Problematic Online Behaviors and Experiences of Adolescents: Correlations with Parental Mediation, Information Disclosure and Personality Characteristics

Jelena Opsenica Kostić[1*], Tanja Panić[2] and Ivana Pedović[1]

[1]*Department of Psychology, Faculty of Philosophy, University of Niš, Serbia.*
[2]*College of Vocational Studies for Preschool Teachers and Bussiness Computer Scientists, Sremska Mitrovica, Serbia.*

Authors' contributions

This work was carried out in collaboration between all authors. Author JOK designed the study, wrote the protocol and supervised the work. Authors TP and IP carried out the research and performed the statistical analysis. Author JOK managed the analyses of the study, wrote the first draft of the manuscript, managed the literature searches and edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Online communication is ubiquitous in the adolescent culture. Beside numerous advantages of this kind of connection among people, there are also significant risks. The goal of this research is to examine the correlation between problematic online behavior and experience with certain social (parental mediation), cognitive (information disclosure) and personality factors (dimensions of self-evaluation and extraversion). The study included 339 adolescents aged 18 and 19 (135 boys, 204 girls). We examined online abuse, sexual behavior and sexual victimization; and these scales and a parental mediation scale were based on instruments used in contemporary research in these

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*Corresponding author: E-mail: jelena.opsenica.kostic@filfak.ni.ac.rs;

phenomena. The scale of information disclosure was constructed within the project of *Safer Internet Centre Croatia*, and dimensions of personality were measured by the subscales of the Big Five+2. The results of canonical correlation analysis conducted in this study support the idea that narcissism is important for engaging in problematic online behavior; the importance of extraversion was not confirmed. An idea concerning the importance of the cognitive factor – privacy protection – is also supported. An idea that is not supported by the results is the importance of parental mediation in the prevention of problematic online behavior, and a probable reason for that is the age of respondents. The most significant implication of these results is raising awareness of the personal information protection on the Internet.

1. INTRODUCTION

Technology is an inseparable part of life of today's adolescents – networking and being almost constantly available for contacts are taken for granted. Such sharing of information and communication via electronic devices create a new and specific space – cyberspace. The possibility of interaction (or just being present) in cyberspace leads to large changes in social interaction of a person, ways of learning, types of fun, expressing creativity and searching for an identity. Although most interactions on the Internet are regarded as positive or neutral, the attention of researchers in this field is focused on understanding risks and abuse in cyberspace.

1.1 Problematic Online Behaviors

Attention of researchers has been attracted for a long time by the phenomenon of cyberbullying (for instance [1-4]). A significant part of online bullying (and victimization) is related to sexuality [5,6]. Also, online sexual activities that are not regarded to be problematic in adults carry a much greater risk for adolescents. In this paper we examined these (potentially) problematic online behaviors (online bullying, sexual behavior and victimization) and some of the factors related to them.

1.1.1 Online bullying

Online bullying is a repeated aggressive and intentional act conducted by an individual or a group by means of electronic form of communication, which is directed toward a victim that cannot easily defend themselves [7]. Electronic communication is, in this case, conducted in order to threaten a victim, to abuse them, embarrass and/or exclude them from a certain social circle [7-9]. The issue of the repeated aggressive act is more complex in cyberspace than in the offline context. Aggression takes place in the public domain and contains repetition in itself, because material such as an e-mail, a text or a picture can be seen or sent by anyone who has access to the Internet, not only the perpetrator [10,11]. A content once uploaded or posted on the Internet stays there, so that victims (and bullies) can repeatedly encounter the same incident (they can read it or see it again) and have the same experience all over again. For victims, it is usually difficult, if not impossible, to remove the content [12]. This, actually, opens up the possibility that just one, nevertheless critical, incident becomes bullying.

In response to the question of the reason why cyberbullying demands attention of researchers, [7] indicate a set of negative consequences which have been confirmed in traditional bullying/ victimization, and which can be assumed to exist in electronic bullying, as well: apathy and truancy, suicidal ideas, eating disorders, depression. In research on the socio-emotional consequences of electronic bullying different instruments are used to assess both bullying and potential outcomes; therefore, it is not easy to sum up results [13]. For instance, the research conducted by Fredstorm, Adams and Gilman [2] found that electronic victimization is a predictor of low self-esteem, higher social stress, anxiety and depressive symptoms. In the study of Brown et al. [13] significant differences were obtained in relation to gender: electronic victimization was not a predictor of either social or emotional problems in young men, but in the sample of young women it was a significant predictor of depression, social stress and negative emotional outcomes. Such effects are not trivial at all when we consider development of adolescents and their psychosocial wellbeing.

1.1.2 Online sexual behavior and sexual victimization

The Internet, as a widely accessible medial, offers many recreational activities, and some of them are online sexual activities (OSAs) [14]. OSAs were initially defined by Cooper, Griffin-Shelley, Delmonico, and Mathy [15] as the use of the Internet (via text, audio, video, and graphic files) for any activity that involves human sexuality, including but not limited to having sexual chats, looking for or participating in sex webcam, watching pornography, or trying to find sexual partners. In most cases, OSAs involvement is unproblematic in both sexes and does not engender negative outcomes at the social, personal, or professional level (e.g., [16-18]). However, if this does not involve adult persons, the situation is significantly different. As explained by Baumgartner, Valkenburg and Peter [19], adolescents use the Internet for leisure time activities much more frequently than adults; they are also involved in offline bullying and different sexual activitiesmore than adults and they differently perceive risks and benefits of risk behaviors. All this makes them potentially more vulnerable in online sexual behavior, because they may fail to perceive specific risks associated with a risky behavior and, at the same time, overestimate the benefits of such behaviors.

When sexual risks are considered, adolescents may find themselves in two types of situations: they can become a victim of unwanted online sexual solicitation and/or may be actively engaged in different online sexual behaviors [19]. Unwanted online sexual solicitation is defined as receiving unwanted sex chat requests or a pressure to do something sexual unwillingly [20]. Risky online sexual behaviors are defined as an active participation in online sexual activities which may have negative consequences, such as a sexual contact with strangers on the Internet or giving sexual information to strangers [19].

Research in the phenomenon of voluntary sexual exposure [21] is actually research into the active engagement in online sexual behavior. There are different data regarding the number of adolescents engaged in such activities, ranging from 4% [22] to 20% [23]. Results of different studies are not always comparable, but generally, girls expose themselves more than boys, and those who send more sexual materials, also receive them more. According to Cox Communications [24], most sexual

messages were sent to a boyfriend/girlfriend (60%) or to someone in whom they took an interest (21%). One in four of those who sent sexual materials sent it to someone whom they did not know or someone other than boyfriends/girlfriends, friends, or classmates. Such online self-representation means exposing oneself to a risk and it may have unwanted and rather harmful consequences [25,5,26]. Regardless of to whom and for what reason sexual material is sent, there is always a risk that that material would be sent further, which is something that adolescents cannot control. Since online sexual behavior and exposure increase the risk of becoming a victim of Internet-related sexual abuse, it is highly relevant to broaden picture of youths engaging in this behavior. Professionals in schools, social workers, and first-line health providers need to understand what this behavior might lead to and which adolescents need close attention [21].

1.2 Factors Associated with Problematic Online Behavior of Adolescents

1.2.1 The social factor: Parental mediation

Because of the frequent use of interactive technologies by children and adolescents, parents today have a task not only to pay close attention to watching television shows and films, but also to using the Internet and to the involvement of their children in the social media. The theory of parental mediation [27] discusses measures that parents undertake to regulate the use of the media by their children, such as ban and restriction of use, co-viewing and co-use, discussion related to contents presented by media. These measures affect not only the use of media, but also wider emotion and behavioral outcomes [28]. Parental mediation has been most frequently studied in relation to watching television programs; and three types of mediation were distinguished: active mediation, restrictive mediation and co-viewing [29,30]. It is a question whether these same strategies can be applied to monitoring children's online activities, especially co-viewing. In their study of parental mediation and children's Internet use, Livingstone and Helsper [31] recognized four factors: active co-use, technical restrictions, interactions restrictions and monitoring. While the first three strategies are related to what has been already known from the studies of television viewing, monitoring is a new strategy that implies surveilling online activities. This study includes questions from the domain of active mediation

and co-using, interactions restrictions and monitoring.

Nevertheless, one should bear in mind that it is not easy at all for parents to effectively control activities of their adolescent children. According to McAfee [32], about 7 in 10 adolescents hide their online activities from their parents using strategies such as clearing the browser history, minimizing the web browser when parents are nearby, and deleting instant messages. Furthermore, adolescents consider Internet use to be a personal and private activity, and therefore they are not willing to share their online experience with their parents and feel even resentful if parents attempt to control their Internet activities [33].

1.2.2 The cognitive factor: Privacy concern and personal information disclosure

It has just been explained that it is not simple to introduce external control over the online activities of adolescents; that fact emphasizes the significance of attitudes that adolescents have about Internet use. Adolescents today share personal information much more than ever before; they give out their names, email addresses, photos of themselves and their friends, places they go to, even their telephone numbers [34,35]. A study of EU Kids Online showed that only 43% of social networking site users aged 9-16 set their social network profiles as private [25]. Such a disclosure of personal information may produce numerous negative and unwanted effects, such as stalking and cyberbullying; in other words, privacy concern and non-disclosure of personal information are consistently found to be a direct predictor of risk-reducing behaviors [36,37].

1.2.3 The personality factors

The two most frequently mentioned personality characteristics in relation to individual differences on the Internet use are narcissism and social anxiety (or introversion in the Big Five model). Narcissism is characterized by a highly inflated, positive but unrealistic self-concept, a lack of interest in forming strong interpersonal relationships, and an engagement in self-regulatory strategies to affirm the positive self-views. Persons with high scores on narcissism use considerably more often social networking systems (SNS) and were engaged in more activities and interactions on the SNS platform [38,39]. The content which they present on social networks is usually directed to self-promotion and they reveal more information about themselves. Since they are exhibitionists and attention-seekers, it can be assumed that these persons are more engaged in risky online behaviors. This characteristic will be measured through dimensions of self-evaluations of the Big Five+2 model.

The second characteristic that is frequently mentioned in relation to online interactions is social anxiety. There are two opposite opinions regarding the online interaction of the social anxious persons. According to social compensation hypothesis introverts gain more from Computer-Mediated Communication (CMC) because the usage of CMC platforms compensates for their relatively poor social skills [39]. Socially anxious and introverted persons, who have less face-to-face interactions, interact more actively on the Internet; spend more time on SNS, have more positive attitudes towards CMC in general and disclose more personal information in online communication [40,41]. The second hypothesis, rich-get-richer, argues that extroverts gain more from CMC usage as their offline sociability is transferred to CMC platforms [39] and there is more empirical evidence to support it. In any case, this is also a characteristic that can be associated with a more frequent engagement in risky online behaviors.

The basic goal of this research is to examine the correlation between problematic online behaviors and experience with social (parental mediation), cognitive (information disclosure) and personality factors (dimensions of self-evaluation and extroversion). The following steps precede the basic goal: to determine the frequency of certain forms of cyberbullying, sexual behavior and victimization, as well as to determine the most frequent forms of parental mediation and the level of information disclosure. Subsequently, canonical correlation analysis will be conducted with problematic online behavior in one and the mentioned factors in the other set of variables.

2. METHODS

2.1 Respondents and Procedure

The respondents were high school students of legal age from two cities in Serbia (Sremska Mitrovica and Užice), who agreed to participate in the research. All of them are from same type of school which offers broad education. In total, 339 adolescents participated, aged 18 and 19, of

whom 135 were boys and 204 girls. The respondents filled in questionnaires in their schools with examiner present.

2.2 Instruments

Cyberbullying: Adolescents responded to questions related to their involvement in cyberbullying (for instance, using the Internet to send an offensive or rude comment, to harass or embarrass someone against whom a person holds grudges, asking a person to do something sexual in nature, when that person does not want it). Answers offered for all 11 claims were Yes and No. This questionnaire and the questionnaires on sexual behavior and sexual victimization were based on the research in problematic behavior in the study of Mitchell, Jones and Wells [42].

Online sexual behavior: Respondents answered about their online sexual behavior (whether they discussed about sex with someone, whom they did not meet in person; whether they sent or received messages of a sexual nature, but did not include erotic photos; whether they sent or received messages of s sexual nature that included also erotic photos; whether they downloaded erotic contents from the Internet). Offered answers were Yes and No, and the total score was obtained by summing up the affirmative answers [42].

Online sexual victimization: Adolescents answered whether someone on the Internet, i.e. someone in online communication, tried to chat with them about sex when they did not want to; asked for sexual information, when they did not want to respond to such questions (for instance, to describe their body or their sexual experiences); or whether someone asked them to perform something of a sexual nature and they did not want to. Also here the offered answers were Yes and No, and the total score was obtained by summing up the affirmative answers [42].

Parental mediation: Involvement of parents in the Internet use of adolescents was measured through three variables: active mediation and co-use, interaction restrictions and monitoring. Regarding active mediation and co-use, the respondents answered whether their parents help them to use the Internet, as well as whether they use some contents together. Interaction restriction is associated with rules of the Internet use (for example, the number of hour, time of the day). Monitoring means installing a filtering or monitoring software on the computer used by adolescents, surveilling cellphones and messages, checking visited websites, emails and Facebook. The questionnaire was designed based on the research of parental mediation by Livingstone and Helsper [31].

The information disclosure on the Internet scale [43] was designed in the course of the project Safer Internet centre Croatia – Making Internet a good and safe place. Items are related to personal information disclosure online and the control of access to that information, and the respondents answer on a five-point Likert-type scale.

Dimensions of self-evaluation and extraversion: Three subscales of a shorter version of the Big Five +2 Questionnaire [44] were used, and they correspond to the dimensions of personality that were singled out in previous studies: the dimensions of self-evaluation (positive and negative valence) and extraversion. Positive valence contains dimensions of superiority and a positive self-image (up to narcissism as the extreme form). Negative valence is associated with a negative image of the self and a depressive cognitive style, but also with readiness to attribute a role of a dangerous person to self. The scale of extraversion in the BF+2 questionnaire includes mostly social aspects of extraversion, the quantity and quality of social interaction, as well as indicators of positive affectivity. Respondents answer on a five point scale of a Likert type.

3. RESULTS

First, we will present descriptive data about the scales that were used to assess problematic online behaviors; that will provide insight in the frequency of occurrences and the reliability of the scales.

As it can be seen from the Table 1, the most frequent form of online bullying is insulting (Item 1), and it was done by 22% of the respondents. According to the frequency, this is followed by spreading rumors, sharing information that was to stay private and joining a group that had as the main goal to ridicule someone (Items 3, 4 and 7; 12-13% of the respondents). Other forms of bullying, including unwanted pressure of a sexual nature (Items 9, 10 and 11) have low frequency. It can be concluded that cyberbullying in which all adolescent are involved is insulting

and ridicule of others. The scale in total has a satisfactory reliability, with Cronbach's alpha of .79.

Table 2 contains data about online sexual activities of adolescents. The first three items assume an interaction with others, and among them, exchanging sexual messages without erotic photos has the highest frequency; the last two items represent activities that a person does alone, and among them, visiting pornographic sites is the most frequent. However, in the context of risk, it should be also noted that 13% of adolescents talked about sex with someone they did not meet in person, and 18% of them sent messages that included erotic photos. The

reliability of the scale, expressed as internal consistency, is .70. Young men have significantly higher scores on both cyberbullying and online sexual behavior scales (p<.001).

Table 3 indicates that more frequent forms of sexual victimization are unwanted chats and seeking information than the demand to do something of a sexual nature. It should be noticed that the perception of the sexual victimization frequency is higher than the perception of sexual harassment frequency (Items 9, 10 and 11 in Table 1). Furthermore, there are no differences in scores between boys and girls in this scale, and Cronbach's alpha is .80.

Table 1. Descriptive data for the cyberbullying scale

Items		Frequency	Percentage
1. Used the Internet to send an insulting or rude comment to someone online	no	263	77,6
	yes	76	**22,4**
2. Used the Internet to bully/embarrass someone you are angry with	no	316	93,2
	yes	23	**6,8**
3. Spread rumors/gossips about someone on the Internet, regardless of whether true or not	no	298	87,9
	yes	41	**12,1**
4. Shared information/pictures which were to remain private	no	298	87,9
	yes	41	**12,1**
5. Posted/shared a video that showed someone getting hurt either emotionally or physically	no	327	96,5
	yes	12	**3,5**
6. Founded a group on a social network or a forum with the main goal to ridicule someone	no	319	94,1
	yes	20	**5,9**
7. Joined a group with the main goal to ridicule someone	no	294	86,7
	yes	45	**13,3**
8. Shared or posted info of a sexual nature (e.g. a number of people that person had sex with)	no	314	92,6
	yes	25	**7,4**
9. Tried to make someone to talk about sex online, when that person did not want to?	no	324	95,6
	yes	15	**4,4**
10. Asked for info of a sexual nature, when the other person did not want to answer	no	326	96,2
	yes	13	**3,8**
11. Asked another person to do something sexually, when they did not want to	no	325	95,9
	yes	14	**4,1**

Table 2. Descriptive data for for online sexual behavior scale

Items		Frequency	Percentage
1. Had an online chat about sex with someone you didn't meet in person	no	294	86,7
	yes	45	**13,3**
2. Sent or received messages that were of a sexual nature but did not include erotic photos	no	250	73,7
	yes	89	**26,3**
3. Sent or received messages that were of a sexual nature and included erotic photos	no	278	82,0
	yes	61	**18,0**
4. Visited pornographic sites	no	198	58,4
	yes	141	**41,6**
5. Downloaded erotic photos/contents from the Internet	no	274	80,8
	yes	65	**19,2**

Table 3. Descriptive data for the online sexual victimization scale

Items		Frequency	Percentage
1. Someone tried to talk about sex with you when you did not want it	no	285	84,1
	yes	54	**15,9**
2. Someone asked you for sexual information, and you did not want to respond (e.g. to describe your body or your sexual experiences)	no	293	86,4
	yes	46	**13,6**
3. Someone asked you to do something sexually, and you did not want to?	no	309	91,2
	yes	30	**8,8**

What follows is descriptive data about the scales that measure variables for which it is assumed to correlate with problematic online behavior.

Table 4 demonstrates that average scores are not high on any item except for using the real name. However, that also means that adolescents do not control who can see their personal information (Item 7), as well as that it is not important for the unfamiliar person not to be able to see their information (Item 9). Cronbach's alpha is .69, which is still acceptable.

Confirmative factor analysis of the parental mediation scale does not indicate that we can speak about the sub-dimensions (active mediation and co-use; interaction restriction and monitoring). The items (15 in total) are almost exclusively grouped into a single factor, which can be named as parental involvement and control. The items that contribute the most are included in the final version of the scale (Table 5), which has the reliability of .73.

Table 5 illustrates that parents discuss the Internet use with their children by far more frequently than they conduct any other forms of mediation.

The BF+2 Questionnaire is widely known, and therefore, reliable and descriptive data will be shown in Table 6 only for the whole subscales.

3.1 Examining the Relations between two Sets of Measured Variables

First, the correlations between the variables that represent factors associated with problematic online behavior/experience and the very behavior/experience were tested; i.e. between the two sets that were intended for canonical correlation analysis.

Most correlations are low, but statistically significant; moderate correlations appear between negative valence and bullying and sexual behavior. It is surprising that there were no statistically significant correlations between extraversion and problematic online occurrences in our sample.

Canonical correlation analysis was performed, which tests both the latent structure and the correlation between the sets of variables.

Table 4. Descriptive data for the information disclosure scale

Question In the social networks, I…	Min	Max	AS	SD
1. Use my real name	1	5	4,55	,839
2. Make my locations public	1	5	2,07	1,013
3. Make my mobile phone number public	1	5	1,31	,738
4. Write my accurate home address	1	5	1,41	,863
5. Post photos of my parents/siblings/cousins	1	5	2,58	1,129
6. Post my intimate photos	1	5	1,45	1,068
7. Carefully control who can see the info	1	5	2,12	1,344
8. Accept friend requests from persons I don't know	1	5	2,35	1,150
9. Find it important for unfamiliar people not to see my personal information	1	5	2,11	1,431
10. Take part in prize winning games that ask for personal information	1	5	1,39	,840

Table 5. Descriptive data about the parental involvement and control scale

Items		Frequency	Percentage
1. Set out the rules on time (the number of hours) spent online	no	306	90,3
	yes	33	**9,7**
2. Set out the rules on time of the day	no	314	92,6
	yes	25	**7,4**
3. Help to use the Internet	no	313	92,3
	yes	26	**7,7**
4. Discuss the use of the Internet with you	no	222	65,5
	yes	117	**34,5**
5. Have installed a filtering software	no	311	91,7
	yes	28	**8,3**
6. Have installed a monitoring software	no	331	97,6
	yes	8	**2,4**
7. You think , they check your phone and messages	no	310	91,5
	yes	29	**8,6**
8. Sites you visited	no	315	92,9
	yes	24	**7,1**
9. Your email or Facebook (a profile on other networks)	no	306	90,3
	yes	33	**9,7**

Table 6. Descriptive data and reliability of used subscales of BF+2

	Min	Max	AS	SD	Cronbach's α
Positive valence	10	50	30,66	8,856	.89
Negative valence	10	49	18,58	7,480	.85
Extraversion	10	49	36,68	6,946	.85

Table 7. Correlations between the two sets of variables

			Online bullying	Online sexual behavior	Online sexual victimization
Spearman`s rho	Information disclosure	Corr.coefficient	,260**	,288**	,187**
		Sig. (2-tailed)	,000	,000	,001
	Parental mediation	Corr.coefficient	,135*	,039	,236**
		Sig. (2-tailed)	,013	,471	,000
	Positive valence	Corr.coefficient	,170**	,155**	,073
		Sig. (2-tailed)	,002	,004	,181
	Negative valence	Corr.coefficient	,438**	,351**	,145**
		Sig. (2-tailed)	,000	,000	,008
	Extraversion	Corr.coefficient	,049	,027	,062
		Sig. (2-tailed)	,367	,618	,259

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

Table 8. Canonical analysis summary

Factors	Information disclosure, parental mediation and personality characteristics (Left Set)		R-sqr.	Cyberbullying, sexual behavior and victimization (Right Set)		p
	Variance extracted	Reddncy.		Variance extracted	Reddncy.	
1	0.303240	0.092412	0.304748	0.571624	0.174202	0.000000
2	0.176718	0.007410	0.041933	0.252196	0.010575	0.010426
3	0.158521	0.002712	0.017107	0.176180	0.003014	0.125139

The first component (canonical root) explains approximately 30% of the variance from the first set, with a negligible part of the variance which is explained by the variables of the second set (which is expected, since the left set is more of a "predictor"). A canonical component extracted from the second set explains approximately 57% of variance of that set, and 17% of variance is explained by the variables of the first set. Canonical components from the first pair share 30% of variance. These two canonical pairs are significantly correlated, which is indicated by the coefficient of significance.

The second two pairs are also statistically correlated, but they explain a small part of the variance – 4%. The component from the first set explains 17% of the variance of that set, with a negligible redundancy; and the component from the second set explains approximately 25% of the variance of the set, also with a negligible redundancy.

The first factor from the left set is best defined by low scores on the Negative valence. The factor is significantly contributed to by the low scores on the information disclosure scale, and less contributed to by the scores on the variables of parental involvement and positive valence. The first factor from the right set is best defined by low scores on the cyberbullying and online sexual behavior scales, and the factor is less contributed to by the low scores on sexual victimization. The canonical component can be understood, primarily, as a tendency towards manipulation and a negative image of self, without personal information disclosure, which is related to the lack of tendency towards cyberbullying and sexual behavior.

The second factor from the left set is best defined by the low scores on the parental involvement and the control variable, the high scores on negative valence also contribute to the factor. The lower scores on extroversion poorly describe the factor from the left set. The second factor from the right set is defined by the low scores on the online sexual victimization scale. This canonical component can be understood as a connection between the lack of parental involvement, negative valence and possibly introversion with the avoidance of situations in which a person could become an object of sexual victimization.

4. DISCUSSION

4.1 The Frequency of Problematic Behaviors and Experiences

When the forms of bullying are considered, the frequency is different and ranges between 4 and 22%, and the most frequent form is leaving insulting or rude comments to others. Such a result is expected, since the Internet is an environment with an increased feeling of anonymity and encourages disinhibition, which in

Table 9. The structure of the first canonical factor

Factor structure in left set		Factor structure in right set	
Variables	**Structure coefficient**	**Variables**	**Structure coefficient**
Info. disclosure	-0.636494	Cyberbullying	-0.920101
Parental involvement and control	-0.413740	Online sexual behavior	-0.800011
Positive valence	-0.414934	Online sexual victimization	-0.477776
Negative valence	-0.867950		
Extraversion	-0.119955		

Table 10. The structure of the second canonical factor

Factor structure in left set		Factor structure in right set	
Variables	**Structure coefficient**	**Variables**	**Structure coefficient**
Info. disclosure	-0.099812	Cyberbullying	0.112014
Parental involvement and control	-0.790645	Online sexual behavior	0.160710
Positive valence	0.123178	Online sexual victimization	-0.847474
Negative valence	0.401100		
Extraversion	-0.269170		

some cases may be negative or *toxic* [45]. Other forms of bullying, which are, said with reservations, more serious, such as spreading rumors, sharing information that are to remain private or ridiculing someone in especially for that purpose founded groups, are more rare and they do not go over 13%. Sharing videos that show someone getting hurt (either emotionally or physically) and pressures with sexual demands have the lowest frequency – approximately 3-4%. Bullying is more frequently conducted by boys, or they are more willing to admit it. It should be noted that there is a disharmony between the frequency of the perception of harassment with unwanted sexual demands and sexual victimization. The questions of the same content that were given in the cyberbullying scale were repeated for victimization (chatting about sex, asking for information that are sexual in nature, and asking to perform something sexual in nature) but an adolescent in this case is not the one who makes the demands, but their target. While the frequency of positive answers to such questions regarding cyberbullying was approximately 4%, when it comes to the perception of victimization, frequencies between 9 and 16% were obtained. Furthermore, regarding the scores on victimization, there are no differences between boys and girls, which indicates that both genders are equally sensitive to this phenomenon. The higher frequency of victimization can be explained by affirmative answers coming from girls, but one should consider also the possibility that unwanted requests come in part out of their age group.

According to self-assessment, boys are more involved in online sexual behavior than girls, which is not in accordance with the existing data [21]. However, it should be kept in mind that comparing results of all examined phenomena in the area of cyberpsychology is still difficult, because there are different definitions and different measuring instruments. It is possible that higher participation of girls is obtained when posting provocative photos is counted as sexual exposure, but the photos are not explicitly erotic or followed by sexual messages, such was the case in our research. Approximately 18% of adolescents from our sample take part in the exchange of such messages (photos and texts), and sexual messages that contain only a text are exchanged by approximately 26% of adolescents, which is in accordance with previous findings [23]. It is a very important finding, that approximately 13% of adolescents from our sample discuss about sex with persons

they have never met and whom they actually do not know.

In total, it can be said that cyberbullying is not especially expressed in the studied sample. Although this phenomenon is not to be taken lightly, greater attention should be paid to the more frequent risky behaviors and experiences – online sexual behavior and sexual victimization.

4.2 Factors Associated with Problematic Behavior and Experiences

The information disclosure scale offers data on how much adolescents share their private information, but also on how much effort they put into protecting their information. Regarding the information disclosure itself, if we leave out the use of the real name, all other personal information (telephone number, address, the current location…) is rarely revealed. However, the control of the access to published information is also rare, which represents a potential risk, especially because adolescents accept sometimes friend requests from persons whom they do not know.

Factor analysis of the parental mediation questionnaire did not confirm the existence of more factors (which were obtained in the study by Livingstone and Helsper [31]). The age of the respondent should be taken into account: our respondents were older adolescents and it is possible that necessary modifications of parental mediation (in all spheres) resulted in one factor that is singled out and that represents a combination of active, restrictive mediation and monitoring. The factor is called Parental involvement and control. Parents usually rely on a discussion about the use of the Internet, but they do not help specifically with the use, which can be, probably, explained by poor competences of parents in this field. The rules regarding time spent on the Internet as well as time of the day when adolescent can access it are also not clear; neither are different forms of surveillance, and therefore, adolescents have a lot of autonomy in their Internet use. During entering the data, it was interesting to read some of additions to the questions on parental monitoring in the sense of – *They would like to, but they don't know how*, with a smiley face at the end of the sentence. These funny comments reflect the adverse position of parents, who are to monitor activities which they themselves do not understand well enough.

The dimensions of self-evaluation and extraversion were included in order to examine the image of self and the relation towards others, which are characteristics that are regarded important for engaging in the problematic online behaviors. The total scores on all subscales represent relatively desirable outcomes of measuring these characteristics [46]. Positive valence is moderately expressed in total, and extreme scores would indicate an exceptional sense of superiority, egocentrism and narcissism. The scores on negative valence are low and they somewhat depart from the desirable; this implies that adolescents are unready to face with their undesired characteristics and that they probably do not possess sufficient interpersonal skills which lead to the achievement of set goals. Extraversion is relatively high, but one should keep in mind that high extraversion is actually desirable in the Western culture as well as in the Balkans. These variables, in the entirety, represent adolescents as persons with a positive self-image, who do not scrutinize enough their undesirable characteristics, but who are open in contacts with people.

4.3 The Correlation between the Problematic Online Behaviors and Experiences and Information Disclosure, Parental Mediation and Measured Dimensions of Personality

The analysis distinguished two significant pairs of canonical factors; although the second pair explains a small part of the variance. However, the process of distinguishing itself demands each following factor to be isolated in the space that remained unexplained by a previous pair or pairs of factors.

In the first pair of canonical factors, all variables of the problematic behavior and experience that we examined (the right set) have a negative correlation with the factor. In that sense, it can be said that the factor on the right side defines well the lack of involvement in the problematic behavior (cyberbullying and sexual activities), and defines somewhat less the lack of negative experiences (sexual victimization). The factor on the left side from the, said with reservations, predictor set of variables, represents characteristics which are correlated with the lack of negative components of the online interactions. Firstly, that is the low negative valence – discretion, unobtrusiveness, the lack of tendency to manipulate in social relationships;

this is followed by non-disclosure of personal information on the Internet. The low scores on the positive valence contribute less to the factors from the left set, which represents the absence of egocentrism and narcissism as well as the low scores on the Parental involvement and control variable. Therefore, adolescents who successfully avoid negative aspects of the online communication are those who are unobtrusive, do not disclose their personal information and do not have the sense of superiority over others. In this context, the parental mediation is left out probably because these adolescents are poised, unproblematic persons who do not need parental supervision (any more).

The second pair of canonical factors is related only to the online sexual victimization, which is somewhat less presented in the first factor pair. The absence of this problematic experience is most correlated with the lack of parental mediation, somewhat less with the negative valence and least with low extraversion. These data represent adolescent who are inclined to self-criticism and negative self-image, they are also introverts, i.e. less cordial, energetic and have less social contacts. Like in the explanation of the first pair of factors, parents with such children, who are late adolescents, have no reason to become involved and to control the online behavior of their children. On the other hand, it can be speculated that the absence of parental involvement in many spheres during development may contribute to the negative self-image and certain unsociability. In general, these adolescent will not become targets of online victimization.

5. CONCLUSIONS

The results of this research most clearly contribute to the idea that narcissism is important for engaging in the problematic online behaviors, i.e. they support this claim by the results that indicate the correlation between the lack of involvement in problematic interactions and low positive and negative valence. The second factor which is mentioned in studies, social anxiety or extraversion in the Big Five model, do not contribute significantly to the explanation of the lack of involvement in problematic experiences in our study; furthermore, there is no statistically significant correlation between this characteristic and the examined online occurrences. The results also support the significance of the cognitive factor – the awareness of the need to protect the privacy, i.e. the need not to disclose

personal information. The idea that is not supported by these results is the importance of parental mediation in prevention of the problematic online behaviors. The results indicate the opposite – the correlation between the low involvement and control and the lack of the problematic online experiences. We believe, this is due to the age of our respondents. Although they are still high school students, they are persons of the legal age who won their autonomy. Such a result does not diminish the importance of parental mediation in general, it rather suggests that parental behavior undergoes certain transformations during children's development.

The most significant limitation of the research is related to the use of the opportunity sample and for the use of the instruments that are not widely accepted (although, other instruments in the field of Internet psychology almost do not exist). Follow-up studies should elucidate the role and the forms of parental mediation of the online behaviors of respondents of different age. Also, they should continue to identify factors correlated with the problematic online behavior, especially those factors which are susceptible to interventions. In this context, the most important practical implications of the results of this study are associated with the confirmed importance of (non) disclosure of personal information. In prevention of risky online behaviors, when working with adolescents and parents, significant attention should be given to the importance and methods of the privacy protection.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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