

INTERNET ADDICTION AND LEVEL OF PHYSICAL ACTIVITY OF STUDENTS FROM BULGARIAN UNIVERSITIES

Milena Kuleva

National Sports Academy „Vassil Levski“, Sofia, Bulgaria

ORCID 

Milena Kuleva – <https://orcid.org/0000-0002-6467-9644>

ABSTRACT

Introduction: The problem of Internet addiction (IA) and students' physical activity (PA) will be observed in this scientific study. The growing problem of increasing internet addiction and decreasing physical activity is becoming more apparent. **Purpose:** The purpose of this study is to test whether physical activity is affected by internet addiction and vice versa. **Methods:** The standardized self-assessment Internet Addiction Test (IAT) and the International Physical Activity Questionnaire – short form (IPAQ - SF) were used. The tests were distributed to 133 students from 3 Bulgarian universities - National Sports Academy “Vassil Levski”, Veliko Tarnovo University, and GS Rakovski Military Academy. The Descriptive, Frequency, and Pearson Chi-Square analyses were used. **Results:** The level of Internet Addiction at all three universities studied is “Mild”, but the level of Physical Activity is different at all three universities. The highest addiction is observed among students from the NSA and the lowest among students from the Military Academy. The general weekly Physical Activity is most increased among NSA students and lowest among Military Academy students. The same is with the moderate weekly Physical Activity. **Conclusion:** The relatively higher Internet Addiction of NSA students does not affect their physical activity. The lower Internet Addiction of students at the Military Academy does not manifest in more Physical Activity, but on the contrary - much more minor. Physical activity level is irrelevant to how much time we spend on the Internet.

Keywords: *Physical Activity, Internet Addiction, self-assessment, university students*

INTRODUCTION

This scientific study observed the problem of Internet addiction (IA) and students' physical activity (PA). The growing problem of increasing internet addiction and decreasing physical activity is becoming more apparent. Physical inactivity is a global concern, but various physical activity measures in use prevent international comparisons. The International Physical Activity Questionnaire (IPAQ - SF) was developed as an instrument for cross-national monitoring of physical activity and inactivity. (Craig et al., 2003). As Lee et al., 2011 studied, the IPAQ has been recommended as a cost-effective method to assess physical activity. For that reason, the IPAQ questionnaire was decided to be used for the current study as it is considered acceptable for assessing and monitoring physical activity.

A sedentary lifestyle is quite common nowadays, and it is especially worrying that this phenomenon is becoming more common among young people. This is particularly important in the circumstances of the COVID-19 pandemic. In the Physical Activity Questionnaire, questions 3 and 7 are considered to be evaluating this sedentary lifestyle. Question 3 deals with moderate physical activity over the past seven days, while Question 7 refers to hours spent in a sitting position. It could be said that, precisely, these questions, although they are only two, are appropriately selected and related to the time spent online.

METHODOLOGY

The study was conducted in May – June 2019 by students from 3 universities - National Sports Academy “Vassil Levski”, Veliko Turnovo University, and the Military Academy “G.S. Rakovski”. The number of the surveyed students was ($n = 133$), of which 104 were men and 29 were women. The average age of the surveyed students is 28 years, and generally, there is no significant difference in the gender and educational indicators. The purpose of this study was to test whether physical activity is affected by internet addiction or vice versa.

The following research methods were applied to accomplish the goal and tasks of the research:

- Theoretical analysis of the specialized literature;
- Self-assessment questionnaire developed by Dr. Kimberly Young for Internet addiction (IAT) was used (Young, 2004)
- *International Physical Activity Questionnaire (IPAQ-SF)* (International Physical Activity Questionnaire, 2020)

The Statistical methods used were variational analysis and the Kruskal-Wallis test to determine if there were statistically significant differences in some of the questions on the Internet addiction test relative to the Level of Physical Activity. To prepare the analysis, SPSS ver.19 was used.

Questions considered relevant to physical activity were selected and examined using the Reliability test - Cronbach's alpha ($\alpha = 0.82$), described in Table 1.

Table 1. *Kruskal Wallis test results according to Internet Addiction and the Level of Physical Activity of students from Bulgarian Universities*

Question from IAT	Level of PA	n	Mean Rank	df	χ^2	p
How often do you prefer the excitement of the Internet to intimacy with your partner?	High	98	65.88	3	9.273	.026
	Moderate	23	65.48			
	Low	8	60.31			
	Non classified	4	116.63			
How often do you form new relationships with fellow online users?	High	98	69.42	3	8.187	.042
	Moderate	23	51.63			
	Low	8	65.00			
	Non classified	4	100			
How often do your grades or school work suffer because of the amount of time you spend online?	High	98	68.04	3	7.553	.056
	Moderate	23	60.13			
	Low	8	53			
	Non classified	4	109.13			
How often do you find yourself anticipating when you will go online again?	High	98	66.32	3	8.539	.036
	Moderate	23	60.41			
	Low	8	70.50			
	Non classified	4	114.50			
How often do you fear that life without the Internet would be boring, empty, and joyless?	High	98	67.09	3	8.465	.037
	Moderate	23	57.04			
	Low	8	75.50			
	Non classified	4	105.13			
How often do you feel pre-occupied with the Internet when offline or fantasize about being online?	High	98	68.01	3	10.136	.017
	Moderate	23	62.41			
	Low	8	48			
	Non classified	4	106.75			
How often do you choose to spend more time online over going out with others?	High	98	66.26	3	15.542	.001
	Moderate	23	63.43			
	Low	8	58.38			
	Non classified	4	123			
How often do you feel depressed, moody, or nervous when you are offline, which goes away once you are back online?	High	98	67.6	3	10.109	.018
	Moderate	23	62.87			
	Low	8	52			
	Non classified	4	106.13			

Additional demographic data were added to the questionnaires but are of no interest in the current scientific study. More likely, they are irrelevant to the overall research and the revealed dependencies between physical activity and internet addiction.

A previous study found that dependency at all three universities was *Mild*, with some differences in the averages. (Kuleva, 2019)

RESULTS AND DISCUSSION

From Table 1, several conclusions about the relationship between the Internet and physical activity could be subtracted. The table presents only the questions that show a statistically significant difference, at $p < .05$ and $df = 3$ and $\chi^2\alpha = 7.81$.

The first question that makes an impression is, „How often do you prefer the excitement of the Internet to intimacy with your partner?“. It was found that the surveyed students who showed high, moderate, and unclassified physical activity preferred to interact online, with no major differences between high and moderate physical activity. The Chi-Square of this question is, $\chi^2 = 9.273$ ($N = 133$, $df = 3$, $p < .026$).

The next question in the questionnaire is about whether the researchers prefer to make new connections and friendships online. Again, the same tendency is that the higher their physical activity is, the more they hold friendships online. $\chi^2 = 8.187$ ($N = 133$, $df = 3$, $p < .042$).

With these two questions, it can be confirmed that the higher the level of physical activity of the respondents, the greater the desire for communication on the Internet is. At this stage, there has not been any research into what might be due to this, and it could only be assumed that there are several reasons. Perhaps first and foremost, it would be the lack of time for real communication in today's active young people, as they are overly engaged. It should not underestimate the possibility that maybe those people who are very active on the Internet are extroverted and need more communication, not face to face but hidden behind devices. Another interesting option is to use social networks to share an active lifestyle.

An interesting tendency was observed in the question, “How often do your grades or school work suffer because of the amount of time spent online?“. For those with high physical activity, spending time online definitely has a negative effect on grades or activities related to the learning process. $\chi^2 = 7.553$ ($N = 133$, $df = 3$, $p < .056$). This leads to confidence that no matter how physically active the research participants are, the time they spend on the internet is clearly not related to information about their education but to the enjoyment that we can define as some kind of dependency characteristic of today's young people. It could be believed that a good solution to dealing with the problem of getting worse grades would be to provide an online training opportunity or to use additional information online for the purposes of the educational process. The contents of the textbooks and lectures can be either textual or supplemented with photo material, video, and audio files. Marinov and Uzunov, 2014) reached a similar conclusion in their article concerning online education and its management.

This statement could be confirmed by the respondents who have low physical activity. They feel anticipated when they go online again. This satisfaction with the time spent on the

internet is confirmed by the indicators $\chi^2 = 8.539$ ($N = 133$, $df = 3$, $p < .036$). They believe life without the Internet would be boring, empty, and joyless if they do not spend the time they need on the Web. $\chi^2 = 8.465$ ($N = 133$, $df = 3$, $p < .037$). This could be attributed to the fact that physical activity brings greater personal satisfaction to people with high and moderate physical activity. It could be said that they feel more self-confident than others, perhaps because they are more engaged in some kind of physical activity. Still, as mentioned above, they have an Internet addiction, which is characteristic of modern youth.

With extremely high Chi-square values is the question concerning the mental states of the studied participants when they do not have internet access. They claim to be depressed, in a bad mood, or nervous when they are offline. $\chi^2 = 10.109$ ($df = 3$, $p < .018$) The same goes for thinking about the Internet environment while they are not in it $\chi^2 = 10.136$ ($df = 3$, $p < .017$), as well as the fact that people with high physical activity prefer to spend more time online than to meet other people face to face - $\chi^2 = 15.542$ ($df = 3$, $p < .001$). It could be concluded that this has much to do with obsessive conditions in many of the surveyed individuals, especially those with high physical activity.

Limitations

There is a need for special attention to be paid to the fact that the study was done with students from 3 universities, as in the students who studied at NSA, the physical activity is at a higher level. In general, students fall into the most affected population in terms of Internet addiction, while they are expected to be as physically active as possible at this age.

CONCLUSION

A study conducted by Borukova and Kotev, 2019, related to long-term goals and prospects with students from Bulgaria and Serbia found that women were much more communicative than men. (Borukova, Kotev, 2019). After the analysis, we can conclude that regardless of how long they spend in a particular physical activity, young people find time and a way to satisfy their needs for Internet use. It could be concluded that no matter how high the level of physical activity of the surveyed participants is, they are eager to use the Internet, which is a very active and purposeful desire.

Since the survey found that the persons surveyed do not use the Internet for their education, the access to what information young people use the Internet in a future study could be examined. It will be interesting to study if these groups of students are provided with an online learning environment and whether they will feel more comfortable and confident. This will predispose them to increase their academic performance and whether they would be potential learners in virtual education.

REFERENCES

Borukova, M., Kotev, Vl. (2019). Research of the motivation and long-term objectives of Bulgarian and Serbian students, *Pedagogical Almanac*, VTU, issue 2, volume 27 pp. 273-278, ISSN: 2367-9360 (Online); ISSN: 1310-358X (Print) <http://journals.uni-vt.bg/almanac/bul/vol27/iss2/18>

Craig, C.L., Marshall, A.L., Sjostrom, M., Bauman, A., Booth, M.L., Ainsworth, B.E., Pratt, M., Ekelund, U., Yngve, A., Sallis, J.F., Oja, P. (2003). International Physical Activity Questionnaire: 12-country reliability and validity. *Medicine and Science in Sports and Exercise*. 35: 1381-1395. 10.1249/01.MSS.0000078924.61453.FB.

International Physical Activity Questionnaire (IPAQ). (2002). Retrieved March 2020 from <https://snaped.fns.usda.gov/library/materials/international-physical-activity-questionnaire-ipaq>

Kuleva, M. (2019). The Level of Internet Addiction of Students from Different Bulgarian Universities. Proceeding book from the International Scientific Congress “Applied Sports Sciences” and Balkan Scientific Congress “Physical Education, Sports, Health”. 15-16 Nov 2019, Sofia, pp.269-272

Lee, P.H., Macfarlane, D.J., Lam, T., *et al.* (2011). Validity of the international physical activity questionnaire short form (IPAQ-SF): A systematic review. *Int J Behav Nutr Phys Act* 8, 115. <https://doi.org/10.1186/1479-5868-8-115>

Marinov, G., Uzunov, St. (2014). Capabilities and Development of The System for Distance Learning in Security and Defence Logistics at G. S. Rakovski National Defence College. *Proceeding book from Scientific Conference "IMPROVEMENT OF HIGHER EDUCATION MANAGEMENT SYSTEMS"*, Veliko Tarnovo, 13-14 Nov 2014, pp.160-165

Young, K.S. (2004). Internet addiction: the consequences of a new clinical phenomena. In: Doyle K. (ed.) *American behavioral scientist: psychology and the new media*. Sage, Thousand Oaks, pp. 1–14

Corresponding author:

Milena Kuleva

Center for Research and Applied Activity in Sport

National Sports Academy „Vassil Levski“

Acad. St. Mladenov 21, Studentski grad, Sofia, Bulgaria

e-mail: mil3na@gmail.com