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Online Interactions and Problematic Internet Use of Croatian Students during the COVID-19 Pandemic

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Abstract: The COVID-19 pandemic caused a transition to online services in almost all aspects of life. Today, online access is an important aspect of child well-being more than ever. The aim of the study was to investigate online activities and gender differences of children with a special focus on harmful online content, cyberbullying, and Internet addiction. Our research was conducted among students from one Croatian county (average age = 14.97, N = 494). The Internet Addiction Test, the European Cyberbullying Intervention Project Questionnaire, as well as questions constructed for the purposes of this research (e.g., online contents) were used. Between 20% and 30% of students spend four or more hours a day online. Furthermore, 14.57% of students showed moderate signs of addiction, and 1.42% already showed severe signs of addiction, where girls had significantly higher results. The results indicated that 12.75% of students were victims, 5.87% were perpetrators, and 8.3% were, at the same time, committing and experiencing cyberbullying. Children who commit and/or experience cyberbullying achieve higher results on the scale of Internet addiction than children who do not participate in cyberbullying. These findings contribute to our understanding of Internet usage and especially its problematic aspect in such a complex time as the COVID-19 pandemic, and they can be useful for planning future interventions with children.

Keywords: Internet usage; social media; peer interactions

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1. Introduction

More than 80% of young people in Europe use social networks and spend an increasing amount of their time consuming digital media [1–5]. EU Kids Online [6] states that more than half of the children report that they use smartphones or mobile phones daily or almost daily, several times a day, or all the time. The biggest worldwide research with children, the Health Behavior in School-aged Children (HBSC) study, [7] which was conducted with more than 220,000 children, classified 35% of adolescents as intensive users of electronic media communication. Furthermore, the research continuously confirmed that screen usage increases with the age of the child [6–8], but the COVID-19 pandemic has changed our digital habits [9].

We must not neglect the many benefits of an online environment where children, among others, meet a variety of educational needs through modern technologies. Online platforms as well as social networks offer a number of forms of content that can serve a variety of educational activities and that can enable communication in groups for structured leisure activities. Even before the pandemic, some educational institutions posted various educational materials on social media and websites to make them more accessible to their students [10]. Through the Internet, children can satisfy their information and educational needs, which have come into particular focus with the transition to e-learning during the introduction of epidemiological measures.

Since the first identified case of COVID-19 infection, in a very short time, the whole world has been declaring pandemic conditions, which have affected all aspects of life

globally. Everyday life before pandemic conditions has been replaced by alternative possibilities in the online environment. Although online opportunities existed and were used before the pandemic, during the pandemic, the same online opportunities have become the only option. The best example is online shopping. While before the pandemic only part of the population used the option of online shopping, during the pandemic, it became the only option in Croatia. Furthermore, before the pandemic, experts caring for the mental health of children warned of the harmful effects of overtime Internet use. During lockdown, all social contacts were reduced to communication via social networks and video communication applications, but children and young people are at risk because they are often unaware of the additional dangers they are exposed to in the digital world [9,11,12]. While children usually spent time through structured leisure activities, e.g., hanging out with friends, etc., in pandemic conditions, children could satisfy their need to play and socialize with peers only through the Internet, e.g., by playing interactive online games. Although many facilities were used by children before the pandemic, such as listening to music and watching movies, it is quite obvious that using the Internet during the pandemic became a primary activity. Many associations have warned that increased Internet use certainly means an increased risk for the development of problematic patterns of Internet use (e.g., [9]).

Children and young people face many changes, and the biggest change in their lives is the inability to go to school and hang out with friends. In Croatia, at the time of lockdown, from March to the end of the school year in June 2020, education took place exclusively in an online environment. The new school year of 2020/2021 was marked by alternating three different models of schooling, from normal and usual classes in school, through a mixed model where some students went to classes and some followed distance learning, to exclusively online classes for all students, and the choice of a model depended on the epidemiological situation [13,14]. In addition to the model of teaching, some students followed online classes due to the prescribed self-isolation or quarantine. The purpose of such organized classes was primarily to protect the health of students and school staff and to prevent the spread of viruses when there was a real danger but also to continue educating children through online teaching and e-learning.

While this article presents important results about Internet use and the area of problematic Internet usage, i.e., cyberbullying and internet addiction during the COVID-19 pandemic, it is important to emphasize that this research was not planned to measure the impact of COVID-19 pandemic on children's online activities. Instead, it aimed to provide insight into children's problematic usage of the Internet.

1.1. Digital Well-Being of Children and Youth

Internet access today is a normative standard in most of families, while internet connection as well as electronic devices are important indicators of well-being included in various statistical databases as well as in comparable studies [1,6,7,15]. Children and young people use the Internet on a daily basis to a large extent, and, through digital tools, they fulfil various informational, emotional, and social needs. Children's Worlds states that "*children's access to technology is now recognized as a fundamental resource for their well-being and development and that over 90% of children had Internet access in many high-income countries*" [15] (p. 3). More than three quarters of all young people in the EU use the Internet to find information about goods and services or to read online news sites, newspapers, or magazines, while more than half use the Internet to seek health information [1]

Although Internet use today is certainly an important domain of a child's well-being and a key tool for participating in everyday activities, the research results show contradictory findings on child's well-being and Internet use. Considering this, Best et al. [16] have stressed the need for future research. While Greenfield [17] has stated that technology has a dehumanizing aspect on youth by reducing their wellbeing and social closeness, Vosen and Valkenburg [18], in a longitudinal study, have found that social media use is related to an increase in the affective and the cognitive component of empathy. Best

et al. [16] summed up the benefits and harms of online communication and social media on adolescent well-being and identified the benefits of using online technologies as increased self-esteem, perceived social support, increased social capital, safe identity experimentation, and increased opportunity for self-disclosure, while reported harmful effects included increased exposure to harm, social isolation, depression, and cyberbullying.

During the current pandemic lock-down, the online environment has enabled the continuation of numerous activities in the lives of children and young people such as educational activities, communication with friends and families, information, and entertainment. Goldschmidt [19] states that technology use during the COVID-19 pandemic enabled and maintained five dimensions of wellbeing in children's lives: social, physical, emotional, intellectual, and spiritual. To conclude, the digital environment and online safety are so important for children and youth that, in March 2021, the UN Committee on the Rights of the Child adopted General Comment No. 25 of the Convention on the Rights of the Child in relation to the digital environment, which emphasizes that children's rights should be applied in an online context in accordance with the recommendations in all areas [20]. To conclude, the important domain of children's digital well-being is safety in all forms of risk and harm, which includes prevention of problematic Internet usage, which is presented in detail in the next section.

1.2. Problematic Usage of Internet

Problematic usage of the Internet is an umbrella term that includes all potentially problematic online behaviors like online gaming, online gambling, online shopping, addictive behaviors, online porn content, extensive social media usage, cyberbullying, cyberchondria, and other behaviors [21–25]. Cyberbullying and internet addiction are two of the most researched phenomena in the field of problematic usage of the Internet, but time spent online or excessive internet usage is also an important aspect of the problematic Internet usage of children and youth with an ongoing debate of experts in the field.

Although cyberbullying is a widely researched construct, there are several approaches to its study ranging from different conceptualizations and operationalizations [26]. For example, Patchin and Hinduja [27] equate electronic violence with classic bullying, describing it as repeated and intentional harm to others through a computer and a mobile or other electronic device. Tokunaga [28], on the other hand, consider as electronic violence any behavior that infringes on modern technologies, in which communication between a group or individuals involves messages of an aggressive and hostile nature intended to hurt or embarrass other people. There is a large number of cyberbullying studies around the world [29,30], and some of them are investigating the connection with other forms of problematic Internet usage as Internet addiction or online gaming [30–32]. There are several theoretical approaches and models used to study cyberbullying. The theory of routine activities is related to the time spent on the Internet as well as the change in the routine when performing daily activities [33,34], e.g., those in the online environment during this pandemic [9], but there is a still lack of studies to clarify these connections.

Internet addiction (IA) as the other important form of problematic usage of the Internet is defined as condition in which an individual loses control over the use of the Internet and continues to use it excessively, to the point where he/she experiences problematic outcomes that negatively affects his/her life [35]. There is an emerging trend of researchers worldwide dealing with the field of Internet addiction in children and young people, and while some of them focus on the prevalence [36,37] or the predictive and the risk factors for IA [38,39], others focus on specific addictive online behaviors [40]. Although studies on Internet addiction have been conducted in different countries and cultures and they differ in methodology, the data indicate that the prevalence of severe Internet addiction ranges from as low as 0.7% in India to over 20% in South Korea in the adolescent population [41]. Research on Internet addiction in Croatia shows that 2–4% of children (depending on the group) experience a high level of problematic behavior on the Internet, and they most likely need intensive treatment in specialized institutions. However, studies also identified

about 30% of children who experience moderate symptoms of Internet addiction [31,42], which classify them in at-risk groups that should be targeted with adequate and timely prevention programs

1.3. Online Activities and Peer Interactions among Youth: A Gender Perspective

Research in different areas of life, behavior, and experience systematically shows the differences between girls and boys [43,44]. Both boys and girls use the Internet and social media daily to a great extent, but studies show significant gender differences on different aspects of the Internet use.

EU Kids Online [6] states that the most popular online activities on a daily basis are watching videos or listening to music, communicating with friends and family, interaction on social media sites, and playing online games. Online gaming is the activity that boys do significantly more often than girls, which is confirmed by various studies. While online gaming is a preferred boys' online activity, research shows that girls use social networks significantly more often than their male peers [6,8,31]. HBSC [7] confirms that girls are more likely than boys to use the Internet for communication with friends but also stresses that girls have higher levels of problematic social media use; additionally, the prevalence of intensive Internet use was higher among girls than boys.

Croatian research tested the gender differences on different dimensions of Internet addiction and showed that girls achieve lower results than the boys on the dimension of social problems and higher results than the boys on the dimension of neglecting work and on lack of self-control [45]. McDool et al. [46] found that the Internet use was negatively associated with well-being, particularly how children feel about their appearance and how girls care about it much more than boys. The latest research on cyberbullying also shows gender specifics, so HBSC [7] states that boys are more likely to be perpetrators of cyberbullying, while girls are more likely to be victims of cyberbullying, which was confirmed in the EU Kids Online [6] comparable report.

The purpose of this study was to clarify the problematic use of the Internet among girls and boys in one Croatian county during the COVID-19 pandemic, and the significance of this study is reflected in the possibilities of implementation of findings in targeted, well-designed, and gender-specific prevention programs, which represent an important contribution to the field of problematic Internet usage during the pandemic in Croatia.

1.4. Research Goal and Hypothesis

The goal of the research was to identify Internet use habits and gender specifics among elementary and high school children in the Split-Dalmatia County with special focus on the relationship between the accessed online content, the level of Internet addiction, and the experience of cyberbullying during the pandemic and the lockdown.

In addition to descriptive indicators of cyberbullying exposure and the level of Internet addiction the research hypotheses were set in line with the previous research of online risks among children and youth [31,47]:

Hypothesis 1. (H1). *Presumes that there are gender differences in the online activities of boys and girls including accessed content, cyberbullying, and Internet addiction.*

Although Croatian studies did not identify gender differences in cyberbullying [11,14], considering the aforementioned trends in gender-specific online violence, we decided to test this in the actual research in our first hypothesis.

Hypothesis 2. (H2). *Presumes that children who participate in cyberbullying will significantly more often exhibit a higher level of Internet addiction.*

Our second hypothesis was that children who participate in cyberbullying will show a higher level of Internet addiction since this association between Internet addiction and cyberbullying was confirmed in several studies [31,42,48].

2. Materials and Methods

The Institute of Public Health of Split-Dalmatia County conducted a quantitative survey in December 2020, via an online survey questionnaire as the follow-up research (more about the first research wave available in [42,47,49,50]). Schools were selected from Split Dalmatia County according to a criteria sample (criteria for inclusion in the follow-up study was inclusion in the first wave). The research involved 15 schools (invitations were sent to the addresses of twenty-six schools, and fifteen schools responded positively and agreed to conduct the survey. The expected number of students was 794 in those 15 schools, and 494 participated in the survey, representing a response of 62.22% of the expected sample), and the sample included children from 12 to 18 years old (average age = 14.97 years) (N = 494). By gender, 42.7% (n = 211) boys and 57.3% (n = 283) girls participated. The Croatian Code of Ethics for Research with Children [51] was followed in the preparation and conduction of the research, parents of children over 14 were informed about the research, and, for the youngest, signed parental consents on their child's participation was needed. The most important prerequisite for inclusion in the study was the informed consent of the child himself/herself.

For the purposes of the research, a questionnaire of sociodemographic characteristics of the child was constructed (gender, age, school orientation, grade attended by the participant, school success, educational status of parents and assessment of family financial status, use of media to access the Internet, and frequency of Internet access at home and at school). Furthermore, a questionnaire on children's online activities was used, which examined the activities of participants on the Internet, based on LaRose and Tsai [52], which contained 16 items that examined time spent on the Internet in certain activities (e.g., social networks, gambling, and prizes), games, chat rooms, Internet forums, creating a personal website or blog, instant messaging, etc. Additionally, standardized measuring instruments (Internet Addiction Test—IAT [53], European Cyberbullying Intervention Project Questionnaire—ECIPQ, [54]) were used to measure the cyberbullying and the level of internet addiction. The Internet Addiction Test [53] consists of 20 items that are scored on a 5-point scale ranging from 0 (not applicable) to 5 (always), reflecting in the total score that could range from 0 to 100, with a higher score representing a higher level of addiction (0–19 no addiction symptoms, 20–39 mild but unproblematic symptoms, 40–69 a moderate level of addiction, and 70–100 a high level) [53]. The last two categories in this research were presented together, identifying the group of children with some level of problematic Internet usage that should be covered with adequate and timely interventions. The internal consistency coefficient (Cronbach alpha) on the Croatian sample was 0.91 [45]. Testing reliability and validity on this sample, we can conclude that this scale was valid because all total results were statistically significant correlated with each variable ($p < 0.001$), and the correlations were between 0.336 and 0.735, while the Cronbach α was 0.915. The European Cyberbullying Intervention Project Questionnaire [54] that was used to measure cyberbullying was comprised of 22 items that examined instances of various forms of cyberbullying that have occurred over the previous two months. The questionnaire contained two subscales (cyber victimization 11 items and cyber aggression 11 items). The answers ranged over a 5-point scale: 0 (never); 1 (once or twice); 2 (once a month); 3 (once a week); 4 (more than once a week). Based on the results on both scales, young people were divided by statistical criteria into categories according to their participation in cyberbullying: victims, perpetrators, and victim/perpetrators. Participants whose results were equal to or higher than 2 (once a month) on any item of the cyber victimization subscale and less than or equal to 1 (once or twice) on any item of the cyber aggression subscale, were considered cyber victims. Perpetrators of cyberbullying were those children whose results were equal to or higher than 2 (once a month) on any item of the cyber aggression subscale and less than or equal to 1 (once or twice) on all items of the cyber victimization subscale. Finally, cyber victims/perpetrators showed results higher than or equal to 2 (once a month) on at least one item in both scales [54]. Testing the reliability, the authors of this questionnaire point out that the value of Cronbach's alpha for the cyber victimization subscale was $\alpha = 0.97$

and for the cyber aggression subscale was $\alpha = 0.93$ [54]. The above questionnaire has so far been used in the Croatian sample where the reliability for the cyber victimization subscale was $\alpha = 0.89$, and for the cyber aggression subscale it was $\alpha = 0.88$ [31]. Testing the reliability and validity of the cyber victimization subscale, all total results were statistically significant correlated with each variable ($p < 0.001$), and correlations were between 0.536 and 0.725, while Cronbach α was 0.834. Testing the reliability and validity of the cyber aggression subscale, all total results were statistically significant correlated with each variable ($p < 0.001$), and correlations were between 0.503 and 0.769, while Cronbach α was 0.824.

Analysis was conducted by statistical package SPSS 2.0. By testing the normality of the distribution of the results of the dependent variables, it was determined that the distributions of the results deviate from the normal; therefore, non-parametric statistical analyses were used.

3. Results

In this study, students estimated how much time they spent in various online activities during workdays and weekends on smartphones or other devices such as computers, tablets, and/or laptops. The results in Table 1 show that participants more often generally use the Internet during workdays than during weekends (Kruskal–Wallis 236.635, df = 5; $p = 0.000$). Even 57.5% used the Internet for four hours or more daily during workdays and 56.6% during the weekends. Furthermore, participants more often used the Internet via smartphones in both examined time intervals, during weekdays (Kruskal–Wallis 31.347, df = 5; $p = 0.000$) and during weekends (Kruskal–Wallis 53.211, df = 5; $p = 0.000$).

Table 1. Daily Internet use during workdays and weekends, via smartphone and via other devices.

		Mean (Per Day *)	Median (Per Day *)	SD	Per Day (%) *					
					Never	to 30 min	to 1 h	1–3 h	4–8 h	More than 8 h
workdays	using the Internet	4.54	5	1.095	1.62	2.83	10.53	28.54	37.85	18.62
	using the Internet via smartphone	4.15	4	1.088	2.02	5.26	15.38	40.28	27.53	9.51
	using the Internet via computers, laptops, and/or tablets	3.26	3	1.354	10.73	21.66	21.66	27.33	13.97	4.66
weekends	using the Internet	4.53	5	1.174	1.82	5.47	8.30	27.73	36.03	20.65
	using the Internet via smartphone	4.16	4	1.153	1.82	8.10	12.96	38.46	27.13	11.54
	Using the Internet via computers, laptops, and/or tablets	3.02	3	1.441	19.23	19.64	21.46	25.10	9.11	5.47

* 1—never; 2—up to 30 min; 3—up to 1 h; 4—from 1 to 3 h; 5—from 4 to 8 h; 6–8 h and more.

Participants were asked to compare the time they used the Internet before the COVID-19 pandemic and during the pandemic, and 84.8% stated that they used the Internet more and much more than before the lock-down (Figure 1).

In order to better understand the habits of students while using the Internet via smartphone, we asked them what online content they use and to what extent they use content such as social networks, writing and sending messages, using chat rooms, listening to music, watching movies, and some other habits such as browsing information portals, seeking medical information, accessing porn content, participating in online gambling, online shopping, and so on. Additionally, due to the pandemic, contents such as writing assignments and researching educational content as well as the use online learning management systems (e.g., Moodle LMS) for the purpose of online class were included. As shown in Table 2, participants most commonly used the Internet for entertainment and leisure content such as texting messages via applications (95.34%), listening to music (93.93%), and watching movies and videos (93.72%). Many participants, 90.28% of them,

used a smartphone for attending online classes and to perform educational tasks, write homework, and research.

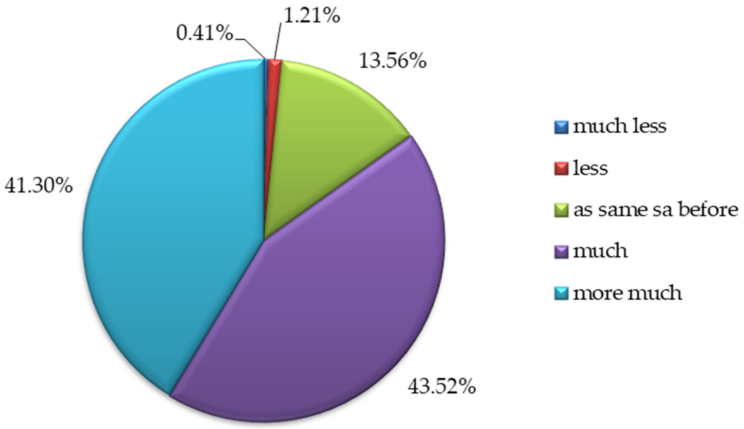

Figure 1. Comparison of time using the Internet before and during the COVID-19 pandemic.

Table 2. Daily use of different online contents via smartphone.

Content	Mean * (Per Time Intervals)	Median * (Per Time Intervals)	SD	Spending Time (%)					
				Never	Up to 30 min	Up to 1 h	1–3 h	4–8 h	8 h and More
Messaging (e.g., Viber, WhatsApp)	3.66	4	1.301	4.66	15.59	22.27	33.60	13.97	9.92
Listening to music	3.61	3	1.451	6.07	18.42	27.13	19.43	15.18	13.77
Watching movies or videos	3.69	4	1.311	6.28	11.13	24.70	32.59	15.38	9.92
Writing homework or research, in general	3.38	3	1.347	9.72	15.79	28.54	25.10	14.37	6.48
Online learning systems (e.g., Moodle)	3.56	4	1.502	9.72	18.22	19.43	22.87	18.22	11.54
Social networks (e.g., Facebook)	3.26	4	1.459	15.99	17.61	16.19	30.57	13.97	5.67
Playing online games	2.69	2	1.499	28.14	22.67	20.24	16.19	6.48	6.28
Browsing information portals	1.93	2	0.929	34.41	46.76	12.96	3.85	1.21	0.81
View and send e-mails	1.85	2	0.909	38.66	46.36	8.70	4.66	1.01	0.61
Reviewing medical information	1.66	2	0.825	49.60	40.28	6.48	2.43	0.81	0.40
Shopping	1.91	1	1.193	51.01	24.49	12.15	9.11	1.21	2.02
Internet forums	1.69	1	1.042	58.30	25.10	9.51	4.45	1.42	1.21
Chat rooms	1.83	1	1.275	60.93	16.19	9.92	7.29	3.64	2.02
Search and browse adult content	1.35	1	0.833	78.54	13.97	4.45	1.42	0.40	1.21
Running a personal website or blog	1.23	1	0.738	88.26	5.47	2.23	3.04	0.81	0.20
Online games/contents for a prize	1.12	1	0.533	92.71	5.26	0.61	0.61	0.40	0.40
Online Gambling	1.09	1	0.486	95.75	2.23	0.81	0.61	0.20	0.40

* 1—never; 2—up to 30 min; 3—up to 1 h; 4—from 1 to 3 h; 5—from 4 to 8 h; 6–8 h and more.

Daily Internet use of various online contents is shown in Table 2. Between 20% and 30% of students spend four or more hours daily using online learning management systems (e.g., Moodle LMS) during online classes (29.76%), listening to music (28.95%), watching movies or videos (25.30%), messaging (23.89%), writing homework or research (20.85%), and using social networks (19.64%).

Differences in the use of online content by gender have been observed (Table 3). Girls spend significantly more time on social media, texting, watching movies and videos,

listening to music, online searching and reviewing for medical information, browsing, sending emails, and shopping. Furthermore, the girls spend more time online for the purpose of online education, such as researching content and writing homework, and using the online learning management systems (e.g., Moodle LMS) during online classes. Unlike girls, boys spend significantly more time playing online games, using chat rooms, gambling online, and browsing adult content.

Table 3. Online content use by gender.

	Boys				Girls				Mann–Whitney U
	Mean	Median	SD	Mean Rank	Mean	Median	SD	Mean Rank	
Social networks (e.g., Facebook)	2.94	3	1.445	216.47	3.50	4	1.425	270.64	36,404.000 **
Online gambling	1.12	1	0.501	225.62	1.06	1	0.473	241.44	28,142.500 **
Online games/contents for a prize	1.12	1	0.564	247.07	1.12	1	0.509	247.82	29,947.500
Chat rooms	2.04	1	1.407	269.05	1.67	1	1.144	231.44	25,310.500 **
Internet forums	1.69	1	1.148	239.51	1.69	1	0.957	253.46	31,542.000
Running a personal website or blog	1.25	1	0.728	251.05	1.22	1	0.746	244.85	29,107.000
Messaging (e.g., Viber, WhatsApp)	3.30	3	1.391	206.54	3.93	4	1.160	278.04	38,500.000 **
Reviewing medical information	1.48	1	0.719	216.38	1.79	2	0.873	270.70	36,423.000 **
Search and browse adult content	1.55	1	1.010	274.85	1.20	1	0.634	227.11	24,085.000 **
Browsing information portals	1.91	2	1.015	239.34	1.94	2	0.861	253.58	31,578.000
View and send emails	1.67	1	0.869	217.11	1.98	2	0.918	270.16	36,269.000 **
Watching movies or videos	3.57	4	1.338	232.76	3.79	4	1.284	258.49	32,967.000 *
Listening to music	3.23	3	1.505	210.32	3.88	4	1.346	275.22	37,702.000 **
Shopping	1.66	1	1.099	215.10	2.10	2	1.228	271.66	36,692.500 **
Playing online games	3.26	3	1.578	298.94	2.27	2	1.284	209.15	19,003.000 **
Writing homework or research, in general	2.94	3	1.302	201.32	3.71	4	1.286	281.93	39,599.500 **
E-learning system (e.g., Lumen, Teams) during online classes	3.06	3	1.471	200.04	3.94	4	1.415	282.89	39,871.500 **

1—never; 2—up to 30 min; 3—up to 1 h; 4—from 1 to 3 h; 5—from 4 to 8 h; 6–8 h and more; * $p < 0.05$; ** $p < 0.01$.

Another important aspect of the online well-being of children is the experience of problematic usage of the Internet. According to the answers of the respondents, 41.70% (N = 206) of them did not show signs of addiction, and 42.31% (N = 209) of them showed mild signs of addiction (Figure 2). Special attention should be paid to (special focus should be put on) students who showed moderate signs of addiction, 14.57% (N = 72), and the 1.42% (N = 7) who already showed severe signs of addiction.

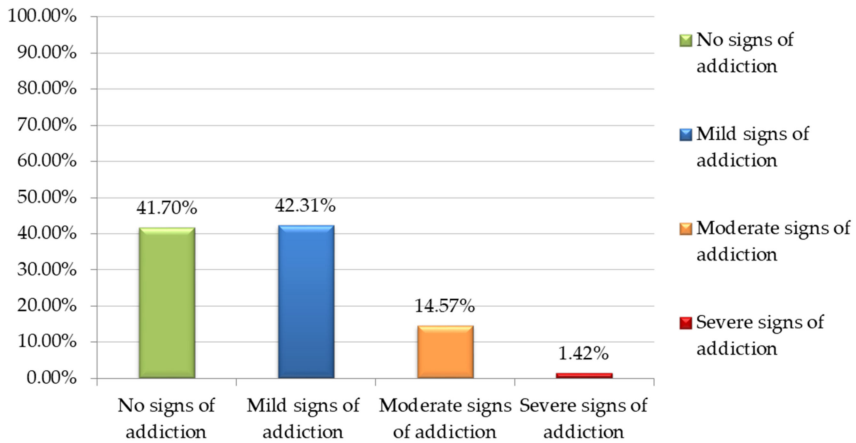

Figure 2. Level of internet addiction.

Almost three-quarters of respondents did not participate in any cyberbullying (73.08%, N = 361). According to the answers, other respondents showed participation in different roles in committing and experiencing cyberbullying, namely, 12.75% (N = 63) in the role of a victim, 5.87% (N = 29) in the role of a perpetrator, and 8.3% (N = 41) at the same time committing and experiencing cyberbullying in a combined role as cyberbully/cyber victim (Figure 3).

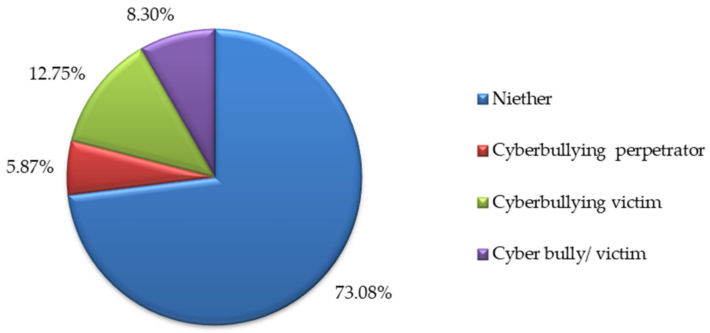

Figure 3. Participation in cyberbullying.

Furthermore, regarding the problematic usage of the Internet, a significant difference was found in the level of Internet addiction by gender, with girls significantly having higher results on the scale of Internet addiction (Table 4). This study did not find significant gender differences in perpetrating and experiencing cyberbullying.

Table 4. Problematic usage of the Internet, by gender.

Risky Online Behaviour	Total				Boys					Girls					Mann–Whitney U
	Mean	Min	Max	SD	Mean	Mean Rank	Min	Max	SD	Mean	Mean Rank	Min	Max	SD	
Level of online addiction	25.11	0	100	16.046	22.39	220.91	0	100	15.822	27.13	267.33	0	100	15.939	36,467.500 *
Online bullying	1.53	0	44	3.285	1.78	241.21	0	24	3.523	1.34	252.19	0	44	3.088	29,384.500
Online victimization	2.21	0	44	3.913	2.25	249.74	0	20	3.925	2.18	245.83	0	44	3.910	31,183.500

* $p < 0.01$.

The correlation between the time spent on different online content and the level of Internet Addiction is shown in Table 5. In general, the most examined content showed weak but statistically significant correlations. In other words, respondents who spend more time on social networks (r = 0.176, $p < 0.01$), chat rooms (r = 0.128, $p < 0.01$), Internet forums (r = 0.147, $p < 0.01$), running a personal website or blog (r = 0.096, $p < 0.05$), reviewing medical information (r = 0.117, $p < 0.01$), searching and browsing adult content (porn) (r = 0.202, $p < 0.01$), browsing information portals (r = 0.146, $p < 0.01$), viewing and sending emails (r = 0.172, $p < 0.01$), shopping (r = 0.177, $p < 0.01$), and playing online games (r = 0.111, $p < 0.05$) achieved higher signs of internet addiction. Significant moderate positive correlations between the frequency of texting a message (r = 0.313, $p < 0.01$), watching movies or videos (r = 0.298, $p < 0.01$) and listening to music (r = 0.327, $p < 0.01$) and internet addiction were identified.

Table 5. Correlation between the Internet activities and problematic usage of the Internet (Spearman r).

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Total IAT score	25.107	16.046	1																			
2	Victimization	13.206	3.913	0.315 **	1																		
3	Bullying	12.526	3.285	0.331 **	0.556 **	1																	
4	Social networks (e.g., Facebook)	3.259	1.459	0.176 **	0.040	0.130 **	1																
5	Online Gambling	1.085	0.486	−0.004	0.032	0.058	0.031	1															
6	Online contents for a prize	1.119	0.533	0.025	0.051	0.028	0.085	0.301 **	1														
7	Chat rooms	1.826	1.275	0.128 **	0.107 *	0.075	0.081	0.186 **	0.138 **	1													
8	Internet forums	1.692	1.042	0.147 **	0.132 **	0.155 **	0.112 *	0.146 **	0.197 **	0.408 **	1												
9	Running a personal website or blog	1.233	0.738	0.096 *	0.110 *	0.132 **	0.119 **	0.183 **	0.227 **	0.243 **	0.272 **	1											
10	Messaging (e.g., Viber, WhatsApp)	3.664	1.301	0.313 **	0.187 **	0.280 **	0.346 **	00.066	0.126 **	00.067	0.183 **	−0.019	1										
11	Reviewing medical information	1.658	0.825	0.117 **	0.113 *	0.069	0.131 **	0.144 **	0.146 **	0.117 **	0.253 **	0.140 **	0.243 **	1									
12	Searching and browsing adult content	1.348	0.833	0.202 **	0.128 **	0.182 **	0.116 **	0.313 **	0.165 **	0.210 **	0.188 **	0.122 **	0.186 **	0.110 *	1								
13	Browsing information portals	1.931	0.929	0.146 **	0.110 *	0.101 *	0.152 **	0.177 **	0.205 **	00.050	0.377 **	0.093 *	0.259 **	0.393 **	0.238 **	1							
14	Viewing and sending e-mails	1.848	0.909	0.172 **	0.064	0.071	0.198 **	0.089 *	0.262 **	0.151 **	0.214 **	0.111 *	0.318 **	0.251 **	0.165 **	0.311 **	1						
15	Watching movies or videos	3.694	1.311	0.298 **	0.129 **	0.100 *	0.156 **	0.069	0.032	0.114 *	0.167 **	0.083	0.383 **	0.191 **	0.132 **	0.204 **	0.166 **	1					
16	Listening to music	3.605	1.451	0.327 **	0.247 **	0.172 **	0.231 **	00.028	0.103 *	0.101 *	0.166 **	0.123 **	0.508 **	0.231 **	0.175 **	0.235 **	0.249 **	0.490 **	1				
17	Shopping	1.911	1.193	0.177 **	0.151 **	0.136 **	0.177 **	0.139 **	0.209 **	0.163 **	0.308 **	0.200 **	0.381 **	0.285 **	00.062	0.215 **	0.275 **	0.238 **	0.357 **	1			
18	Playing online games	2.690	1.499	0.111 *	0.124 **	0.095 *	−0.005	0.153 **	0.142 **	0.257 **	0.123 **	0.171 **	0.179 **	−0.014	0.147 **	0.026	0.051	0.348 **	0.244 **	0.136 **	1		
19	Writing homework or research	3.381	1.347	0.060	0.068	-0.025	00.075	−0.020	0.068	0.095 *	0.144 **	0.083	0.315 **	0.236 **	−0.047	0.168 **	0.212 **	0.257 **	0.328 **	0.260 **	0.126 **	1	
20	Moodle LMS during online classes	3.563	1.502	0.075	0.103 *	-0.011	0.094 *	−0.053	0.058	0.114 *	0.155 **	0.074	0.380 **	0.238 **	−0.046	0.144 **	0.225 **	0.261 **	0.309 **	0.195 **	0.108 *	0.703 **	1

** Correlation was significant at the 0.01 level (2-tailed). * Correlation was significant at the 0.05 level (2-tailed).

Considering the relationship between certain online activities with the involvement and exposure of children to cyberbullying (Table 5), the results showed a low positive association but a statistically significant correlation between Internet use and Internet forums (r = 0.132, $p < 0.01$), running a personal website or blog (r = 0.110, $p < 0.05$), messaging (r = 0.187, $p < 0.01$), reviewing medical information (r = 0.113, $p < 0.05$), searching and browsing adult content (r = 0.128, $p < 0.01$), browsing information portals (r = 0.110, $p < 0.05$), watching movies or videos (r = 0.129, $p < 0.01$), listening to music (r = 0.247, $p < 0.01$), shopping (r = 0.151, $p < 0.01$), playing online games (r = 0.124, $p < 0.01$), online learning management systems (e.g., Moodle LMS) during online classes (r = 0.103, $p < 0.05$), and children exposure to cyberbullying. Thus, the more frequent experience of cyberbullying among children correlated with the longer time spent in the mentioned online activities. In addition to these online activities, there was a significant correlation between the amount of time spent on Internet forums (r = 0.155, $p < 0.01$), running a personal website or blog (r = 0.132, $p < 0.01$), messaging (r = 0.280, $p < 0.01$), searching and browsing adult content (r = 0.182, $p < 0.01$), browsing information portals (r = 0.101, $p < 0.05$), watching movies or videos (r = 0.100, $p < 0.05$), listening to music (r = 0.172, $p < 0.01$), shopping (r = 0.136, $p < 0.01$), playing online games (r = 0.095, $p < 0.05$), and committing cyberbullying.

Table 6 shows statistically significant differences between groups of children included in different roles of cyberbullying and their total score of the level of Internet addiction. The Kruskall–Wallis test found a statistically significant difference between the role of cyber victim and/or cyber violence and the overall score on the IAT (48.187, df = 3; $p < 0.000$). By conducting pairwise comparisons, it was found that there were statistically significant differences within the groups: students who did not participate in cyberbullying scored significantly lower on the IAT than the groups of students who experienced cyber victimization ($p < 0.000$), committed cyberbullying ($p = 0.015$), and who experienced a combined role as cyberbully/victim ($p < 0.000$). In other words, significantly higher scores on IAT were achieved by students who participated in cyberbullying as opposed to those who did not, and the highest scores at the IAT were achieved by students who participated in both roles.

Table 6. Differences in the perpetration and experience of cyberbullying with regard to levels of Internet addiction.

	Victimization				Bullying			
	N	**Mean**	**SD**	**Mean Rank**	**N**	**Mean**	**SD**	**Mean Rank**
No Internet addiction	206	1.04	1.939	198.78	206	0.62	1.391	195.85
Mild Internet addiction	209	2.62	3.465	279.46	209	1.96	3.215	282.67
Moderate and high Internet addiction	79	4.15	6.856	289.99	79	2.75	5.599	289.13
Total	494	2.21	3.913		494	1.53	3.285	
Kruskal–Wallis				46.027 df = 2 $p = 0.000$				54.210 df = 2 $p = 0.000$

4. Discussion

Every human being on the planet changed their daily routine due to the pandemic caused by COVID-19. Children and young people in Croatia, as well as in other countries, could not continue with everyday leisure activities and hang out with peers and mostly did not go to school at that period. Thanks to the Internet and modern technologies, they continued their education by attending online classes and maintaining contacts with friends through social networks and instant message apps. The estimation identified in this study that they spend much more time using the Internet during the pandemic than before the pandemic was quite expected.

Previous studies showed that before the pandemic of COVID-19, and especially today during the pandemic, some adolescents use the Internet for more hours a day than experts recommend [2], which is confirmed by this research where almost 60% of children used the Internet for four hours a day or more. If we compare these results with other studies,

a study from Switzerland showed that more than 40% of boys and 35% of girls spent four hours online daily during isolation caused by the COVID-19 pandemic [3]. Research from Croatia, conducted before the pandemic among students aged 9 to 17 indicated that every fourth child spends four or more hours daily during working days, and, during weekends, that number rises to more than one third of children [4], which clearly states that the number of children that use the Internet for four hours and more a day has increased during the pandemic. It is important to emphasize that the use of the Internet during the pandemic enabled a child to fulfil a number of social, emotional, informational, and other needs and thus contributes to the well-being of children [19]. Internet access is an indicator of child well-being [1,15,16], but today it is an even more important aspect of child inclusion in everyday activities. Yet, at the same time, it can be assumed that the exposure to online risks was higher, which could lead to a negative impact on digital child well-being, due to overuse and other factors that have a great influence on their daily routine during lock-down and other epidemiological measures. In other words, the pandemic has surely influenced a child's digital activities, as children are spending more time in online activities—even boredom can be a motive for risky online behaviors, as stated by eminent organizations in the field of Internet safety [9].

In our study, participants most commonly used the Internet for interactions, entertainment, and leisure content as for using instant message applications, listening to music, and watching movies and videos, which is confirmation of the aforementioned research findings [31]. An interesting finding was that the use of social networks was lower in frequency than attending online classes and using the Internet to research and write homework, which is a direct impact of the pandemic and is a transfer to e-learning.

The most popular content for children in this research, such as messaging, listening to music, watching movies or videos, writing homework, and using online learning management systems during online classes were also the content forms where, on average, 20% to 30% of students spent four or more hours daily, which is in line with available findings before the pandemic in Croatia. For example, research among high school students before the pandemic confirmed that every third adolescent uses social networks for three to five hours a day, and every fifth adolescent uses it for more than five hours a day [5]. Another study on a Croatian representative sample of high school students showed that listening to music, watching movies, social networking, and texting messages were online activities in which participants conduct more than three and less than four hours a day [31]. Taking into account the fact that children were using the Internet for leisure activities excessively even before the pandemic, it is clear that participating in online classes means additional time spent online, which can contribute to overuse as well as problematic Internet use.

Our research confirmed gender specifics in the online activities presented in the results. Studies on children's experiences and interactions showed gender differences in the way they spend leisure and family time and interact with others as well as in online activities [8,43,44]. Previous research has found the gender differences where girls spend more time online than boys on social media, listening to music, exchanging instant messages, searching for information to write homework and medical information, and shopping. On the other hand, boys spend significantly more time than girls on playing online games, searching for adult content, gambling online, and chatting and using online forums [31], which was mostly confirmed in this study. This points to the need for careful planning of gender-specific prevention programs when it comes to Internet safety topics.

There is no doubt that the online environment contributes to children's well-being and can be a useful tool in its achievement [18,20], but, on the other hand, it can provide a channel for problematic Internet usage, cyberbullying, or Internet addiction [21,45,48,49]. According to the results of this study, 16.01% of respondents showed signs of moderate and high Internet addiction, and girls had significantly higher results on the level of Internet addiction than boys. Given that the category of moderate levels of addiction indicated the risk of developing a severe level of Internet addiction, it is important to focus targeted preventive and treatment interventions to this group, and, given gender differences, there

is a need for gender-specific programs. Furthermore, various questionnaires were used to identify problematic Internet use. A study conducted in China, among 2050 adolescents during the COVID-19 pandemic indicated that 2.68% of participants met the criterion for addictive Internet use, while 33.37% of participants were classified as problematic Internet users, which we named moderate risky users [38]. These data about a high level of Internet addiction are similar to the findings of our research because the same Internet scale was used; however, there are still almost double differences in the group of children who showed moderate signs of addiction, i.e., problematic online behavior. Croatian data on Internet addiction before the pandemic are also inconsistent with the results of this research, which could be the result of the methodological differences. From 2016, 32.8% showed moderate signs of Internet addiction and 3.4% of high school students showed a high level of addiction [31]. During 2017, among 7th- and 8th- grade elementary school students, 35.3% showed mild signs, and 25.8% showed moderate and high signs of Internet addiction. Moreover, in the same study among high school students, 37.5% of them showed mild signs, and 25.8% showed moderate and high signs of Internet addiction [42]. Internet addiction is not diagnostically defined [36], but many experts and researchers pay attention to detect children's behavior patterns in time and to direct preventive interventions in the right direction, so the term is widely used among experts and practitioners in the field [41]. In general, there is a lack of an established method of measuring Internet addiction as well as a lack of comprehensive and long-term monitoring. Therefore, the comparison of the results is not possible. It is quite certain that some children show signs of problematic use of the Internet in relation to different online contents and daily use of it. It is possible that there exist other reasons that have not been included and which could be mediators of the discrepancy in the research results. These can be parenting styles, parental education, parental pattern of using the Internet and their involvement in the life, upbringing and education of their child, school environment, previous preventive activities, prevention campaigns, and the level of digital competencies of children and adults. It would be interesting to include these research items in future studies [6,39]

The results indicate that the content that children use the most, and the content that children spend the most time on, are the content that are moderately and statistically related to the signs of internet Addiction, such as texting messages, listening to music, and watching movies. To support this result, Ceyhan [55] has pointed out that the use of the Internet for entertainment and social interactions can be a risk factor for the development of addiction symptoms.

In the research conducted before the pandemic, there was a statistically significant positive association between the frequency of social media use and online gaming and Internet addiction among adolescents, in the direction that more time spent on social media and online games was associated with higher levels of Internet addiction among young people [31]. Such findings are partly consistent with the findings of this study, as there is still statistical significance confirming the trend, although it is quite weak. Kuss et al. [37] find that spending time on social media and playing online games increases the risk of Internet addiction. Results about a significant correlation between time on online shopping and searching for adult content have been found in some earlier research [31,35,40].

In the new circumstances of uncertainty and global threat, when all the news was primarily about the number of newly infected people and the deaths of COVID-19, we would highlight the use of browsing medical data and information portals among children and young people. Although online health-related information and informative portal searches have some latent benefits that help to inform people about ailments and illnesses and their remedies and treatment [22], some people are repeatedly searching physical and mental well-being-related information. Children and young people often do not have enough prior knowledge and can hardly distinguish accurate from incorrect information and are therefore at a greater risk of developing some other mental health problems [23]. Although technology offers young people access to information and social connections, and it is important domain of their well-being, children can be exposed to harassments,

cyberbullying, and encouragements to participate in activities that can cause physical harm or even death by using the Internet [24].

During the pandemic, more than one-quarter of responders were involved in the roles of committing and experiencing cyberbullying, with 12.75% in the role of a victim, 5.87% in the role of a perpetrator, and 8.3% at the same time committing and experiencing cyberbullying. Almost three quarters of responders did not participate in cyberbullying, but, as everyday Internet users, most probably they were witnessing the cyberbullying, which is also important to have in mind when planning preventive programs. These findings for experiencing the cyberbullying are quite consistent with the previous research in Croatia before the pandemic, which indicated that 11.7% of high school students experience electronic violence; the results for perpetrators and victims/perpetrators were rather lower than in previous research [31]. During 2017, 7% of children aged 9 to 17 have had an experience of someone behaving towards them in an abusive or embarrassing way, while 4.5% of children admitted to committing violent behavior [4]. In the same year, 2017, a survey was conducted in Split-Dalmatia County as the first wave of the research presented in this article. Data were collected in two subpopulations: among elementary school students and among high school students. Among primary school students, 35% of them participated in cyberbullying, with 8% as a bully, 11.5% as a victim, and 15.4% as a bully and as a victim. On the other hand, high school students were more likely to participate in cyberbullying (42.3% of them). According to cyberbullying roles, 15% were bullies, 8.7% were victims, and 18.6% were both bullies and victims [42]. The main reason why these data are not harmonized is the different age groups of children who participated in the research, and, according to the findings, online violence increases with the age of children [4]. On the other hand, the time of the pandemic affected the way children and other adults communicated, e.g., teachers, who often communicated with children through social networks and through class chat groups, which could lead to greater awareness of adult presence as well as higher digital competencies of teachers and parents, which could be protective factor for cyberbullying events during the lock-down. Of course, this is just an assumption, and its validity is a recommendation for future research.

Internet forums, running a personal website or a blog, messaging, searching and browsing adult content, browsing information portals, watching movies or videos, listening to music, and shopping and playing online games are content forms where it was noticed how there is a weak but statistically significant correlation between the time children spend on such content with committing cyberbullying and with experiencing cyberbullying, while spending time on social networks was correlated only with cyberbullying perpetration.

The findings of the relation of online interactions and cyberbullying in previous studies are also in contrast. Carter [29] has considered that social networks are a place where adolescents have often been abused, while Vejmelka et al. [31] did not find a correlation between time on social networks and bullying. According to Liam et al. [30], frequent use of the Internet for games is associated with increased adolescent conflicts over success in these games, which can lead to electronic violence. Smith et al. [56] associated frequent use of instant messaging applications with frequent experiences of cyberbullying. Therefore, Chang et al. [25] considered how searching for and being exposed to sexual content on the Internet is associated with the conduct and experience of cyberbullying. The accessibility of this online content, both before and during the pandemic was more or less expected and confirmed. It is interesting that the use of the Internet in the e-learning system was weakly but significantly related to the experience of cyberbullying. Since there were no earlier data on this topic, we can only assume that perhaps some students experienced the messages and behaviors of other classmates through the online learning management systems (e.g., Moodle LMS) as online harassment or cyberbullying. On the other hand, online teaching also had some shortcomings in education, where students, who were not otherwise inclined to work independently and regularly, experienced assignments and exams as inconvenient and embarrassing.

Children whose patterns of online behavior had addictive characteristics were more likely to be exposed to cyberbullying or to commit cyberbullying, which is consistent with previous research [31–33]. In addition to the time children spend browsing the Internet, compulsive and harmful Internet use and interaction with other Internet users increases the risk of exposure to cyberbullying [34].

5. Limitations of the Study

It is important to enhance the research limitation as well as suggestions for future studies in the field. The instruments used showed high reliability and validity. Nevertheless, since the Internet is a rapidly changing phenomenon, with changing patterns of behaviour but also growing scientific knowledge, there is a possibility that some behaviours on the Internet, which can be interpreted as problematic, are left out of the questionnaire. We suggest updating the questionnaire, in accordance with the current numerous scientific findings through the inclusion of contemporary problematic behaviours on the Internet caused by the development of mobile technology and innovations in, e.g., social networks, video games, dating apps, and also within e-learning systems. Although self-assessment is widely used in studies with children and youth, this approach was limited by the socially desirable answers, which also presents the limitation of this research.

According to many findings, time spent online has a number of negative consequences on children's development. Of course, the level of consequences depends on the content that children use, the family environment, the child's personality, etc. Operationalization of time spent on the Internet requires more detailed analysis, because children access the Internet through different content that differs in the level of interaction with other users and on different devices. Children often use several contents at the same time, while mobile Internet allows them to use the Internet while performing some other activities, thus extending the time of using the Internet beyond the time intended for free activities, rest, and entertainment. The data on how much someone uses the Internet per day according to the offered content does not lead to the conclusion on how much someone uses the Internet per day in general. Therefore, it is necessary to use a questionnaire that determines the time of using the Internet according to the content but that also provides information on how much content is used at the same time and how much time children spend daily on the Internet in total. Moreover, the time measurement should use a proportional variable.

There is a lack of longitudinal research to determine how much the development of modern technologies and access to the Internet affects the use of the Internet by children and young people and the emergence of problematic behaviours. We proposed a detailed analysis of problematic Internet use and longitudinal monitoring of Internet use by children and young people. There is a lack of qualitative research that would further shed light on the results obtained. Due to the prescribed epidemiological measure banning gatherings, focus groups could not be organized as before. We suggest future implementation of a qualitative research and a mixed-method approach.

The research sample was not representative, so the conclusions cannot be interpreted in general. The sample was criterion-based and intentional—the invitation to participate was given to schools that had already participated in such a survey in 2017. Conditions in education during the COVID-19 pandemic made it even more difficult to conduct research, so some schools withdrew from participating precisely because of organizational difficulties. Nevertheless, these findings are a valuable contribution to a better understanding of how children use the Internet during the pandemic. We suggest conducting such research on a representative sample.

6. Conclusions

This research covered online activities and problematic use of the Internet among children and young people in a selected Croatian county. The results provide a better insight into Internet usage habits as well as online risks faced by children during the COVID-19 pandemic, which is particularly significant given the comprehensive transition to an online

environment in many activities to implement various social-distancing measures. Although the research did not cover the impact of the pandemic on problematic Internet use and online activities, the results provide insight into students' Internet use habits during the COVID-19 pandemic.

The first hypothesis (H1) presumed that there are gender differences in the online activities of boys and girls including accessed content, cyberbullying, and Internet addiction. The first hypothesis of the research was partially confirmed by the fact that gender differences were confirmed in a way that girls spend significantly more time on social media, texting, watching movies and videos, listening to music, online searching and reviewing for medical information, browsing and sending emails, online shopping, and in educational activities, while boys spend significantly more time playing online games, using chat rooms, gambling online, and browsing adult content. The expected results were also obtained when measuring internet addiction in such a way that girls had significantly higher results than boys. The hypothesis was rejected in the case of cyberbullying since the expected significant gender differences were not found in perpetrating and experiencing cyberbullying.

These results enable numerous evidence-based practices of targeted prevention and treatment of problematic Internet use among boys and girls in Split-Dalmatia County. It is crucial to plan and introduce gender-specific prevention and intervention programs with special attention to the group of girls, especially the high school girls that are experiencing internalized difficulties, which is a finding that has been confirmed by many studies in different domains of child functioning. Obviously, even in the online environment, this group of girls is particularly at risk for the occurrence of severe and harmful forms of problematic usage of the Internet. The research also showed that gender specifics are visible in the daily online activities of children and young people and that, in addition, to some common topics, boys and girls choose different content in an online environment that obviously meets some of their specific needs. This is especially important when planning universal prevention programs in the field of safe Internet use that should be accessible to all children from an early age. The second hypothesis (H2) presumed that children who participate in cyberbullying will significantly more often exhibit a higher level of Internet addiction. The second hypothesis was confirmed because the results showed a statistically significant difference between the role of cyber victim and/or cyber violence and the overall score on the IAT. These results showed that a higher level on the Internet addiction scale statistically significantly increased the likelihood of perpetrating or experiencing cyberbullying. Additionally, students who did not participate in cyberbullying scored significantly lower on the IAT than the groups of students who experienced cybervictimization. This result was in line with aforementioned studies.

This finding confirmed that online risky behaviors and severe online risks could involve several different forms of problematic usage of the Internet. For the child, this actually means the cumulative impact of several different stressors to which they are exposed in the online environment. It should be emphasized that it is not only about excessive time of Internet use but also other aspects of Internet addiction such as neglect of social contacts, emotional and cognitive Internet preoccupation, and a lack of control, which contributes to involvement in various risky online behaviors and cyberbullying. This group of children with multiple online behavioral problems and risks should be included in intensive treatment. On the other hand, children who show lower overall results on the Internet addiction scale but who already show risky behaviors in some aspects are the group that should be included in carefully planned programs to prevent further development of the problem. For this reason, future research should focus on how to identify these different groups of children and how to target them with appropriate and timely programs.

In conclusion, it is important to emphasize that despite the assumptions of experts that the COVID-19 pandemic will significantly endanger children and youth on the Internet given the extensive use of the online environment during the pandemic, this research

has not confirmed this assumption. Prevalence data on the level of Internet addiction and cyberbullying involvement are even slightly lower than available national indicators but it is important to stress that more complex comparable analyses were not conducted to confirm the significance of these differences given the methodological specifics of the conducted studies. However, this research clearly showed that, at least at the county level, no trend has been observed indicating a higher level of problematic Internet use given the COVID-19 pandemic. These encouraging results probably reflect the higher level of digital competencies in children and adults and in their parents and teachers, but they may also be the result of current prevention programs at the county level, which would certainly be interesting to look into in future research.

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Informed Consent Statement: Informed consent was obtained from all participants involved in the study according to Code of Ethics for Research with Children [51].

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References

1. Being Young in Europe Today—Digital World: Statistics Explained. Available online: https://ec.europa.eu/eurostat/statistics-explained/index.php/Being_young_in_Europe_today (accessed on 25 June 2021).
2. Media Use in Childhood: Evidence-Based Recommendations for Caregivers. Available online: http://www.apa.org/pi/families/resources/newsletter/2019/05/media-use-childhood. (accessed on 25 June 2021).
3. Mohler-Kuo, M.; Dzemaili, S.; Foster, S.; Werlen, L.; Walitza, S. Stress and Mental Health among Children/Adolescents, Their Parents, and Young Adults during the First COVID-19 Lockdown in Switzerland. *Int. J. Environ. Res. Public Health* **2021**, *18*, 4668. [CrossRef] [PubMed]
4. Ciboci, L.; Ćosić Pregrad, I.; Kanižaj, I.; Potočnik, D.; Vinković, D. Nacionalno Istraživanje o Sigurnosti Djece na Internetu HR Kids Online, Zagreb. 2020. Available online: http://hrkids.online/prez/EUKidsOnlineHRfinal.pdf (accessed on 25 June 2021).
5. Društvena Online iskustva i mentalno zdravlje mladih. Report. Available online: https://www.poliklinika-djeca.hr/istrazivanja/rezultati-nacionalnog-istrazivackog-projekta-drustvena-online-iskustva-i-mentalno-zdravlje-mladih/ (accessed on 24 July 2021).
6. Smahel, D.; Machackova, H.; Mascheroni, G.; Dedkova, L.; Staksrud, E.; Ólafsson, K.; Livingstone, S.; Hasebrink, U. EU Kids Online 2020: Survey Results from 19 Countries. *EU Kids Online* **2020**. [CrossRef]
7. Inchley, J.; Currie, D.; Budisavljevic, S.; Torsheim, T.; Jåstad, A.; Cosma, A.; Kelly, C.; Arnarsson, Á.M.; Barnekow, V.; Weber, M.M. (Eds.) *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 1. Key Findings*; Regional Office for Europe: Copenhagen, Denmark, 2020.

8. Ajduković, M.; Rajhvajn Bulat, L.; Sušac, N.; Vejmelka, L. *Subjektivna Dobrobit Djece u Hrvatskoj*; UNICEF-Ured za Hrvatsku: Zagreb, Hrvatska, 2020.
9. Threats and Trends Child Sexual Exploitation and Abuse. COVID-19 Impact. Available online: https://www.interpol.int/en/content/download/15611/file/COVID19%20-%20Child%20Sexual%20Exploitation%20and%20Abuse%20threats%20and%20trends.pdf (accessed on 25 July 2021).
10. O'Keeffe, G.S.; Clarke-Pearson, K.; Media, C.O.C.A. The Impact of Social Media on Children, Adolescents, and Families. *Pediatrics* **2011**, *127*, 800–804. [CrossRef] [PubMed]
11. Király, O.; Potenza, M.N.; Stein, D.J.; King, D.L.; Hodgins, D.C.; Saunders, J.B.; Griffiths, M.D.; Gjoneska, B.; Billieux, J.; Brand, M.; et al. Preventing problematic internet use during the COVID-19 pandemic: Consensus guidance. *Compr. Psychiatry* **2020**, *100*, 152180. [CrossRef]
12. King, D.L.; Delfabbro, P.H.; Billieux, J.; Potenza, M.N. Problematic online gaming and the COVID-19 pandemic. *J. Behav. Addict.* **2020**, *9*, 184–186. [CrossRef]
13. Coronavirus—Organisation of Distance Teaching and Learning in Croatia. Available online: https://mzo.gov.hr/glavni-izbornik-368/news/coronavirus-organisation-of-distance-teaching-and-learning-in-croatia/3634 (accessed on 15 August 2021).
14. Models and Recommendations for Work in Conditions Related to COVID-19 Disease. Pedagogical/School Year 2020/2021. Available online: https://mzo.gov.hr/UserDocsImages//dokumenti/Engleski/10-2020//Models%20and%20Recommendations%20for%20work%20in%20conditions%20related%20to%20COVID-19%20disease.pdf (accessed on 15 August 2021).
15. Rees, G.; Savahl, S.; Lee, B.J.; Casas, F. (Eds.) *Children's Views on Their Lives and Well-Being in 35 Countries: A Report on the Children's Worlds Project, 2016–2019*; Children's Worlds Project (ISCWeB): Jerusalem, Israel, 2020.
16. Best, P.; Manktelow, R.; Taylor, B. Online communication, social media and adolescent wellbeing: A systematic narrative review. *Child. Youth Serv. Rev.* **2014**, *41*, 27–36. [CrossRef]
17. Greenfield, P. Communication Technologies and Social Transformation: Their Impact on Human Development. In *Children in Changing Worlds: Sociocultural and Temporal Perspectives*; Parke, R., Elder, G., Jr., Eds.; Cambridge University Press: Cambridge, UK, 2019; pp. 235–274.
18. Vossen, H.G.; Valkenburg, P.M. Do social media foster or curtail adolescents' empathy? A longitudinal study. *Comput. Hum. Behav.* **2016**, *63*, 118–124. [CrossRef]
19. Goldschmidt, K. The COVID-19 Pandemic: Technology use to Support the Wellbeing of Children. *J. Pediatr. Nurs.* **2020**, *53*, 88–90. [CrossRef]
20. United Nations for Human Rights. General Comment on Children's Rights in Relation to the Digital Environment. Available online: https://www.ohchr.org/EN/HRBodies/CRC/Pages/GCChildrensRightsRelationDigitalEnvironment.aspx (accessed on 25 July 2021).
21. Fineberg, N.; Demetrovics, Z.; Stein, D.; Ioannidis, K.; Potenza, M.; Grünblatt, E.; Brand, M.; Billieux, J.; Carmi, L.; King, D.; et al. Manifesto for a European research network into Problematic Usage of the Internet. *Eur. Neuropsychopharmacol.* **2018**, *28*, 1232–1246. [CrossRef]
22. White, R.W.; Horvitz, E. Cyberchondria. *ACM Trans. Inf. Syst.* **2009**, *27*, 1–37. [CrossRef]
23. Varma, R.; Das, S.; Singh, T. Cyberchondria Amidst COVID-19 Pandemic: Challenges and Management Strategies. *Front. Psychiatry* **2021**, *12*, 618508. [CrossRef]
24. Kriegel, E.R.; Lazarevic, B.; Athanasian, C.E.; Milanaik, R.L. TikTok, Tide Pods and Tiger King: Health implications of trends taking over pediatric populations. *Curr. Opin. Pediatr.* **2020**, *33*, 170–177. [CrossRef]
25. Chang, F.-C.; Chiu, C.-H.; Miao, N.-F.; Chen, P.-H.; Lee, C.-M.; Chiang, J.-T. Predictors of unwanted exposure to online pornography and online sexual solicitation of youth. *J. Health Psychol.* **2014**, *21*, 1107–1118. [CrossRef]
26. Menesini, E.; Nocentini, A. Cyberbullying Definition and Measurement: Some critical considerations. *J. Psychol.* **2009**, *217*, 230–232. [CrossRef]
27. Patchin, J.W.; Hinduja, S. Measuring cyberbullying: Implications for research. *Aggress. Violent Behav.* **2015**, *23*, 69–74. [CrossRef]
28. Tokunaga, R.S. Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Comput. Hum. Behav.* **2010**, *26*, 277–287. [CrossRef]
29. Carter, J.M.; Wilson, F.L. Cyberbullying: A 21st Century Health Care Phenomenon. *Pediatr. Nurs.* **2015**, *41*, 115–125. [PubMed]
30. Lam, L.T.; Cheng, Z.; Liu, X. Violent Online Games Exposure and Cyberbullying/Victimization Among Adolescents. *Cyberpsychol. Behav. Soc. Netw.* **2013**, *16*, 159–165. [CrossRef] [PubMed]
31. Vejmelka, L.; Strabić, N.; Jazvo, M. Online Activities and Risk Behaviors among Adolescents in the Virtual Environment. *Drustvena Istraz.* **2017**, *26*, 59–78. [CrossRef]
32. Chang, F.-C.; Chiu, C.-H.; Miao, N.-F.; Chen, P.-H.; Lee, C.-M.; Huang, T.-F.; Pan, Y.-C. Online gaming and risks predict cyberbullying perpetration and victimization in adolescents. *Int. J. Public Health* **2014**, *60*, 257–266. [CrossRef] [PubMed]
33. Marcum, C.D.; Higgins, G.E.; Ricketts, M.L. Potential Factors of Online Victimization of Youth: An Examination of Adolescent Online Behaviors Utilizing Routine Activity Theory. *Deviant Behav.* **2010**, *31*, 381–410. [CrossRef]
34. Holt, T.J.; Bossler, A.M. Examining the Applicability of Lifestyle-Routine Activities Theory for Cybercrime Victimization. *Deviant Behav.* **2008**, *30*, 1–25. [CrossRef]
35. Young, K.S.; de Abreu, C.N. *Internet Addiction: A handbook and Guide to Evaluation and Treatment*; John Wiley & Sons: New York, NY, USA, 2011.

36. Zboralski, K.; Orzechowska, A.; Talarowska, M.; Darmosz, A.; Janiak, A.; Janiak, M.; Florkowski, A.; Gałecki, P. The prevalence of computer and Internet addiction among pupils Rozpowszechnienie uzależnienia od komputera i Internetu. *Postepy Hig. Med. Dosw.* **2009**, *63*, 8–12.
37. Kuss, D.J.; van Rooij, A.J.; Shorter, G.W.; Griffiths, M.D.; van de Mheen, D. Internet addiction in adolescents: Prevalence and risk factors. *Comput. Hum. Behav.* **2013**, *29*, 1987–1996. [CrossRef]
38. Dong, H.; Yang, F.; Lu, X.; Hao, W. Internet Addiction and Related Psychological Factors Among Children and Adolescents in China During the Coronavirus Disease 2019 (COVID-19) Epidemic. *Front. Psychiatry* **2020**, *11*, 751. [CrossRef] [PubMed]
39. Sun, Y.; Wilkinson, J. Parenting Style, Personality Traits, and Interpersonal Relationships: A Model of Prediction of Internet Addiction. *Int. J. Commun.* **2020**, *14*, 2163–2185.
40. Trotzke, P.; Starcke, K.; Müller, A.; Brand, M. Pathological Buying Online as a Specific Form of Internet Addiction: A Model-Based Experimental Investigation. *PLoS ONE* **2015**, *10*, e0140296. [CrossRef]
41. Mihajlov, M.; Vejmelka, L. Internet addiction: A review of the first twenty years. *Psychiatr. Danub.* **2017**, *29*, 260–272. [CrossRef]
42. Vejmelka, L.; Matković, R.; Kovčić Borković, D. Online risks for children and youth: How to enhance child safety in virtual world. In Proceedings of the 21st Biennial International Conference of the International Consortium for Social Development, Yogyakarta, Indonesia, 16–19 July 2019; pp. 106–107.
43. Rose, A.J.; Rudolph, K.D. A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys. *Psychol. Bull.* **2006**, *132*, 98–131. [CrossRef]
44. Putnick, D.L.; Bornstein, M.H. Girls' and boys' labor and household chores in low- and middle-income countries. *Monogr. Soc. Res. Child Dev.* **2016**, *81*, 104–122. [CrossRef]
45. Černja, I.; Vejmelka, L.; Rajter, M. Internet addiction test: Croatian preliminary study. *BMC Psychiatry* **2019**, *19*, 1–11. [CrossRef]
46. McDool, E.; Powell, P.; Roberts, J.; Taylor, K. The internet and children's psychological wellbeing. *J. Health Econ.* **2019**, *69*, 102274. [CrossRef] [PubMed]
47. Vejmelka, L.; Matkovic, R.; Borkovic, D.K. Online at risk! online activities of children in dormitories: Experiences in a croatian county. *Int. J. Child, Youth Fam. Stud.* **2020**, *11*, 54–79. [CrossRef]
48. Jung, Y.-E.; Leventhal, B.; Kim, Y.S.; Park, T.W.; Lee, S.-H.; Lee, M.; Park, S.H.; Yang, J.-C.; Chung, Y.-C.; Chung, S.-K.; et al. Cyberbullying, Problematic Internet Use, and Psychopathologic Symptoms among Korean Youth. *Yonsei Med. J.* **2014**, *55*, 826–830. [CrossRef]
49. Matković, R.; Vejmelka, L.; Ključević, Ž. Use of security settings on social networks of elementary and high school students in the Split-Dalmatia County. In Proceedings of the 43rd International Convention on Information, Communication and Electronic Technology (MIPRO), Opatija, Croatia, 28 September–2 October 2020; MIPRO: Opatija, Croatia, 2020; pp. 1476–1481. [CrossRef]
50. Kovačić Borković, D.; Matković, R.; Vejmelka, L. Roditelji u mreži interneta—Roditeljski nadzor kod djece i mladih. In *27 Godišnja Konferencija Hrvatskih Psihologa, Psihologija i Digitalni Svijet*; Šincek, D., Rudolfi, N., Penezić, Z., Eds.; Hrvatsko Psihološko Društvo: Zagreb, Hrvatska, 2019; p. 133. Available online: https://www.bib.irb.hr/1031327 (accessed on 15 June 2021).
51. Ajduković, M.; Kolesarić, V. (Eds.) Etički Kodeks Istraživanja s Djecom [Code of Ethics in Research with Children]. Etički Kodeks Istraživanja s Djecom. Vijeće za Djecu Vlade Republike Hrvatske; Državni Zavod za Zaštitu Obitelji, Materinstva i Mladeži [Council for Children of the Government of the Republic of Croatia; State Institute for the Protection of the Family, Motherhood and Youth]. Zagreb. 2003. Available online: https://www.ufzg.unizg.hr/wp-content/uploads/2020/02/Eticki-kodeks-istrazivanja-s-djecom.pdf (accessed on 25 July 2021).
52. LaRose, R.; Tsai, H.-Y.S. Completion rates and non-response error in online surveys: Comparing sweepstakes and pre-paid cash incentives in studies of online behavior. *Comput. Hum. Behav.* **2014**, *34*, 110–119. [CrossRef]
53. Young, K.S. *Caught in the Net: How to Recognize the Signs of Internet Addiction-and a Winning Strategy for Recovery*; John Wiley & Sons, Inc.: New York, NY, USA, 1998.
54. Del Rey, R.; Casas, J.A.; Ortega-Ruiz, R.; Schultze-Krumbholz, A.; Scheithauer, H.; Smith, P.; Thompson, F.; Barkoukis, V.; Tsorbatzoudis, H.; Brighi, A.; et al. Structural validation and cross-cultural robustness of the European Cyberbullying Intervention Project Questionnaire. *Comput. Hum. Behav.* **2015**, *50*, 141–147. [CrossRef]
55. Ceyhan, A.A. University students' problematic Internet use and communication skills according to the internet use purposes. *Educ. Sci. Theory Pract.* **2011**, *11*, 69–77.
56. Smith, P.K.; Mahdavi, J.; Carvalho, M.; Fisher, S.; Russell, S.; Tippett, N. Cyberbullying: Its nature and impact in secondary school pupils. *J. Child Psychol. Psychiatry* **2008**, *49*, 376–385. [CrossRef] [PubMed]