

Biomedical and Psychological Aspects of Health Examination in Student Gamers

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Abstract – The article deals with the prevalence of use of the computer addiction among students and its influence on their physiological and psychological state.

The study was conducted by polling the students studying information technologies in a technical university of the city of Minsk using the questionnaire developed by us. All in all 232 students were questioned. It was established that in 38.4 % the duration of their visits to the virtual world makes 40 and more hours per week; the rest 61.6 % spend there from 1 to 39 hours a week. 90.2 % is engaged in computer games. The preference analysis in the choice of the goal of the gamer's character actions in a computer game was conducted. The aspiration to destruction has been revealed in 38.6 %. The anonymous screening study conducted allows us to make the conclusion on a wide use of computer games in the students' environment and its substantial impact on the gamers' state of health.

Index Terms – computer games, computer addiction, gamers, psychiatric symptoms.

I. INTRODUCTION

Virtual world is a product of computer technologies. It supplies enjoyment to every taste, but at the same time it is capable of intruding into the human's inner life, generating a computer dependency. This new world has become an integral part of people's life, especially young ones, many of whom play computer games. The researchers tend to more often concur with the opinion that there are more general features between gamers (players in computer games) than individual distinctions [1]. The gamers' generation is not similar to the preceding ones and irrespective of the type of preferred games, their own world view is formed in them under the influence of this new environment. The projection of these ideas on the surrounding world is realized as per the patterns, which cannot be revealed by the existing techniques. In this situation new to the society the fact is already being

realized that the virtual world has the features, the influence of which on the person has been poorly studied [2,3,4].

At present the study of depth psychology in computer addicted persons is especially topical.

II. METHOD OF RESEARCH

The research objective is to reveal computer games addiction and to study its influence on students' physiological and psychological state. For this purpose a special questionnaire was developed by K. Mezianaya, K. Karaneuski and K.Yashin, titled Method of Screening Diagnostics of Computer Addiction. All in all 232 2-5-year students were questioned, including 178 males (76.7%) and 54 females (23.3%).

The data received were processed by Standard Microsoft Office Excel 2010 application and STATISTICA 10.0 package.

III. RESEARCH RESULTS

Superlong stay in the virtual world is found in 12 students (8.3 %): 11 persons spend in front of the display up to 100 hours a week and 9 persons – up to 168 hours. Their interest has acquired an addictive nature: they either do not visit the virtual world at all or stay there round the clock for seven days at a stretch, engaging mainly in computer games. Thus, it was established that 54 students (38.4 %) devote to cyberspace 40 and more hours per week. Similar addiction index was established by the researchers in the South Korea. At present the scientists consider as a certain sign of computer dependency the duration of regular stay in virtual space with the purpose of sheer pastime, without a working program for 38 hours and more per week. In our research conducted in 2013, the computer dependency has been determined at a level of 33.8 % [5].

Table 1 presents distribution of answers with regard to psychological motives of computer games addiction.

TABLE 1. DISTRIBUTION OF ANSWERS AS PER THE FACTORS CHARACTERIZING PSYCHOLOGICAL MOTIVES OF COMPUTER GAMES ADDICTION

Factor	Answer option	Number of answers (respondents)
The goal of activities in a game of the virtual image controlled by the gamer	Rescue and protection	46
	Destruction and suppression	54
	Orienteering in a new surrounding	47
	Attaining superiority	68

As seen from Table 1, aspiration to display patronage, rescue and protection of others is shown in a game by 46 persons (32.8 %). Suppression and submission of associates are used by 54 persons (38.6 %). Such desire takes place in the games on striving to superiority enjoyed by 68 gamers (48.2 %). Games in orientation with scoring points involve 47 persons (33.6 %). It should be noted that some gamers striving in games for rescue and protection of others, tend to willingly use violence and destruction over the virtual world to achieve their goals.

In the virtual world, in both games and social networks, students pursue various purposes. Surfing, for example, promotes wide acquaintance with pornography. If the user incurs a role of benefactor of others and warms to this role for a long time, he may get lost in messianic feelings. In other cases one's beliefs are imposed on partners. An online competitive game with the other person's psychology is an opportunity for some people to search for like-minded fellows. Approbation and rounding-out of one's leadership abilities are effected here, up to "propagation of depression", as one of the respondents confessed.

The surrounding world is perceived by the person by his sensory organs as per the mechanisms established by neurophysiologists. The virtual world is presented mainly by visual images. Nerve fibers run from retina to primary zones of the brain occipital cortex. These fibers, passing

through thalamic nuclei and «optic radiation», deliver the information already summarized at the lowest levels. Neurophysiologists established that the irritation of primary (projective) zones of brain occipital area with a low electric current causes in the patient elementary visual sensations in the form of photopsy (flashlights, spurts of flame, color spots, etc.).

Occurrence of photopsy in the form of flashlights, color spots or figures after termination of a computer game was revealed in six students. It testifies to cerebral cortex overexcitation.

IV. CONCLUSION

Stay in a cyberspace for 40 and more hours per week, which equals to a working week, is established in 38.4 % students and shows the presence of computer dependence in them. This is by 4.5 % more than in the study conducted by us in 2013.

The mentality of students in 40 % of cases is on the verge of exhaustion owing to staying many hours in the virtual world, which leads to brain disorders. The plots of many games promote destructive habit in young people.

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