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# Understanding cyberbullying roles in primary school: Individual risk profiles and digital behavior patterns

**SUMMARY**

This study investigates the prevalence and characteristics of distinct roles in cyberbullying: victims, perpetrators, and victim-perpetrators in elementary schools. The random sample consisted of 1.662 students from elementary schools in Zagreb, the capital of Croatia, and the research was conducted using the European Cyberbullying Intervention Project Questionnaire (ECIPQ). Participants were classified into cyberbullying roles based on their responses to ECIPQ and compared across a range of individual (gender, grade level, loneliness), digital (frequency and type of internet use), school-related (academic success, absenteeism), and family-related (parental relationship status) variables, as well as their tendency to report peer victimization. Based on the data, the most common role in cyberbullying was being non-involved, followed by victims, victim-perpetrators, and finally, perpetrators as the least common group. Findings revealed significant differences among the roles in nearly all examined domains. Victim-perpetrators reported the highest levels of loneliness, absenteeism, and internet use and were most likely to report experiences of victimization. Girls were more frequently classified as victims or victim-perpetrators, while students in higher grades showed greater involvement in cyberbullying. Reporting of peer victimization was significantly more common among students who experienced victimization. The role-based approach highlighted distinct patterns of emotional vulnerability and digital behavior, underscoring the need for early, targeted interventions focused on digital resilience, communication safety, and emotional support within elementary school environments.

**Keywords:** cyberbullying, elementary school students, role in cyberbullying behavior, ECIPQ.

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## INTRODUCTION

In recent years, cyberbullying has emerged as a pervasive and complex phenomenon in the lives of children and adolescents, profoundly reshaping the nature of peer relationships in the digital age. As online platforms increasingly serve as spaces for communication, socialization, and identity formation, the risks associated with digital interactions – particularly peer aggression – have become a critical area of research in child development, education, and public health. Cyberbullying, defined as deliberate, repeated, and harmful behavior carried out through electronic means, poses unique challenges due to its potential for anonymity, viral dissemination, and the difficulty of adult supervision in digital spaces (Patchin & Hinduja, 2015; Tokunaga, 2010). Although cyberbullying is sometimes described using terms such as "digital violence", in the context of child development research it is more accurately conceptualized as a form of peer aggression, which may range from mild interpersonal harm to more severe behaviors.

To move beyond binary victim–aggressor models, researchers increasingly rely on role-based approaches that capture the fluidity and overlap in children's positions within digital peer aggression and clarify distinctions in the conceptualization of harmful online behaviors.[1] A significant limitation in comparing findings across studies lies in the inconsistency of definitions and measurement tools used to assess cyberbullying (Bauman, 2010; Kowalski & Limber, 2013; Vejmelka, Sušac & Rajhvajn Bulat, 2022; Ybarra et al., 2012). The European Cyberbullying Intervention Project Questionnaire (ECIPQ), developed by Del Rey and colleagues (2015), provides a robust theoretical and empirical framework to identify three key roles in cyberbullying: victims, perpetrators, and victim-perpetrators. This typology acknowledges that many children are both recipients and agents of harmful online behavior, often within the same digital interactions. Victim-perpetrators, in particular, have been found to exhibit complex psychosocial profiles characterized by heightened emotional distress, impulsivity, and unstable peer relationships (Del Rey et al., 2015; Dooley, Pyzalski, & Cross, 2009; Zych et al., 2017). Given the journal's focus on bioethical inquiry, it is important to recognize cyberbullying as not only a psychosocial and educational issue, but also as a significant "bioethical concern". Digital peer victimization directly affects children's dignity, autonomy, safety, and well-being, core values central to contemporary bioethics. In the context of children's rights, vulnerability, and unequal

[1] In this manuscript, the term aggression is used as the primary analytical framework, referring to intentional behaviors aimed at causing harm, including verbal, relational, and digital forms. The term violence is used only when referring to severe or legally defined acts, as conceptualized in public health and criminological frameworks. In line with developmental and school-based research, all cyberbullying behaviors examined in this study fall under peer aggression, which may, but does not necessarily constitute violence. This distinction is important to avoid conceptual ambiguity and to ensure theoretical precision.

power relations in digital environments, cyberbullying raises ethical questions about responsibility, harm prevention, digital justice, and the moral obligations of adults, institutions, and technology stakeholders. Positioning cyberbullying within a bioethical discourse thus provides a framework for understanding it as a violation of fundamental ethical principles related to the protection of children and the moral conditions required for healthy development.

## THE CROATIAN CONTEXT: PREVALENCE AND RISK PATTERNS

While the international literature offers a growing body of evidence on the prevalence and consequences of cyberbullying, studies conducted in Croatia highlight both global trends and specific national dynamics. Since the first national research on electronic violence was conducted in 2010 (Pregrad et al., 2010), findings from multiple Croatian studies have consistently confirmed that cyberbullying is widespread and associated with adverse mental health outcomes (Vejmelka, Matković & Rajter, 2022). For instance, research indicates that the prevalence of cyber victimization among Croatian students ranges from 7% to over 55%, while perpetration rates vary from 3% to 30% (Ramljak et al., 2025; Vejmelka, Sušac & Rajhvajn Bulat, 2022). A recent study conducted in elementary schools in Zagreb found that 24.5% of students reported perpetrating cyberbullying (Trbojević & Šikuten, 2022). These findings align with international evidence showing that involvement in cyberbullying is often associated with gender differences, academic difficulties, and emotional vulnerabilities (Kasturiratna et al., 2025).

In addition to prevalence estimates, Croatian research has underscored the interplay between cyberbullying and other psychosocial and behavioral factors. Children involved in cyberbullying often report lower self-esteem, increased loneliness, poorer academic performance, and higher levels of problematic internet use (Ciboci et al., 2020; Vejmelka, Matković & Borković, 2020). Several studies also highlight that girls are more frequently victims or defenders, whereas boys tend to be overrepresented among perpetrators (Kekez & Bilić, 2015; Velki & Vrdoljak, 2013), although findings are not entirely consistent (Alajbeg et al., 2018; Reić-Ercegovac, 2016). Furthermore, the digital behavior of young people, including the frequency and type of internet use, plays a critical role in their exposure to and engagement in cyberbullying (Kasturiratna et al. 2025). The ECIPQ, with its dual focus on victimization and aggression, is particularly suited to capturing this dynamic, multidimensional phenomenon (Herrera López et al., 2017; Vejmelka, Strabić & Jazvo, 2017). The ECIPQ has demonstrated high reliability and validity across diverse contexts, including in Croatia, where its use has confirmed consistent psychometric strength (Cronbach's $\alpha > 0.75$) and meaningful role distinctions

(Vejmelka, Matković & Rajter, 2022). Structural validation conducted on a sample of over 5.600 students across six European countries supported its two-dimensional model of cyberbullying (Del Rey et al., 2015). Its application in Croatian elementary and secondary schools has revealed that the most significant proportion of students involved in cyberbullying simultaneously experience and perpetrate such behavior, 27.5% in one national study (Vejmelka, Strabić & Jazvo, 2017). Moreover, findings from the COVID-19 pandemic period suggest that digital risk exposure intensified as students increasingly relied on online platforms. In a regional Croatian study during that period, 12.75% of students were categorized as victims and 5.87% as perpetrators, with the dual-role group again showing the most problematic behavioral profiles (Vejmelka & Matković, 2021).

Due to its standardized structure and applicability across different educational levels and cultural contexts, the ECIPQ is now widely used in both cross-sectional and longitudinal studies. In Croatia, it holds substantial promise for national monitoring, needs assessment, and evaluation of digital violence prevention programs (Herrera López et al., 2017; Vejmelka, Sušac, & Rajhvajn Bulat, 2022). Despite these valuable insights, few studies have systematically explored the distinct roles in cyberbullying among Croatian elementary school students by integrating individual, school, digital, and family variables within a role-based framework. Addressing this gap, the present study investigates the prevalence and characteristics of cyberbullying roles, victims, perpetrators, and victim-perpetrators among a sample of elementary school children in Zagreb, Croatia. By using the ECIPQ instrument and analyzing a range of correlates, including gender, grade level, digital media use, loneliness, school engagement, and parental relationship status, this study aims to offer a comprehensive profile of students involved in online peer aggression.

By framing cyberbullying as a bioethical issue, this study contributes to a deeper understanding of how digital forms of harm challenge ethical norms and responsibilities toward children in contemporary society. In doing so, the research contributes to the growing body of international literature that seeks to understand cyberbullying not only as a behavioral problem but as a social and developmental challenge embedded in children's broader digital ecosystems. Furthermore, the study emphasizes the importance of early, role-sensitive, and contextually grounded interventions that promote emotional regulation, safe digital behavior, and supportive school and family environments. The findings are expected to support the development of targeted prevention programs and to inform policy measures aimed at fostering digital resilience and well-being in school-aged children.

## METHODOLOGY

This paper draws on data collected as part of the broader research project "Peer Violence Among Children and Youth in the City of Zagreb (IVNA-ZG)", conducted between May and July 2023. The study was designed using the Integrative Model of Peer Violence (Postigo et al., 2003) as a theoretical framework. It employed a mixed-method approach to gain a comprehensive understanding of peer aggression among children and adolescents. It incorporated the perspectives of students, parents, and educational professionals across elementary and secondary schools.

### Research Objectives

This study aims to:

- Identify the prevalence of three distinct roles in cyberbullying – victim, perpetrator, and victim-perpetrator – among elementary school students, based on the criteria defined by the European Cyberbullying Intervention Project Questionnaire (ECIPQ).
- Compare the characteristics of students within each cyberbullying role, considering a range of individual (e.g., gender, age, loneliness), digital (e.g., time spent online, types of digital activities), family (e.g., parental relationship status), and school-related indicators (e.g., academic success, absenteeism) as well as the willingness to report such behaviors.
- Differentiate behavioral patterns associated with each role, with a particular focus on individual determinants and digital behavior patterns, in order to understand specific risk profiles and inform early intervention strategies.

### Research Design and Ethical Procedures

The IVNA-ZG study was conducted in accordance with the Ethical Code for Research with Children (Ajduković & Keresteš, 2020) and the Code of Ethics for Psychological Activities (Official Gazette, No. 13/05). Prior to implementation, approvals were obtained from the Ethics Committee of the Faculty of Education and Rehabilitation Sciences, the Ministry of Science and Education of the Republic of Croatia, and the Agency for Education and Training.

Parental consent was required for participants under the age of 14, while students aged 14 and older provided individual informed assent. Participants completed the survey online or via pen-and-paper administration during designated school hours, with the questionnaire taking approximately 45 minutes to complete.

### Participants and Sampling Strategy

The total sample of the IVNA-ZG study included 2.075 elementary school students from 15 schools, 5.189 high school students from 16 schools, 2.614 parents, and 712 educators. A subsample of 1.662 elementary school students was selected for the present analysis, focusing on the phenomenon of cyberbullying. A stratified random sampling approach was employed to ensure representativeness across the 17 districts of Zagreb. Schools were randomly selected within each district, and care was taken to reflect the demographic structure of the student population by school type, educational program, and gender ratio.

## Instruments – European Cyberbullying Intervention Project Questionnaire (ECIPQ)

The ECIPQ (Del Rey et al., 2015) was used to assess involvement in cyberbullying over the past two months. It contains 22 items divided equally across two subscales: cyber victimization (11 items) and cyber aggression (11 items). Each item is rated on a 5-point scale (0 = never, 4 = more than once a week). The questionnaire's two subscales – cyber-victimization and cyber-aggression – mirror each other in structure, measuring identical items from both the victim's and the perpetrator's perspectives. Respondents rate behaviors on a 5-point scale (0 = never to 4 = more than once a week), allowing for nuanced classification into cyberbullying roles. Participants scoring two or higher on any item of the victimization scale (but not on aggression) are categorized as victims; those scoring two or higher on aggression (but not on victimization) are perpetrators; and those who score two or more on both are considered victim-perpetrators (Del Rey et al., 2015; Vejmelka & Matković, 2021; Vejmelka, Strabić & Jazvo, 2017). This approach enables a nuanced categorization of students' experiences with online peer aggression, facilitating international comparison due to its standardized methodology and psychometric robustness.

Custom Measures with additional survey items were developed to assess individual, familial, and contextual factors, including:

- Loneliness: Measured using a brief validated scale assessing subjective feelings of social isolation.
- Digital behavior: Students selected up to three primary uses for their digital devices (from a list of 13 activities). These were categorized as:
  - Communication-oriented: messaging, social media, email, calling.
  - Entertainment-oriented: gaming, music, streaming videos.
  - Informational/functional: news, online shopping, navigation, utility apps.

- Academic success: Self-reported grade point average.
- Absenteeism: Frequency of unexcused school absences.
- Family structure: Parents' relationship status and household composition (parents are married and live together, parents are married but do not live together, parents are in a non-marital partnership, parents are divorced, one parent is deceased, something else).
- Reporting victimization: Frequency and tendency to report peer aggression to adults.

### Data Analysis

Data was analyzed using IBM SPSS. Cyberbullying role classification was derived based on ECIPQ scoring thresholds. Between-group differences were assessed using ANOVA for continuous variables and chi-square tests for categorical comparisons. Post hoc analyses were conducted to interpret significant effects. The functional use of digital technology was categorized into communication, entertainment, and informational categories, enabling a multidimensional analysis of digital behavior across various cyberbullying roles. This manuscript was prepared with the technical support of OpenAI's ChatGPT 4.0, which was used under the supervision and responsibility of the authors. The tool was employed to assist in the creation of visual materials. All content was reviewed, edited, and interpreted by the authors, who remain fully accountable for the accuracy and integrity of the work presented.

## RESULTS AND DISCUSSION

### Prevalence of Cyberbullying Roles

To explore the extent and nature of students' involvement in cyberbullying, the following section presents the prevalence of cyberbullying roles derived from the ECIPQ classification, followed by an interpretation of key findings about existing literature and theoretical models.

Table 1 presents the distribution of students across different cyberbullying roles, classified according to the ECIPQ criteria. Most students (61.3%; $n$ = 1018) were identified as non-involved, indicating no significant engagement in cyberbullying as either victims or perpetrators. However, a substantial proportion, 38.7%, reported some level of involvement in cyberbullying. Among these, 20.0% ($n$ = 333) were categorized as victims, having experienced online aggression without engaging in it themselves. A smaller proportion (5.7%; $n$ = 95) were identified as perpetrators, reporting aggressive online behaviors without experiencing victimization. Notably,

13.0% ($n$ = 216) of students fell into the victim-perpetrator category, indicating they both perpetrated and experienced cyberbullying.

Table 1. Prevalence of Cyberbullying Roles

| Cyberbullying Role | N | Percentage | Cumulative % |
|---|---|---|---|
| Non-involved | 1018 | 61.3% | 61.3% |
| Victims | 333 | 20.0% | 81.3% |
| Perpetrators | 95 | 5.7% | 87.0% |
| Victim-Perpetrators | 216 | 13.0% | 100.0% |
| **Total** | **1662** | **100%** | |

These findings highlight the significant presence of online peer aggression among elementary school students in Zagreb. The victim-perpetrator group, although smaller than the non-involved and victim-only groups, warrants particular attention due to prior research indicating that this subgroup tends to exhibit more severe psychosocial difficulties, such as heightened emotional reactivity, peer conflict, and digital risk behaviors (Del Rey et al., 2015; Vejmelka, Matković & Rajter, 2022). The relatively high percentage of students involved in cyberbullying, particularly those who occupy overlapping roles, emphasizes the importance of implementing early targeted prevention and intervention programs that address both individual vulnerabilities and digital communication risks. These targeted interventions address both the protective and risk factors related to online behavior. This also aligns with previous Croatian studies that reported comparable or higher levels of involvement in various roles of cyberbullying among adolescents (Trbojević & Šikuten, 2022; Vejmelka et al., 2017).

## Comparison of Student Characteristics by Cyberbullying Role

To better understand the psychosocial and contextual factors associated with different forms of cyberbullying involvement, this section compares student characteristics, including emotional, behavioral, academic, and digital indicators, across the four identified cyberbullying roles.

### Individual Characteristics of students involved in different Cyberbullying roles

Gender and Grade-Level Differences in Cyberbullying Behaviors

Significant differences in cyberbullying role involvement were observed across both gender and grade levels. A chi-square test confirmed a statistically significant association between gender and cyberbullying roles, $\chi^2(6)=17.98$, $p=0.006$. As shown

in Table 2, girls were more likely to be classified as victims (52.7%) and victim-perpetrators (60.6%) compared to boys.

Table 2. Gender and Grade-Level differences in cyberbullying behaviors

| Variable | $\chi^2$ (df) | p-value | Non-involved | Victims | Perpetrators | Victim-Perpetrators |
|---|---|---|---|---|---|---|
| Gender (Female %) | $\chi^2(6)=17.98$ | 0.006 | 45.2% | 52.7% | 40.6% | 60.6% |
| Grade Level (7/8 %) | $\chi^2(9)=56.76$ | <0.001 | 38.0% | 42.3% | 48.2% | 54.8% |

These findings reflect broader patterns of online vulnerability among girls. They are consistent with national research showing that girls in Croatia are more likely to use social media daily and intensively compared to boys (Vejmelka, Strabić & Jazvo, 2017). The increased online presence among girls may partially account for their greater exposure to relational and verbal forms of digital aggression. According to the HBSC study (HZJZ, 2020; Inchley et al., 2020), while physical aggression tends to decline with age, verbal and relational aggression remains prevalent, particularly among girls.

Furthermore, age also significantly influenced involvement in cyberbullying roles, $\chi^2(9)=56.76$, $p<0.001$. A higher proportion of older students (7th and 8th grades) were classified as perpetrators (48.2%) and victim-perpetrators (54.8%), suggesting that engagement in cyberbullying behaviors intensifies with age. This pattern corresponds with students' growing autonomy, increasing digital connectivity, and more complex social dynamics during adolescence. Data from the current IVNA-ZG study confirm that daily use of social media increases rapidly across grade levels, from 49% in 4th grade to 63.1% in 6th grade, indicating that digital environments become more central to peer relationships as children grow older.

National and international studies data underscore the importance of understanding these age and gender patterns. For example, the Health Behavior for School-age Children (HBSC) study found that among 13-year-olds in Croatia, 12.6% of boys and 11.3% of girls reported being bullied, placing Croatia 10th out of 44 countries in terms of reported victimization (HBSC, 2018, 2020). Interestingly, younger boys (especially those aged 11) reported higher rates of victimization compared to girls, though gender gaps narrowed by age 13 and 15. Verbal bullying (e.g., teasing, insults) was the most frequently reported type, followed by relational aggression (e.g., exclusion, rumor spreading), while physical aggression was less prevalent, reflecting broader global trends (HZJZ, 2020).

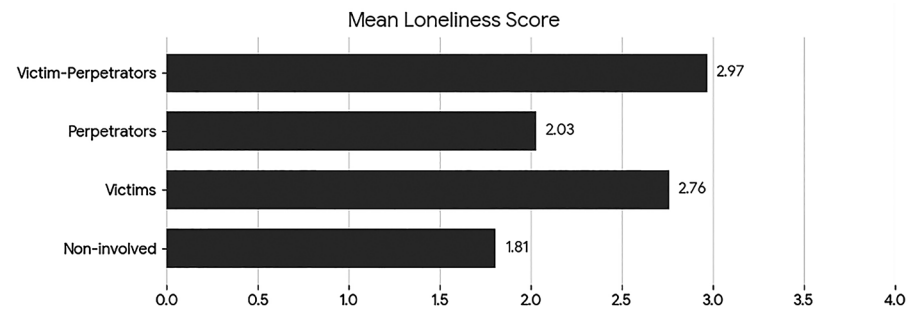
Despite their utility, large-scale studies like HBSC often use limited measurement tools that do not capture the full complexity of peer and online violence, particularly

within specific age groups. Consequently, Croatian experts have emphasized the need for national epidemiological studies that provide more in-depth and granular insights into peer violence and aggression, enabling more accurate monitoring, risk detection, and the development of evidence-based prevention strategies (Ajduković & Šalinović, 2017; Vejmelka, Sušac, & Rajhvajn Bulat, 2022). The importance of robust monitoring is further highlighted in Eurochild's 2024 comparative report, which identifies Croatia as lacking consistent indicators for evaluating children's rights and well-being, particularly in the domain of digital safety.

## Loneliness Across Cyberbullying Roles

Loneliness differed significantly across cyberbullying roles. The observed differences in loneliness levels across cyberbullying roles were confirmed by a one-way ANOVA ($F(3,1593)=101.13$, $p<0.001$), indicating a consistent pattern of differences across roles between students' involvement in cyberbullying and their perceived emotional isolation, clearly illustrated by the chart. One-way ANOVA tests were followed by Bonferroni-adjusted post hoc comparisons to identify specific group differences. The Bonferroni method was selected for its robustness in handling multiple comparisons among independent role-based groups. Post hoc Bonferroni tests revealed that victim-perpetrators reported significantly higher loneliness scores than non-involved students and pure perpetrators. Pure victims also scored higher than non-involved students. These results indicate meaningful group differences but do not represent measures of association strength; instead, the findings reflect variability in loneliness experiences across roles.

Chart 1. Mean Loneliness Score




| | Non-involved | Victims | Perpetrators | Victim-Perpetrators |
|---|---|---|---|---|
| Mean Loneliness Score | 1.81 | 2.76 | 2.03 | 2.97 |

Students who were not involved in cyberbullying reported the lowest mean loneliness score (M=1.81), suggesting stronger emotional stability and more supportive peer networks. Conversely, perpetrators reported a moderately higher loneliness score

(M=2.03), supporting earlier findings that individuals who engage in aggressive online behavior may also experience social disconnection and underlying emotional challenges (Dooley, Pyzalski, & Cross, 2009)

The observed differences in reported loneliness across cyberbullying roles were statistically significant, as indicated by a one-way ANOVA ($F(3,1593) = 101.13$, $p<0.001$). These findings indicate that subjective emotional isolation varies meaningfully across cyberbullying roles. Victims reported significantly elevated loneliness scores (M=2.76), and most notably, victim-perpetrators reported the highest loneliness levels (M=2.97), identifying them as the most emotionally vulnerable group. These findings are consistent with a growing body of international research showing that cyber victimization correlates strongly with loneliness, internalized distress, and a lack of social support (Brewer & Kerslake, 2015; Madsen et al., 2024; Tokunaga, 2010). Brewer and Kerslake (2015) demonstrated that loneliness was a significant predictor of cyberbullying victimization, although not of perpetration, suggesting that emotional isolation may predispose youth to become targets of digital aggression.

The elevated loneliness scores among victim-perpetrators suggest a distinct profile of dual vulnerability and reactivity relative to other groups. These students may exhibit aggressive behaviors as maladaptive responses to social exclusion or rejection, dynamics that contribute to a persistent cycle of digital hostility and emotional strain (Del Rey et al., 2015; Herrera López et al., 2017; Ramljak, 2025). Varela and colleagues (2022) further confirmed that loneliness plays a mediating role between cyber victimization and depressive symptoms, underscoring its centrality in the psychological impact of online violence. Given the findings, school-based interventions addressing cyberbullying must include components aimed at reducing loneliness and strengthening peer connectedness. Brewer and Kerslake (2015) recommend fostering empathy and boosting self-esteem as protective factors, particularly for students caught in overlapping roles.

## Digital Behavior Across Cyberbullying Roles

Significant differences in digital behavior were observed across cyberbullying roles. A one-way ANOVA revealed that victim-perpetrators spent the most time online, both on weekdays ($F(3,1630)=37.58$, $p< 0.001$) and weekends ($F(3,1630)=39.08$, $p< 0.001$), followed by perpetrators, victims, and non-involved students (Table 3.) Post-hoc comparisons confirmed that all three involved groups reported significantly higher online activity compared to non-involved peers, suggesting that greater digital engagement is a common characteristic of cyberbullying involvement.

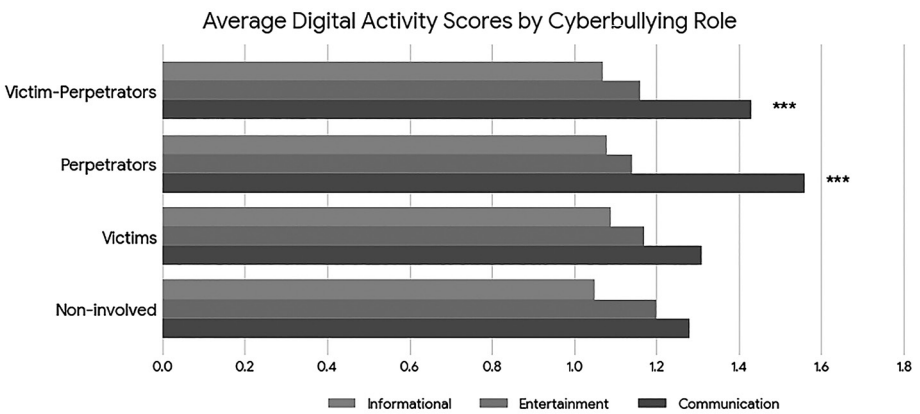
Table 3. Differences in Average Digital Use Scores by Cyberbullying Role and Use Category

| Digital Use Category | F (df = 3) | p-value | Significance Level | Mean – Non-involved | Mean – Victims | Mean – Perpetrators | Mean – Victim-Perpetrators |
|---|---|---|---|---|---|---|---|
| Communication | 10.55 | <0.001 | *** ($p$<0.001) | 1.28 | 1.31 | 1.56 | 1.43 |
| Entertainment | 0.90 | 0.438 | ns (p>0.05) | 1.20 | 1.17 | 1.14 | 1.16 |
| Informational/ Functional | 1.58 | 0.194 | ns (p>0.05) | 1.05 | 1.09 | 1.08 | 1.07 |

As shown in Table 3, regarding communication-oriented use, perpetrators (M=1.56) and victim-perpetrators (M=1.43) reported significantly higher scores than non-involved students (F(3,1336) = 10.55, $p$<0.001), indicating greater use of messaging and social media platforms. In contrast, no statistically significant differences were found in Entertainment use (F=0.90, $p$=0.438) and Informational and functional use (F=1.58, $p$=0.194). Communication-oriented digital activity (such as messaging and social media use) was the only category that significantly differed across roles. Victim-perpetrators and perpetrators reported the highest levels of communication use, exceeding that of victims and especially non-involved students. No significant differences were found across roles for entertainment or informational digital use, indicating that it is the interpersonal nature of digital behavior, rather than general screen time, that distinguishes students involved in cyberbullying.

Chart 2. Average Digital Activity Scores by Cyberbullying Role

*Note.* *** = $p$<0.001 (significantly higher than the non-involved group)



These findings align with earlier studies showing that students involved in cyberbullying roles report higher levels of socially intensive online activity compared to non-involved peers (Kowalski et al., 2014; Vejmelka et al., 2020). Particularly among adolescents, high-frequency digital communication may increase exposure to peer conflict, misinterpretation, and impulsive interactions, factors that contribute to the cyclical nature of online aggression (Stoilova et al., 2019). These insights underscore the importance of promoting safe communication practices and digital resilience in school-based interventions.

### Family, Academic, and Reporting Contexts Across Cyberbullying Roles

Several contextual variables: parental relationship status, academic performance, and willingness to report peer violence, differed significantly across cyberbullying roles.

Table 4. Differences in Parental Separation, Academic Success, and Willingness to Report Violence Across Cyberbullying Roles

| Variable | $\chi^2$ (df) | p-value | Non-involved | Victims | Perpetrators | Victim-Perpetrators |
|---|---|---|---|---|---|---|
| Parental Separation (%) | LR=28.72 | 0.017 | 16.5% | 19.7% | 21.1% | 28.3% |
| Low Academic Success (%) | $\chi^2$=24.90 | 0.015 | 12.1% | 15.4% | 19.3% | 24.7% |
| Reported Violence (%) | $\chi^2$=134.05 | <0.001 | 10.4% | 22.9% | 15.2% | 24.2% |

**Parental separation** was significantly associated with cyberbullying involvement (Likelihood Ratio=28.72, $p$=0.017). The highest percentage of parental separation was observed among victim-perpetrators (28.3%), followed by perpetrators (21.1%) and victims (19.7%), with non-involved students showing the lowest rate (16.5%). These findings are consistent with prior research showing that family instability, such as divorce or parental loss, increases emotional vulnerability and the likelihood of involvement in peer conflict, particularly in dual roles (Livingstone et al., 2011.).

In terms of **academic success**, statistically significant differences were observed across roles ($\chi^2$=24.90, $p$ = .015). Victim-perpetrators (24.7%) and perpetrators (19.3%) had the highest rates of low academic success, while non-involved students were most likely to perform well academically (12.1%). These findings suggest that cyberbullying involvement, particularly as both aggressor and victim, may be linked to difficulties in school engagement and achievement (Perren et al., 2010.). This pattern may reflect a bidirectional dynamic; academic struggles can both stem from and contribute to involvement in peer aggression.

Statistically significant differences in school absenteeism were found across cyberbullying roles, as indicated by a one-way ANOVA ($F(3, 1638) = 18.91$, $p<0.001$). Students who both experience and engage in cyberbullying behaviors (victim-perpetrators) reported the highest mean level of absenteeism (M=1.79), followed by students who experience victimization (M=1.57). Perpetrators (M=1.24) and non-involved students (M=1.25) reported lower and nearly identical levels of absenteeism. Post hoc Bonferroni tests confirmed that both victim-perpetrators and victims were significantly more likely to be absent from school than perpetrators and non-involved students ($p< 0.001$), suggesting that involvement in cyberbullying, particularly in roles involving victimization, is linked to increased school avoidance or distress.

The most striking differences emerged in the **willingness to report aggression** ($\chi^2 = 134{,}05$, $p < 0.001$). Victims (22.9%) and victim-perpetrators (24.2%) were significantly more likely to report experiences of peer aggression compared to perpetrators (15.2%) and non-involved students (10.4%). These results support findings from the Croatian deSHAME study, which demonstrated that students who occupied both victim and perpetrator roles were less likely to seek adult help and more likely to mirror the harassment they experienced, reflecting a cycle of retaliation and unresolved emotional distress (Vejmelka, Matković, Rajter, & Ramljak, 2023). However, the relatively low reporting rates among perpetrators may reflect concerns about retaliation or normalization of aggressive online behavior.

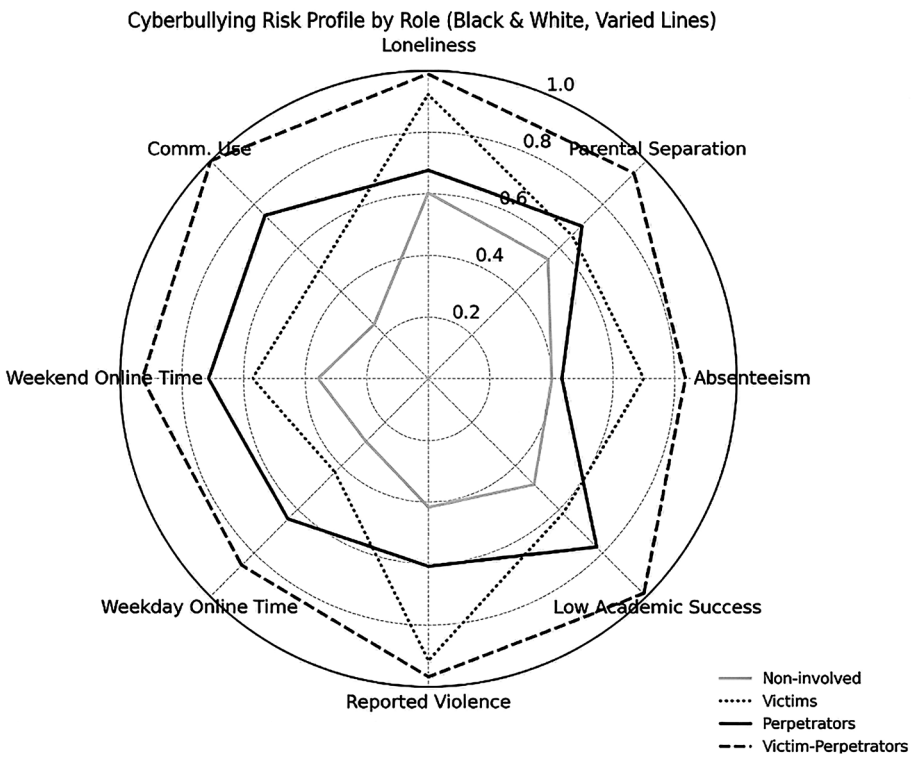
### Behavioral Profiles and Risk Patterns by Cyberbullying Role

Findings from this study reveal distinct behavioral and psychosocial patterns across cyberbullying roles, enabling the identification of specific risk profiles that can inform early interventions.

This Risk Profile Radar Chart presents the comprehensive risk profiles of students by cyberbullying role, using eight indicators: Loneliness, Parental Separation, Absenteeism, Low Academic Success, Reported aggression, Weekday and Weekend Online Time, and Communication-Oriented Use. The radar chart displays normalized values (0–1 scale) across eight key indicators that significantly differed between cyberbullying roles: loneliness, parental separation, absenteeism, low academic success, reported aggression, weekday and weekend online time, and communication-oriented digital use.

Data was scaled to allow direct comparison across percentage-based and continuous measures. Higher values represent greater presence or severity of each risk factor. For example, a score near one on the “loneliness” axis indicates the highest reported loneliness in the sample. The chart highlights distinct multidimensional risk profiles to inform early, role-sensitive interventions.

Chart 3. Cyberbullying Risk Profile Radar Chart




**Victim-perpetrators** consistently emerged as the most at-risk group. They reported the highest levels of loneliness (M=2.97), parental separation (28.3%), academic difficulties (24.7% with low academic success), absenteeism, and digital exposure – particularly in communication-oriented activities. This subgroup also had the highest likelihood of reporting experiences of aggression (24.2%), suggesting an increased awareness of harm alongside emotional reactivity and impulse control issues. These characteristics align with prior research identifying dual-role students as emotionally vulnerable and more likely to engage in retaliatory behaviors in response to social exclusion (Del Rey et al., 2015; Ramljak et al., 2025; Varela et al., 2022).

**Victims**, while not aggressive themselves, also reported significantly elevated loneliness and higher tendencies to report aggression, supporting a profile of emotional vulnerability coupled with help-seeking behavior. In contrast, **perpetrators** showed moderate loneliness, reduced reporting tendencies, and elevated online activity, particularly in communication settings, indicating a potential pattern of assertive or manipulative engagement rather than emotional isolation (Brewer & Kerslake, 2015).

**Non-involved** students consistently exhibited protective factors: lower loneliness scores, higher academic success, lower online exposure, and greater family stability. Their digital behaviors were less communication-driven, suggesting that limited exposure to high-intensity social platforms may act as a buffer against peer aggression.

These differentiated behavioral profiles emphasize the need for **tailored, role-sensitive interventions**. Prevention programs must address the interpersonal and emotional dynamics specific to each group: emotional regulation and trauma-informed approaches for victim-perpetrators, empowerment and coping strategies for victims, and digital literacy and empathy-building for perpetrators. Crucially, digital behavior patterns, especially those centered on high-frequency communication, should be monitored and guided through school-based digital resilience programs (Kowalski et al., 2014; Stoilova et al., 2019). The ECIPQ's ability to map these roles reliably positions it as a valuable tool for risk detection and ongoing monitoring in Croatian educational settings.

## RESEARCH LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Despite its strengths, this study has several limitations. First, its **cross-sectional design** prevents causal inferences about the directionality of the relationships identified. It is unclear whether, for example, loneliness leads to cyberbullying involvement or whether involvement in cyberbullying increases loneliness – or both. Second, the **reliance on self-report data** introduces potential biases such as social desirability and underreporting, especially in sensitive domains like aggressive behavior. While the ECIPQ is a validated instrument, its accuracy could be enhanced by triangulating with teacher, peer, or parental reports. Third, the study was conducted in elementary schools in **one urban region (Zagreb)**, which may limit generalizability to rural settings or different cultural contexts. Finally, **emerging digital platforms and behaviors**, such as gaming-related communication, may not be fully captured by current instruments.

Future research should explore the longitudinal dynamics of cyberbullying roles to understand better causal relationships between emotional distress, digital behavior, and peer aggression. Expanding studies to rural areas and incorporating diverse cultural contexts would enhance the generalizability of the findings. Moreover, using information from multiple sources, such as teachers, parents, and peers, could strengthen the reliability of data and offer a more comprehensive understanding of children's experiences with cyberbullying.

## CONCLUDING REMARKS

This study provides robust empirical evidence that cyberbullying among elementary school students is a multifaceted phenomenon deeply intertwined with students' emotional states, digital behavior, school experiences, and family dynamics. By adopting a role-based framework and utilizing the ECIPQ as a standardized measurement tool, the research differentiated between non-involved students, victims, perpetrators, and victim-perpetrators, revealing distinct risk profiles for each group.

Among these, victim-perpetrators emerged as the most psychosocially vulnerable group. They exhibited the highest levels of loneliness, absenteeism due to feeling unsafe, low academic success, communication-oriented digital activity, and family instability. This dual involvement in both victimization and perpetration suggests unresolved emotional conflicts, difficulties in emotional regulation, and complex relational patterns that may perpetuate both passive and active forms of digital aggression. These students also reported higher tendencies to disclose aggression, reflecting both their exposure to harm and their potential openness to intervention.

Victims, while not aggressive themselves, showed elevated emotional distress and a greater willingness to report peer aggression, aligning with prior literature that highlights their need for safe, supportive environments and emotional validation. Perpetrators, in contrast, demonstrated lower levels of emotional distress but higher levels of online engagement, particularly in communication-heavy contexts, which may increase the likelihood of impulsive or socially assertive digital interactions.

The study also confirmed developmental and gender-related patterns, with older students (especially in 7th and 8th grades) more frequently involved in cyberbullying. Girls were more often victims or victim-perpetrators, while boys were slightly more represented among perpetrators – patterns consistent with known differences in the expression and experience of aggression across genders. These dynamics point to the importance of age-sensitive and gender-responsive programming in both prevention and intervention efforts.

A significant contribution of this study lies in the nuanced analysis of digital behavior patterns. Communication-oriented digital use showed the greatest differences across cyberbullying roles. This pattern indicates that the relational and interactive dimensions of digital engagement differ more noticeably across cyberbullying roles than overall time spent online. It also highlights the need for interventions that focus not only on digital literacy or supervision but also on healthy online communication, emotional expression, and conflict resolution in virtual settings.

These findings highlight the importance of early, targeted, and role-sensitive interventions in elementary education. Cyberbullying prevention should move beyond behavior management to encompass emotional digital literacy, empathy, and peer relationship skills. Particular attention should be given to victim-perpetrators, who may require trauma-informed support that addresses both their experiences of harm and their aggressive behaviors. Schools should implement whole-school strategies that foster a sense of belonging and inclusion, alongside individualized interventions for students at risk.

Given the centrality of communication-based technology use, digital resilience education should teach students how to engage meaningfully and safely in online social spaces. These efforts should be integrated into school curricula and supported by collaboration between educators, mental health professionals, parents, and students themselves.

This study underscores the necessity of treating cyberbullying not as an isolated behavior, but as a developmental, relational, and digital challenge that requires systemic, sustained, and multi-layered responses.

Ultimately, this study reveals that children who both experience and engage in cyberbullying are particularly vulnerable, displaying higher levels of loneliness, elevated communication-driven digital activity, and school disengagement. Furthermore, the presence of co-occurring challenges, such as family instability and low academic performance, calls for multilevel and family-sensitive interventions, guided by ecological and ethically based, child centered principles. Social workers are uniquely positioned to coordinate support that bridges the digital and emotional lives of children, fostering safer relational environments both online and offline.

These findings highlight critical entry points for a broad range of professionals who interact daily with children and families and experts engaged in child and youth services across educational, clinical, and community-based settings.

This interdisciplinary focus is strongly aligned with international standards as well as national policy frameworks in Croatia considering that intersectoral and interdisciplinary collaboration is defined as a key measure for promoting mental health and preventing violence among children. At the global level, mental health promotion and violence prevention strategies also underscore the importance of building interdisciplinary services and implementing multisectoral prevention programs. Positioning the study's findings within these frameworks highlights their broad practical relevance and supports the argument that protecting children from cyberbullying requires collaborative, system-level responses that integrate educational, mental health, social care, and community perspectives. Given the

increasing relevance of digital aggression and violence across Europe, particularly among children, this study contributes to the understanding of how socio-demographic, familial, and educational factors intersect with online behavior. By highlighting differences across roles and emphasizing emotional vulnerability and resilience, the study offers actionable knowledge for practitioners, educators, and policymakers across Europe. In this way, the study contributes not only to the fields of social sciences and education but also to the ongoing bioethical debate on how societies should ethically respond to digital risks and uphold the well-being and dignity of children.

## REFERENCES

Ajduković, M., & Šalinović, M. (Eds.). (2017). *Indicators of child well-being*. Zagreb: UNICEF Croatia and Ministry for Demography, Family, Youth and Social Policy. https://www.unicef.org/croatia/izvjesca/indikatori-dobrobiti-djece (accessed: 06 June 2025)

Ajduković, M., & Keresteš, G. (Eds.). (2020). *Ethical Code for Research with Children – Integrated Text with Appendices*. Ministry of Labour, Pension System, Family and Social Policy.https://mrosp.gov.hr/UserDocsImages/dokumenti/Socijalna%20politika/Obitelj%20i%20djeca/Eti%C4%8Dki%20kodeks%20istra%C5%BEivanja%20s%20djecom%20-%20integrirani%20tekst%20s%20prilozima.pdf (accessed: 06 June 2025)

Alajbeg, A., Dragoslavić, M., & Vrljičak Davidović, N. (2018). Contribution of social self-efficacy and some sociodemographic factors to explain different roles in peer violence. *Croatian Review of Rehabilitation Research*, *54*(1), 10–23. https://doi.org/10.31299/hrri.54.1.2

Bauman, S. (2010). Cyberbullying in a rural intermediate school: An exploratory study. *The Journal of Early Adolescence, 30*(6), 803–833. https://doi.org/10.1177/0272431609350927

Brewer, G., & Kerslake, J. (2015). Cyberbullying, self-esteem, empathy, and loneliness. *Computers in Human Behavior, 48*, 255–260. https://doi.org/10.1016/j.chb.2015.01.073

Ciboci, L., Ćosić Pregrad, I., Kanižaj, I., Potočnik, D., & Vinković, D. (2020). *National research on children's online safety.* https://bib.irb.hr/datoteka/1056936.EU_KidsOnlineHRfinal_-_Copy.pdf (accessed: 06 June 2025)

Del Rey, R., Casas, J. A., Ortega-Ruiz, R., Schultze-Krumbholz, A., Scheithauer, H., Smith, P., Thompson, F., Barkoukis, V., Tsorbatzoudis, H., Brighi, A., Guarini, A., Pyżalski, J., & Plichta, P. (2015). Structural validation and cross-cultural robustness of the European Cyberbullying Intervention Project Questionnaire. *Computers in Human Behavior*, *50*, 141–147. https://doi.org/10.1016/j.chb.2015.03.065

Dooley, J. J., Pyżalski, J., & Cross, D. (2009). Cyberbullying versus face-to-face bullying: A theoretical and conceptual review. *Zeitschrift für Psychologie/Journal of Psychology, 217*(4), 182–188. https://doi.org/10.1027/0044-3409.217.4.182

Eurochild. (2024). *Children's Realities in Europe: Progress & Gaps* Eurochild 2024 Flagship report on children in need across Europe. Available at: https://eurochild.org/resource/childrens-realities-in-europe-progress-gaps/ (accessed: 06 June 2025) HBSC, (2018, 2022) *Health Behaviour in School-aged Children (HBSC)*. (2018, 2022).

Cyberbullying – being bullied. HBSC Data Browser. Available at: https://data-browser.hbsc.org/measure/cyberbullying-being-bullied/ (accessed: 06 June 2025).

Herrera-López M, Casas JA, Romera EM, Ortega-Ruiz R, Del Rey R. (2017). Validation of the European Cyberbullying Intervention Project Questionnaire for Colombian Adolescents. *Cyberpsychology Behaviour Social Network*; *20*(2) 117-125. https://doi.org/10.1089/cyber.2016.0414

HZJZ. (2020). *Health Behaviour in School-aged Children (HBSC) 2017/2018*. https://www.hzjz.hr/wp-content/uploads/2020/05/HBSC_2018_HR_-1.pdf (accessed: 06 June 2025)

Inchley J, Currie D, Budisavljevic S, Torsheim T, Jåstad A, Cosma A, Kelly, C., Andersson, A.M. & Samdal, O (2020). *Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada*. International report. Volume 2. Key data. Copenhagen: WHO Regional Office for Europe. (accessed: 06 June 2025)

Kekez, A., & Bilić, V. (2015). Why do good children do bad things: The role of moral disengagement in different peer violence roles. *Life and School*, *61*(2), 47–64. https://hrcak.srce.hr/162152 (accessed: 06 June 2025)

Kasturiratna, K.T.A.S., Hartanto, A., Chen, C.H.Y. et al. (2025). Umbrella review of meta-analyses on the risk factors, protective factors, consequences and interventions of cyberbullying victimization. *Nature Human Behav*iour, *9*, 101–132. https://doi.org/10.1038/s41562-024-02011-6

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis. *Psychological Bulletin*, *140*(4), 1073–1137. https://doi.org/10.1037/a0035618

Kowalski, R. M., & Limber, S. P. (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health*, *53*(1 Suppl), 13–S20. https://doi.org/10.1016/j.jadohealth.2012.09.018

Livingstone, S., Haddon, L., Görzig, A. and Ólafsson, K. (2011). *Risks and safety on the internet: the perspective of European children: full findings and policy implications from the EU Kids Online survey of 9-16-year-olds and their parents in 25 countries*. EU Kids Online, The London School of Economics and Political Science, London, UK.

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. (2011). *Risks and safety on the internet: The perspective of European children – Full findings and policy implications from the EU Kids Online survey of 9–16-year-olds and their parents in 25 countries.* EU Kids Online, London School of Economics and Political Science. (accessed: 06 June 2025)

Madsen, K. R., Damsgaard, M. T., Petersen, K., Qualter, P., & Holstein, B. E. (2024). Bullying at School, Cyberbullying, and Loneliness: National Representative Study of Adolescents in Denmark. *International Journal of Environmental Research and Public Health, 21*(4), 414. https://doi.org/10.3390/ijerph21040414

Patchin, J. W., & Hinduja, S. (2015). Measuring cyberbullying: Implications for research. *Aggression and Violent Behavior*, *23*, 69–74. https://doi.org/10.1016/j.avb.2015.05.013

Perren, S., Dooley, J., Shaw, T., & Cross, D. (2010). Bullying in school and cyberspace: Associations with depressive symptoms in Swiss and Australian adolescents. *Child and Adolescent Psychiatry and Mental Health*, *4*(28). https://doi.org/10.1186/1753-2000-4-28

Postigo, S., González, R., Montoya, I., & Ordóñez, A. (2013). Theoretical proposals in bullying research: A review. *Annals of Psychology*, *29*(2), 413–425. https://doi.org/10.6018/analesps.29.2.148251

Pregrad, J. (2010). *Prevention Program Against Peer Violence: For a Safe and Supportive School Environment*. Zagreb: UNICEF Office for Croatia.

Ramljak, T., Vejmelka, L., & Matković, R. (2025). Adolescent roles and reactions to online sexual harassment: Insights from a Croatian deSHAME study. *Psychology International*, *7*(1), 1–13. https://doi.org/10.3390/psycholint7010026

Reić Ercegovac, I. (2016). Experienced peer violence: Relations with age, gender, classroom climate and academic achievement. *Školski vjesnik*, *65*(2), 251–271.

Stoilova, M., Livingstone, S., & Nandagiri, R. (2019). *Children's data and privacy online: Growing up in a digital age*. Research findings. London: London School of Economics and Political Science.

Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior*, *26*(3), 277–287. https://doi.org/10.1016/j.chb.2009.11.014

Trbojević, F., & Šikuten, L. (2022). Prevalence, forms, and predictors of cyberbullying perpetration. *Medijska istraživanja*, *28*(1), 133–154. https://doi.org/10.22572/mi.28.1.6

Varela, J. J., Hernández, C., Miranda, R., Barlett, C. P., & Rodríguez-Rivas, M. E. (2022). Victims of Cyberbullying: Feeling Loneliness and Depression among Youth and Adult Chileans during the Pandemic. *International Journal of Environmental Research and Public Health, 19*(10), 5886. https://doi.org/10.3390/ijerph19105886

Vejmelka, L., Matković, R., & Grbović, E. (forthcoming). Croatia. In J.S. Hong, R. Thornberg, V.J. Llorent, & Z. Han (Eds.), *Bullying of children and adolescents: A global perspective*. Edward Elgar Publishing, Ltd.

Vejmelka, L., Matković, R., & Borković, D. K. (2020). Online at risk! Online activities of children in dormitories: Experiences in a Croatian county. *International Journal of Child, Youth and Family Studies*, *11*(4.1), 54–79. https://doi.org/10.18357/ijcyfs114202019938

Vejmelka, L., Matkovic, R., Rajter, M. (2022). Cyberbullying in COVID-19 Pandemic Decreases? Research of Internet Habits of Croatian Adolescents. *Information*, *13*(12), 586. https://doi.org/10.3390/info13120586

Vejmelka, L., Strabić, N., & Jazvo, M. (2017). Online Activities and Risky Behaviors of Adolescents in a Virtual Environment *Društvena istraživanja*, 26(1), 59–78. https://doi.org/10.5559/di.26.1.04

Vejmelka, L., Sušac, N., Rajhvajn Bulat, L. (2022). Offline and Online Peer Violence: Significance for Child Well-Being in Southeast Europe. In: H. Tiliouine, D. Benatuil, M.K.W. Lau (Eds.) *Handbook of Children's Risk, Vulnerability and Quality of Life*. International Handbooks of Quality-of-Life. Springer, Cham. https://doi.org/10.1007/978-3-031-01783-4_11

Velki, T., & Vrdoljak, G. (2013). The role of peer and school variables in predicting peer violent behavior. *Društvena istraživanja: Journal for General Social Issues*, *22*(1), 101–120.

Ybarra, M. L., Boyd, D., Korchmaros, J. D., & Oppenheim, J. K. (2012). Defining and measuring cyberbullying within the larger context of bullying victimization. *Journal of Adolescent Health*, *51*(1), 53–58. https://doi.org/10.1016/j.jadohealth.2011.12.031

Zych, I., Ortega-Ruiz, R., & Del Rey, R. (2015). Systematic review of theoretical studies on bullying and cyberbullying: Facts, knowledge, prevention, and intervention. *Aggression and Violent Behavior, 23*, 1–21. https://doi.org/10.1016/j.avb.2015.10.001

# Razumijevanje uloga u elektroničkom nasilju u osnovnoj školi: individualni rizični profili i obrasci digitalnog ponašanja

**SAŽETAK**

U ovom istraživanju ispituju se učestalost i obilježja različitih uloga u elektroničkom nasilju: žrtve, počinitelja te žrtve-počinitelja u osnovnim školama. Slučajni uzorak činilo je 1662 učenika osnovnih škola iz Zagreba, glavnog grada Hrvatske, a istraživanje je provedeno primjenom Upitnika Europskog projekta intervencije protiv elektroničkog nasilja (*European Cyberbullying Intervention Project Questionnaire* – ECIPQ). Sudionici su, na temelju odgovora

na ECIPQ, razvrstani prema ulogama u elektroničkom nasilju te uspoređeni s obzirom na niz individualnih (spol, razred, usamljenost), digitalnih (učestalost i vrsta korištenja interneta), školskih (školski uspjeh, izostanci) i obiteljskih (status roditeljskog odnosa) varijabli, kao i prema sklonosti prijavljivanju vršnjačke viktimizacije. Dobiveni rezultati pokazuju da su najčešće uloge u elektroničkom nasilju bile neuključenost, zatim žrtve, a potom žrtve-počinitelji, dok su počinitelji bili najmanje zastupljena skupina. Rezultati ukazuju na značajne razlike među ulogama u gotovo svim ispitivanim područjima. Žrtve-počinitelji iskazali su najviše razine usamljenosti, izostanaka i korištenja interneta te su najčešće prijavljivali iskustva viktimizacije. Djevojčice su češće svrstavane u skupine žrtava ili žrtava-počinitelja, dok su učenici viših razreda iskazali izraženiju uključenost u elektroničko nasilje. Prijavljivanje vršnjačke viktimizacije bilo je značajno učestalije među učenicima koji su i sami doživjeli viktimizaciju. Pristup temeljen na ulogama ukazao je na različite obrasce emocionalne ranjivosti i digitalnog ponašanja, naglašavajući potrebu za ranim, ciljanim intervencijama usmjerenima na razvoj digitalne otpornosti, sigurnosti u komunikaciji i emocionalne podrške u okruženju osnovne škole.

**Ključne riječi:** elektroničko nasilje, učenici osnovne škole, uloga u elektroničkom nasilju, ECIPQ.