly **the protection of personal data**.

- For example, by **showing how to use appropriate privacy settings on social networks, or how to avoid sharing personal information.**

You can also **encourage pupils to communicate respectfully online**, by teaching them to identify comments that may be misinterpreted.

- Encourage students to avoid aggressive or provocative behavior which, even if it seems harmless, can easily degenerate into cyberbullying (Patchin, & Hinduja, 2010), and to avoid ambiguous comments which can lead to misunderstandings online and can easily lead to conflict.

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You can also enable pupils to limit or report risky behaviors on social networks. According to a study published in the *Journal of Cybertherapy and Rehabilitation*, young people identify instant messaging as being more conducive to cyberbullying: unwanted messages from strangers, copying and sending private conversations to others without permission, spreading rumors, threatening messages, modifying photos and broadcasting them to humiliate someone, creating a website to make fun of someone, unflattering or inappropriate things online without permission or sharing them with others, *etc*. (Vandebosch, & Van Cleemput, 2008). Wenting and al. (2024) also show that the main barriers to combating cyberbullying among adolescents are linked to a lack of knowledge of the indicators of cyberbullying.

- For example, **by teaching them to communicate at a distance (written communication) and to identify risky behaviors and its effects =** consider the context in which the message is sent; determine whether the comment is a joke between friends or not; identify the effects of a message on the recipient, *etc*.
- Enable pupils to understand the consequences of inaction, fear of conflict, reprisals and the effects of social norms.

Finally, you can make them aware of the effects of public exposure and limit it. It is recommended to limit access to publications to people you trust and to avoid interacting with strangers who are likely to seek confrontation**.** It is suggested that you delete, without reading them, and block messages from unknown users or those behaving in a problematic way, both on the networks and on your phone. Finally, many platforms offer the possibility of reporting inappropriate behaviors, which can reduce exposure to cyberbullying: **giving pupils precise information about access to these platforms in your country or region can be part of your role.**

4.2. A second recommendation concerns the development of a support network.

Studies show that few students who are victims of cyberbullying report it to an adult (parent or carer) for a variety of reasons: fear of losing Internet access privileges, behaviors perceived as childish, feeling that learning how to deal with this type of situation is a necessary step, etc. Yet social support, both online and offline, remains essential for coping with the stress generated by these situations.

Social support from peers, teachers and family is an important protective factor in limiting the risk of being involved in cyberbullying, whether as a victim or aggressor. Moreover, for pupils who are victims of cyberbullying, the stronger this support is, the more effectively they deal with the negative situation and the associated consequences (Arató, Zsidó, Rivnyák, *and al.*, 2022).

- It is important **to enable pupils to develop a variety of social links at school, both between peers and with the educational team**.

Learning prosocial behaviors, particularly online, is a second protective factor. Research shows that aggressors lack social skills and that developing these skills helps victims to become more aware of their experiences.

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- Promoting mutual support online, whether through encouraging messages or by taking a stand against harassment, reduces cyberbullying behaviors.

4.3. The third recommendation from scientific literature concerns the need to develop psychosocial skills.

These skills play a crucial role in preventing cyberbullying, as they enable people to interact better online, manage conflicts and protect themselves from risky situations. **Working in schools to develop certain psychosocial skills identified in scientific literature could be a key to preventing and combating cyberbullying**. Here is an overview of the skills that limit the risk of becoming a perpetrator, victim or passive witness of cyberbullying and the factors that encourage their development.

A. **Emotional regulation** refers to the ability to recognize, understand and control one's emotions appropriately. Poor emotional management, such as anger or frustration, can lead to impulsive online behavior that can degenerate into cyberbullying.

A study published in *Personality and Individual Differences* shows that emotional regulation is a key factor in reducing the likelihood of becoming a cyberbullier. Young people with better emotional regulation are less likely to respond aggressively when they feel frustrated online (Heiman and Olenik-Shemesh, 2022).

How to **develop emotional regulation**? Practicing stress management techniques, such as deep breathing or mindfulness, can help to better manage negative emotions in tense online situations.

- Help bullies see how they can exercise positive leadership and prosocial behaviors; develop in them skills such as empathy, problem-solving and anger management (Chehab and al., 2016).
- Teach students to assert themselves positively and prevent tense situations from turning into bullying.
- Giving the student victim the opportunity to create links with prosocial peers who can discourage bullies (Chehab and al., 2016).

B**. Empathy** is the ability to understand and share another person's emotions. Developing this skill enables us to better perceive the impact that our actions or those of others may have online, thereby reducing the likelihood of becoming a victim or perpetrator of cyberbullying.

Studies show that cognitive empathy activation preventing cyberbystander reinforcement cyberbullying behavior (Barlińska and al., 2015), and that cognitive and emotional empathy reduces cyberbullying behavior because it promotes understanding of the negative consequences on others (Zych and al., 2019).

How to **develop empathy**? Create role-playing games or discussion sessions that encourage people to discover the other person's point of view and understand what they may be going through.

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Educational programs focusing on empathy have proved effective in preventing bullying (Ghasemian and Venkatesh, 2017).

C. **Critical thinking** involves the ability to analyze online information, assess its veracity and make informed decisions. This helps to avoid sharing or amplifying harmful or defamatory content.

According to Kowalski and Wingate (2023), published in *Cyberbullying in children and adolescents*, individuals with strong critical thinking skills are less likely to participate or to be victimized in online bullying behaviors because they can detect and resist the influence of misinformation or provocation.

How to **develop critical thinking**? Create exercises or situations where students learn to evaluate information sources and ask themselves critical questions about the validity of content. This can be reinforced by digital literacy courses.

D. **Assertiveness** is the ability to defend your rights or those of others without being passive or aggressive. Online, this enables you to respond calmly and effectively to provocation or abusive behavior without resorting to aggression or escalating conflict.

A study by Avşar and Alkaya (2017), in *Journal of Pediatric Nursing*, showed that adolescents with assertiveness skills were less likely to become victims of cyberstalking, as they were able to respond in a balanced way to conflict without becoming aggressive or submissive.

How to **develop assertiveness**? Develop non-violent communication skills (i.e. teach students to observe without judging, then to formulate a feeling, then to state a need and finally to propose a solution or make a clear and precise request); teach pupils to formulate their needs or limits clearly and respectfully.

E. **The ability to solve problems and manage conflict** means that disagreements and tensions online can be dealt with constructively, rather than allowing the situation to degenerate into harassment.

An article published in the International *Journal of Behavioral Development* by Kowalski and al. (2014) shows that conflict resolution skills are a protective factor against cyberbullying. Young people who know how to resolve disputes peacefully are less likely to resort to harassment to solve a problem.

How to **develop problem-solving and conflict management skills**? Social and emotional education programs, as well as group conflict resolution exercises, can teach negotiation and mediation techniques.

F. **Self-control** concerns the ability to inhibit impulsive behaviors, such as responding instantly to online provocation. This is essential to avoid participating in increasingly aggressive exchanges, which can easily lead to cyberbullying.

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A study in *Journal of Youth and Adolescence* (2018) by Patchin and Hinduja shows that people with good self-control are less likely to engage in impulsive behaviors that could lead them to become perpetrators of cyberstalking. This skill also helps victims to avoid overreacting and contributing to the escalation of conflicts.

How to **develop self-control**? Techniques for managing impulsivity, such as taking the time to think before responding, can be reinforced by the practice of mindfulness or by behavioral education programs.

G. **Moral courage** is the ability to intervene when witnessing cyberbullying, rather than remaining a passive bystander. This pro-social behavior is essential for limiting the impact of cyberbullying and protecting victims.

According to Kowalski and al. (2014), cyberbullying perpetration is associated with moral disengagement. A study in *Journal of school violence* indicates that moral disengagement is highly associated with cyberbullying (Bussey and al., 2014). Individuals who develop intervention skills as bystanders play a crucial role in reducing cyberbullying, as their intervention often deters the perpetrator and supports the victim.

How to develop **moral courage**? Participating in programs that encourage taking a stand against injustice, even online, as well as practicing intervention strategies (*for example*, reporting harassment to moderators or supporting the victim), can help strengthen this skill.

4.4. Promote the school climate

Education professionals have a role to play in the general school climate of the establishment. Through their **teamwork, their communication with students and parents, the development of mutual trust between them and the students but also civic values**, they will create an environment conducive to learning and favorable to cohesion between students.

- **Establish an inclusive and respectful school environment**

For example, you can appoint some adults in the school as harassment referents to help and advise families and school staff (MEN, 2016)

Your speech towards the students, without humiliation, will influence the inclusion of everyone and the way in which the students themselves will interact with you and with each other. For example, pay attention to the vocabulary you use; think about developing exemplary behavior and highlighting all the exemplary behavior of students.

- **Promote democratic values and tolerance towards diversity**

Consider promoting the work of students, their skills and getting them to communicate with each other. *For example*, you can set up a specific national day to combat (cyber)bullying. Students could prepare posters and videos for a school exhibit; parents may be invited to attend the exhibition to be informed and to suggest other means of action (Stassin, 2023).

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You can also **strengthen the feeling of belonging among students** by getting them to answer these types of questions: “What are the most important groups for you in which you participate/in which you invest yourself/those from which you expect the most? in terms of recognition/identity support, help, solidarity/those who would you miss the most if they were to disappear, expel you or take a path that you could not follow? » (Marneffe and Lambotte, 2023).

Finally, **the values of tolerance and openness** must be conveyed through your own speeches, ways of being and doing within the school establishment.

Cooperative activities or friendly games, avoiding the spirit of competition and allowing students to learn how to live together, should be developed and promoted within the school. *For example, you can bring them to a game (to create) for which they will earn points when they adopt respectful and caring communication; you can play with them, this will facilitate bonds of trust and allow you to lead by example.*

Cyberbullying is a complex phenomenon, but several research-backed strategies can help prevent it. By developing digital literacy skills, adopting respectful communication and using available safety tools, it is possible to significantly reduce the risk of being involved in cyberbullying situations. Additionally, psychosocial skills, such as emotional regulation, empathy, assertiveness, and critical thinking, play a fundamental role in preventing cyberbullying. Scientific research shows that by cultivating these skills, individuals not only become more resilient to cyberbullying situations, but also more inclined to adopt prosocial behaviors online. Continuing training in these skills, whether through educational programs, personal practice, or collective awareness, is an essential step in creating safer and more respectful online environments. Vigilance, education and awareness therefore remain the key elements in this fight.

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