

SELF-ASSESSMENT OF ONLINE LEARNING PERFORMANCE AND ANXIETY IN STUDENTS DURING THE COVID-19 PANDEMIC

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SUMMARY

Due to the pandemic caused by the SARS-CoV-2 virus (COVID-19) from March 16th to May 18th 2020. the lectures at the Faculty of Sports and Physical Education, University of Niš, took place exclusively through online learning platforms. The faculties of sports and physical education are content-wise and methodologically specific in comparison to other faculties. The aim of this study is to identify the degree to which students were able to complete their academic commitments, what their motivation for learning was, what variables affected their ability to do so, and how anxious they were throughout the epidemic. In total, 364 students from the Faculty of Sports and Physical Education, representing all undergraduate and graduate academic years, took part in the online study. The research was conducted using a questionnaire consisting of self-assessment of mastered material in all subjects (five-point scale), the degree of motivation for distance learning (five-point scale), questions about factors that hindered students in learning and anxiety scales (AT-29, Tovilović and Novović, 2009). The results show that 68.6% of students managed to fulfill more than 60% of the obligations from the course per year. The largest number of students was mostly motivated (51.3%), while 17.9% were highly motivated for online learning. Less than 10% of all respondents were not motivated at all (7.4%). The largest number of students (42.6%) fulfilled their academic obligations in the percentage of 60 to 80%, while 33% of students fulfilled their obligations between 80 and 100%. The research showed that the biggest obstacle in online learning is the lack of direct contact and communication between students with colleagues and professors (36%), as well as technical problems, which represent a barrier for 16.8% of respondents.

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The results showed that there is a statistically significant difference in the degree of anxiety between male and female students (Sig. = .001), with higher values of anxiety recorded in female students.

Key words: Covid-19, faculty, e-learning, gender, mental health.

INTRODUCTION

During the corona virus pandemic, educational institutions around the world shifted to different models of distance learning. Data from June 1st 2020. showed that the closure of educational institutions at all levels of education affected 65% of all students worldwide, in 135 nations (UNESCO, 2021). The closure of schools and universities not only represents a loss of learning and knowledge in a short period of time, but also affects the loss of human capital, which can be reflected in the loss of economic opportunities in a longer period of time (World Bank, 2021¹).

International Association of Universities² (IAU) has launched a global study of the impact of Covid-19 on higher education around the world. The goal was to gain a more precise and comprehensive understanding of the effects that Covid-19 has on higher education, as well as to identify measures taken by higher education institutions around the world in response to the crisis. All respondents (424 higher education institutions from 109 countries) claimed to have been affected by the pandemic. In addition, 59% of the surveyed institutions claimed that all activities on campuses were stopped and the institutions were closed. Approximately 80% of the respondents stated that they believe that Covid-19 will affect the number of future enrolled students, both domestic and foreign. Many private universities have hinted that the Covid-19 pandemic will have negative financial consequences. The most important challenges were related to technical infrastructure, distance learning competencies and requirements of specific areas of study. On the other hand, the forced transition to teaching and distance learning provides opportunities to propose more flexible learning opportunities, research into blended or hybrid learning, and a combination of synchronous and asynchronous learning (IAU, 2020).

Researchers Lobos and colleagues³ pointed out that the interaction between teachers and students is very important in online education. Anderson⁴ points out

¹ <https://www.worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19>

² https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf

³ Lobos, Karla, et al. "Expectations and Experiences with Online Education during the COVID-19 Pandemic in University Students." *Frontiers in Psychology*, vol. 12, 5 Jan. 2022, 10.3389/fpsyg.2021.815564.

that the learning experience will not deteriorate if only one of the three interactions is of high quality (student-content, student-student, and student-teacher), and the other two can be reduced or even eliminated. In order to improve online learning and prevent the growth of teaching costs, the emphasis is usually on the formation of platforms that can promote effective interaction between students. Online education can lead to feelings of isolation, which can be detrimental to students academic achievement⁵. Therefore, enabling social interaction in online learning is essential, especially in a conditions where students do not actually know each other or have insufficiently developed communication and collaboration skills⁶. Unfortunately, existing evidence suggests that online learning during the Covid-19 pandemic did not have elements of interactivity and collaborative experience⁷. In the study conducted by Baczek et associates, the authors determined that about half of the surveyed medical students had reduced interaction with teachers, and only 4% of students thought that the classes conducted in the online environment were actually interactive.

In addition to resolving technical problems related to the organization of teaching and learning, at the time of the Covid-19 pandemic, students had to make an strong effort and maintain their mental health. Studies confirm that students, as well as the general population, have shown an increase in anxiety and other psychological disorders. Anxiety is defined as “an emotion characterized by feelings of tension, anxious thoughts and physical changes such as high blood pressure”⁸. People with anxiety disorders usually have recurring intrusive thoughts or worries, as well as physical symptoms such as sweating, shivering, dizziness, or rapid heartbeat. Anxiety differs from fear, which is the answer to a known cause. According to a study conducted on a sample of 219 students, compared to previous school years, students were more anxious and depressed in

⁴ Anderson, Terry. “Getting the Mix Right Again: An Updated and Theoretical Rationale for Interaction.” *The International Review of Research in Open and Distributed Learning*, vol. 4, no. 2, 1 Oct. 2003, pp. 1-14, www.irrodl.org/index.php/irrodl/article/view/149/708, 10.19173/irrodl.v4i2.149. Accessed 22 Nov. 2020.

⁵ McInerney, Joanne M, and Tim S Roberts. “Online Learning: Social Interaction and the Creation of a Sense of Community.” *Journal of Educational Technology & Society*, vol. 7, no. 3, 2004, pp. 73-81, www.jstor.org/stable/jeductechsoci.7.3.73.

⁶ Gašević, Dragan, et al. ““Choose Your Classmates, Your GPA Is at Stake!”” *American Behavioral Scientist*, vol. 57, no. 10, 12 Mar. 2013, pp. 1460-1479, 10.1177/0002764213479362. Accessed 20 Aug. 2021.

⁷ Baczek, Michał, et al. “Students’ Perception of Online Learning during the COVID-19 ... : Medicine.” *LWW*, vol. 100, no. 7, 19 Feb. 2021.

⁸ Kazdin, Alan. “*Encyclopedia of Psychology: 8 Volume Set - APA Publishing | APA.*” <https://www.apa.org>, 2000, www.apa.org/pubs/books/4600100.

the early spring of 2020 and more sedentary⁹. The results of the study show that both anxiety ($p < .001$) and depression ($p = .03$) were significantly associated with the consumption of news related to the Covid-19 pandemic. In a study conducted in China on a sample of 7,143 students, about three-quarters of examinees (75.1%) had no symptoms of anxiety. In the same research, the authors state that 21.3% of students had mild anxiety, 2.7% moderate and 0.9% severe anxiety out of the total number of respondents. In the mentioned research, no association was determined between the demographic variables of students and anxiety¹⁰. Students living alone had increased anxiety ($p < .05$), while gender and country region did not have a significant impact on anxiety ($p > .05$). Furthermore, students from rural areas (1.02%), families without permanent income (1.09%), those who did not live with their parents (1.13%) and those whose relative or acquaintance was infected with coronavirus (2.56%) were more prone to severe anxiety $< .001$). Increased anxiety can be related to a lack of physical activity, which is especially pronounced in people who are physically active under normal circumstances, and inhibited to exercise during pandemic. In their research, Rebar and colleagues¹¹ observed significant inverse relationships between participation in physical activity and levels of depression and anxiety in their meta-analysis. Another study¹² shows that 51% of the student population experience mental health problems during a pandemic. Female respondents were almost three times more likely to experience serious mental health disorders than male respondents. About 67% of all surveyed students are concerned about the effects of social isolation.

As for the motivation for learning, in a survey of more than 400 students whose schools recently switched to online learning due to the Covid-19 pandemic¹³, 60% of students stated that they felt at least somewhat ready to apply this type of learning. This was especially true for students who had previously attended online courses. However, 64% of respondents expressed concern about the ability to focus and maintain the self-discipline needed for distance learning. The College Reaction/Axios survey in April 2020 showed that 77% of the 822

⁹ Huckins, Jeremy F, et al. "Mental Health and Behavior during the Early Phases of the COVID-19 Pandemic: A Longitudinal Mobile Smartphone and Ecological Momentary Assessment Study in College Students (Preprint)." *Journal of Medical Internet Research*, vol. 22, no. 6, 12 May 2020, 10.2196/20185.

¹⁰ Cao, Wenjun, et al. "The Psychological Impact of the COVID-19 Epidemic on College Students in China." *Psychiatry Research*, vol. 287, no. 112934, Mar. 2020, 10.1016/j.psychres.2020.112934

¹¹ Rebar, Amanda L., et al. "A Meta-Meta-Analysis of the Effect of Physical Activity on Depression and Anxiety in Non-Clinical Adult Populations." *Health Psychology Review*, vol. 9, no. 3, 3 July 2015, pp. 366-378, 10.1080/17437199.2015.1022901

¹² <https://www.axios.com/college-students-summer-jobs-85205102-e7e9-401e-b92c3fe05fd52de5.html>

¹³ <https://www.usnews.com/education/best-colleges/articles/how-to-overcome-challenges-of-online-classes-due-to-coronavirus>

students surveyed said that distance learning was worse or much worse than face-to-face classes. Academic experience also brings disappointment to students.

Due to the Covid-19 pandemic, from March 16th to May 18th 2020. online learning platforms were used for lectures at the Faculty of Sports and Physical Education at the University of Niš. The faculties of sports and physical education are content-wise and methodologically specific in relation to other faculties. One of the special tasks of the faculty is to provide modern teaching contents and an adequate environment that enables students to develop and apply knowledge and skills in the field of sports, physical education and recreation. Theoretical and practical knowledge, especially sports skills, require specifically designed teaching, which requires interaction between students and teachers, and practical teaching in sports facilities. Teachers and associates of the Faculty of Sports and Physical Education had the task to adapt such demanding teaching to the digital environment in a short time. Under normal circumstances, during their college education, students encounter distance learning platforms. However, first-year students did not have many opportunities to encounter this way of learning, so it is assumed that first-year students had the most difficulty adapting to the new way of teaching.

The aim of this study is to identify the degree to which students were able to complete their academic commitments, what their motivation for learning was, what variables affected their ability to do so, and how anxious they were throughout the epidemic.

METHODS

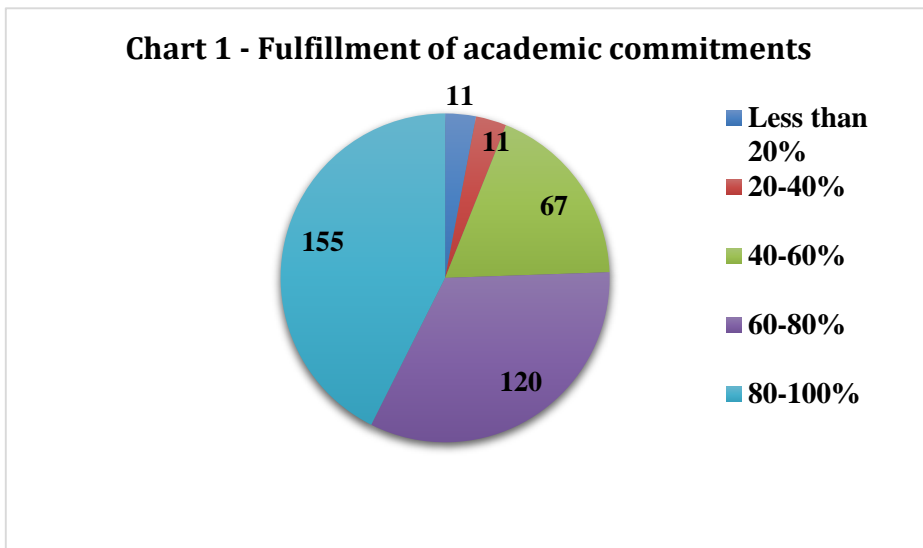
This cross-sectional research was conducted on a sample of 364 students of the Faculty of Sports and Physical Education, University of Niš, all years of undergraduate and master studies (235 male students and 129 female students, average age 20.88 years). All respondents voluntarily participated in the the online survey (Google forms, accessed via a link on the Facebook group). The questionnaire consisted of demographic questions, self-assessment of mastered material in all subjects (five-point scale with levels 0-20, 20-40, 40-60, 60-80 and 80-100% of completed academic commitments), degree of motivation for distance learning (five-point scale), barriers to online learning, expression of anxiety¹⁴. The questionnaire for anxiety assessment contains 29 items.

¹⁴ Tovilović, Snežana, et al. "The Role of Trait Anxiety in Induction of State Anxiety." *Psihologija*, vol. 42, no.4, 2009, pp. 491-504, www.doiserbia.nb.rs/Article.aspx?id=0048-57050904491T#.YqeyC-xBxPY. Accessed 13 June 2022.

RESULTS

Descriptive statistics

The sample consisted of 235 male and 129 male respondents. The majority of students in the research were first-year students (280), followed by fourth-year students (30) and third-year students (20). Chart 1 shows the self-assessment of the fulfillment of given academic commitments.



The majority of students (42.6%) fulfilled their academic commitments in the range of 60 to 80%, while 33% completed their obligations in the range of 80 to 100%. Six percent of students overall had less than 40% of their academic requirements completed.

Table 1. Students' motivation to study

	Not motivated at all	Mostly not motivated	Neither motivated nor unmotivated	Mostly motivated	Highly motivated
Freq. (%)	27 (7.4)	20 (5.5)	65 (17.9)	187 (51.3)	65 (17.9)

Table 1 shows the students' motivation to work. The students' answers were given on a five-point Likert-type scale (not motivated at all, mostly not motivated, neither motivated nor unmotivated, mostly motivated and highly motivated). The

majority of students were mostly motivated (51.3%), while 17.9% were highly motivated for online learning. Less than 10% of all surveyed students were not motivated at all (7.4%).

Table 2. Learning barriers

Learning barriers	Frequency (%)
Technical problems	61 (16.8)
Inability to fulfill obligations within the set time limit	22 (6)
Distraction from family members	31 (8.5)
Insufficient work motivation	36 (9.9)
Misunderstanding of the set requirements	35 (9.6)
Lack of live contact	131 (36)
Adaptation to new technologies	12 (3.2)
Uncertain future	11 (3)
Something else	25 (6.8)

Table 2 shows the frequencies of learning barriers. Barriers were: technical problems, inability to fulfill obligations on time, distraction from family members, insufficient motivation to work, lack of understanding of the requirements, lack of live contact, adaptation to new technologies, uncertain future, something else. Table 3 shows the differences in fulfilling the academic obligations of students of both sexes in relation to the year of study. There is a statistically significant difference in the fulfillment of academic obligations among second-year students and all other years.

Table 3. LSD Post Hoc test - fulfillment of obligations in relation to the year of study

Year	1.	2.	3.	4.	5.	Master
1.						
2.	.008					
3.	.832	.027				
4.	.984	.027	.855			
5.	.174	.004	.353	.245		
Master	.646	.077	.752	.662	.750	

Table 4. Differences in the degree of anxiety between male and female students

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	t	df	Sig. (2- tailed)	Mean
TOTAL	Equal variances assumed	.342	3.368	362	.001	71.55
	Equal variances not assumed		3.327	254.367	.001	62.86

Table 4 shows the differences in the degree of anxiety between male and female students.

DISCUSSION

The aim of this research was to examine the extent to which students managed to fulfill their obligations related to college subjects, which barriers were disruptive factors in the realization of obligations and what level of anxiety was among students during the Covid-19 pandemic.

The results showed that the largest number of students fulfilled their academic obligations in the percentage of 60 to 80% (42.6%), while 33% of students fulfilled their obligations between 80 and 100%. In total, 6% of students had less than 40% fulfilled academic obligations. The majority of students (75.6%) have mastered their academic commitments in the new situation, more than 60% of the assigned obligations at the faculties. Such results can be attributed to the quality of lessons and time-organization of the teachers and the adaptation of students to new forms of teaching. The data obtained contradict the results of the research Villa, Litago, & Sanchez-Fdez¹⁵ which found that institutional measures were not sufficient to create a program that would offer students appropriate knowledge, which affected their academic success in this period. In terms of experience, in the same research, students were not satisfied with virtual education.

The majority of students stated that they were mostly motivated (51.3%), while 17.9% were highly motivated for online learning. Less than 10% of the total number of surveyed students were not motivated at all (7.4%). In total, 69.2% of students were mostly or highly motivated for online learning, and 12.9% were

¹⁵ Villa, F. G., et al. "Perceptions and Expectations in the University Students from Adaptation to the Virtual Teaching Triggered by the COVID-19 Pandemic." *Revista Latina de Comunicacion Social*, no. 78, 2020, pp. 99-119, pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-969845. Accessed 13 June 2022.

mostly unmotivated or completely unmotivated. The information obtained is consistent with information on the accomplishment of academic duties. Thanks to high motivation, the students fulfilled more than half of the planned tasks. One of the explanations for the high level of motivation can be attributed to the students' achievements so far (learning success), which according to research by Nur Agung, Surtikanti, & Ca Quinones¹⁶, are related to the perception of new learning modalities. Research by Kang, Liew, Kim, & Park¹⁷ shows that although models of online learning give students a high degree of autonomy, their motivation to continue learning remains low. Our results refute such claims because they show that students maintain a high level of motivation with satisfactory success in solving their academic obligations.

The research showed that the biggest obstacle in online learning is the lack of live contact of students with colleagues and professors (36%), as well as technical problems, which represent a barrier in 16.8% of respondents. In less than 5% of cases, students stated that an uncertain future and adaptation to new technologies are a barrier that makes it difficult for them to learn, while insufficient motivation to work, lack of understanding and distractions from the family members are less than 10% of respondents. Inability to fulfill obligations within the given time limit was mentioned by 6% of respondents as the main barrier. The results of the research showed that the lack of live contact is the biggest barrier in achieving students' academic goals. Similar results were noted by a study by Guo and associates¹⁸ which states that the lack of face-to-face communication makes it difficult to access timely instructions and reduces students' attention. Media virtuality makes students feel detached from the real world, leading to feelings of isolation and reduced engagement in learning¹⁹. Technical problems during the course of teaching were a barrier in the research of Agarwal & Kaushik²⁰. In the mentioned research, the limitation of the number of participants and the time limitation of teaching were also disruptive factors in the realization of online

¹⁶ Agung, Antonius Setyawan Nur, et al. "Students' Perception of Online Learning during COVID-19 Pandemic: A Case Study on the English Students of STKIP Pamane Talino." *Soshum: Jurnal Sosial Dan Humaniora*, vol. 10, no. 2, 31 July 2020, ojs.pnb.ac.id/index.php/SOSHUM/article/view/1316.

¹⁷ Kang, Myunghee, et al. "Learning Presence as a Predictor of Achievement and Satisfaction in Online Learning Environments." *International Journal on E-Learning*, vol. 13, no. 2, 1 July 2014, pp. 193-208, eric.ed.gov/?id=EJ1035981. Accessed 13 June 2022.

¹⁸ Guo, Zixiu, et al. "Promoting Online Learners' Continuance Intention: An Integrated Flow Framework." *Information & Management*, vol. 53, no. 2, Mar. 2016, pp. 279-295, 10.1016/j.im.2015.10.010.

¹⁹ Waugh, Michael, and Jian Su-Searle. "Student Persistence and Attrition in an Online M. S. Program: Implications for Program Design." *International Journal on E-Learning*, vol. 13, no. 1, 1 Feb. 2014, pp. 101-121, www.learntechlib.org/primary/p/38649/. Accessed 13 June 2022.

²⁰ Agarwal, Sakshi, and Jaya Shankar Kaushik. "Student's Perception of Online Learning during COVID Pandemic." *The Indian Journal of Pediatrics*, vol. 87, no. 7, 8 May 2020, pp. 554-554, 10.1007/s12098-020-03327-7.

teaching. Another study concludes that online teaching during the Covid-19 pandemic was only possible when the technical requirements were met, ie they had a digital infrastructure and an adequate learning system²¹. The results of previous research underlain insufficient teacher preparation²², overwork and accelerated pace of learning^{23 24} as some of the obstacles in online teaching, while in our study these barriers were classified as "something else" (6.8% of responses).

The results showed that there was a statistically significant difference in the degree of anxiety between male and female students (Sig. = .001) during the pandemic. Higher levels of anxiety have been reported by female students. A study conducted in Indonesia²⁵ states that anxiety is more prevalent among students whose parents have low incomes because they have to additionally fund online learning. Mood swings can also be caused by too many tasks. Researchers Almomani, Qablan, Atrooz, Almomany, Hajjo et al.²⁶ found that there is a difference between the genders, where female students adapt better and show a lower degree of anxiety, or a higher degree of optimism in relation to male students.

CONCLUSION

In addition to the short time to design online learning and adaptation programs for students and teachers, research shows that more than three

²¹ Abdulrahim, Hiyam, and Fatma Mabrouk. "COVID-19 and the Digital Transformation of Saudi Higher Education." *Asian Journal of Distance Education*, vol. 15, no. 1, 2020, pp. 291–306, eric.ed.gov/?id=EJ1289975.

²² Hamdan, Khalidoun Mohammad, et al. "University Students' Interaction, Internet Self-Efficacy, Self-Regulation and Satisfaction with Online Education during Pandemic Crises of COVID-19 (SARS-CoV-2)." *International Journal of Educational Management*, vol. ahead-of-print, no. ahead-of-print, 20 Jan. 2021, 10.1108/ijem-11-2020-0513. Accessed 27 Jan. 2021.

²³ Imsa-ard, Pariwat. "Thai University Students' Perceptions towards the Abrupt Transition to "Forced" Online Learning in the COVID-19 Situation | JOURNAL of EDUCATION KHON KAEN UNIVERSITY." *So02.Tci-Thaijo.org*, vol. 43, no. 3, 2020, pp. 30–44, so02.tci-thaijo.org/index.php/EDKKUJ/article/view/242970.

²⁴ Rahiem, Maila D. H. "The Emergency Remote Learning Experience of University Students in Indonesia amidst the COVID-19 Crisis." *International Journal of Learning, Teaching and Educational Research*, vol. 19, no. 6, 14 July 2020, www.ijlter.org/index.php/ijlter/article/view/2368.

²⁵ Irawan, Andi Wahyu, et al. "Psychological Impacts of Students on Online Learning during the Pandemic COVID-19." *KONSELI : Jurnal Bimbingan Dan Konseling (E-Journal)*, vol. 7, no. 1, 31 May 2020, pp. 53–60, 10.24042/kons.v7i1.6389.

²⁶ Almomani, Ensaf Y., et al. "The Influence of Coronavirus Diseases 2019 (COVID-19) Pandemic and the Quarantine Practices on University Students' Beliefs about the Online Learning Experience in Jordan." *Frontiers in Public Health*, vol. 8, no. 8, 2020, p. 595874, pubmed.ncbi.nlm.nih.gov/33520916/, 10.3389/fpubh.2020.595874.

quarters of students have managed to fulfill more than 60% of their academic commitments while maintaining a high level of motivation to work. Positive results were obtained despite barriers to achieving academic goals. The most common barriers for learning were the lack of live contact and technical problems in the implementation of teaching. In the new circumstances caused by pandemic, higher levels of anxiety were found in female students. The study can help further research in this area and serve as a basis for identifying and removing barriers that may arise during online learning. The success of online learning and anxiety in high school and elementary school students should be examined. In order to improve online learning, it is necessary to consider how to take full advantage of the unique benefits of online learning, improve the emotional presence of students and formulate appropriate tasks to achieve a positive online learning experience. In this way, students could increase their satisfaction, eliminate their loneliness and improve the effects of online learning.

REFERENCES

1. Hiyam, Abdulrahim and Mabrouk, Fatma. "COVID-19 and the Digital Transformation of Saudi Higher Education." *Asian Journal of Distance Education*, vol. 15, no. 1, (2020): 291–306, eric.ed.gov/?id=EJ1289975.
2. Sakshi, Agarwal, and Shankar Kaushik, Jaya. "Student's Perception of Online Learning during COVID Pandemic." *The Indian Journal of Pediatrics*, vol. 87, no. 7, (8 May 2020): 554–554. [10.1007/s12098-020-03327-7](https://doi.org/10.1007/s12098-020-03327-7).
3. Nur Agung, Antonius Setyawan and Widyastuti Surtikanti, Monika. "Students' Perception of Online Learning during COVID-19 Pandemic: A Case Study on the English Students of STKIP Pamane Talino." *Soshum: Jurnal Sosial Dan Humaniora*, vol. 10, no. 2, (31 July 2020): 225-235. ojs.pnb.ac.id/index.php/SOSHUM/article/view/1316.
4. Almomani, Ensaf Y., Qablan, Ahmad M., Atrooz, Fatin Y., Almomany, Abbas M., Hajjo, Rima M. and Almomani, Huda Y. "The Influence of Coronavirus Diseases 2019 (COVID-19) Pandemic and the Quarantine Practices on University Students' Beliefs about the Online Learning Experience in Jordan." *Frontiers in Public Health*, vol. 8, no. (8, 2020): 595874. pubmed.ncbi.nlm.nih.gov/33520916/, [10.3389/fpubh.2020.595874](https://doi.org/10.3389/fpubh.2020.595874).
5. Anderson, Terry. "Getting the Mix Right Again: An Updated and Theoretical Rationale for Interaction." *The International Review of Research in Open and Distributed Learning*, vol. 4, no. 2, (1 Oct. 2003): 1–14.
6. www.irrodl.org/index.php/irrodl/article/view/149/708, [10.19173/irrodl.v4i2.149](https://doi.org/10.19173/irrodl.v4i2.149). Accessed 22 Nov. 2020.
7. Baczek, Michał, Zagańczyk-Bączek, Michalina, Szpringer, Monika, Jaroszyński, Andrzej and Woźakowska-Kapłon, Beata. "Students' perception of online learning during the COVID-19 pandemic: a survey study of Polish medical students." *LWW*, vol. 100, no. 7, (19 Feb. 2021): e24821.

8. Cao, Wenjun, Fang, Ziwei, Hou, Guoqiang, Han, Mei, Xu, Xinrong, Dong, Jiabin and Zheng, Jianzhong. "The Psychological Impact of the COVID-19 Epidemic on College Students in China." *Psychiatry Research*, vol. 287, (Mar. 2020): 112934. 10.1016/j.psychres.2020.112934.
9. Cleveland-Innes, Marti, and Campbell, Prisca. "Emotional Presence, Learning, and the Online Learning Environment." *The International Review of Research in Open and Distributed Learning*, vol. 13, no. 4, (5 Oct. 2012): 269. 10.19173/irrodl.v13i4.1234. Accessed 21 July 2020.
10. Gašević, Dragan, Zouaq, Amal and Janzen Robert. "Choose Your Classmates, Your GPA Is at Stake!: The Association of Cross-Class Social Ties and Academic Performance" *American Behavioral Scientist*, vol. 57, no. 10, (12 Mar. 2013): 1460–1479. 10.1177/0002764213479362. Accessed 20 Aug. 2021.
11. Guo, Zixiu, Xiao, Lin, Van Toorn, Christine, Lai, Yihong and Seo, Chanyoung. "Promoting Online Learners' Continuance Intention: An Integrated Flow Framework." *Information & Management*, vol. 53, no. 2, (Mar. 2016): 279–295. 10.1016/j.im.2015.10.010.
12. Hamdan, Khaldoun Mohammad, Al-Bashaireh, Ahmad M, Zahran, Zainab, Al-Daghestani, Amal, AL-Habashneh, Samira and Shaheen, Abeer M. "University Students' Interaction, Internet Self-Efficacy, Self-Regulation and Satisfaction with Online Education during Pandemic Crises of COVID-19 (SARS-CoV-2)." *International Journal of Educational Management*, vol. 35, no. 3, (20 Jan. 2021): 713-725. 10.1108/ijem-11-2020-0513. Accessed 27 Jan. 2021.
13. Huckins, Jeremy F, DaSilva, Alex W, Wang, Weichen, Hedlund, Elin, Rogers, Courtney, Nepal, Subigya K, Wu, Jialing, Obuchi, Mikio, Murphy, Eilis I, Meyer, Meghan L, Wagner, Dylan D, Holtzheimer, Paul E and Campbell, Andrew T. "Mental Health and Behavior during the Early Phases of the COVID-19 Pandemic: A Longitudinal Mobile Smartphone and Ecological Momentary Assessment Study in College Students" *Journal of Medical Internet Research*, vol. 22, no. 6, (12 May 2020):e20185. 10.2196/20185.
14. Imsa-ard, Pariwat. "Thai University Students' Perceptions towards the Abrupt Transition to "Forced" Online Learning in the COVID-19 Situation" *Journal of education Khon Kaen University*. vol. 43, no. 3, (2020): 30–44. so02.tci-thaijo.org/index.php/EDKKUJ/article/view/242970.
15. Irawan, Andi Wahyu, Dwisona, Dwisona, Lestari, Mardi. "Psychological Impacts of Students on Online Learning during the Pandemic COVID-19." *KONSELI : Jurnal Bimbingan Dan Konseling (E-Journal)*, vol. 7, no. 1, (31 May 2020): 53–60. 10.24042/kons.v7i1.6389.
16. Kang, Myunghee, Teresa Liew, BaoYng, Kim, Jiyoung and Park, Young. "Learning Presence as a Predictor of Achievement and Satisfaction in Online Learning Environments." *International Journal on E-Learning*, vol. 13, no. 2, (1 July 2014): 193–208. eric.ed.gov/?id=EJ1035981. Accessed 13 June 2022.
17. Kazdin, Alan. "Encyclopedia of Psychology: 8 Volume Set - APA Publishing | APA." <https://www.apa.org>, 2000, www.apa.org/pubs/books/4600100.
18. Lobos Peña, Karla, Cobo-Rendón, Rubia, Mella-Norambuena, Javier, Maldonado-Trapp, Alejandra, Fernández Branada, Carolyn, Bruna Jofré, Carola. "Expectations and Experiences with Online Education during the COVID-19

- Pandemic in University Students." *Frontiers in Psychology*, vol. 12, (5 Jan. 2022). 10.3389/fpsyg.2021.815564.
19. McInnerney, Joanne M, and Roberts, Tim S. "Online Learning: Social Interaction and the Creation of a Sense of Community." *Journal of Educational Technology & Society*, vol. 7, no. 3, (2004) 73–81.
www.jstor.org/stable/jeductechsoci.7.3.73.
 20. Moore, Michael G. "Editorial: Three Types of Interaction." *American Journal of Distance Education*, vol. 3, no. 2, (Jan. 1989). 1–7.
10.1080/08923648909526659.
 21. Simpson, Ormond. *Supporting Students for Success in Online and Distance Education*. London, Routledge, 2013.
 22. Plass, Jan L., Heidig, Steffi, Hayward, Elizabeth O., Homer, Bruce D. and Um, Enjoon. "Emotional Design in Multimedia Learning: Effects of Shape and Color on Affect and Learning." *Learning and Instruction*, vol. 29, (Feb. 2014). 128–140.
10.1016/j.learninstruc.2013.02.006.
 23. Rahiem, Maila D. H. "The Emergency Remote Learning Experience of University Students in Indonesia amidst the COVID-19 Crisis." *International Journal of Learning, Teaching and Educational Research*, vol. 19, no. 6, (14 July 2020).
www.ijlter.org/index.php/ijlter/article/view/2368.
 24. Rebar, Amanda L., Stanton, Robert, Geard, David, Short, Camille, Duncan, Mitch J., and Vandelanotte, Corneel. "A Meta-Analysis of the Effect of Physical Activity on Depression and Anxiety in Non-Clinical Adult Populations." *Health Psychology Review*, vol. 9, no. 3, (3 July 2015): 366–378.
10.1080/17437199.2015.1022901.
 25. Tovilović, Snežana, Novović, Zdenka, Mihić, Ljiljana and Jovanović, Veljko. "The Role of Trait Anxiety in Induction of State Anxiety." *Psihologija*, vol. 42, no.4, (2009): 491–504.
 26. Villa, F. G., Litago, J. D. U., Sanchez-Fdez, A. "Perceptions and Expectations in the University Students from Adaptation to the Virtual Teaching Triggered by the COVID-19 Pandemic." *Revista Latina de Comunicacion Social*, no. 78, (2020). 99–119. pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-969845. Accessed 13 June 2022.
 27. Waugh, Michael, and Jian Su-Searle. "Student Persistence and Attrition in an Online M. S. Program: Implications for Program Design." *International Journal on E-Learning*, vol. 13, no. 1, (1 Feb. 2014): 101–121.
www.learntechlib.org/primary/p/38649/. Accessed 13 June 2022.
 28. Yan, Lixiang, Whitelock-Wainwright, Alexander, Guan, Quanlong, Wen, Gangxin, Gašević, Dragan. and Guanliang Chen. "Students' Experience of Online Learning during the COVID-19 Pandemic: A Province-Wide Survey Study." *British Journal of Educational Technology*, vol. 52, no. 5, (4 May 2021): 2038-2057.
10.1111/bjet.13102.

WEB RESOURCES

<https://en.unesco.org/covid19/educationresponse>

<https://www.axios.com/college-students-summer-jobs-85205102-e7e9-401e-b92c3fe05fd52de5.html>
<https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov>
https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf
<https://www.usnews.com/education/best-colleges/articles/how-to-overcome-challenges-of-online-classes-due-to-coronavirus>
https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/MZSZ/Documents/anksiozni_poremecaji.pdf
<https://www.worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19>

САМОПРОЦЕНА УЧИНКА У ОНЛАЈН УЧЕЊУ И АНКСИОЗНОСТИ КОД УЧЕНИКА ТОКОМ КОВИД-19 ПАНДЕМИЈЕ

САЖЕТАК

Услед пандемије изазване SARS-CoV-2 вирусом (COVID-19), од 16. марта до 18. маја 2020. године предавања на Факултету спорта и физичког васпитања Универзитета у Нишу одвијала су се искључиво путем онлајн платформи за учење. Факултети спорта и физичког васпитања су садржајно и методски специфични у односу на друге факултете. Циљ ове студије био је да се утврди колико су студенти били у могућности да испуне своје академске обавезе, каква је била њихова мотивација за учење, које баријере су утицале на њихову способност извршења обавеза и колико су били анксиозни током пандемије. У онлајн истраживању учествовало је укупно 364 студента основних академских и мастер академских студија Факултета спорта и физичког васпитања. Истраживање је спроведено коришћењем упитника који се састоји од самопроцене савладаног градива из свих предмета (петостепена скала), степена мотивације за учење на даљину (петостепена скала), питања о факторима који су ометали ученике у учењу и скале анксиозности (АТ-29, Товиловић и Нововић, 2009). Резултати показују да је 68.6% студената успело да испуни више од 60% обавеза из предмета. Највећи број ученика је био највише мотивисан (51.3%), док је 17.9% било високо мотивисано за онлајн учење. Мање од 10% свих испитаника уопште није мотивисано (7.4%). Највећи број студената (42.6%) испуњавао је своје академске обавезе у проценту од 60 до 80%, док је 33% студената испуњавало обавезе између 80 и 100%. Истраживање је показало да је највећа препрека онлајн учењу недостатак директног контакта и комуникације ученика са другим студентима и професорима (36%), као и технички проблеми, који представљају баријеру за 16.8% испитаника. Резултати су показали да постоји статистички значајна разлика у степену анксиозности између студената и студенткиња (Sig = .001), при чему су веће вредности анксиозности забележене код студенткиња.

Кључне речи: Covid-19, факултет, е-учење, пол, ментално здравље.

САМООЦЕНКА ЭФФЕКТИВНОСТИ ОНЛАЙН ОБУЧЕНИЯ И ПСИХОЛОГИЧЕСКОЕ СОСТОЯНИЕ СТУДЕНТОВ ВО ВРЕМЯ ПАНДЕМИИ КОВИД-19

АННОТАЦИЯ

В связи с пандемией, вызванной вирусом SARS-CoV-2 (COVID-19), с 16 марта по 18 мая 2020 г. лекции на факультете спорта и физического воспитания Университета Ниша проходили исключительно на онлайн-платформах обучения. Факультеты спорта и физического воспитания отличаются спецификой содержания и методики в сравнении с другими факультетами. Цель данного исследования – определить, в какой степени студенты смогли выполнить свои академические обязательства, какова была их мотивация к обучению, какие переменные влияли на их способность учиться, и насколько они переживали на протяжении всей эпидемии. В исследовании приняли участие 364 онлайн-студента факультета спорта и физического воспитания, представляющие все курсы бакалавриата и магистратуры. Исследование проводилось на основе анкетирования, включающего самооценку освоенного материала по всем предметам (пятибалльная шкала), степень мотивации к дистанционному обучению (пятибалльная шкала), вопросы о факторах, мешающих студентам учиться, и шкалы тревожности (АТ-29, Товилович и Новович, 2009). Результаты показали, что 68,6% студентов смогли освоить более 60% материала академического курса за год. Наибольшее количество студентов были в основном мотивированы (51,3%), а 17,9% имели высокую мотивацию к онлайн-обучению. Менее 10% всех респондентов вообще не были мотивированы (7,4%). Наибольшее количество студентов (42,6%) реализовали академические задачи в процентном соотношении от 60 до 80%, а 33% студентов – от 80 до 100%. Исследование показало, что самым большим препятствием в онлайн-обучении является отсутствие прямого контакта и общения студентов с коллегами и преподавателями (36%), а также технические проблемы, которые представляют собой барьер для 16,8% респондентов. Согласно результатам исследования, между студентами мужского и женского пола существует статистически значимая разница в степени тревожности (Sig. = .001), причем более высокие значения тревожности зафиксированы у студенток.

Ключевые слова: Covid-19, факультет, электронное обучение, пол, психическое здоровье

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