

Electronic Violence among Croatian Youth: Prevalence, Regional Patterns and Prevention through Family–School Partnership

Ana Maria Marinac

Faculty of Humanities and Social Sciences, Osijek, Croatia

Andrej Maras

Primary school Lotrščak, Zagreb, Croatia

Luka Pongračić

University of Slavonski Brod, Slavonski Brod, Croatia

Abstract

In the context of rapid technological advancement, electronic violence – particularly cyberbullying – has become an increasingly pressing issue among children and adolescents. This review examines the prevalence and impact of cyberbullying by synthesizing findings from scientific literature and empirical studies, with a focus on the emotional and social consequences for victims. The analysis underscores the pivotal role of families and schools as protective environments, highlighting the responsibilities of teachers and professional staff in supporting vulnerable student populations. Regional disparities in prevention strategies are evident, with countries such as Croatia facing significant challenges due to limited institutional support and insufficient digital education. Socioeconomic factors further shape exposure to cyberbullying, emphasizing the need for targeted, context-sensitive interventions. The paper advocates policy measures, including the establishment of regional CERT teams, increased school funding, and curricular reforms to enhance digital literacy and promote safe online behaviour. These recommendations seek to foster inclusive school cultures and strengthen systemic responses to electronic violence, thereby contributing to regional development and youth well-being.

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Introduction

Technology as we know it today facilitates many areas of life, from quick and easy searching and finding information to facilitated communication with people who are physically distant. It can be said that the Internet makes life easier for many younger and older people; however, it is necessary to emphasize that the Internet itself has become a medium for numerous criminal acts, and from this arise multiple terms, which mean almost the same thing, and one of them is cybercrime (Ružić, 2011). As the Internet became increasingly accessible, so did the definitions of what it caused, among other things. Thomas and Loader (2000; see Ružić, 2011) define cybercrime as a computer activity carried out illegally via the Internet. Wall (2001; according to Majid, 2005) explains several categories of cybercrime: attacks on other people's property, damage or virus attacks; theft of money or property, credit cards, or intellectual property; illegal pornography and violence via the Internet (cyberbullying); and hate speech and bullying. Ružić (2011) points out that the most common target of cybercrime is children. It should be emphasized that the youngest members of our society are part of the so-called digital generation, which develops digital skills and uses the Internet from an early age. In this way, several other challenges arise, including the fact that young people increasingly communicate face-to-face while paying more attention to virtual communication.

Children and young people today are the biggest consumers of all forms of information and communication technologies. Therefore, the goal of this theoretical research is to examine the prevalence of electronic violence using scientific and professional literature and empirical research, and to determine the importance of family and school as protective and preventive factors.

Electronic violence - conceptual definitions of different authors

Martinjak et al. (2019) emphasize the importance of peers for every young individual; however, Strabić et al. (2016) also note negative aspects that can have a significant impact on a young person, arising precisely from socializing with peers. Peer abuse is described as behaviour that includes intentional negative behaviour, causing harm. It is repeated, and an imbalance of power is often noticed between the peers who do it and the one who experiences such behaviour. Bilić (2018) cites the author Olweus (1998), who already defined peer violence in earlier years as a deliberate, hostile, repeated, or permanent action by one or more students, due to which another student suffers physical and emotional damage, and cannot defend himself and resist. Considering that the virtual world is accessible to almost all children, peer violence has spread that way as well. Patchin and Hinduja (2015) describe peer virtual violence as intentional and repeated violence, that is, malicious behaviour directed at a child through communication technologies. Sakellariou et al. (2012) point out that this form of violence implies sending messages with the aim of insulting, harassing, and

damaging another person who cannot protect themselves from such actions. The same author points out that research on victims of virtual violence is unreliable because victims often do not give honest statements. Bilić (2018) defines peer violence in the virtual world as the use of communication technologies to insult, harass, slander, and gossip about another person.

By analysing the literature, the most common modalities of electronic violence can be distinguished, which are classified according to the type of action:

- flaming - violence that involves sending vulgar text messages via electronic mail and is often called flame war or warfare with offensive messages.
- online or electronic harassment – repeated sending of messages with offensive content to harass another person.
- electronic stalking and intimidation (or cyberstalking) – repeated harassment of another person that includes intimidation and threats, and sometimes physical injuries to cause fear.
- electronic slander - (or cyberdenigration) and misinformation - refers to the spread of untrue information, gossip, altered photos that make a person unattractive via messages, e-mails, or via Internet pages to cause pain to the victim.
- electronic disclosure - implies hostile disclosure of secrets and private data and their public publication on Internet sites.
- exclusion/ostracism– deliberate exclusion from online groups and deletion from the list of friends.
- identity theft - includes stealing passwords and impersonating, and sending photos and messages with the aim of putting the victim in danger or damaging their reputation.
- happyslapping – a newer form of electronic violence that occurs when the perpetrator attacks and mocks the victim by sending videos and posting them on the Internet.
- sexting – sending messages with explicit sexual content or sending nude photos.
- fraping – a violent intrusion of a friend on someone's website and sending inappropriate messages, as if the owner of the profile is doing it, and is a derivative of the words Facebook and rape (Li, 2006; Beran & Li, 2007; Bilić, 2013).

Conceptual differences between classic and electronic violence

Electronic and classic violence show a significant connection, but a complete consensus about the incidence of these two forms of violence has not yet been reached. For a behaviour to qualify as bullying, whether it occurs in a direct interaction or a virtual

environment, it must involve aggressive actions intended to cause harm. Such behaviours are usually characterized by an uneven distribution of power between the victim and the perpetrator. In accordance with the described criteria, both forms of violence (electronic and classical) can be considered peer abuse (Olweus, 1998).

Electronic violence is not a new form of violence; it is only a form of the basic one, an extension of peer violence. The basic difference between classic and electronic violence lies in the application and nature of the information and communication technologies that enable the modalities of violence (Li, 2006). Hinduja and Patchin (2009) emphasize that information and communication technology does not make a difference; instead, it produces different forms of violence. What is important to distinguish about the classic form of violence is that it takes place in a physical place, the perpetrator is usually known to the victim, and the victim can ask for help (Đuraković et al., 2014). One characteristic of electronic violence is its limitless nature, which can lead to the multiplication of violence, even when the perpetrator repeats the act. This feature is enabled to improve the availability of data on internet pages. Uneven distribution of power during electronic violence is often left out in conceptual definitions. Developed digital competencies can give the perpetrator great power in the online space, although different modalities of electronic violence do not require advanced digital competencies (Hinduja & Patchin, 2015; Bilić, 2018). Recent research also emphasizes that digital literacy is not only a technical skill but a form of digital citizenship. Fonseca and Borges-Tiago (2024) argue that digital literacy empowers individuals to act as responsible bystanders, recognize harmful behaviours, and intervene appropriately, thus contributing to a collective culture of online safety.

Also, the equivalence of classical and electronic violence can be observed through the prism of the roles of children involved in both forms of violence (Li, 2005; Modecki et al., 2014). Children who show signs of classic violence are usually prone to violent behaviour in virtual space. Likewise, victims who are exposed to classic forms of peer-to-peer violence in direct interaction often experience electronic violence as well. We can conclude that children and young people who commit and are exposed to classic forms of violence, at the same time, experience and commit violent behaviours through electronic media (Li, 2005).

When comparing classic and electronic violence, it is crucial to emphasize the role of the audience. The audience during electronic violence in the virtual environment is significantly more complex than in the classical form of violence (Slonje et al., 2012). The classic form of violence can take place without other observers or in front of a small number of people (Heirman & Walrave, 2008), while in the case of electronic violence, explicit content or disturbing recordings can be viewed again at any time (Slonje et al., 2012).

To facilitate understanding and review of the differentiation between classic and electronic violence, based on various research (Li, 2006; Beran & Li, 2007; Smith, 2013), Table 1 presents the elements that distinguish these two forms of violence.

Table 1.

Conceptual differences between classic and electronic violence

	CLASSIC VIOLENCE	ELECTRONIC VIOLENCE
TIME OF EVENT	during their stay at school	all the time
THE PLACE OF THE EVENT	most often at school or on the way to school	unknown location, no safe place for the victim
AVAILABILITY OF THE VICTIM	only at school	at any moment
IMPACT	slow and limited	fast, wide
THE POSSIBILITY OF DEFENDING THE VICTIM	big	minimal
THE IDENTITY OF THE PERPETRATOR	known to the victim or most often discovered	unknown, usually not detected
AVAILABILITY OF MALICIOUS INFORMATION	known to the inner circle for a short time	known and available to the widest circle - permanently
PROSPECTS FOR PUNISHING THE PERPETRATORS	big	minimal

Source: Authors' work

If compared, the prevalence of classic and electronic violence based on available research in some countries, there comes very indicative data. According to research by Wang et al. (2009), young people in the United States more often manifest the classic form of violence (20.8%), while the incidence of electronic violence is 13.6%. Children and young people in Germany also show more frequent forms of classic violent behaviour compared to electronic violence, which is represented by only 5% (Riebel et al., 2009). Empirical research by Smith et al. (2008) in England also found more frequent forms of classic violence but noted an increase in electronic violence as well. In the Republic of Croatia, based on research by Pećnik and Tokić (2011), it follows that 73% of seventh-grade students have committed certain forms of classic violence in the past year, while about 20% of children have committed some forms of electronic violence.

Prevalence of electronic violence

As previously mentioned, children and young people need to socialize with their peers, and the development of digital technology (mobile phones, smartphones, iPads) has also affected the youngest and most vulnerable members of society us. Therefore, children and young people increasingly communicate through social networks and information and communication technologies, where they often meet, make new friends, and form new acquaintances. Worrying information comes from Erdur-Baker's (2010) research, which shows that young people tend to publish very personal information and data about themselves or their loved ones. It is even more worrying that they find themselves with unknown people they met through social networks without their parents' knowledge. Ybarra et al. (2007) found that meeting strangers is more dangerous than sharing personal information on social networks. It can be assumed, and research by Nikičević Milković and Jerković (2016) has shown, that the more time spent on the Internet, the greater the frequency of abuse.

Research by the author Tokunaga (2010) tells us that 20% to 40% of children are exposed to various forms of cyberbullying. Other authors emphasize that the prevalence of electronic violence is significantly higher because the perpetrators are unknown and the reporting rate of this form of violence is low, amounting to 72% (Juvonen & Gross, 2008). Brooks et al. (2017) conducted research in England and interpreted the worrying data that about 20% of children were exposed to peer digital violence. Menesini et al. (2009) established that peer violence through communication technologies is increasingly present among children. Bilić (2018) points out that research conducted in Croatia shows that many children were in the role of perpetrators and victims. Predrag et al. (2011) investigate and realize that 5% of children experience some form of peer violence three times a month, and every third child experiences it once or twice a month. The results of the Livazović and Ham (2019) research show that 58.1% of adolescents in Croatia have experienced some form of cyber violence, while 21% report regular cyber victimization with marked emotional disturbance. During electronic violence, the participants declared that they (20.8%) felt angry, (13.1%) felt helpless, and (20.5%) felt sad. These results clearly tell us that victims of electronic violence manifest a wide range of unpleasant emotions that certainly reflect on the productivity of the individual in the family, the fulfilment of school obligations, but also the establishment of quality social relations with peers. Research has shown that cyberbullying is quite widespread among adolescents in Croatia. Buljan Flander, Karlović, and Ćosić (2020) found that as many as 14.4% of adolescents were victims of cyberbullying, with girls being more likely to be victims than boys. Furthermore, victims of cyberbullying had more mental health problems, such as depression, anxiety, and lower self-esteem, compared to those who were not victims. Šincek, Duvnjak, and Milić (2017) found that 4.7% of adolescents in Croatia had problematic use of social media, which was associated with lower academic achievement, poorer social relationships, and higher levels of depression. Velki and Ozdanovac (2020) found that 11.6% of elementary school students in Croatia were involved in peer bullying through electronic media. Students who were involved in traditional peer bullying were more likely to be involved in cyberbullying.

Sakellariou et al. (2012) conducted research and concluded that 37% of German students were victims of e-bullying during elementary school. Also, he points to the results of research showing that in Northern Ireland and Australia, 40% of adolescents have been abused using technology. According to research that questioned gender differences in the experience of peer violence in the virtual world, it can be concluded that there are no significant differences. Erdur Baker (2010) obtains results according to which boys are more frequent perpetrators of peer violence in the virtual world, and Grozig and Olafsson (2013) point out that girls are more active in violent behaviours in the virtual world. Through his research, Mesch (2009) concludes that in America, 61% of girls were victims of virtual violence, while among boys, this percentage is significantly lower, 39%.

Barlett and Cyone (2014) believe that electronic violence is indirect, and therefore it can be expected that girls will be more frequent perpetrators of this form of violence than boys, and before that, Andreson and Sturm (2007) conducted research and concluded

that this is indeed the case. However, some studies prove the opposite, that is, they prove that boys are more frequent perpetrators of online violence (Calvete et al., 2009; Connell et al., 2014). Authors Martinjak et al. (2019) conclude that an equal share of girls and boys is involved in this form of violence. It is necessary to intervene as early as possible and educate children on how to use the Internet properly and how to protect themselves from possible violence, while considering that there is no significant difference in gender, in the same way that both girls and boys can access.

Suppose you look at the latest available empirical research. In that case, you can conclude that this form of violence among children and young people is becoming more frequent and widespread and that it significantly affects many areas of an individual's life. Global Kids Online (2020) reports that up to 29% of adolescents report feeling mistreated online. The research by Calmaestra et al. (2020) on a sample of 33,303 adolescents from Spain and Ecuador found that every fourth adolescent from Ecuador and every fifth from Spain was in some way involved in electronic violence.

The analysis of recent scientific literature shows that the problem of electronic violence is becoming a cross-cultural problem. Research on the prevalence of electronic violence, protective factors, and risk factors usually comes from developed Western countries. To raise awareness about electronic violence, which is spreading exponentially in other surrounding countries, a study was conducted by Saleem et al. (2021), and it was proven that electronic violence is on the rise and that support centres are needed in academic environments.

Research conducted in Croatia suggests that cyberbullying among young people is a significant problem. According to a study by UNICEF Croatia (2020), as many as 15% of children aged 11 to 17 have been victims of some form of cyberbullying, with girls being more likely to be victims than boys. Furthermore, a study by the Polyclinic for the Protection of Children and Youth of the City of Zagreb (2018) showed that 22.5% of young people in Croatia have been involved in some form of cyberbullying as perpetrators. To address this problem, the Ministry of Science and Education of the Republic of Croatia issued the "Protocol on Action in Cases of Peer Violence among Children and Young People" in 2020, which contains guidelines for preventing and dealing with cases of cyberbullying in schools (Ministry of Science and Education of the Republic of Croatia, 2020). In addition, the Civic Association CESI implements cyberbullying prevention programs and education of children, young people, parents, and teachers across Croatia. The Agency for Electronic Media of the Republic of Croatia regularly monitors and reports on the occurrence of cyberbullying among young people in Croatia.

Although electronic violence is a global phenomenon, its prevalence and manifestations vary significantly across regions due to cultural norms, levels of digital literacy, access to technology, and institutional support. For instance, Scandinavian countries have implemented comprehensive protocols for reporting and intervening in cases of cyberbullying, including national platforms and integration of digital safety into school curricula (Livingstone et al., 2011). In contrast, countries in Central and

Eastern Europe, including Croatia, often lack systematic prevention mechanisms and institutional capacity to address the issue effectively (Kowalski et al., 2014).

Socio-economic factors also play a crucial role. Children from lower socio-economic backgrounds are more vulnerable to electronic violence due to limited access to digital education and fewer protective resources (UNICEF, 2017). The consequences extend beyond the individual level, affecting educational outcomes, mental health, and placing additional burdens on healthcare and educational systems (OECD, 2019).

Profile of perpetrators (abusers) of electronic violence

Analysing the literature on the psychological profiles of perpetrators (as well as victims) of electronic violence, a limited number of studies are noticeable. Willard (2007) points out that it is extremely important to distinguish distinctive features to provide an appropriate intervention program. Buljan Flander et al. (2010) conclude that the perpetrators of cyberbullying are usually children and young people who have not achieved a safe and supportive relationship with their parents and who often visit Internet sites with violent or sexually explicit content.

Regardless of the ways and strategies bullies manifest during their violent behaviour, they all have some common characteristics, namely that they strongly love the feeling of power and dominance, lack empathy in social relationships, and are focused on the realization of their desires. Children and young people who manifest violent behaviour in the virtual space often seem superior, but this is only an apparent impression, because such children usually show marked maladjustment in peer groups, so violent behaviour is an excuse for them to feel better (Kaschnitz, 2016; Prpić, 2006). Prpić (2006) points out that cyber bullies project their inner fears, insecurities, and unfulfilled desires onto victims by lying, slandering, or intimidating.

Based on empirical research, Popović-Ćitić (2009) summarizes the profiles of perpetrators of electronic violence:

- Vengeful angel – a perpetrator who does not see himself as such. He sees himself as a fighter for justice. He corrects the injustice inflicted on him or others by his environment.
- Power-hungry - uses intimidation strategies to gain authority. This bully likes to "dominate others". He is characterized by a desire to display power and bragging.
- Nerd vigilante – this perpetrator was usually a victim of violence himself. The characteristics of this type of bully are as follows: he is physically weaker than the victim, is not well accepted by his peers, and is not a stereotypical bully.
- Mischievous girls - they usually abuse others for fun and enjoy humiliating and belittling others. With such patterns of behaviour, they seem to strengthen their ego. The characteristics of this type of bully are as follows:

bully behaviour out of boredom, aimed at self-promotion; they plan violence in a group so they have an audience that admires them.

- Careless – bullies who carelessly and impulsively respond to a received negative message without thinking about the consequences, or carelessly lead themselves to violence in virtual space. The characteristics of this type of bully are as follows: denial of participation in violence, desire to play roles, careless giving of answers, and failure to recognize violent behaviour.

Family as a protective factor

Buljan Flander et al. (2015) put the safety of children and young people on the Internet as one of the most challenging educational guidelines. Numerous authors look at ways to protect children from electronic violence and the possible consequences it leaves on each victim. Bronfenbrenner's ecological model, one of the most accepted theoretical concepts, holds that the analysis of electronic violence should consider psychological and biological factors, as well as the environment and the mutual interaction between the child and the environment. Guided by this model, numerous authors investigated the family environment of the child (Baldry, 2003; Bowes et al., 2009; Buljan Flander, Brezinščak & Španić, 2015). In the observation of parenting, two directions can be drawn: emotionality and control (Darling & Steinberg, 1993). Therefore, it is important to observe the presence and expression of emotions in parent-child interactions, as well as the control, which is often manifested through manipulation, excessive intrusiveness, and passive aggression (Silk et al., 2003). Research conducted with children who were prone to peer violence shows that these are children who come from families where the expression of emotions and involvement of parents was not present (Ybarra & Mitchell, 2004; Mesch & Sasson, 2014), and often it is also children who are excessively controlled (Barber, 1996; Kuterovac-Jagodić & Keresteš, 1997). Thus, excessive parental control makes the child aggressive, but research also shows that this way, the child becomes a victim of peer violence (Ladd & Ladd, 1998).

Nevertheless, research (Mesch & Sasson, 2014) indicates that parents truly play a significant role in the development and prevention of electronic violence. However, parental emotionality was not as significant as in earlier research. The authors conclude that only certain areas of parental emotionality are predictors of violence, namely parental involvement and cohesion. The construct of psychological control in Croatia was not investigated until the 90s of the last century, and long after that, this problem was not investigated as a potential cause of violent behaviour in children (Buljan Flander et al., 2015). Wachs (2012) considers empathy and the reduction of moral distance from the victim of violence as fundamental factors for the reduction of violence among children. This understanding can be especially applied to the family. Sapouna and Wolke (2013) talk about a child's self-confidence, constructive conflict resolution skills, social inclusion, and accordingly Hemphill et al. (2014) also add emotional self-control, i.e., regulation of one's anger and negative emotions. The starting point for acquiring skills for resolving conflicts positively is the family. Vandebosch et al. (2014) point to the importance of informing children about various

ways of reacting to experienced electronic violence. As already mentioned, one important factor is the relationship between the child and the parents. Figula et al. (2011) consider as risk groups children from families with frequent conflicts, as well as overly protected children, and Boel-Studt & Renner (2014) also add children who themselves are victims of peer violence, and according to Georgiou (2008), also children who were raised to be compliant in an educational style. Velki and Kuterovac Jagodić (2014) classify children who are often punished as a risk group. These results confirm the and older studies, and it can be concluded that parenting style contributes to the development of positive or negative outcomes in electronic violence. Duggins et al. (2016) consider a healthy family environment, connection between family members and open communication with the child among the strong ways to protect children. Strabić and Tokić-Milakoivć (2016) cite other ways from various sources, including respect for the child's opinion, constructive parental actions, and support from family members.

For the family to have as much influence as possible on protecting the child from Internet violence, parents must be educated about the various possibilities of the Internet. When parents are aware of the dangers lurking on the Internet, they can better protect their children. Being educated about modern technologies brings parents closer to their children's interests and enables them to have better conversations about everything that happens on the Internet (Buljan Flander, Bilić & Karlović, 2011; Ciboci, 2014). The parent must provide the child with social support, where the child feels safe and available and develops confidence in that relationship (Klarin, 2004; Klarin, Proroković & Šimić Šašić, 2010). Also, the family's task is to teach the child to think critically about everything they encounter, especially on the Internet. The child must understand that everyday dangers and discrimination from real life are just as real and ubiquitous on the Internet (Aftab, 2003). A parent should recognize that their child is (potentially) a bully and react to that, explain to them that this is a big problem, and prevent such behaviour (Olweus, 1998).

Worrying data comes after research by the Zagreb Child Protection Clinic (2005) (according to Nikičević-Milković & Jerković, 2016) that 49% of students report that their parents do not have access to their email. The authors Nikičević-Milković and Jerković (2016) conclude that one reason for parental ignorance is insufficient digital competence in the use of information and communication technologies. The research conducted by the authors indicates that children often use social networks for more than one or two hours, which increases the possibility of abuse.

The role of the school as a protective factor

After the family, the school is the child's closest and most important environment, shaping development in different ways. Therefore, it should be borne in mind that the school can contribute to violent behaviour among students, but at the same time, it can also prevent them or reduce the possibility of a student becoming a victim or a bully. Numerous authors state that school success and perception of the academic environment are related to possible violent behaviour, i.e., students with lower school

success and students who have a negative perception of their academic community are at risk (Ma et al., 2009; Kowalski & Limber, 2013; Espelage, 2013). It is possible to develop such patterns of behaviour in students who are not attached to school (Akila, 2012). As with classic violence, peers who approve of violent reactions are more likely to be part of electronic bullying (Festl et al., 2013). The cause of virtual violence can be the child's poor social adjustment within the peer group (Gracia et al., 2015). The authors find ways of protection, such as the issue of parents and families, namely two-way and thorough communication, clear rules in the classroom, permanent education of teachers, and cooperation between parents and teachers (Tofi & Farrington, 2011; Duggins et al., 2016). Gašić-Pavišić (2004) lists strategies that can influence the reduction of electronic violence in schools: violence prevention programs, adoption of ways to replace aggression, encouragement of prosocial behaviour, encouragement of non-violent behaviour through play, and encouragement of partnership between family and school. According to Stanković-Đorđević (2007), violence in school is rampant, and it is often considered a minor problem than it is. Also, students often lose confidence in teachers who do not react to violence, in any form, and therefore stop reporting it. One of the problems and difficulties in determining violence is the insufficient number of instruments for prevention and intervention.

Teachers play a key role in the prevention of electronic violence at school (Elledge et al., 2013) because they are directly connected to students and situations in which violent (electronic) violence can be manifested (Pytash et al., 2013). Research carried out by the authors Cassidy et al. (2012) and Ries et al. (2014) indicates that teachers are considered insufficiently competent for education and prevention of electronic violence and points out that they do not have enough knowledge about these forms of abuse. Nevertheless, DeSmet et al. (2015) conducted research showing how teachers respond to cyberbullying appropriately, and Stauffer et al. (2012) concluded that teachers regularly report incidents to professional services. The results of the UNICEF survey conducted in Croatia in 2010 are worrying. Namely, they concluded that about 12% of teachers would not respond to messages containing disturbing content, 13% would not respond to aggressive content on the Internet, and 15% would do nothing in the case of students being mocked on social networks. Pregrad et al. (2010) conclude that about 15% of teachers would not react to electronic violence because they believe that it is not their job. It is reassuring to know that most teachers do react, or would react, but 15% who would not react is a large number, considering this is a form of violence. From this, it can be concluded that it is necessary to raise awareness about the consequences that electronic violence leaves on students. Snakenborg et al. (2011) point out that when protecting students from this form of abuse, it is necessary to take legal and regulatory measures to regulate media use, educate students about safe Internet use, etc. The biggest challenge for teachers is the recognition of electronic violence (Von Marees & Petermann, 2012), and it makes it difficult to realize that it can take place outside and inside the school space (Gaffney & Farrington, 2018). Rice et al. (2015) conducted research and concluded that this form of violence takes place more often within the school, between classmates.

A more recent study in the Republic of Croatia by Ferić and Prpić (2019) examined a sample of 451 students and five secondary schools in Zagreb to determine the role and potential of schools in preventing electronic violence. It was found that fewer than half of the schools implemented activities for the prevention of electronic violence have not achieved their intended goals. Based on such data, it can be concluded that teachers and professional services of schools lack clear and practical guidelines in the prevention of electronic violence.

The family-school partnership remains a cornerstone of sustainable prevention. Studies show that supportive family environments and open communication significantly reduce adolescents' vulnerability to cyberbullying (Bafjaish, 2025; Chemnad et al., 2023). However, disparities in digital competence among parents—especially in socioeconomically disadvantaged regions—highlight the need for inclusive, community-based digital education programs.

It is exciting to mention the research by the author team Livazović & Ham (2019), which aimed to examine the roles of socioeconomic status, family, school, and peers in the case of electronic violence with a special emphasis on emotional consequences from the perspective of the General Model of Aggression. The results of the research show that those adolescents who show greater dissatisfaction with family life, achieve lower academic success, and have lower quality relationships with their peers represent the average profile of perpetrators of electronic violence. We can conclude that the findings of this research clearly indicate that the family, the school, and the wider local community should work in synergy to prevent electronic violence through prior education on the etiology of risky forms of behaviour.

Sustainability of Prevention Strategies

Ensuring the long-term sustainability of cyberbullying prevention strategies requires a shift from short-term, reactive interventions to systemic, resilience-based approaches. While traditional models often rely on surveillance and control, recent research emphasizes the importance of empowering youth through digital resilience and agency (Wisniewski & Park, 2025). From a policy perspective, regional coordination mechanisms such as CERT teams and intersectoral working groups can enhance sustainability by ensuring consistent responses and knowledge sharing across regions. Stable funding models, including school grants and EU-supported initiatives, are critical to avoid reliance on short-term pilot projects (Bafjaish, 2025).

Recent studies have highlighted the importance of technology-driven interventions in sustaining cyberbullying prevention efforts. Nee et al. (2023) conducted a systematic review of tech-based approaches, identifying tools such as semantic detection systems and virtual coaching platforms that support awareness, resilience, and victim support in educational settings. These innovations show promise, but their effectiveness depends on contextual adaptation and active involvement of parents and educators. Batool et al. (2025) emphasize that barriers to sustainability include a lack of institutional coordination, insufficient training, and limited digital infrastructure. Their

systematic review identifies six key obstacles and seven strategic measures, underscoring the need for multi-level engagement—from policy to classroom practice.

Additionally, emerging programs that adopt a whole-school approach and prioritize teacher professional development have shown greater potential for long-term impact. These models integrate prevention into the school's culture and daily routines, making them more resilient to staff turnover and policy shifts (Siddiqui & Schultze-Krumbholz, 2023).

Ultimately, sustainable prevention requires a whole-school and whole-community approach, embedded in broader regional development strategies. This includes fostering inclusive school cultures, promoting student agency, and aligning digital safety with educational and social equity goals.

Policy Recommendations

To effectively address the challenges of electronic violence, several policy measures are recommended:

- a) Establishment of regional CERTs (Computer Emergency Response Teams) for children and youth: These specialized units would handle reports of cyberbullying in schools and communities, working in coordination with educational institutions, law enforcement, and social services (ENISA, 2020).
- b) Introduction of grants for schools: Financial support would enable schools to develop and implement prevention programs, train teachers, and integrate digital safety tools. Evidence from Western countries shows that such initiatives improve school climate and reduce cyberbullying incidents (Livingstone et al., 2011).
- c) Curricular reforms: Incorporating digital literacy and online safety into primary and secondary education curricula is essential. Interdisciplinary modules combining computer science, ethics, and psychology can foster responsible digital behavior (OECD, 2019).

These measures require coordinated action across sectors and should be tailored to regional needs and socio-economic contexts.

Conclusion

The development of information and communication technologies has significantly transformed various aspects of daily life, while simultaneously introducing new forms of risk, including electronic violence. Cyberbullying, as a prominent manifestation of such behavior, has emerged as a global phenomenon affecting children and adolescents across cultural and socioeconomic contexts.

A review of the scientific literature confirms the existence of multiple modalities of electronic violence, with inconsistent findings regarding gender differences and behavioral patterns in virtual environments. Evidence suggests that individuals who

engage in traditional forms of bullying are often perpetrators in digital contexts as well, while victims of conventional bullying are similarly vulnerable to cyberbullying. Risk factors include visible physical characteristics and developmental difficulties, which increase the likelihood of victimization.

Despite the growing prevalence of electronic violence, the lack of standardized definitions and measurement tools across countries complicates efforts to determine its proper scope. Nevertheless, a unified approach to prevention remains essential. This includes developing clear educational policies, systematically implementing preventive programs within school curricula, and providing professional training for educators and support staff.

The findings of this review underscore the family's role as a primary protective factor and advocate for inclusive school environments that promote belonging and safety. The insights presented may serve as a foundation for evidence-based educational policies and professional development programs to enhance institutional responses to electronic violence.

While this study provides a comprehensive overview of electronic violence among children and youth, several methodological limitations must be acknowledged. The analysis relies primarily on secondary sources and cross-sectional data, which limits the ability to establish causal relationships and observe changes over time. Additionally, the lack of standardized instruments across studies and regional disparities in data collection methods may affect the comparability of findings.

Future research should prioritize longitudinal studies to track behavioural patterns and victim-perpetrator dynamics over extended periods. Such designs would allow for a deeper understanding of the long-term psychological and social consequences of electronic violence. Moreover, spatial-econometric approaches could be employed to examine regional determinants, socioeconomic influences, and the effectiveness of policy interventions. These methods would enable researchers to identify geographic clusters of vulnerability and assess the impact of targeted measures such as regional CERT teams, school grants, and curricular reforms.

By addressing these limitations and adopting more robust methodologies, future studies can contribute to a more nuanced and actionable understanding of electronic violence, ultimately informing more effective prevention and intervention strategies at both local and national levels.

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About the authors

Ana Maria Marinac holds a master's degree in primary education, earned at the Faculty of Education in Slavonski Brod. She is a doctoral candidate in the Doctoral Program in Pedagogy and Culture of Contemporary Schools. She actively participates in scientific and professional work, participating in more than 20 domestic and international scientific conferences and regularly publishing in professional and scientific journals. You can contact the author at: marinac.anamaria98@gmail.com

Andrej Maras, PhD, Primary school Lotrščak Zagreb, received his PhD from the Faculty of Education in Zagreb, Lifelong Education and Educational Sciences. As an external associate, he teaches Pedagogy and Didactics. He regularly publishes papers at domestic and international scientific conferences. You can contact the author at: andrejmaras24@gmail.com

Luka Pongračić, PhD, University of Slavonski Brod, is a scientist and educator with extensive experience in education and research. As a project leader and assistant at the University of Slavonski Brod, he is actively involved in the development of social sciences and humanities. He has published over 50 scientific and professional papers, as well as a scientific monograph, advancing pedagogical theory and practice on an international level. You can contact the author at: lpongracic@unisb.hr