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PREVALENCE AND MANIFESTATIONS OF DIGITAL HARASSMENT AMONG YOUNG ADULTS IN SERBIA[354]

Abstract:	*Although the literature on digital violence is largely dominated by studies focusing on the pre-adolescent or adolescent population, young adults are a vulnerable category as well, due to a high prevalence of Internet use. The goal of this research was to examine the extent to which young adults in Serbia report committing or being exposed to different types of cyber harassment and to identify possible differences in gender and the level of attended education (secondary school or university).*
	The research was conducted on 312 participants (32.69% male and 67.31% female), from 18 to 25 years (mean age = 19.23). The sample included high school seniors (33.33%) and university students (66.67%). Obtained results reveal that the most represented forms of cyber harassment are online stalking (52.56%), ignoring/excluding someone from groups on social networks (27.88%), harassment by phone calls (24.68%), and the use of false/someone else's identity or creating profiles in someone else's name (22.76%). We conclude that one of the main priorities in the digital era is to create a secure online environment not only for children and adolescents but also for young adults, as they too are frequently exposed to digital violence.
Keywords:	**Cyberharassment; digital harassment; cyberbullying; cyberstalking; victimization; young adults**
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Introduction

Exposure to violence in the digital era, and various risks on the Internet, are one of the greatest challenges of modern society. The use of digital technology and social media has become an integral part of everyday life for most people around the globe, especially for the members of the so-called Generation Z[355]. As social interaction increasingly moves from a real to a virtual environment, forms of violence also change and transform from traditional into more virtual ones. To describe various types of violent behavior on the Internet (or via other forms of modern communication) in literature used terms such as

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[355] American Psychological Association (APA), *Stress in America: Generation Z*, in "Stress in America™ Survey", 2018, pp. 1-11

cyberbullying, cyberharassment, digital bullying, electronic bullying, bullying on the Internet, online bullying, harassment in the digital world, etc.[356] as well as electronic aggression, or online harassment[357].

Cyberbullying is an "umbrella" term used to describe several different and loosely connected phenomena. Probably the easiest and at the same time, the broadest definition is one that implies any kind of bullying that is perpetrated using modern electronic means. A more detailed, yet still simple enough way to describe cyberbullying is as using digital technology (Internet and mobile phones) to upset, hurt, humiliate, and harm another person[358]. Another frequently used definition determines cyberbullying as an aggressive and intentional behavior carried out repeatedly by a group or an individual, via electronic means against a victim who cannot easily defend him or herself[359]. Although research related to this phenomenon is mainly focused on children and teenagers, it is important to emphasize that not only youth but also adults commit and experience digital violence. According to some authors, when adults are harassed online, the term which is used is not cyberbullying, but rather cyberstalking or cyberharassment[360]. However, studies concerning cyber harassment among the adult population are quite scarce. Even among young adults, the research on digital violence is still insufficient, as most previous studies mostly focused on the pre-adolescent and adolescent populations[361].

Although digital violence takes place in a "virtual" ambiance, cyberbullying often has causes and consequences in a real environment[362]. The experience of digital violence has been associated with different negative outcomes such as e.g., anxiety, depression, sleep disturbance, substance abuse, murder, or suicide[363]. Therefore, in the last few decades[364], cyberbullying as a serious problem has attracted significant attention from researchers worldwide. It is estimated that the number of youths who experience violence online ranges from 10% to 40%, largely varying in dependence on the age of participants and the definition of cyber harassment[365]. Other research suggests that digital harassment is

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[356] Dobrinka Kuzmanović, Biljana Lajović, Smiljana Grujić, Gordana Medenica, *Digitalno nasilje– prevencija i reagovanje*, Ministarstvo prosvete, nauke i tehnološkog razvoja Republike Srbije/ Pedagoško društvo Srbije, Beograd, 2016

[357] Megan A. Moreno, *Cyberbullying*, in "JAMA Pediatrics*"*, Vol. 168, No. 5, 2014, p. 500

[358] Dobrinka Kuzmanović et. al., *Op. cit.*

[359] Robin M. Kowalski, Susan P. Limber, Patricia W. Agatston, *Cyberbullying: Bullying in the digital age* (2nd ed.), Wiley-Blackwell, Malden, MA, 2012; Megan A. Moreno, *Op. cit.*

[360] Parry Aftab, *Cyberbstalking and Harassment*, 2016, http://www.wiredsafety.com, (29.06.2020)

[361] Cristina Jenaro, Noelia Flores, Cinthia Patricia Frías, *Systematic review of empirical studies on cyberbullying in adults: What we know and what we should investigate*, in "Aggression and Violent Behavior", Vol. 38, 2018, pp. 113-122; Alejandra Sarmiento, Mauricio Herrera-López, Izabela Zych, *Is cyberbullying a group process? Online and offline bystanders of cyberbullying act as defenders, reinforcers and outsiders*, in "Computers in Human Behavior", Vol. 99, 2019, pp. 328-334

[362] Dobrinka Kuzmanović et. al., *Op. cit*; About network society, network wars, cyberspace and geopolitics of internet see in: Ljubiša Despotović; Vanja Glišin, *Savremeni međunarodni odnosi i geopolitika*, Kairos, Sremski Karlovci, 2021, pp. 117-130

[363] Tanya Beran, Qing Li, *Cyber-harassment: A study of a new method for an old behavior*, in "Journal of Educational Computing Research", Vol. 32, No. 3, 2005, pp. 265–277; Kimberly J. Mitchell, Michele Ybarra, David Finkelhor, *The Relative Importance of Online Victimization in Understanding Depression, Delinquency and Substance Use*, in "Child Maltreatment", Vol. 12, No. 4, 2007, pp. 314–324; Michele L. Ybarra, Marie Diener-West, Philip J. Leaf, *Examining the Overlap in Internet Harassment and School Bullying: Implications for School Intervention*, in "Journal of Adolescent Health", Vol. 41, No. 6, 2007, pp. 42–50

[364] Dobrinka Kuzmanović et. al., *Op. cit.*; Jovana Vaselek, *Nasilje na internetu*, Graduate thesis, University of Belgrade, Belgrade, 2018

[365] Amanda Lenhart, *Cyberbullying 2010: What the Research is Telling Us*, "Pew Internet & American Life Project", 2010, https://www.pewresearch.org/internet/2010/05/06/cyberbullying-2010-what-the-research-tells-us/, (05.07.2020); Megan A. Moreno, *Op. cit.*; Lindsey M. O'Brennan, Catherine P. Bradshaw, Anne L. Sawyer, *Examining developmental differences in the social-emotional problems among frequent bullies, victims, and bully/victims*, in "Psychology in the Schools", Vol. 46, No. 2, 2009, pp. 100–115; Daniel Pontzer, *A Theoretical Test of Bullying Behavior: Parenting, Personality, and the Bully/Victim Relationship*, in "Journal of Family Violence", Vol. 25, No. 3, 2010, pp. 259–273

very widespread among youth and adults[366], with some studies indicating that nearly 75% of children of school age report that they have experienced digital aggression at least once during the last year. According to available resources, most of the early research regarding cyber harassment among young adults, namely university students, was conducted in the USA, with a considerable lack of similar research in Europe[367]. One of those pioneering studies, conducted at New Hampshire University in 2002, showed that 10-15% of students were exposed to some kind of cyber harassment[368]. In 2008. the research conducted at Northeastern Pennsylvania University showed that more than 50% of the participants were familiar with the phenomenon of internet violence[369]. In 2010, a study among students at Midwestern University showed that 21.9% of the participants had experienced internet violence during the studies, while 8.6% had perpetrated the same kind of violence[370]. Among the recent specific studies concerning the USA, we can just briefly mention the research of Branch et al. (2017), Lee and Sanchez (2018), Li and Pustaka (2017), Näsi et al. (2017), O'Connor et al. (2018), Paullet and Chawdhry (2020) and others[371].

Regarding the studies conducted outside North America and Europe, to show the global nature of cyber harassment phenomena among young adults, as well as the global nature of its research, we can point just to a few of the most recent studies from different parts of the world. One research from

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[367] Vesna Baltezarević, Radoslav Baltezarević, Borivoje Baltezarević, *Rasprostranjenost viktimizacije i vršenja nasilja na internetu među studentskom populacijom*, in "Temida", Vol. 19, No. 3-4, 2016, pp. 373-387; Cristina Jenaro, Noelia Flores, Cinthia Patricia Frías, *Op. cit*; In some of the European countries (Finland, Germany, Hungary, Italy, Norway, Portugal and UK), in the last few years there is visible progress concerning research of some aspects of cyberharassment among youg adults. For the most recent of them, see f. e. Matti Näsi; Pekka Räsänen; Markus Kaakinen; Teo Keipi; Atte Oksanen, *Do routine activities help predict young adults' online harassment: A multi-nation study*, in "Criminology & Criminal Justice", Vol. 17, No. 4, 2017, pp. 418-432; Sophie Weingraber; Christina Plath; Laura Naegele; Margit Stein, *Online victimization–an explorative study of sexual violence and cyber grooming in the context of social media use by young adults in Germany*, in "Social Work and Society", Vol. 18, No. 3, 2020; Katalin Parti; Tibor Kiss; Gergely Koplányi, *Architecture of aggression in cyberspace. Testing cyber aggression in young adults in Hungary*, in "International Journal of Cybersecurity Intelligence & Cybercrime", Vol. 1, No. 1, 2018, pp. 56-68; Frederica Bastiani; Patrizia Romito; Marie-Josephe Saurel-Cubizolles, *Mental distress, and sexual harassment in Italian university students*, in "Archives of women's mental health", Vol. 22, No. 2, 2019, pp. 229-236; Marjan Nadim; Audun Fladmoe, *Silencing women? Gender and online harassment*, in "Social Science Computer Review", Vol. 39, No. 2, 2021; Sónia Caridade; Hélder Fernando Pedrosa e Sousa; Maria Alzira Pimenta Dinis, *Cyber and offline dating abuse in a Portuguese sample: prevalence and context of abuse*, in "Behavioral Sciences", Vol. 10, No. 10, 2020

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[369] Carol M. Walker, Beth Rajan Sockman, Steven Koehn, *An Exploratory Study of Cyberbullying with Undergraduate University Students*, in "TechTrends", Vol. 55, No. 2, 2011, pp. 31-38

[370] Christine D. MacDonald, Bridget Roberts-Pittman, *Cyberbullying among College Students: Prevalence and Demographic Differences*, in "Procedia-Social and Behavioral Sciences", Vol. 9, 2010, pp. 2003-2009

[371] See more in: Kathryn Branch, Carly M. Hilinski-Rosick, Emily Johnson, Gabriela Solano, *Revenge porn victimization of college students in the United States: An exploratory analysis*, in "International Journal of Cyber Criminology", Vol. 11, No. 1, 2017, pp. 128-142; Gang Lee, Matheson Sanchez, *Cyber bullying behaviors, anonymity, and general strain theory: A study of undergraduate students at a South Eastern University in the United States*, in "International Journal of Cyber Criminology", Vol. 12, No. 1, 2018, pp. 84-96; Qing Li, Arkhadi Pustaka, *When cyberbullies meet gamers: what do young adults think?*, in "Educational Research", Vol. 59, No. 4, 2017, pp. 426-443; Matti Näsi, Pekka Räsänen, Markus Kaakinen, Teo Keipi, Atte Oksanen, *Do routine activities help predict young adults' online harassment: A multi-nation study*, in "Criminology & Criminal Justice", Vol. 17, No. 4, 2017, pp. 418-432; Kimberly O'Connor, Michelle Drouin, Jedidiah Davis, Hannah Thompson, *Cyberbullying, revenge porn and the mid-sized university: Victim characteristics, prevalence and students' knowledge of university policy and reporting procedures*, in "Higher Education Quarterly", Vol. 72, No. 4, 2018, pp. 344-359; Karen Paullet, Adnan Chawdhry, *Cyberstalking... No means no: An exploratory study of university students*, in "Issues in Information Systems", Vol. 21, No. 1, 2020, pp. 125-130

Malaysia was published in 2017. showed that 8% of the participants were bullies, 18.6% were victims, 15.2% were both (bully-victims) and 53.4% were bystanders[372]. The 2019. research from New Zealand showed that nearly 14.9 percent of respondents stated that they have been a target of cyberbullying, with 2.2 percent of respondents reporting such experiences within the past month[373]. Another research from the United Arab Emirates was published in 2020. demonstrates that 91% of the study sample confirmed the existence of acts of cyberbullying on social media[374]. Among the newest studies from non-Western countries, we can also underline some of the research recently conducted in Australia[375], Brazil[376], Colombia[377], China[378], Kenya[379], Pakistan[380], Papua New Guinea[381], South Korea[382], Vietnam[383], and other countries.

The research on cyberbullying in Serbia started much later compared to foreign scientific practice. One of the first and at the same time the most complex studies were conducted in 2012, organized by the Ministry of Education, Science and Technological Development of the Republic of Serbia, UNICEF, and Telenor, within the project "Stop Digital Violence". It was research on the use of digital technology, risks, and digital violence among primary and secondary school students from Serbia[384]. In this research, a large sample of students (from primary and secondary schools), parents, and teachers were included[385]. The study showed that the most common form of harassment among high school students was harassment by phone calls, text messages, and harassment on social networks. These three forms of behavior were more prevalent among high school students than among elementary school students[386]. According to the Alternative report on the position and needs of young people in the Republic of Serbia, which was created

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[381] Alythea Siraba, *Cyberbullying and online harassment among Facebook users in Papua New Guinea*, in "Contemporary PNG Studies", Vol. 30, 2019, pp. 42-50

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[384] Dragan Popadić, Dobrinka Kuzmanović, *Korišćenje digitalne tehnologije, rizici i zastupljenost digitalnog nasilja među učenicima u Srbiji*, Institut za psihologiju Filozofskog fakulteta Univerziteta u Beogradu, Beograd, 2013

[385] *Idem*

[386] *Idem*

after the research of The National Youth Council of Serbia (KOMS) in 2018, every third of young people in Serbia experienced digital violence. More precisely, the results have shown that 31% of the participants in the study experienced some kind of digital violence in 2018, which is (according to the same source) 9% more compared to the previous year[387]. One of the very rare studies in Serbia that focused exclusively on university students is the research from 2016. conducted by V. Baltezarević, R. Baltezarević, and B. Baltezarević. The results showed that 24.9% of the students experienced violence on the Internet during the year preceding the research, while 18.3% of them engaged in violence[388]. Among the latest scientific works in Serbia, it is worth mentioning the research conducted in 2019 about cyber violence on social networks among high school students[389]. According to the results of this research, about one-fifth of the participants (20.2%) reported that have cyberharassment, and half of the participants (51.6%) reported victimization; the most common shapes of cyberbullying were insulting, mocking, and spreading rumors[390].

Speaking about the other countries from the Balkan region, we can mention two research conducted in Croatia. The first one was published in 2016. and showed that during the 1- year-long period before the research, 24.9% of students had been the victims of internet harassment, while 18.3% of them had perpetrated the same model of violence[391]. Another study from the same year showed that during the 1-year-long period before the research, 3.57% of the students had been the victims of internet violence, while 2.01% of them had perpetrated internet violence[392].

As we can see, widespread research regarding digital violence among young adults has only recently begun, while this area is still largely dominated by studies focusing on pre-adolescent or adolescent participants. However, the population of young adults is also a vulnerable category because a high percentage of young people use the Internet on an everyday basis. Therefore, the goal of our research was to further illuminate the presence of digital violence in the population of young adults. Another important feature of this research is related to the highly expressed heterogeneity in almost all previous domestic studies, regarding the definition of cyberbullying, the selected approach to its measurement, and the period covered by the study. To overcome this lack of consistency in the literature, we decided to focus on a wide range of different forms of behavior that can be characterized as digital violence, to explore it in an unlimited period, to include data about the frequency of committing/experiencing violence, and to use the term cyber harassment (or digital harassment) as young adults were the target population. The main aim of this study was to explore the prevalence of involvement in/experience of digital harassment among the population of young adults. There were also three sub-goals of our research: a) to determine which types of cyberharassment and victimization are the most prevalent among young adults b) to explore whether there are any gender differences in various sorts of harassing behavior or

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[387] Boban Stojanović, *Alternativni izveštaj o položaju i potrebama mladih u Republici Srbiji – 2018. godina,* Krovna organizacija mladih Srbije – KOMS, Beograd, 2018

[388] Vesna Baltezarević, Radoslav Baltezarević, Borivoje Baltezarević, *Op. cit.*, pp. 373-387

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[391] Sanela Kutnjak, *Uznemiravanje i nasilje na internetu i njihove posljedice*, Graduate thesis, Josip Juraj Strossmayer University of Osijek, Osijek, 2016

[392] Dea Kričkić, *Rizično ponašanje studenata u kontekstu novih medija*, Graduate thesis, Josip Juraj Strossmayer University of Osijek, Osijek, 2016

experiences, and c) to identify possible differences about the level of attended education (secondary school or university).

Materials and methods
Sample
The research was conducted during the autumn/winter of 2019. on 312 participants, aged from 18 to 25 years (mean age = 19.23). The sample consisted of 102 male and 210 female respondents and included fourth-grade high school students (seniors) and university students, as seen in (Table 1). High school students were recruited from three different gymnasiums, while university students were recruited from the Faculty of Philosophy, Faculty of Technical Sciences, Faculty of Medicine, Faculty of European Legal and Political Studies, and Faculty of Law. All participants included in this research attended educational institutions from the city of Novi Sad and its surroundings, located in the province of Vojvodina, Republic of Serbia. The sampling approach was non-probability, convenience sampling. Participation in the study was anonymous and voluntary. All respondents signed a written consent before approaching the research.

Gender / educational institution	Frequency	Percent	Minimum age	Maximum age	Mean age	SD
Male	102	32.69	18	25	19.64	2.05
Female	210	67.31	18	25	19.04	1.39
Gymnasium	104	33.33	18	19	18.01	0.10
University	208	66.67	18	25	19.85	1.73
Σ	312	100	18	25	19.23	1.66

Table 1. Frequency, percentage, and age of participants according to the gender and attended level of education

Instruments
For this research, the Questionnaire for cyberharassment[393] was constructed, based on the manual "Digital Violence – Prevention and Response"[394] published by the Ministry of Education, Science and Technological Development of the Republic of Serbia and the Pedagogical Society of Serbia. As there are various forms of cyberbullying, in this research we largely relied on the typology proposed by Kuzmanović et al. (2016)[395], since it is very comprehensive and well-systematized. The Questionnaire for cyberharassment used in this research contains 29 binary yes/no items, 14 of which refer to engagement in different types of digital harassment (e.g. "I sent computer viruses") and 14 of which refer to being a victim of diverse types of digital harassment (e.g. "I was harassed over the phone"). The last question was open-ended and referred to seeking help from someone due to being victimized. Participants were asked to indicate yes or no, whether they have ever been involved in certain types of digital harassment or have they ever been exposed to any certain type of digital violence. If yes, participants were further asked to respond if such behavior/experience occurred only once or twice, or more over time. Questionnaire items and explored types of behavior and experiences related to digital violence are listed and shown in (Table 2). Basic demographic data such as gender, age, and level of education were also collected.
Results

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[393] Aleksandar Matković, Ivana Novakov, *Questionnaire for Cyberharassment*, Unpublished material, Novi Sad, 2019
[394] Dobrinka Kuzmanović et. al., *Op. cit.*
[395] *Idem*

Collected data indicate that, at a general level, 75.32% of participants engaged at least once in a lifetime in some form of digital harassing behavior. On the other hand, 85.58% of participants experienced at least once some form of violent act on the Internet or through other digital means of communication. Furthermore, 64.74% of participants were involved in some kind of harassing behavior twice or more, while 75% of participants reported being a victim of some sort of digital harassment twice or more in a lifetime. However, only 18.38% of those participants who experienced some sort of cyber harassment twice or more turned to someone for help. Those who did mostly sought help from their parents (or other family members), than from friends and peers, while the smallest number of participants turned to professionals such as psychologists or security institutions such as the police.

In Table 2 it can be seen that, generally, the most represented forms of digital harassment are: intensive stalking of a liked person via the Internet to obtain information about that person's life (52.56%), ignoring or excluding someone from groups on social networks (27.88%), harassment by phone calls (24.68%), and the use of false or someone else's identity, or creating profiles on social networks in someone else's name (22.76%). On the other hand, in Table 2 it can also be seen that individuals are generally most likely to experience someone else initiating or maintaining unwanted communication with them via the Internet or telephone (49.68%), receiving indecent sexual offers via the Internet or telephone (39.74%), receiving computer viruses (39.74%), being a victim of harassment by phone calls (37.82%), being intensively stalked via the Internet (35.58%), and being a victim of someone changing or stealing their passwords (27.56%). Other types of perpetrated and suffered acts of cyberharassment are relatively less represented. As seen in (Table 2), for most forms of digital violence, participants report committing or being a victim of certain acts twice or more, except in a few cases, such as e.g., changing or stealing passwords.

Examined types of online harassment		Engaging in harassing behavior		Victim of harassment	
		Frequency	Percent	Frequency	Percent
1. posting disturbing, offensive, or threatening comments, images, or videos to other people's profiles or sending such materials through messages	only once	12	3.85	19	6.09
	twice or more	13	4.17	32	10.26
	generally	**25**	**8.01**	**51**	**16.35**
2. Recording and distribution of images, messages, and materials of sexual content	only once	5	1.60	3	0.96
	twice or more	23	7.37	1	0.32
	generally	**28**	**8.97**	**4**	**1.28**
3. Harassment by phone calls	only once	18	5.77	31	9.93
	twice or more	59	18.91	87	27.88
	generally	**77**	**24.68**	**118**	**37.82**
4. Using false or someone else's identity, creating profiles on social networks in someone else's name	only once	34	10.90	29	9.29
	twice or more	37	11.86	28	8.97
	generally	**71**	**22.76**	**57**	**18.27**
5. Unauthorized disclosure of other people's private information, publishing false accusations or rumors about another person on social networks, blogs, etc.	only once	3	0.96	14	4.49
	twice or more	18	5.77	22	7.05
	generally	**21**	**6.73**	**36**	**11.54**
6. Changing or stealing passwords	only once	24	7.69	68	21.79
	twice or more	16	5.13	18	5.77
	generally	**40**	**12.82**	**86**	**27.56**
7. Sending computer viruses	only once	7	2.24	27	8.65
	twice or more	13	4.17	97	31.10
	generally	**20**	**6.41**	**124**	**39.74**

8. Making fun of someone in online chat rooms, on social networks, or internet forums	only once	6	1.92	9	2.88
	twice or more	34	10.90	29	9.29
	generally	**40**	**12.82**	**38**	**12.18**
9. Inappropriate commenting on other people's images, comments on profiles and blogs	only once	7	2.24	11	3.52
	twice or more	35	11.22	44	14.10
	generally	**42**	**13.46**	**55**	**17.63**
10. Ignoring or excluding someone from groups on social networks	only once	32	10.26	25	8.01
	twice or more	55	17.63	33	10.58
	generally	**87**	**27.88**	**58**	**18.59**
11. Inciting hatred via the Internet or social networks	only once	2	0.64	7	2.24
	twice or more	14	4.49	17	5.44
	generally	**16**	**5.13**	**24**	**7.69**
12. Initiating or maintaining communication via the Internet or telephone with someone against his/her will	only once	14	4.49	24	7.69
	twice or more	13	4.17	131	41.99
	generally	**27**	**8.7**	**155**	**49.68**
13. Proposing indecent sexual offers via the Internet, text messages, or telephone	only once	2	0.64	20	6.41
	twice or more	5	1.60	104	33.33
	generally	**7**	**2.22**	**124**	**39.74**
14. Intensive stalking via the Internet (on social networks etc.) of a liked person to obtain information about that person's life	only once	34	10.90	24	7.69
	twice or more	130	41.67	87	27.88
	generally	**164**	**52.56**	**111**	**35.58**

Table 2. Prevalence of different types of cyber harassment among young adults[396]

After examining the prevalence of various forms of digital harassment in our sample, we were further interested to explore if there were any differences by gender, or by the level of attended education, in reporting engagement in or exposure to harassing behavior. As all variables were categorical in their nature, the chi-square test was applied, as the most suitable nonparametric approach for determining the relations between categorical variables. In cases where expected counts in the contingency table were smaller than 5, Fisher exact test was used. For all analyses, data for general involvement in/exposure to cyber harassment were used rather than data indicating the frequency of such experiences (only once/twice, or more), to obtain more comprehensible results.

When analyzing engagement in digital violence, a significant gender difference was obtained for recording and distribution of sexual content, $\chi2(1, N=312) = 6.10$, $p = .014$, $\varphi = -.14$, $p = .014$, where male participants were more likely to engage in such activities (14.7%) than female participants (6.2%). The gender difference was also detected for sending computer viruses, $\chi2(1, N=312) = 13.52$, $p < .001$, $\varphi = -.21$, $p < .001$, with males being more likely to report such behavior (13.7%) than females (2.9%). A significant difference was further obtained for making fun of someone in online chat rooms, on social networks, or forums, $\chi2(1, N=312) = 8.18$, $p = .004$, $\varphi = -.16$, $p = .004$, with males engaging in this activity in higher percent (20.6%) than females (9%). For inappropriate commenting on other people's images or comments on profiles or blogs, a significant difference was revealed, $\chi2(1, N=312) = 22.01$, $p < .001$, $\varphi = -.27$, $p < .001$, with males engaging in this activity in higher percent (26.5%) than females (7.1%). For proposing indecent sexual offers significant gender difference was also detected; Fisher exact test ($p < .001$) showed that male participants were more likely to engage in such behavior (6.9%) than females (0%). Finally, for intensive stalking of a liked person via the Internet, a significant gender difference was revealed, $\chi2(1, N=312) = 27.29$, $p < .001$, $\varphi = .30$, $p < .001$ with females reporting this

[396] Author`s own research

activity in higher percent (62.9%) than males (31.4%). Prevalence by gender for all types of harassing behavior for which significant differences were found is presented in (Figure 1). For other forms of engagement in cyberharassment, significant gender differences were not detected.
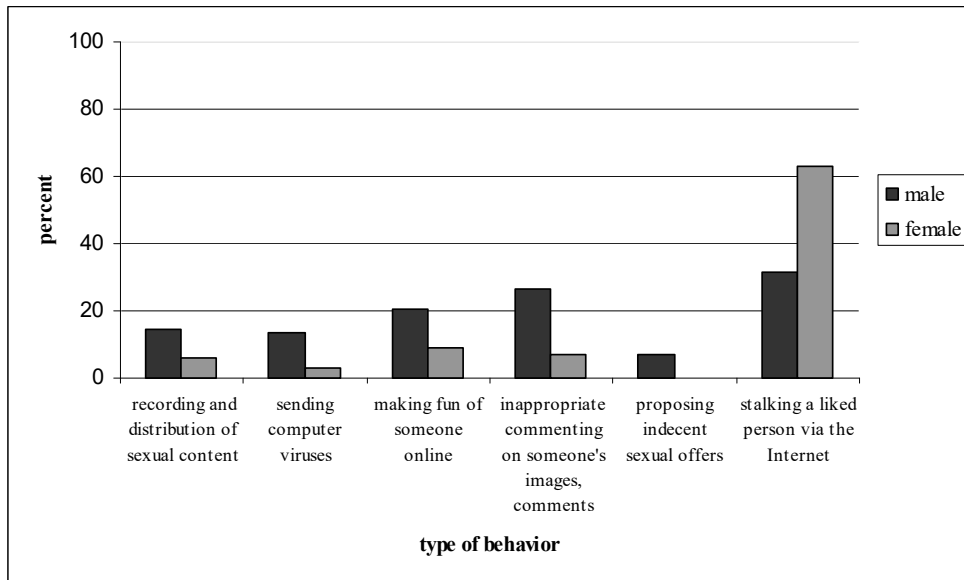

Figure 1. Significant gender differences in perpetrated cyberharassment

When gender differences in exposure to digital harassment were analyzed, a significant difference was detected for the experience of someone else initiating or maintaining unwanted communication over the phone or the Internet, $\chi2(1, N=312) = 22.55$, $p < .001$, $\varphi = .27$, $p < .001$, with female participants being more likely to be exposed to such behavior (59%) than males (30.4%). A significant difference was also found in the case of receiving indecent sexual offers via the Internet or telephone, $\chi2(1, N=312) = 14.68$, $p < .001$, $\varphi = .22$, $p < .001$, with females being more likely to receive such offers (47.1%) compared to males (24.5%). Finally, a significant gender difference was detected for being stalked via the Internet, $\chi2(1, N=312) = 4.37$, $p = .037$, $\varphi = .12$, $p = .037$, with females reporting such experience in higher percent (39.5%) than males (27.5%). Prevalence by gender is presented in (Figure 2) for all types of experienced cyber harassment for which significant differences were found. For other forms of victimization due to cyberharassment, significant gender differences were not detected.

Figure 2. Significant gender differences in experienced cyber harassment

When we analyzed involvement in harassing behavior by the level of attended education, we detected significant differences in harassment by phone calls $\chi^2(1, N=312) = 4.17$, p = .041, φ = -.12, p = .041, with secondary school students being more likely to engage in such behavior (31.7%), than university students (21.2%). Furthermore, a significant difference was found in unauthorized disclosure of other people's private information, publishing false accusations or rumors about another person on social networks, blogs, etc. $\chi^2(1, N=312) = 14.70$, p < .001, φ = -.22, p < .001, with secondary school students being more likely to perform such acts (14.4%), than university students (2.9%). A significant difference was also found for changing or stealing passwords, $\chi^2(1, N=312) = 5.73$, p = .017, φ = -.14, p = .017, with secondary school students engaging in such behavior in higher percent (19.2%), compared to university students (9.6%). For making fun of someone in online chat rooms, on social networks, or internet forums $\chi^2(1, N=312) = 5.73$, p = .017, φ = -.14, p = .017, it has been shown that secondary school students were more likely to exhibit such behavior (19.2%) than university students (9.6%). In ignoring or excluding someone from groups on social networks, $\chi^2(1, N=312) = 12.12$, p < .001, φ = -.20, p < .001, secondary school students took higher part (40.4%), than university students (21.6%). A significant difference was also detected for inciting hatred via the Internet or social networks, $\chi^2(1, N=312) = 9.52$, p = .002, φ = -.17, p = .002, with secondary school students reporting such behavior in higher percent (10.6%), than university students (2.4%). However, a significant difference was detected, $\chi^2(1, N=312) = 5.24$, p = .022, φ = .13, p = .022, indicates that university students were more likely to send computer viruses (8.7%), than secondary school students (1.9%). In (Figure 3), the prevalence by the attended level of education can be seen for all types of cyber harassment for which significant differences were obtained. For other forms of cyberharassment, significant differences were not detected.
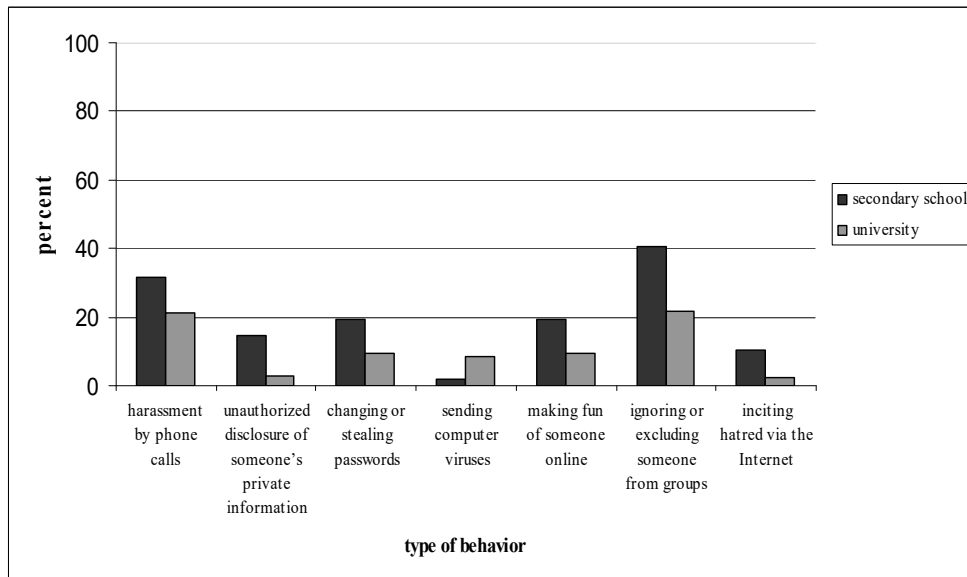

Figure 3. Significant differences in perpetrated cyberharassment by the level of education

When differences in exposure to acts of digital harassment were analyzed by attending secondary school or university, a significant difference was found in being a victim of unauthorized disclosure of private information or publishing false accusations or rumors on social networks and blogs, $\chi^2(1, N=312)$ = 9.04, p = .003, φ = -.17, p = .003, with secondary school students being more likely to be exposed to such acts (19.2%) than university students (7.7%). A significant difference was also detected in the case of being ridiculed by someone in online chat rooms, on social networks, or internet forums, $\chi^2(1, N=312)$ = 7.25, p = .007, φ = -.15, p = .007, with secondary school students being more likely to be victims of such behavior (19.2%), compared to university students (8.7%). The difference was also found for being ignored or excluded from groups on social networks, $\chi^2(1, N=312) = 8.91$, p = .003, φ = -.17, p = .003,

where secondary school students report such experience in greater percentage (27.9%) compared to university students (13.9%). For receiving indecent sexual offers, a significant difference was also found, $\chi 2(1, N=312) = 5.63$, p = .018, φ = -.13, p = .018, with secondary school students being more likely to report such offers (49%) than university students (35.1%). In (Figure 4), the prevalence by the attended level of education is presented for all types of experienced cyber harassment for which significant differences were found. For other forms of victimization due to cyberharassment, significant differences were not detected.
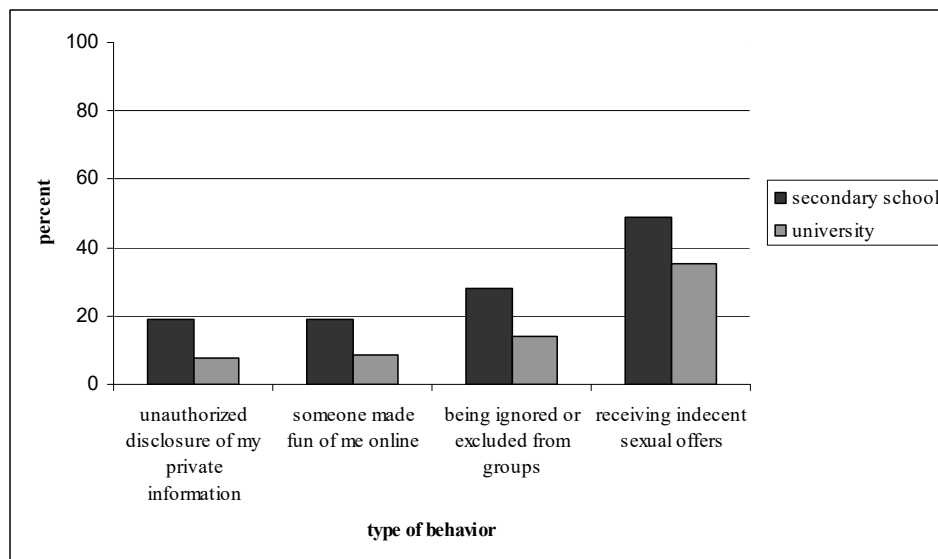

Figure 4. Significant differences in experienced cyberharassment by the level of education

Discussion

This research aimed to explore the prevalence of various forms of digital harassment or victimization in a sample of young adults in Serbia, as well as to test differences by gender and the level of attended education, regarding engagement in or suffering different forms of cyber harassment.

Obtained results indicate that, when observed on the individual level, specific types of cyberharassment and victimization vary from being very low to moderately represented in our sample. However, on a general level, young adults in Serbia still report to a large degree engaging in cyberharassment twice or more, and this trend is further significantly increased when it comes to reporting about experiencing digital violence twice or more in a lifetime. Likewise, it is of concern that a very small percentage of participants, who have been exposed to some forms of digital violence repeatedly, were willing to seek help in this regard. These findings are by the results of Kurtušić[397] who conducted the research in Croatia and found that a very small number of students were willing to report cyberharassment to official institutions, as well as to inform persons from their closest surroundings (parents and friends) about the problem they had experienced.[398] Therefore, young people need to be more encouraged to seek help when they are at risk.

Interestingly, stalking a liked person via the Internet proved to be the most common form of perpetrated harassing behavior. Furthermore, it turned out that exclusion from groups on social networks, harassment by phone calls, and the use of false or someone else's identity are also the most common types of reported malignant behavior among young adults in the context of modern technologies. These findings are part by the results of Popadić and Kuzmanović[399], in the sense that harassment by phone calls

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[397] Suzana Kurtušić, *Op. cit.*
[398] Sameer Hinduja, Justin W. Patchin, *Cyberbullying: An Exploratory Analysis of Factors Related to Offending and Victimization*, in "Deviant Behavior", Vol. 29, No. 2, 2008, pp. 129–56 (from the sample of 1,500 Internet-using adolescents, fewer than 15% of the victims told an adult about the incident)
[399] Dragan Popadić, Dobrinka Kuzmanović, *Op. cit.*

and on social networks was found to be the most prevalent forms of undesirable behavior, especially among high school students. Our findings are relevant because they reveal a notable prevalence of harassing behaviors that may be carried out without the victim even knowing about it, such is the case with stalking or creating profiles in someone else's name. Therefore, it is very important to educate young people about risks in the digital environment that can occur without their knowledge and to provide them with self-protecting skills.

On the other hand, speaking about victimization, individuals are generally most likely to report experiencing that someone else tried to initiate or maintain unwanted communication with them via the Internet or telephone, that they received indecent sexual offers via the Internet or telephone, were exposed to computer viruses, were the victims of harassment by phone calls, were intensively stalked via the Internet, or were victims of someone changing or stealing their passwords. These data about common types of cyber-victimization stand partially by some of the previous research[400], but a comprehensive comparison is not possible due to the general problem regarding the lack of using more detailed and better-profiled categories of cyberharassment in another available research. Our findings reveal the areas in which young adults are especially vulnerable, and to which threats they are most frequently exposed, underlining the strong need to empower young people to develop skills for maintaining security, privacy, and data protection in a digital environment.

According to the results of our research, male participants were more likely to carry out the recording and distribution of images, messages, and materials of sexual content, sending of computer viruses, make fun of someone online, inappropriately comment on other people's images, comments on profiles and blogs, and proposing indecent sexual offers. Still, female participants were more likely to accomplish stalking of a liked person via the Internet to obtain information about that person's life. However, when it comes to the digital violence suffered, female participants were more likely to report being victims of someone's attempts to initiate or maintain unwanted communication, receiving indecent sexual offers, and being stalked via the Internet. In the existing literature, there is no consensus about the impact of gender issues regarding cyber harassment perpetration and victimization. Some authors found that both males and females are equally present as perpetrators of cyber violence;[401] however, many studies indicated that male perpetrators are more present than females[402]. Regarding the victimization, there are quite widespread opinions that young females are more susceptible to cyberharassment than young men[403]. On the other hand, there could be seen some opposite results which suggest that men are more vulnerable to cyberharassment[404], while several surveys implicate that gender is not of considerable importance regarding cyberharassment vulnerability in general[405]. Nevertheless, our findings suggest that young males seem to be more likely to report participating in cyberharassment, than their female peers. Yet, it is unknown if these differences are the result of real gender disparity in violent behavior online, or if male participants are only more willing to acknowledge such behavior, while for females that would be socially undesirable. On the other hand, female young adults are more likely to report being a victim of certain types of digital harassment, although it is unclear whether such a result might be because males

[400] Sanela Kutnjak, *Op. cit.*
[401] Christine D. MacDonald, Bridget Roberts-Pittman, *Op. cit.*; Michele L. Ybarra, Kimberly J. Mitchell, *Online Aggressor/Targets, Aggressors, and Targets: A Comparison of Associated Youth Characteristics*, in "Journal of Child Psychology and Psychiatry", Vol. 45, No. 7, 2004, pp. 1308-1316
[402] Buent Dilmac, *Psychological Needs as a Predictor of Cyber Bullying: A Preliminary Report on College Students*, in "Educational Sciences: Theory and Practice", Vol. 9, No. 3, 2009, pp. 1307-25; Robin M. Kowalski, Susan P. Limber, *Electronic Bullying Among Middle School Students*, in "Journal of Adolescent Health", Vol. 41, No. 6, 2007, pp. 22–30; Sanela Kutnjak, *Op. cit.*; Suzana Kurtušić, *Op. cit.*; Dušan Stanković, *Sajber nasilje na društvenim mrežama među mladima u Republici Srbiji*, in "Revija za kriminologiju i krivično pravo", Vol. 19, No. 2, 2019, pp. 9-23
[403] Vesna Baltezarević, Radoslav Baltezarević, Borivoje Baltezarević, *Op. cit.*; Robin M. Kowalski, Susan P. Limber. *Op. cit.*; Carlos P. Zalaquett, SeriaShia J. Chatters, *Cyberbullying in College: Frequency, Characteristics, and Practical Implications*, in "Sage Open", Vol. 4, No. 1, 2014
[404] Sanela Kutnjak, *Op. cit.*
[405] Ashley N. Doane, Michelle L. Kelley, Evelyn S. Chiang, Miguel A. Padilla, *Development of the Cyberbullying Experiences Survey*, in "Emerging Adulthood", Vol. 1, No. 3, 2013, pp. 207-218; Suzana Kurtušić, *Op. cit.*; Christine D. MacDonald, Bridget Roberts-Pittman, *Op. cit.*; Dušan Stanković, *Op. cit.*

have difficulty admitting that they have suffered violence. Similar findings about females as more willing to report cyberharassment than men are visible in other research.[406] Considering the results of our study, it seems that in young adulthood gender still might be an important factor associated with exposure to specific risks in digital communication, which is important to have in mind when designing educational programs and strategies for safe functioning online.

Furthermore, it turned out that secondary school students report to a larger extent both being engaged in different forms of cyberharassment, as well as being victims of digital violence. It might be that with older age, susceptibility to peer violence, and thus digital aggression, may be less expected. However, findings regarding this topic are inconsistent; some research goes in line with such a hypothesis[407], while others do not[408]. Based on our results, it seems that secondary school students might be more vulnerable to cyber harassment compared to the university population. It also seems that it is especially important to work with high school students on strengthening their skills for the safe use of modern technologies. However, university students are more likely to report sending computer viruses, which might indicate that their age and knowledge increase the chance of engaging in technologically more demanding and sophisticated forms of malicious behavior online.

This is one of the very few studies to date that explored the phenomenon of digital violence among the population of young adults, covering a wide range of different and clearly defined forms of digital violence, with data on whether violent acts have been committed or suffered only once, or repeatedly. This comprehensiveness represents an important contribution to the current body of knowledge regarding cyberbullying phenomena in Serbia and beyond. However, it would be recommended for future studies to include an even larger sample of participants that would cover all parts of the country. Also, given that this research is cross-sectional in its nature, a longitudinal design would be required in subsequent studies to explore the phenomenon of cyberharassment through the temporal perspective and its trajectories even in later adulthood.

Our data suggest that cyber harassment among young adults is a widespread phenomenon with complex perspectives and multiple consequences. Thus, we can conclude that one of the main priorities in the digital era is to create a secure online environment for young people. As Serbia is an emerging country in the context of digitalization, we can assume that the safety of young people online will become an increasing challenge in the future. Therefore, it is important to develop systematic and well-organized strategies to support not only children and adolescents but also young adults, as they might also be frequently exposed to digital violence. Important goals of these strategies would be to help young people in developing skills for personal data protection, safe behavior online, and prudent use of digital media, as well as to encourage them to seek adequate help when confronted with any form of cyberharassment. The findings of this research may have a significant application in planning and creating different preventive and educational programs that could be implemented within high schools and colleges. These programs might include interactive workshops and lectures, printed or digital educational materials, and the participation of professionals providing support to those who suffered from digital violence. Furthermore, specifically tailored preventive and supportive strategies could be designed for secondary schools and universities, which would be particularly aimed at those most common problems that young people face in a digital environment.

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