Computer Dependence - A Disease of the New Age

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Abstract

Introduction: Computer and Internet use is an inextricable part of young people's lives and its frequency shows a trend of continual increase.

Aim: The aim of this paper is to analyze the influence of socio-economic factors on the frequency of computer usage in the student population.

Methods: The research was conducted at the Faculty of Technical Sciences in Northern Kosovo in October 2015. A survey covered a total of 432 students of both genders ranging from the 1st to the 5th year of their studies.

Results: The results of the survey questionnaires were processed using statistical analysis. Men spent somewhat more time on the Internet as compared to women. Time that students spent on the Internet according to the year of their studies was statistically significant at the level of $p < 0.001$ for all groups: $F(2, N = 226) = 10.516$.

Conclusion: Even though there are numerous advantages of using a computer, there are an increasing number of harmful effects of the Internet and video games on the health of children and young adults. Due to those reasons, a synergy of all social and technical sciences is necessary in the preparation and application of the measures of computer usage prevention and control.

Keywords: Computer; Faculty; Students; Usage Disorders

Introduction

The past 20th century will be remembered by achievements in the field of information technology. According to the data of global Internet statistics [1,2], the number of Internet users in the world is close to 2.5 billion people, which points to the fact that a third of the world population is using the Internet. In Serbia, after the introduction of the Internet in mid-1996, the number of users grew with an average yearly rate of 150% [3]. The Internet is being used by four million people in Serbia today, which is 56% of the population [1,2]. According to the Statistical Office of the Republic of Serbia, Internet penetration is highest in Belgrade, where more than half of the households (61%) have an Internet connection [4-7].

Computers, video games and the Internet have become commonplace. Computers are not only used at work, but are now also a main source of entertainment, leisure and socializing for many. For the majority of people, using a computer, playing video games and browsing the Internet is an inextricable part of their lives, but it has a healthy, functional purpose. For others, the time spent using the computer, browsing the Internet or playing a video game, does not have that healthy balance and has detrimental consequences to everyday life.

Social networks, like Facebook and others, have additionally increased Internet usage and have lately been the most common sources of Internet addiction.

Internet addiction is a clinical disorder with strong negative consequences on the social, professional, financial and economic functioning of a person [6].

Aim of the Study

The aim of the paper is to show the prevalence of computer usage with students of the Faculty of Technical Sciences in Northern Kosovo.

Methods

The research was conducted at the Faculty of Technical Sciences in Kosovska Mitrovica in October 2015. The survey performed on the students was anonymous. The survey encompassed 437 students of the Faculty of Technical Sciences aged 18 - 37 selected by random sampling. The average age of the respondents is 22.03. The respondents were introduced to the purpose of the survey before it was performed, and were then given instructions on the way it should be completed. The survey consisted of 20 questions.

A questionnaire on Internet usage was compiled based on the review of existing instruments from literature, as well as those used in several domestic researches [7-9]. After logical analysis and the application of several versions on respondent test samples, a final version was selected.

The survey used a questionnaire with 20 questions. The first part of the questionnaire consisted of questions on socio-demographic data (gender, age, year of studies, economic status, place of origin, owning a computer), three questions on Internet usage habits ("Do you use the Internet?", "How much time do you spend using the Internet daily?", "How often do you use the Internet?").

The second part of the questionnaire consisted of elements of the Internet Addiction Test (IAT) [10]. The elements used were translated into Serbian for the purpose of this research by using the technique of back translation. Additionally, certain modifications of the original scale were performed in order to facilitate gathering data from the selected sample [11].

The remaining questions did not suffer significant changes in content, but the tendency was to adapt the formulation of the statements to the age of the respondents.

The data in the paper is shown descriptively, graphically and in tables, while the statistical analysis was performed by using frequency distribution and a direct analysis of tabulated, graphic and descriptive data.

Results

We will commence the result overview by analyzing the demographic characteristics of the students of the Faculty of Technical Sciences in Kosovska Mitrovica. The research showed a larger representation of the male population, which is understandable because it is the Faculty of Technical Sciences (Table 1).

Gender	%	Age	%	Place	%	Year of studies	%	Economic status	%
Male	58.4	< 19	26.55	Village	46.7	1	27.00	< 5000 RSD	65.90
Female	41.6	20 - 28	70.25	City	53.3	2	15.33	5001 - 10,000	19.68
		> 28	3.2			3	27.92	10,001 -15,000	13.50
						4	14.42	15,001 - 20,000	0.23
						5	15.33	> 20,000 RSD	0.69

Table 1: The demographic characteristics of surveyed students.

The percentage of male students using the Internet is 96.47%, while the percentage of women is 92.86%. The c^2 test of independence did not show a statistically significant difference between the genders regarding Internet usage with technical students from Northern Kosovo. $F(1, N=437) = 2.154$, $p = 0.139$ (Figure 1).
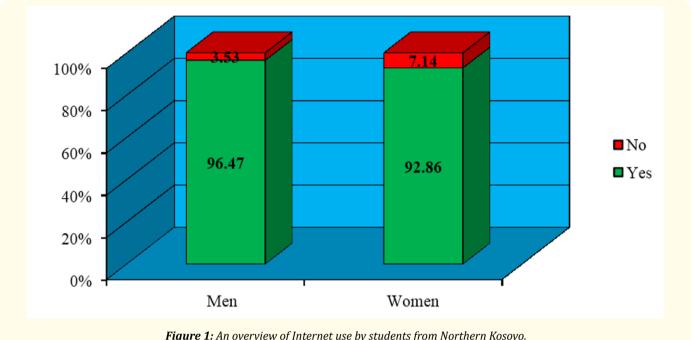

Figure 1: *An overview of Internet use by students from Northern Kosovo.*

A paired sample t-test compared the time that students spent on the Internet in relation to gender. Men ($M_m = 80.82$, $SD_m = 59.89$) spent somewhat more time on the Internet than women ($M_w = 75.91$, $SD_w = 55.88$), but that difference is not statistically significant ($t(435) = 0.87$, $p = 0.385$).

The difference between the mean values of the characteristics divided into groups (average difference = 4.92, 95% CI /Confidence Interval: from -6.2 to 16.03) was very small ($\varepsilon^2 = 0.0017$).

Single-factor analysis of variance (ANOVA) was used to express the influence of the year of studies the students were in on the time they spent on the Internet. There was a statistically significant difference on the level of $p < 0.001$ for all groups: $F(2, N = 226) = 10.516$, $p < 0.001$.

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Subsequent comparisons using Tukey's HSD (Honestly Significant Difference) test showed that the mean of group I ($M_1 = 99.07$, $SD_1 = 70.02$) is significantly different from group IV ($M_4 = 45.08$, $SD_4 = 62.04$) $p < 0.001$ and group V ($M_5 = 67.69$, $SD_5 = 42.70$) $p < 0.01$ ($p = 0.002$), while group IV also shows a statistically significant difference from group II ($M_2 = 77.24$, $SD_2 = 39.68$) $p < 0.05$ ($p = 0.01$) and group III ($M_3 = 83.48$, $SD_3 = 50.71$) $p < 0.001$. No statistically significant differences were found among other groups.

The results show that students in the initial years of their studies spent more time on the Internet.

Gender	Every day		Several times a week		Once a month		Never		Total	
	N	%	N	%	N	%	N	%	N	%
Men	93	36.47	113	44.31	40	15.69	9	3.53	255	100
Women	114	62.64	36	19.78	19	10.44	13	7.14	182	100
Total	207	47.37	149	34.10	59	13.50	22	5.03	437	100

Table 2: *The frequency of Internet use with technical students from Northern Kosovo in relation to gender.*

Discussion

An increasing number of people aged 18 - 21 spend hours at their computers, so the goal of this research was to examine computer use in the student population of the Faculty of Technical Sciences in Northern Kosovo. Activities to adapt Internet technologies to academic needs are especially significant [12]. When speaking about Internet use, it is necessary to mention that a part of the population, both globally and in Serbia, exhibits a specific kind of attachment to the Internet that is characterized as Internet addiction. This subject is topic of hot debate in scientific circles and media [13]. Internet addiction disorder, shortened to IAD, was first described by the US psychiatrist Ivan Goldberg in 1995. This phenomenon is also known as Pathological Internet Usage, shortened to PIU. It is a physical disorder that is manifested as an obsessive desire to spend time on the Internet. Namely, a person that can be characterized as an Internet addict neglects social contacts in his/her physical environment (e.g. family, friends, business commitments and the like) while at the same time exhibits difficulty in ceasing activities on the Internet, even though he/she wants to [14].

The Internet is significantly more common in urban than in rural environments not only due to the fact that the majority of the population is located in cities, but also due to more favorable opportunities for access (a dial-up connection, ISDN, wireless, cable access). In rural environments, phone lines are unreliable (electromechanical exchanges, a slow connection, frequent outages) and are hard to obtain [12].

In this research, conducted at the Faculty of Technical Sciences in Kosovska Mitrovica, Internet use is a very common occurrence. It is widespread both in the professional activities of the students, where Internet use is necessary, and in their free time. The percent of students using the Internet is almost equal in men (96,47%) and women (92,86%).

According to a research performed in thirteen countries throughout the world, fewer young Americans use the Internet than their peers in the Czech Republic, Canada and the UK. This research was performed at the initiative of the Center for the Digital Future among teenagers from 12 to 14 years of age. According to the results gained, 100% of young British people used the Internet, followed by Israel with 98%, the Czech Republic with 96% and Canada with 95%. On the contrary, only 88% of Americans of the same age used the Internet, followed by Hungary, where 70% of young people used the Internet [15]. The data for Serbia from a research performed in April 2012 points to the fact that 34% of children constantly use the Internet, while 46% of children use the Internet several times during the day [16,17]. The time students from Northern Kosovo spend on the Internet is given in table 2a. Table 2b gives an overview of the time students spend on the Internet daily, broken down according to the year of studies they are attending. The results show that students in the initial years of their studies spend more time on the Internet.

Internet use caused 9.8% male and 16.6% of female students to miss sleep at night, even though it is known that regular sleep is necessary for the proper growth and development of the members of the student youth population [17].

Neglecting schoolwork has been reported by 6.5% of students of the Faculty of Technical Sciences while 14.5% of them neglected their family.

84.1% of the surveyed students have a Facebook profile. Having a profile was more common with women. In Serbia, 96.3% of children have their own profile on Facebook [16].

57.4% of the students from the Faculty of Technical Sciences that participated in the survey spent their free time on the Internet, 20.6% took part in sports activities,22.15% spent their free time in the company of their family members and friends, 4.6% of the students spent their free time watching TV, 1.6% read books, while 2.3% took part in other activities.

Young people from the student population are becoming alienated from people in real life because they spend most of their free time on the Internet. They should be spending more time doing physical exercise and reading books, which is a grave problem of the student population.

Internet addiction is a modern problem which points to the form of extreme orientation towards the Internet and negative reactions to Internet access being jeopardized, which is often emphasized as a constitutive element of Internet use disorder and suggests a similarity with compulsive disorders and addiction disorders [18,19]. It is in constant expansion, especially among the young population, as well as the working age population [20,21].

Conclusion

The results of the conducted study indicate that the susceptibility of in the student population towards frequent Internet use is exceptionally high. Frequent use of the Internet, the inability to control Internet use and the inability to discontinue Internet use. Problematic Internet use correlates positively with a higher level of negative emotional states.

Prevention programmes should be focused on increasing knowledge about the results of long-term exposure to the Internet on individuals, as well as prevention strategies for its detrimental effects.

The fact that our country follows European and international trends will lead to an increase in the number of people with symptoms of Internet addiction. This number is currently not large, but precautions should be taken. A challenge to all healthcare professionals is to finally clearly delineate the criteria and possible connection, if not a causality, with other disorders, compulsions, neuroses, and mood disorders. We consider the necessity for quick action clearly visible in these results since it seems that the most susceptible categories are adolescents and young persons whose physical formation is still in progress and as such can be seriously altered by an extensive and dysfunctional use of any form of information technology, including the Internet.

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