Internet Addictive Behaviour of Adolescents

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Abstract —Computer technology has progressed quickly and personal computers and the internet have become closely linked to human life. However internet itself brings various pitfalls. Although it is understood as a crucial part of contemporary life, it also represents the space for emergence of risky behaviour. Many studies show that people can use internet with typical features of addiction and such use can have harmful effects on individual, change his/her social behaviour, habits or abilities in a negative way. The paper represents a study focusing on internet addictive behaviour of secondary school youth in the Czech Republic. The research results are presented in the context of work of foreign experts, which have been published in recent years.

Keywords Social Aspects of Internet, Internet Addiction, ICT in Education.

INTRODUCTION

THE 21st century as a digital era has brought technologies, which have a great impact on everyday life and these technological benefits are familiar to everybody. Internet has become an indispensable part of a modern man´s life, mainly then for adolescents from the reason of reduced level of parental control, free internet access and the use of such media for the purpose of education (cf. [1 - 4]). Although internet is understood as a crucial part of contemporary life, it also represents the space for emergence of risky behaviour. Many studies show that people can use internet with typical features of addiction and such use can have harmful effects on individual, change his/her social behaviour, habits or abilities in a negative way [5].

The boom of information and communication technologies in a wide range of social activities has touched the field of addictology and in several last few years we talk about addiction to internet, which belongs to a category so called non-substance addictions. "Since the developmental period of adolescence there is the need of exploring and experimenting, the adolescents represent just this group of the most potentially at risk on the internet." [6]

In this paper we present a research which deals with internet addiction behaviour of secondary school youth in the Czech Republic.

INTERNET ADDICTION

A. Conceptual background and definitions

In foreign literature we meet with certain conceptual variability and even uncertainties, where besides internet addiction there is excessive use of internet, pathological use of internet, problematic use of internet or risky internet use being used (cf. [7]).

Even though no unified labelling of these phenomena exists, Chang and Law [5]) state that it is generally conceptualized as "compulsive behaviour associated with the internet use, which lead towards significant issues in everyday life".

Similarly Douglas [8] defines internet addiction as "the individual´s inability to control internet use that leads to feelings of anxiety and functional disruption of daily activities".

By Chou [9] the internet addiction (or even pathological internet use) is mainly characterised by an inability to control internet use, which ultimately leads to psychological, social or work issues and the international scale the prevalence of internet addiction varies between 8 up to 13% at university students and between 1,4% up to 17,9% at adolescents.

Internet addiction is defined by Y. Bi [10)] as "individual´s inability to control his/her own level of internet use".

B. Internet addiction criteria

Although this disorder does not cause that same issues as other types of addictions (mainly substance addictions), are the consequences of addictive behaviour on internet in the social field very similar and contain for example the loss of control over use, craving, social isolation and a whole range of issues in the field of interpersonal and work relationships and finance field.

Yellowlees and Marks [11] put among these criteria beside the syndrome of excessive internet use the excessive time spent online; compulsive internet use; difficulties during internet time management; the feeling that world without internet is boring; internet user becomes grumpy, if she/he is not online; reduction of social interaction with real people in a real world and increased loneliness and depressions.

Lee and Cheung [7] state, that internet has become for the first time to be known as an object, which can be addictive, in connection with Goldberg, who in the year 1995 used for the first time the term "internet addiction syndrome". According to these authors internet addiction meets four basic criteria of substance addiction, such as craving, a question of tolerance, negative consequences in many aspects of life and a drug withdrawal syndrome.

Škařupová [12] states that one of the most tests used for internet addiction is the Internet Addiction Test (IAT) by Dr. Kimberly Young. It is culturally transferable and although it

was developed in the 90´s of 20th century it is still suitable for testing of this addiction even though it does not take modern trends into accounts in this field.

Young [13] states that internet addiction becomes new clinical disease and a phenomenon of postmodern society and works with eight criteria of this syndrome:

- Internet use as means for controlling mood
- Time spent on internet increases in order to achieve the same level of satisfaction
- Repeated effort to cut down internet use
- Emergence of irritability, depression or frustration in the absence of internet connection
- Internet connection takes longer than the user perceives
- User lies to his/her surrounding about the time spent in cyberspace
- User prefers internet to other activities
- Strong commitment to internet

And then he talks about internet addiction when at least five above mentioned criteria are mentioned out of eight. From results is clear that internet addiction can be diagnosed in case that the user spends online more than 38 hours a week [13].

C. Features influencing internet addiction

According to Škařupová [13] there are over 30 existing diagnostic scales which contain from 6 up to 44 items and measure excessive internet use. We usually rank the amount of time spent on social network, number of connection to social network a day or a number of profiles set up on individual social network among basic diagnostic criteria (cf. [14]).

Israelashvili et al. [15] states, that just the internet overuse can be potentially dangerous only for individuals with specific predispositions, for example general tendency to emergency of addiction, depression, and lack of impulsive control, aggression, shyness and obsessive compulsive disorder. Based on his research he represents a factor that the level of self-concept of an adolescent significantly influences the level of internet use. So the individuals, whose self-concept is not clearly defined yet, might use internet more than others.

Aydin and Sari [16] deal with the connection between adolescents´ self-confidence and development of addiction, who mainly point out at the self-confidence which is formed in the adolescent's family and so called social self-confidence, which are significant predictors of development of internet addiction.

Internet addiction is influenced by so called internet use for entertainment related use. S. H. Jeong [17] states that the entertaining content such as video, music, social network and games can cause addiction regardless the media type (e.g. TV, PC and smartphones). Let´s state in this connection that the occurrence of internet addiction is bound to gender. Alpaslan [18] states higher incidence in men (men in the period of adolescence tend to internet addiction twice more than female adolescents), mainly due to higher engagement in playing games online, in cybersex field, in tracking cyberporn materials and online gambling.

According to Roberts et al. [19] there are seven elementary features influencing addiction to social media available via the internet:

- Kindness (people, who are interested in well-being of others are more likely to develop this addiction);
- Extraversion (extraverted individual need constant stimulation, they search for excitement);
- The need for excitement (typical also for development of others – mainly substance – addictions);
- Emotional instability (especially neurotics use social media as means for achieving emotional balance);
- Impulsiveness (impulsive individual cannot foresee the consequences of their actions);
- Materialism (materialistically oriented individual tends to be more predisposed to develop this type of addiction);
- Conscientiousness (unscrupulous people tend to be more predisposed to develop this addiction).

Diagnostic criteria of social network addiction differ.

Internet addiction is often associated with psychiatric problems or functional impairment, e.g. with depression, social phobia, anxiety, neuroticism, low self-esteem or introversion (cf. [14], [20]). Current society is characteristic by its high demands on young generation and therefore there are several stress factors which can influence adolescents.

Chou [9] presents study results which showed that if a student is able to handle with the use of coping strategies of stress management, the internet addiction probability decreases. (cf. [21]).

In this case, internet addiction is actually represented as a sort of mediator between an individual and his/her psychological problems. Lai [20] speaks about so called "self-medication", when one solves his/her own inner issues with the help of (pathological) internet use. This view is in opposition to the majority professional opinion, which understands the internet addiction as one of many non-substance addictions (gambling, shopping, sex etc.).

D. Facebook addiction

In the context of internet addiction we often speak about social networks addiction, foreign literature defines a specific form of internet addiction sometimes called so called Facebook addiction.

The very prevalence of Facebook addiction is significantly connected with adolescents. This developmental period is typical for its biological, psychological and social changes that an adolescent has to cope with, changes of his/her body with emerging needs, new abilities and skills and also with new social roles and their resultant obligations. Mainly making up peer relationships, intimacy, positive self-evaluation, etc. belong among emerging needs. Currently such

environment of social networks gives satisfaction of these needs in a considerable extent and is more attractive for adolescents than the real world. For modern adolescents the online environment represents a place where to gain experience and personal growth [22].

Tang [23] speaks about three types of support which are offered by Facebook. It is informative (includes advising, feedback or friends' advice), social (spending free time) and emotional (expression of love) support.

A positive feedback from internet peers (mainly then on social networks) helps the adolescent to create a possibility to learn how to present themselves. A positive feedback is a typical example for Facebook (by means of commentaries and "likes"); it helps to build self-confidence and a total individual's self-concept. Negative feedback is most commonly associated with the search and making new contacts (a risk factor is represented by making friends with unknown people) and dangerous self-representation (publishing photographs with sexual nature) [24]. Internet (and social media in general) also highly influence sexual risk behaviour of adolescents. The whole range of findings point out at the fact, that high risk behaviour shown on social network may encourage similar behaviour and at the same time helps to perceive such behaviour as normal. (cf. [25])

RESEARCH METHODOLOGY

Within the project of dissertation work of postgraduate study we focus on a long-term research and the risks in ICT use by secondary school youth, including the issue of internet addiction.

The main objectives of the presented research study is to find out in what level selected criteria of internet addiction occur at contemporary adolescents and how these criteria influence given the chosen variables. We have paid attention to a group of adolescents: there were 1542 students respondents at the age from 15 up to 23 years (average age M=16,99, standard deviation SD =4,28), 647 boys and 895 girls. As for independent variables we set: gender, respondents' age, and results from the last school certificate of Czech language and Math.

The questionnaire is of own construction, finding this issue. The whole questionnaire contains 44 statements, where a respondent responses according to the Lickert scale (1 = never ever, 2 = almost never, 3 = sometimes, 4 = almost always, 5 = always). There are 16 statements dedicated to issue of internet addiction. The anonymous questionnaire was distributed in a paper version face to face, the survey took place in winter 2014 and the participants were chosen according to the schools which were helpful to be a part of the survey. We have tried to cover all of the Czech regions.

Obtained data have been subjected to factor analysis. Program NCSS was used. One factor was generated, which we marked as F1 Tendencies to internet addiction.

RESEARCH RESULTS

In this section we present the questionnaire results and analyse its individual items.

In the tables, values M (mean), SD (standard deviation), Median, Min value and Max value represent gained results regarding to internet addiction.

In the Table 2 the statements concerning tendency to internet addiction, ordered according mean M, are presented.

Table 1 Questionnaire results

Factor	M	SD	Median	Min value	Max value
F1 Tendency to addiction on internet	39,12	10,04	39	16	80

Table 2 Statements order according to mean M

Statement	M	SD
1. When I connect to internet and it is being loaded, I feel excited.	3,50	1,02
2. It happens to me, that due to internet I miss something important (e.g. a meeting, keeping a promise).	3,09	1,09
3. It happens to me, that I procrastinate learning for later due to internet.	2,83	1,14
4. When doing homework or writing an essay "I borrow" a ready-made text from internet and I use it in my work.	2,79	1,18
5. I conceal the things that I do on internet at home.	2,69	1,2
6. When I am online, I lose the track of time.	2,68	1,15
7. Even though I have other responsibilities, I postpone them due to the internet.	2,61	1,17
8. The computer is my true and intimate friend.	2,47	1,15
9. When I have a little time off, I automatically connect to internet.	2,42	1,3
10. Thanks to internet I get up early in the morning and connect immediately.	2,39	1,12
11. When I ban myself to use the internet just for one day, I cannot stand it and finally connect.	2,32	1,01
12. I lie on the question how long I spent online.	2,23	1,02
13. Thanks to internet I have no time for hobbies.	2,03	1,00

14. I am fed up if I cannot connect from anywhere.	1,78	0,93
15. I spend more time on internet than with a family or friends.	1,76	0,93
16. Thanks to internet I stay up late till night.	1,52	0,9

As shown from the Table 2, the respondents the most agree with the statement: When I connect to internet and it is being loaded, I feel excited. Which can be understood as evidence of spontaneous positive emotional experience, however we also find there great similarity with experience of the addictive one.

Referring further thanks to the internet use the respondents tend to procrastinate their duties onto later time, spend there a great amount of time, they do not post their time or lie about it, they lose a track of time. Important is the fact that they have intimate relationship with the internet (respectively with computers and other ICTs used). Above mentioned statements then illustrate the starting development of adolescents´ addiction to internet.

A. Respondents´ gender

Men indicate significantly higher tendency to internet addiction ($p < 0,05$). This fact can be caused by generally recognized gender differences in some fields of information and communication technology use, for example in differences of activities done on internet, in the fact that men spend more time online then women, or with the fact that men work with modern technologies far more confident and more intuitive than women (cf. [18], [26]).

- Seven out of eleven statements deal with possible addiction to internet are given by men; women show significantly higher score only in the following areas:
- When I have a little time off, I automatically connect to internet.
- When doing homework or writing an essay "I borrow" a ready-made text from internet and I use it in my work.
- Thanks to internet I get up early in the morning and connect immediately.
- When I connect to internet and it is being loaded, I feel excited.

B. Respondents´ age

Whereby the respondents are older, more danger occurs in addiction, that correlates with the research studies by Thomée [27], Shapiro and Margolin [28], as well as by Chou [9], who state that internet addiction is often connected with other symptoms, so called techno-stress, sleep disorders, tiredness or learning disorders.

C. Respondents´ last school certificate

Furthermore our research was focused on the respondents' results in selected school subjects. Two core subjects had been chosen to be representatives of subjects taught, Czech language (as the mother tongue and at the same time a representative of humanistic component) and Math (as a subject representative showing a level of logic thinking and a representative of natural science component). Both of these subjects are generally represented in all types of school where the respondents come from.

In terms of mark from Czech language ($M = 2,28$, $SD = 0,85$ at a whole set of respondents), the highest level of addiction to ICTs is given by respondents who have mark 4 from Czech language, then the lowest the best students. We do not list students who have marks 5, because their number is statistically insignificant.

And at mark from Math ($M = 2,44$, $SD = 0,95$ at a whole set of respondents) the highest level of addiction to ICTs is given by respondents who have mark 5 from Math, then the lowest the best students.

D. Summary

From above mentioned results we can come to the conclusion that the level of addiction to ICT at students does not relate to the possibility to use ICT only for study purpose, but to the whole range of activities, does not relate to studies and bring a higher risk possibility. This finding is consistent with the work of Douglas et al. [8], where he states that "internet user do not create homogenous group, and therefore some criteria can be found describing a user´s profile who is addicted to internet. It is a young individual, with achieved higher level of education and a man who perceives internet as his/her intimate friend. So called instrumentalist s motivated to use internet mainly to search and find information, whereas so called ritualist uses internet mainly due to the reason to have fun."

CONCLUSION

The paper has no aim to draw attention to new, unusual topic, because this is not internet addiction for sure, but mainly to compare research results with research study work of foreign experts.

Internet belongs to educational tools and implementation of information and communication technologies into the field of education becomes to be a common phenomenon and its goal is to make the lesson attractive, remove differences among students and to facilitate the educational process etc. On the other hand we meet with the fact that ICT does not improve performance or evaluation of students, but on the contrary lets students use technologies for cheating at school or its excessive use might lead to school failure [29].

Just research area of internet addictive behaviour of young generation is yet in its beginning and this issue should be quantitatively and also qualitatively improved. This phenomenon is at the same time an interdisciplinary phenomenon, and therefore it is necessary to pay attention from different angels also in the future, because modern technologies will be still probably a part of our lives.

We can see the innovation of this survey in the whole country study focused on all regions´ students because there

aren´t any similar surveys in our republic. In the future we would like to continue with such a study and find out if some learning styles (which the students choose and use) can affect this phenomenon.

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