

## EVALUATION OF INTERNET ADDICTION AND EFFECTS AMONG UNIVERSITY STUDENTS

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**Abstract** - *Internet is an indispensable part of our everyday life. Most young people enjoy the use of the Internet, but for some the use of the Internet can get out of control and turns into an addiction. Internet addiction leads an individual to a state in which which Internet is the dominant life activity, which isolate it from the environment. The main objective of this paper is to analyze data on internet addiction among students of the Faculty of Education in Sombor. The research was carried out by Internet Addiction Test, one of the oldest and most widely used instruments in this field. Survey results indicate that about one-third of students (33.3%) the symptoms of disorders of Internet use.*

**Key words** – *students; Internet; use; addiction; effects.*

### • **Introduction**

Internet is the greatest invention in the field of means of communication. Technically speaking, it is the network of all networks that consists of a large number of separate computers connected in a network structure (Smiljanic, 2015). On the other hand, the Internet is a huge library of information, which can not be found anywhere else. But the Internet is also a wild west where there are few rules and those existing are often violated.

Simultaneously with the development of the Internet as a medium accessible to the general population has created a space for the different forms of abuse. Special place occupies excessive and dysfunctional use of the Internet, which can result in a development of the Internet addiction. Internet addiction is called addiction disorder, pathological internet use, excessive internet use, and compulsive internet use (Kim, 2008) Internet addiction is a

disorder that is not like the excessive use of tablets or pathological gambling (Alavi et al. 2011). Internet addiction, also described as pathological internet use, is defined as an individual's inability to control his or her use of the internet, which eventually causes psychological, social, school and/or work difficulties in a person's life (Davis 2001; Young & Rogers, 1998). Internet can be considered a strong asset dependencies. The risk of Internet addiction in men was about 3 times more than women (Alavi et al. 2011).

The main criterion for the diagnosis of Internet addiction is the time spent at the computer. Is considered to be 4 to 8 hours per day depending on the symptom (Young, 1999) or for at least 6 hours (Tao et al. 2010). Under the activities related to the Internet can not be taken into account only on-line room on the network, but also all other activities related to the network - and responding to emails, discussions groups, the reading undertaken news, magazines, articles , texts in general and others. However, it should be noted that the time from 4 to 8 hours spent on the internet may or may not be an indicator of Internet addiction. To a person called internet addict needs to fulfill five or more of the eight criteria for a period of six months (Young, 2004):

- [1] depending on occupancy facility
- [2] tolerance to the use of the Internet
- [3] the emergence of symptoms of abstinence crisis in a bid to reduce the use or interruption in the use of the Internet
- [4] inability to control use of the Internet
- [5] on the Internet stays longer or it can be accessed more frequently than planned
- [6] the emergence of problems in social relationships, in school, at work, due to the use of the Internet
- [7] hiding the real time spent on the Internet
- [8] perception of the Internet as a way to escape problems.

Today there is no clear agreement as there are forms of internet addiction. One of the most popular classification of internet dependency was created based on the results of the study on the characteristics of the Internet, depending on the characteristics of internet addicts, and depending on the internet connection with other forms of addiction (Young, Pistner, O'Mara,, Buchanan, 2000). Isolated a large number of different behaviors and compulsive actions, which are classified into five types of internet addiction (Kovačević-Lepojević, 2011):

- cybersexual addiction - compulsive use of the Internet for cyber sex and cyber pornography
- social networking addiction - excessive involvement in social relations online

- no compulsion - gambling addiction, shopping and playing games via the Internet and other
- information overload - obsessively surfing and database search whether it comes to professional interests, or does it just for fun
- information communication technology addiction

No matter what type of internet addiction in question, abuse of the Internet affects every aspect of the personality and life of one person. Effects occur slowly and imperceptibly so that they can not recognize themselves Internet users. Changes range from a mild disorder sleep patterns, red eyes and headaches, over the weakening of the success of the school, to the neglect of basic physiological needs, alienation from reality and withdrawing from friends and family (Young, K. 2004) Compared to all demographic groups of Internet users, the university student population has been regarded as one of the most susceptible to developing problematic or excessive Internet usage (Nalwa & Anand, 2003; Yang & Tung, 2007). This is a generation of people who have been exposed to personal computers and the Internet since young (Djamasbi et al, 2010) Causes that they are regarded most vulnerable to use the Internet excessively are free and unlimited Internet access, badly organized leisure, loss of parental control and support for students to use the Internet by professors (Yeap et al, 2015).

The best-known instrument for evaluation and measurement of Internet use disorder is Internet Addiction Test (IAT), which was designed by Young (Young, 1998; 2011). The test consists of 20 items formulated in the form of question about the impacts that the use of the Internet has on everyday life, social life, productivity, sleep patterns and feelings (Popović-Čitić & Marković, 2013).

The test version of the 1998 responses were given on a five-point Likert scale from 1 = “never” to 5 = “always”, but scores range on a scale ranging from 20 to 100, with scores ranging indicate:

1. 20-39 - average use of the Internet, which can be controlled
2. 40-69 - frequent problems due to the use of the Internet
3. 70-100 - use of the Internet that causes serious problems

In the version of the test in 2011, the answers are given on the six Likert scale from 1 = “rarely” to 5 = “always”, with 0 = “never”, but the range of total scores ranged from 0 to 100, wherein the scores in the range indicated:

- 0-30 - lack of dependence on the internet
- 31-49 - a slight degree of dependence on the Internet
- 50-79 - moderate degree of dependence on the Internet
- 80-100 - high degree of dependence on the Internet.

There have been several attempts Validation IAT on specific national samples (Ferraro, Caci, D'Amico, & Di Blasi, 2007; Khazaal et al., 2008),

found six factors that underlie this test, and that measure different aspects scheduled disorders. More and more are believed to IAT has not completely reliable and valid psychometric instrument and that in the near future should join his correction and adaptation to modern conditions and the spread of the Internet, if not making a completely new test that could be used for such purposes. The reason why I still decided to scale IAT is that the content of a number of items are grounded in the diagnostic criteria of dependence and compulsive behaviors, which are considered to be most closely related phenomena of Internet use disorder. Also, since this is the oldest rock to be used for these purposes, there is the most empirical studies whose results depend precisely on this scale.

Today, the Internet plays an important role in the lives of young people, especially for pupils and students, who are still forming. It may be useful, but and harmful and dangerous. Today, the Internet is increasingly used in education- in primary schools, secondary schools and faculties (Iskrenovic-Momcilovic, 2015). It represents the greatest source of information necessary for any level of education Enabling access to information to anyone who wants to learn, regardless of age. Internet learning occurs without borders, which is due to development of new technologies and media (Radovanović & Savić, 2011). The biggest advantage of the Internet is that it is easy to use.

In an era of rapid development of information and communication technologies, the Internet has become part of everyday life of each individual (Iskrenovic-Momcilovic, 2015). The Internet is increasingly common in the world of communication and represents all acceptable way to communicate around the world (Miljkovic, Iskrenovic-Momcilovic & Rastovac, 2013). This method significantly reduces the communication by letter, phone and fax numbers, and even personal communication between people. Information - communication technologies have significantly changed the lives of ordinary people. Without the Internet the day they can not imagine not only the younger generation but also older.

Internet is fast and easy tool that allows you to communicate with people in the immediate vicinity, but also with people who are thousands of miles away (Iskrenovic-Momcilovic, 2015).

## • **Methods**

**Aim.** The aim of this study was to examine the percentage of internet dependent students at the Faculty of Education in Sombor. These results are important from the aspect of the possible planning of learning activities and working with students at risk in order to increase productivity in universities.

**Sample.** The survey was conducted on a sample of 126 students of the fourth year of the Faculty of Education in Sombor. The sample covers all four study programs: Graduate teacher, Graduated preschool teacher, Graduate media designer in education and Graduated librarian.

**Instrument.** The study used a questionnaire of 28 questions. The first part of the questionnaire included five questions on socio-demographic data:

- What is your gender?
- How old are you?
- What program of study you attend?
- Do you have a computer at home?
- Do you have constant access to the Internet?

and three questions about the extent of use of the Internet:

1. How many hours a day do you spend on the Internet?
2. How often do you use the Internet?
3. How long do you use the Internet? "

The second part of the questionnaire contained 20 items of IAT (Young, 2008; 2011), with answers to the six-point Likert scale:

0 = "never", 1 = "rarely", 2 = "sometimes", 3 = "often", 4 = "very often", 5 = "always".

Items IAT are, for the purposes of this study, translated into Serbian language and tailored to students:

1. How often do you stay on-line longer than you planned?
2. How often do you neglect household chores to spend more time on the Internet?
3. How often would rather choose the Internet instead of time spent with your partner?
4. How often do you make friends with other on-line users?
5. How often do you get people in your environment regret the time you spend on the Internet?
6. How often it happens that your success in college is suffering because of the Internet?
7. How often do you look at the e-mail message before you finish your duties?
8. How often does your productivity suffers because of the time spent on the Internet?
9. How often do you happen to be angry or secretive when anyone asks you what you do on-line?
10. How often do you block thoughts about everyday problems thinking about the Internet?
11. How often do you catch myself thinking about when you will again go to the internet?

12. How often do you feel the fear that life without the Internet would not be boring, empty and sad?
13. How often do you get upset, yell or odbrusiš someone bothering you while you're on-line?
14. How often do you lose sleep over the Internet late in the evening?
15. How often are you preoccupied with the Internet when you of-line, or fantasize about being online?
16. How often do you catch yourself saying just a few minutes?
17. How often do you try to cut down on the time you spend on the Internet and at the same time do not you do this in the intention?
18. How often do you going to hide from someone how much time do you spend on the Internet?
19. How often do you choose to spend more time on the Internet instead of leaving with the others?
20. How often do you feel depressed, depressed or anxious during the day, all that disappears when you tap into the Internet?

**Procedure.** Testing was performed in the period of regular classes during May 2016. Testing was attended by the teacher and the examiners, who are following general remarks regarding the purpose and method of completing the questionnaires were available to students in terms of providing additional explanations and eliminate any ambiguities in the wording of questions, but there was no such requirement. All students of a faculty are also examined, and filling out the questionnaire on average lasted 15 minutes.

## • Results

Of the total number of respondents in Faculty of Education in Sombor, 80.7% (133) of the students were female, 19.3% (32) were male. This structure was full of expectations, mainly because they are represented in the student study groups Graduated teacher and Gradutae preschool teacher. The mean age was 21.7 years, a range of 'age ranged from 21 to 23 years. This tells us that regular students have even 87.9% (135) and repeater only 12.1% (30). The computer is at home, 97% (161) of the respondents, indicating that the computer has now almost every home. The situation is similar with Internet access. Constant access to the Internet has an even 90.9% (150) respondents.

Intensity of Internet use	Percentage of students	Number of students
less than 1 hour per day	10.3	17
for 1 to 2 hours per day	51.5	85

for 2 to 4 hours per day	24.8	41
more than 4 hours per day	13.3	22
<b>Frequency of Internet use</b>		
several times per month	0.6	1
once a week	6.7	11
several times per week	22.4	37
every day	70.3	116
<b>Length of Internet use</b>		
less than 1 year		
for 1 to 4 years	13.94	23
more than 4 years	86.06	142

Table 1. Internet use

Questions about the extent of Internet use (Table 1) have shown worrying situation and that many students even use the internet too:

1. more than one-third (38.1%) students carried out more than 2 hours on the Internet
2. more than two-thirds (70.3%) visit the internet daily
3. about two-thirds (66.1%) use the Internet for more than three years.

IAT total score of students in the sample ranged from 0 to 90 with a mean value of 31.73 (Table 2). Stidenata in one third (33.3%) recorded the scores, which indicate the presence of symptoms of Internet use (Table 3).

<b>Question</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>sum</b>	446	297	182	330	297	231	512	264	215	182
<b>middle value</b>	2.7	1.8	1.1	2.0	1.8	1.4	3.1	1.6	1.3	1.1
<b>Question</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>sum</b>	231	297	198	297	182	330	231	149	149	215
<b>middle value</b>	1.4	1.8	1.2	1.8	1.1	2.0	1.4	0.9	0.9	1.3

Table 2. Average number of points regarding the IAT

<b>IAT score</b>	<b>students</b>	<b>% students</b>	<b>number of women</b>	<b>% women</b>	<b>number of men</b>	<b>% of men</b>
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<b>0 - 30</b>	110	66.7	90	81.8	20	18.2
<b>31 – 49</b>	35	21.2	29	82.85	6	17.5
<b>50 – 79</b>	15	9.1	10	66.66	5	33.34
<b>80 - 100</b>	5	3.0	4	80	1	20

Table 3. IAT score

Disruption of Internet use leads to disruption of work, family and social life of an individual. Questions 6, 7, 8 and 19 in the IAT (Table 4) reflect the impact of the Internet on an individual. It shows that if there is a significant decline in labor productivity and success on the faculty in subjects. Also to be found out whether the social life of students suffer because of its dependence on this medium. On the other hand, disorder work, family and social life of an individual leading to depression. As a marker of depression among students who are abusing the Internet can take data obtained from the answer to question number 20 in the IAT (Table 4).

Question	Type response											
	0	%	1	%	2	%	3	%	4	%	5	%
<b>6</b>	25	15.15	95	57.57	35	21.21	10	6.07				
<b>7</b>	55	33.33	90	54.55	18	10.90	2	1.21				
<b>8</b>	11	6.67	89	53.94	49	29.70	7	4.24	9	5.45		
<b>19</b>	51	30.91	94	56.97	16	9.70	4	2.42				
<b>20</b>	40	24.24	79	47.88	39	23.64	7	4.24				

Table 4. Statistical data for questions 6, 8, 19 and 20

## • Discussion

The Internet has become the primary means of communication by which the quick, cheap and easy way to obtain information. Research shows that 97% of students have a computer home, and constant access to the Internet 90.9% of students. Hinić (2008) points out that 88% of users access the Internet from home. All this confirms that the number of Internet users from year to year.

Time criteria for the assessment of "normal" and "excessive" use of the Internet is increasing. This criterion was first 7 hours a week, and now it's about 25 hours a week, provided that this limit is constantly moving upward Hinić (2008). In the context of this study (Table 1) half of the students



(51.5%) carried out for about 2 hours a day or 14 hours a week which is below the "normal" use of the Internet. However, 38.1% of students carried out four or more hours a day on the Internet that is 28 or more hours a week, which shows the transition of the border.

The frequency of Internet use is shown by the following data: 70.3% (116) stated that they used the Internet every day, and only 0.6% (1) points out that the Internet is used several times a month. Internet is the most common preferred medium for getting information followed by television and textbooks because of easy accessibility and recent updates in internet (Popović-Ćitić, Marković, 2013). All this suggests that the internet has become the primary means of information and communication students. Young people very early started to use the Internet, even in the course of primary or secondary school, and some even in the preschool years. Even 86.06% (142) of students use the Internet more than four years.

From Table 2 it can be seen that the average student of the Faculty of Education has a total sum of 31.73 points on the IAT scale. The result is statistically significant, because the value minus p equals 0.0057 or less than 0.01. This means that the average student has a slight degree of Internet addiction. The highest number of points achieved on issues 1 (2.7 points ~ 3) and 7 (3.1 point ~ 3). This tells us that the average student often spends more time on the Internet than planned and often checks the first e-mail before the dedication that the job for which also joined the Internet.

From Table 3 it can be concluded that 66.7% (110) of the students did not show any dependence on the Internet, while 33.3% (55) students showing symptoms of Internet addiction. Of the total number of dependent students was 78.18% (43) women and 21.82% (12) men. IAT identifies three levels of Internet addiction - mild, moderate and high levels of Internet addiction. According to the survey, 3.0% (5) students have a high degree of dependence on the internet. 9.15% (15) students have a medium level, and 21.2% (35) has a slight dependence on the Internet. In all three cases, the woman is more dependent on the Internet than men. This does not coincide with previous research (Alavi et al. 2011), because the Faculty of Education in Sombor has significantly more women than men.

In the survey a large number of students admitted that their operation occasionally or frequently suffer because of abuse of the Internet. Simply put, they are lazy, which negatively affects their success in college, in the family or society. The fall in productivity could be one of the criteria for the diagnosis of Internet addiction. However, anyone can spend 12 hours a day searching the internet, but that's part of his job and that does not lead to any change in his work and life. On the other hand, someone else can spend

significantly less time on the Internet, or to disturb his sleep, poor concentration and a significant impact on its success at work or school.

Table 4 shows the influence of the Internet depending on the productivity of individuals at work and in life in general. Based on the responses of Students to question number 6 shows that 27.27% of them (45) in the risk of developing Internet addiction, because their success in college the fall because of the Internet. However, no student has not answered this question with „*very often*“ and „*always*“. Question 7 shows that 12.11% (20) students „*sometimes*“ or „*often*“ looked emails before completing their obligations, indicating that the risk of developing Internet addiction, but it is not good students in high risk. Statistics answer to question 8 indicates that 33.94% (56) of students responded that „*sometimes*“ or „*often*“ have a lower productivity due to time spent on the Internet This shows that they are at risk of developing Internet addiction. In addition, even 5:45% (9) on the basis of such criteria at high risk of developing Internet addiction. On the question 19 with „*sometimes*“ and „*often*“ replied the 12.12% (20) students. However, on this issue no students in higher rizikuod developing internet addiction.

It is well known that there is a connection between Internet addiction and depression among internet users. On the basis of questions 20, 27.88% (46) student „*sometimes*“ or „*often*“ period of grief and resentment of the lens using the Internet, while those not at high risk of developing depression associated with excessive use of the Internet. It is believed that the Internet facilitates communication depressed people with low self-esteem, because it excludes eye contact, touch, shake the ability to vote and given enough time to prepare a valid answer to any question that the other person can ask. Young and Rogers (1998) find that excessive use of the Internet in drawing people from everyday social interaction and leads to depression. Similarly, depression may occur as a result of Internet addiction. The exact cause of the relationship between depression and Internet addiction is not known (Bahrainian & Khazaei, 2014) However, it is clear that when both disorders appear in the same time, only deepen each other (Young & Rogers, 1998).

## • Conclusions

The Internet is a useful tool in all spheres of our life, but also a significant factor in addiction. From harmless fun, over obstacles that, to true and proper dependencies - the price is that today's generation of young people pay. Cinema is replaced by 3D movies at home, cards and dice video games, and writing letters and correspondence with peers gave way to the social networks ... Where is the border crossing of Internet use in addiction?

The fact is that in today's internet accessible to everyone and at all times. It's hard to find a place without an Internet connection and a young person without the device through which you can connect to the Internet. It is this constant availability of the Internet has led to excessive use of the internet every day. In addition, the Internet offers various forms of entertainment, information and educational content that attracts a large number of people. But sometimes young immiscible limit how much to use the Internet regardless of the consequences that come with it.

The figure of 33% of students in the Faculty of Education says that one in three students addicted to the Internet. Like other addictions, and internet addiction leads to a distortion of personality, psychological and physical condition and social life. An important difference between this and other addictions is that they are harmful and, at the same time, the useful aspects of Internet use. From this it follows that the treatment of Internet addiction, going to the adjustment of the asset dependency, rather than towards the complete abolition. Therefore, you should strive for self-control and understanding of their own mistakes.

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