DOI 10.2478/afepuc-2022-0005
© Acta Facultatis Educationis Physicae Universitatis Comenianae 2022, 62(1): 41-52

IMPACT OF COVID-19 PANDEMIC ON PSYCHICAL HEALTH AND SOCIAL RELATIONSHIPS AMONG UNIVERSITY STUDENTS

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Summary: We have never faced such a global pandemic as COVID-19 in modern history. It´s important for us to find out how it can affect mental health and social relationships of students. This pandemic has brought us not only the risk of dying from a viral infection, but also brought the enormous psychological pressure on people. Purpose of this study was to determine the impact of COVID-19 pandemic on mental health and social relationships of university students. **Methods:** The research group consisted of 95 students of the Faculty of Sports of the University of Prešov in Prešov (men: n = 62, women: n = 33) with an average age of 22 +/- 6 years. As a method of data collection we used the standardized questionnaire of the World Health Organization - WHOQOL-BREF. Our modified WHOQOL-BREF questionnaire represents a selection of 9 items, six of them represent mental health: (1) Positive feeling (2) Self-esteem (3) Thinking, learning, memory and concentration (4) Bodily image and appearance, (5) Satisfy with you, (6) Negative feelings, and three represent social relationships (7) Personal relationships, (8) Sexual activity, (9) Social support. Due to the extraordinary pandemic situation an online survey was conducted to the students. Students had time to complete the questionnaire from 17.11.2021 to 19.11.2021. **Results:** Statistical significant difference between periods before and during COVID-19 pandemic was determined using the Wilcoxon paired t test. There were statistically significant differences in the psychological experience and social relationships of university students before and during the COVID-19 pandemic. **Conclusion:** We recommend monitoring the mental health of university students and raising awareness of various media platforms about psychological problems during a pandemic.

Key words: Undergraduate students, pandemic, mental health, social relationships

Introduction

The Slovak Republic is also one of the countries affected by the global pandemic COVID-19. The COVID-19 pandemic can be considered like a huge and uncontrollable stressor

that has a significant effect on mental health of individuals (Zhang et al. 2020).

The pandemic interferes with everyday life and quality of life, what confirm the data from the Chinese and Iranian population (Qiu et al. 2020; Zandifar & Badrfam 2020; Moghanibashi-Mansoureih 2020). Students are one of that group of people affected by the restrictions of the COVID-19 pandemic. Since the beginning of the pandemic students have been carrying out the educational process through distance learning (Grajek and Sobczyk 2021). Difficulties in schoolwork, restrictions, reduced social interaction, changes of their daily routine and boredom can make a huge psychological effect on adolescents (Zhang et al. 2020).

Separation from loved ones, the feeling of helplessness, loss of freedom are things related to the pandemic that affect the population (Li and Wang 2020; Cao et al. 2020). Research done during the COVID-19 pandemic shows that especially children and young adults are at risk of developing anxious symptoms (Orgilés et al. 2020). These symptoms are also related with the economic problems and the slowdown in academic activities (Alvarez, Argente & Lippi 2020).

The authors Szczepańska & Pietrzyka (2021) conducted research during the first lockdown in Poland in April 2020. The study group was composed of 132 respondents who were university students aged 19 – 26. The study demonstrated that the restrictions enforced during the COVID-19 pandemic contributed to a significant decline in the mood, psychological well-being and quality of life of young adults. Similar results were reported by researchers in other countries (Beam and Kim 2020; Liu et al. 2020; Liu et al. 2020; Parola et al. 2020; Shanahan et al. 2020; Volk et al. 2020; Zheng et al. 2020, in Szczepańska and Pietrzyka 2021). Limited access to public spaces was strongly correlated with a decline in the students' psychological well-being. According to the respondents, the significant decrease in the frequency of visits to open and closed public spaces, and the resulting decline in physical and social activities (human interactions) had a highly negative impact. The same results were found by Park et al. (2021), their study aimed to investigate the impact of the COVID-19 pandemic on these factors in Koreans over 20 years old. The study sample consisted of 104 adults in South Korea aged over 20 years. Participants reported that their quality of life and mental health had decreased after the pandemic struck.

The authors Cam et al. (2021) investigated the impact of the COVID-19 pandemic on mental and physical health-related quality of life among university students in Turkey. Overall, they diagnosed students with symptoms of depression (64.6 %), anxiety (48.6 %), stress (45.3 %) and post-traumatic stress disorder (34.5 %). The findings of this study also confirm that post-traumatic stress disorder was significantly associated with poor health-related quality

of life, and that these negative feelings were common during the COVID-19 pandemic. Similarly, Qanash et al. (2020) found in their research that health care students have high levels of anxiety and depression during the COVID-19 pandemic.

In contrast, the findings of Al Dhaheri et al. (2021) showed the positive impact of the COVID-19 pandemic on family support and mental health awareness. Similarly, Gijzen et al. (2020) found that more than half of the participants in their study reported the positive consequences of the COVID-19 pandemic. This is comparable to SARS pandemic study from 2003, in which most participants were able to identify both negative and positive consequences of a pandemic outbreak, even though they were directly affected by SARS (Cheng et al. 2006). The results indicated that the positive results of the COVID-19 pandemic were related to higher education. Participants often mentioned working from home as a positive consequence of a pandemic. The reasons may be a shortening of commuting time (less traffic jams), better perceived control and independence, greater efficiency or more time with family and loved ones.

Methodology

Participants and procedure

The research group consisted of 95 students of the Faculty of Sports of the University of Prešov in Prešov (men: n = 62, women: n = 33) with average age 22 +/- 6 years. Fifty of all students studied in the first (bachelor) degree and 45 students in the second (master) degree. Due to the extraordinary pandemic situation and the limitation of social contact, the only way we could continue the research was an online questionnaire. We created the questionnaire via the Google Forms platform and distributed it to students of the Faculty of Sports electronically. Students had time to complete the questionnaire from 17. 11. 2021 to 19. 11. 2021.

Questionnaire WHOQOL-BREF

The WHOQOL-BREF standardized questionnaire from the World Health Organization was used as a research tool. The WHOQOL-BREF questionnaire consist of 26 items, of which twenty-four represent individual aspects and two items are separate assessments of overall quality of life and overall health. This questionnaire focuses on the self-assessment of an individual's quality of life. We selected two domains for needs of our research– Psychological health and Social Relationships. Our modified WHOQOL-BREF questionnaire represents a selection of 9 items, six of which represent psychological health: (1) enjoyment of life, (2) meaning of life, (3) concentration, (4) acceptance of physical appearance, (5) satisfaction with

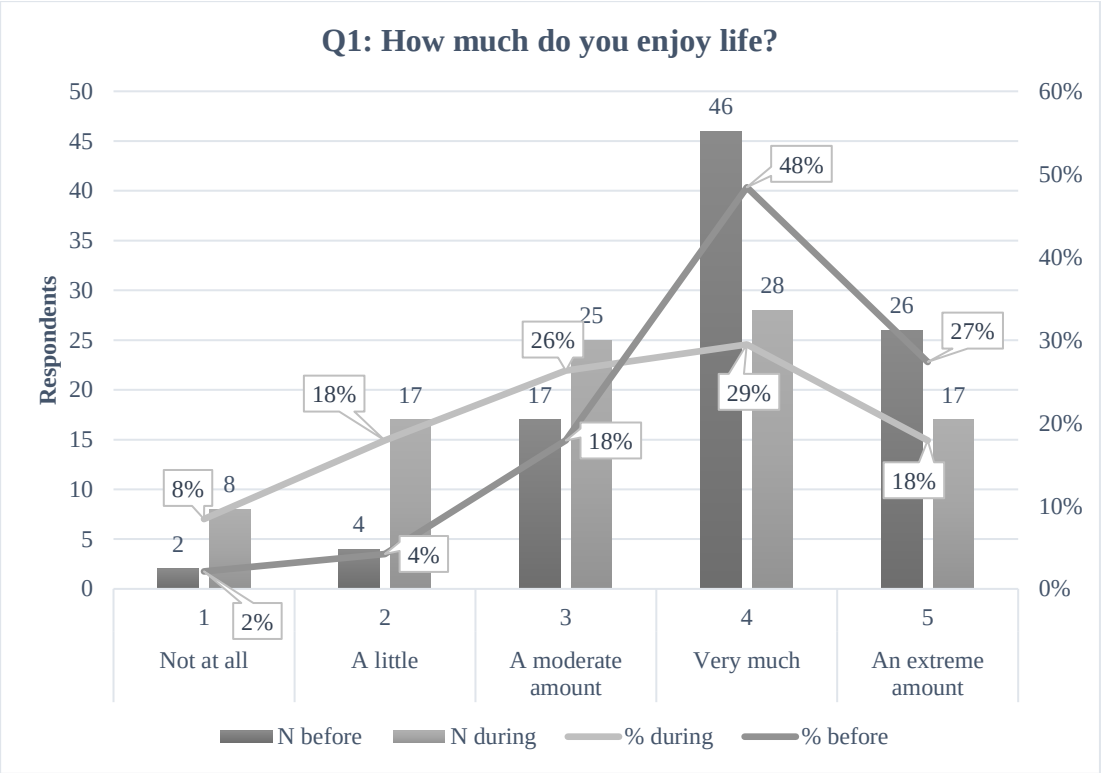
oneself, (6) negative feelings and three represent social relationships: (7) personal relationships, (8) sexual activity, (9) social support. We modified the original questionnaire for better evaluation of the mental health and social relationships of university students before COVID-19 pandemic, when students considered the questions retrospectively and during the COVID-19 pandemic, to find a change in university students' subjective perceptions due to pandemic situation and limited arrangement. Responses to questions are on a 1-5 Likert scale where 1 represents "disagree" or "not at all" and 5 represents "completely agree" or "extremely". WHOQOL-BREF has been validated for a healthy population and for patients with various types of somatic and mental disorders (Dragomirecká & Bartoňová 2006).

Data analyses

We processed the data from the questionnaire using mathematical-statistical methods using the statistical program Statistica (version 13.5). Due to multiciplity we used in the research group the Kolmogorov-Smirnov test to evaluate the normal distribution of data. We used the median and mode for the position characteristics and the maximum and minimum for the variance characteristics. At the earliest, we determined statistical significance between data from period before and during COVID-19 pandemic using the Wilcoxon paired t test. Subsequently, we recorded the differences using a graph, which we used Microsoft Office Excel and we also described them in writing.

Results

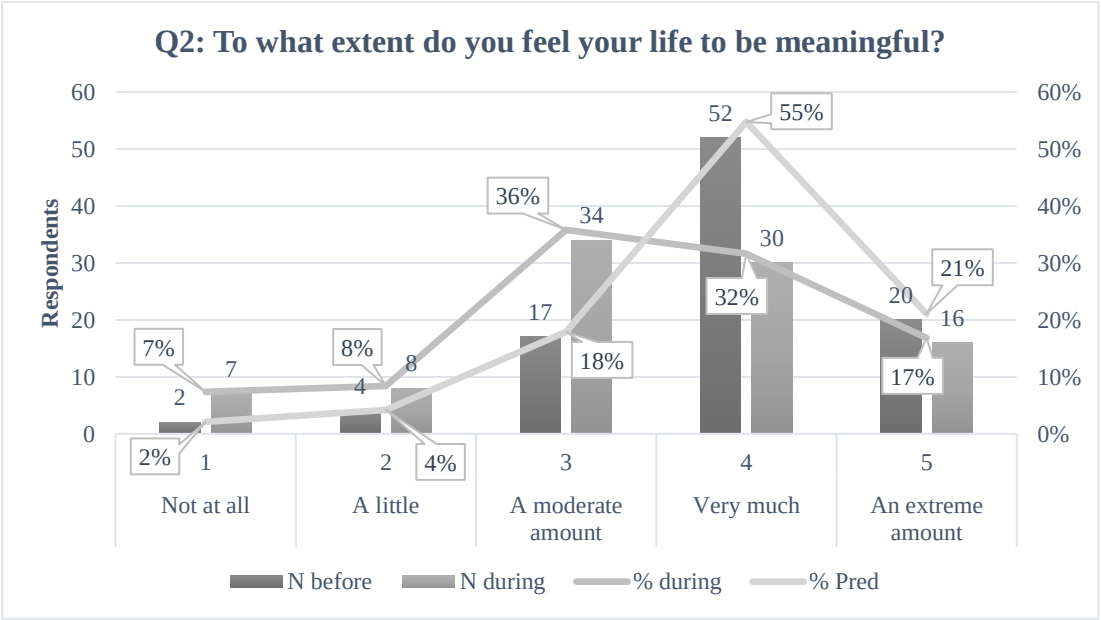
The results are compared to the period before and during the Coronacrisis. An interesting but logical finding is that university students enjoyed life less after the outbreak of the COVID-19 pandemic, than before (Figure 1). The answer "An extreme amount" was marked by 26 university students before and 17 university students after the outbreak of the pandemic, which is a decrease of 9 %. In the answer "Very much" is difference even more noticeable by 19 %, 46 university students marked this answer before the pandemic, but only 28 university students during the pandemic. On the other hand, the number of university students who enjoyed life only "a little" increased from 4 university students to 17, which represents a 14 % increase. We found statistically significant differences between the periods before and during the coronarisis ($p = 0.000007$). During the COVID-19 pandemic 46 % of university students enjoyed life less, 41 % of university students feels the same as before the Coronacrisis, and only 13 % of respondents enjoyed life more than before COVID-19 pandemic.



Abbreviations: *N before, number of respondents before COVID-19 pandemic; N during, number of respondents during COVID-19 pandemic; % during, percentage representation of respondents during COVID-19 pandemic; % before, percentage representation of respondents before COVID-19 pandemic*

Figure 1

Responses to Q1: How much do you enjoy life?

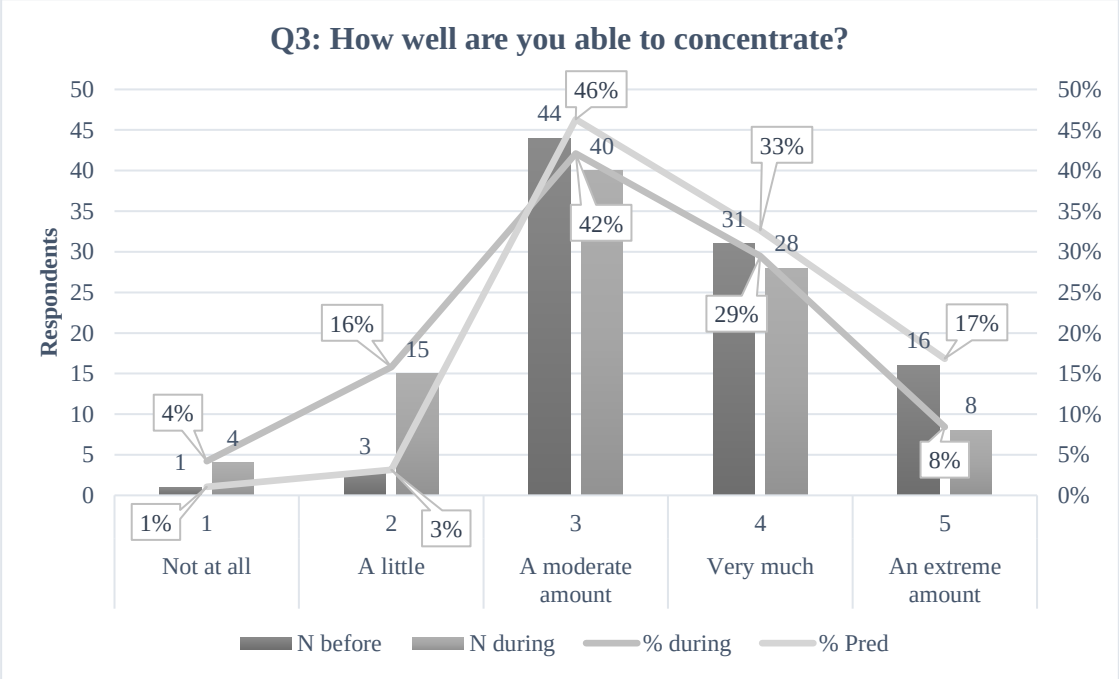


Abbreviations: *N before, number of respondents before COVID-19 pandemic; N during, number of respondents during COVID-19 pandemic; % during, percentage representation of respondents during COVID-19 pandemic; % before, percentage representation of respondents before COVID-19 pandemic*

Figure 2

Responses to Q2: To what extent do you feel your life to be meaningful?

We found that the most common answer of university students to question Q2 was the answer „Very much“ (55 %) in the period before the Coronacrisis, but during the Coronacrisis it was answer „A moderate amount“ (36 %) (Figure 2). During the Coronacrisis the answer „Very much“ decreased by 23 %. On the other hand, we found a significant increase of 18 % in the answer "Average", which was marked before the pandemic by 17 and during 34 university students. We found statistically significant differences (p = 0.000281) compared to the period before and during the Coronacrisis. We found that 52 % of university students considered their lives to be as meaningful during the Coronacrisis same as before the outbreak. 40 % of students felt that their lives were less meaningful during the COVID-19 pandemic, and only 8 % of students said that they subjectively perceived their lives more meaningful during the Coronacrisis.

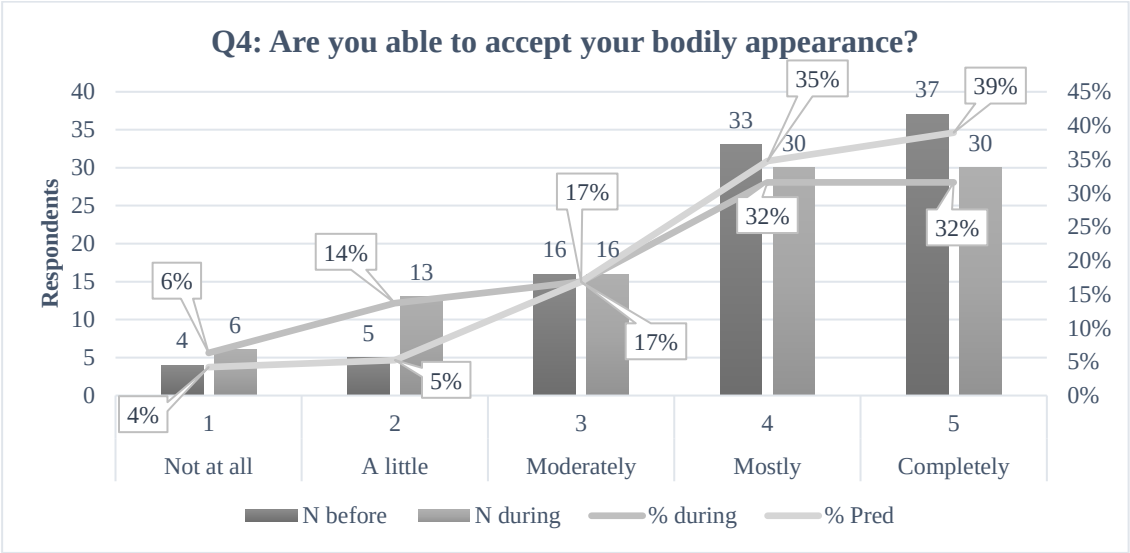


Abbreviations: *N before, number of respondents before COVID-19 pandemic; N during, number of respondents during COVID-19 pandemic; % during, percentage representation of respondents during COVID-19 pandemic; % before, percentage representation of respondents before COVID-19 pandemic*

Figure 3
Responses to Q3: How well are you able to concentrate?

We compared Q3 between the period before a during coronacrisis (Figure 3). "An extreme amount" of concentration decreased by 9 % among university students. On the other hand, the answer "A little" was marked by 3 university students before and 15 university students during the Coronacrisis, which represents a 13 % increase. The most frequent response was „A moderate amount“, 44 students before and 40 students during the Coronacrisis. Based

on our results, we can conclude that the concentration of university students was not greatly affected by the COVID-19 pandemic. The majority of students (58 %) felt the same ability to concentrate during the Coronacrisis, and 11 % of students felt they were better concentrated during the COVID-19 pandemic than before the outbreak. 1/3 of respondents (38 %) felt worse in concentration during the Coronacrisis.



Abbreviations: *N before, number of respondents before COVID-19 pandemic; N during, number of respondents during COVID-19 pandemic; % during, percentage representation of respondents during COVID-19 pandemic; % before, percentage representation of respondents before COVID-19 pandemic*

Figure 4
Responses to Q4: Are you able to accept your bodily appearance?

The most common answer to Q4 (Figure 4) was before COVID-19 pandemic "Completely" (39 %). During the coronarisis, the most frequent answers from students were "Completely" and "Mostly" (both 32 %). We found a statistically significant difference ($p = 0.014257$) how university students are able to assume their body appearance in the period before and during the Coronacrisis. 16 % university students during the Coronacrisis managed their free time very well as they were able to better accept their body appearance. 28 % of university students perceived their body appearance worse after the outbreak of the COVID-19 pandemic, and 56% of students did not see a difference in the perception of their body appearance compared to the period before and during the Coronacrisis.

In the next question Q5*: How satisfied are you with yourself* in the period before and during the Coronacrisis? We observe a slight decrease in the positive answers "Satisfied" by 10 % and "Very satisfied" by 7 %. On the other hand, we observe an increase in the more negative answers "Dissatisfied" by 8 % and "Very dissatisfied" by 6 %.



Abbreviations: *N before, number of respondents before COVID-19 pandemic; N during, number of respondents during COVID-19 pandemic; % during, percentage representation of respondents during COVID-19 pandemic; % before, percentage representation of respondents before COVID-19 pandemic*

Figure 5

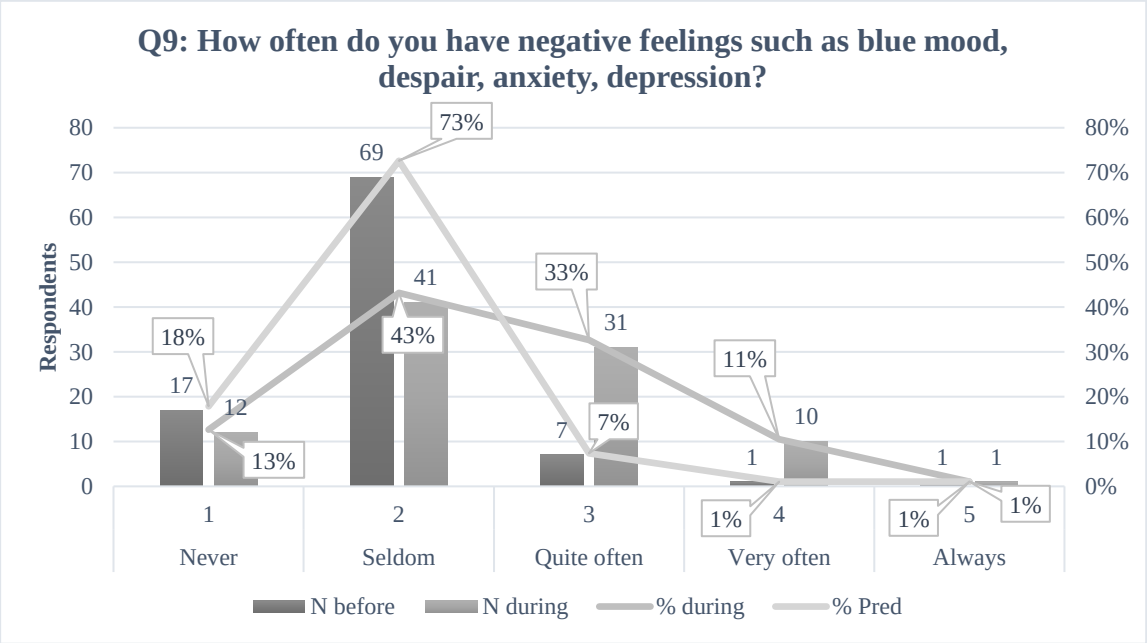
Responses to Q6: How satisfied are you with your personal relationships?

We observe a decrease in very satisfied students by 14 % (Figure 5). Contrariwise, the number of dissatisfied students increased by 10 %. We found a statistically significant difference between the periods before and during the Coronacrisis (p = 0.00051) in satisfaction with the personal relationships of university students. Due to social distance and restrictive measures we assume that 43 % of university students were less satisfied with personal relationships during the COVID-19 pandemic than before the outbreak. 16 % of students experienced an improvement in this field and 41 % of university students did not notice any changes in satisfaction with personal relationships during the Coronacrisis.

Question Q7: *How satisfied are you with your sex life*? We observe that 13 % of university students were very disappointed with their sex life during the Coronacrisis. We found statistically significant differences in the question Q7 *(p = 0.000116)*, in which we also see a decrease in very satisfied students by 10 % in the period during the Coronacrisis. Up to 61 % of university students felt the same satisfaction with their sex life as before the outbreak of the pandemic, and only 8 % saw an improvement in this field. 31 % of university students were more dissatisfied with their sex life during the Coronacrisis.

*W*e asked college students *how satisfied they were with the support they received from their friends* (question 8). The most common answer to th*is question was* "Satisfied", it was marked by 44 % students in the period before and 38% students in the period during the Coronacrisis. The second most common response was "very satisfied", which was marked before the pandemic by 29 % students and during 22 % of university students. We found

statistically significant differences *(p = 0.000939)* how satisfied university students were with support from their friends.



Abbreviations: *N before, number of respondents before COVID-19 pandemic; N during, number of respondents during COVID-19 pandemic; % during, percentage representation of respondents during COVID-19 pandemic; % before, percentage representation of respondents before COVID-19 pandemic*

Figure 6

Responses to Q9: How often do you have negative feelings such as blue mood, despair, anxiety, depression?

Our last question in the WHOQOL-BREF questionnaire was very interesting. We asked about the period before and during the Coronacrisis. We can see (Figure 6) a 10 % increase in the answer "Very often" and a 26 % increase in the answer "Quite often". The number of university students who experienced these negative feelings "Seldom" decreased by 30 %, which is another negative effect we noticed during the Coronacrisis. We found a statistically significant differences in the perception of negative feelings such as bad mood, despair, anxiety or depression (p = 0.000008). Approximately half of the students (54 %) had negative feelings, such as bad mood, despair, anxiety or depression, both before and during the Coronacrisis. 42 % of students had these feelings subjectively more frequently during the COVID-19 pandemic, and only 4 % of students felt better about negative feelings.

Discussion

Due to the pandemic situation, more than 1.7 million students worldwide have dropped out of education. Schools and universities have not experienced this level of disruption since

World War II (Dietrich et al. 2020). Living conditions and opportunities have changed from day to day and, just like all people, university students have had to adapt to these changes and get used to it quickly. For this reason, in our research, we focused on the psychological health and social relationships of university students in the period before and during the COVID-19 pandemic.

The results of our study indicate that the COVID-19 pandemic has a negative impact on the psychological health and social relationships of university students. Nearly half of the students enjoyed life less and felt that their lives were less meaningful during the COVID-19 pandemic. The concentration of university students was not affected by the COVID-19 pandemic, as more than half of the students felt the same ability to concentrate during and before the Coronacrisis. We determined a statistically significant difference in how university students are able to accept their body appearance in the period before and during the Coronacrisis. Almost half of the students subjectively changed their view of their body appearance during the pandemic. Due to social distance and limited arrangement, almost half of the university students were less satisfied with their personal relationships during the COVID-19 pandemic than before the outbreak. We experienced the same satisfaction with their sex life during the COVID-19 pandemic as before the outbreak in more than half of the students. In the domain of social relations, we found statistically significant changes in how satisfied university students were with support from their friends. Almost half of the students had negative feelings such as bad mood, despair, anxiety or depression more often during the COVID-19 pandemic than before the outbreak. It is necessary to find out how a pandemic also secondarily affects the mental health or social relations of students, so that we can be better prepared for similar situations in the future.

Conclusions

Based on our results, we recommend monitoring the mental health of university students, raising awareness of various media platforms about psychological problems during a pandemic, and emphasize the importance of seeking help and engaging in physical activity in managing mental health disorders. We also recommend involving psychological counselors in the educational process at universities, who would be available to students, mainly in such rapidly changed conditions as we experienced during the outbreak of the COVID-19 pandemic.

References

1. AL DHAHERI, A. S. et al., 2021. Impact of COVID-19 on mental health and quality of life: Is there any effect? A cross-sectional study of the MENA region. In: *PLOS ONE.* **16**(3): e0249107. https://doi.org/10.1371/journal.pone.0249107.
2. ALVAREZ, F., D. ARGENTE & F. LIPPI, 2020. A simple planning problem for COVID-19 lockdown. In: *NBER Working Papers 26981*, National Bureau of Economic Research, Inc.
3. CAM, H. H. et al., 2021. Impact of the COVID-19 pandemic on mental health and health-related quality of life among university students in Turkey. In: *Current Psychology*. https://doi.org/10.1007/s12144-021-01674-y.
4. CAO, W. et al., 2020. The psychological impact of the COVID-19 epidemic on college students in China. In: *Psychiatry Research*. č. 287, 112934.
5. CHENG, C. et al., 2006. Perception of benefits and costs during SARS outbreak: An 18-month prospective study. In: *Journal of Consulting and Clinical Psychology*. **74**(5), 870–879. doi:10.1037/0022-006x.74.5.870.
6. DIETRICH, N. et al., 2020. Attempts, Successes, and Failures of Distance Learning in the Time of COVID-19. In*: Journal of Chemical Education.* doi:10.1021/acs.jchemed.0c00717.
7. DRAGOMIRECKÁ, E. 2006. Česká verze dotazníku kvality života WHOQOL. Překlad položek a konstrukce škál. In: *Psychiatrie.* **10**(2).
8. GIJZEN, M. et al., 2020. The Bittersweet Effects of COVID-19 on Mental Health: Results of an Online Survey among a Sample of the Dutch Population Five Weeks after Relaxation of Lockdown Restrictions. In: *International Journal of Environmental Research and Public Health.* **17**(23), 9073. doi:10.3390/ijerph17239073.
9. GRAJEK, M. & K. SOBCZYK, 2021. Well-being levels among students during the COVID-19 pandemic. In: *Journal of Physical Education and Sport*. **21(**4), s. 1682-1687. ISSN 2247-8051.
10. LI, L. Z. & S. WANG, 2020. Prevalence and predictors of general psychiatric disorders and loneliness during COVID-19 in the United Kingdom. In: *Psychiatry Research*. č.291, 113267.
11. MOGHANIBASHI-MANSOURIEH, A., 2020. Assessing the anxiety level of Iranian general population during COVID19 outbreak. In: *Asian Journal of Psychiatry*. **51**.

12. OEGILÉS, M., et al., 2020. Immediate psychological effects of the COVID-19 quarantine in youth from Italy and Spain. In: *Psychological Medicine*. s. 1-6.
13. PARK, K. H. et al., 2021. Impact of the COVID-19 pandemic on the lifestyle, mental health, and quality of life of adults in South Korea. In: *PLoS ONE*. **16**(2): e0247970. https://doi.org/10.1371/journal.pone.0247970
14. QANASH, S. et al., 2020. Psychological Effects on Health Science Students After Implementation of COVID-19 Quarantine and Distance Learning in Saudi Arabia. In: *Cureus*. **12**(11), e11767.
15. QIU J. et al., 2020. A Nationwide Survey of Psychological Distress Among Chinese People in the COVID-19 Epidemic: Implications and Policy Recommendations. In: *General Psychiatry*. **33**(2), s. 1-3.
16. SZCZEPAŃSKA, A. & K. PIETRZYKA, 2021. The COVID-19 epidemic in Poland and its influence on the quality of life of university students (young adults) in the context of restricted access to public spaces. In: *J Public Health.* (Berl.). https://doi.org/10.1007/s10389-020-01456-z
17. ZANDIFAR A. & R. BADRFAM, 2020. Iranian mental health during the COVID-19 epidemic. In: *Asian Journal of Psychiatry*. Roč. **51**.
18. ZHANG, C. et al., 2020. The Psychological Impact of the COVID-19 Pandemic on Teenagers in China. In: *Journal of Adolescent Health*. **67**(6), s. 747-755. https://dx.doi.org/10.1016%2Fj.jadohealth.2020.08.026