One year after the first cases of COVID-19: Factors influencing the anxiety among Kosovar university students

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Abstract

Introduction: One year after the first COVID-19 cases in Kosovo, we aimed to discover the anxiety level of university students and explore factors influencing their anxiety.

Methods: This is a cross-sectional study. 897 students (M = 21.06, SD = 4.41), from six universities in Kosovo completed the 7-item Generalized Anxiety Disorder Scale and a sociodemographic survey through a web-based Google form. Descriptive, Pearson chi-square, t-Test, ANOVA, linear and multiple regressions were used.

Results: We found that 73.5% of the full sample experience anxiety, respectively 12.9% of them severe anxiety, 22.2% moderate, and 38.4% mild anxiety, with female students showing higher levels of anxiety symptoms. Moreover, students in master studies (20%), students who have been infected with COVID-19 (18.9%), students having a relative (14.8%) or having an acquaintance infected with COVID-19 (15.7%), were more likely to be severely anxious (P < 0.05). Students from Medical Faculty, Law and Arts also showed higher level of severe anxiety than the students of Technical faculties and Faculty of Education (P = 0.001). Students with history of infection with COVID-19 showed higher severe anxiety for their family members (14.8%), friends (15.7%) and themselves (18.9%) than the full sample. Anxiety was predicted by being infected with COVID-19 (P = 0.000), having friends infected (P = 0.000) and by gender (P = 0.000).

Conclusion: The current study found that most of the students are experiencing anxiety at some levels. Continuous observation of students’ psychological health and other deeper studies is recommended. In the meantime, psychological services for students should be provided.

KEYWORDS: Anxiety; COVID-19; mental health; Kosovo; university students.
INTRODUCTION
This challenging COVID-19 pandemic has heavily influenced the mental health of people all around the globe, either directly or indirectly [1–4]. Some categories of workers have been threatened in a particular way leading to a high incidence of anxiety, sleep problems, depression, and post-traumatic stress disorders, especially among health care professionals [5, 6]. Although the university students were not the most endangered group of the population, this is also true for them [7, 8]. University students constitute a population that is particularly vulnerable in terms of mental health, one that even before the pandemic showed a high prevalence of mental disorders [9]. Several studies have reported that students have consistently higher levels of mental health problems than the general population [10, 11], which may be partly due to the lack of implementation of a well-designed, and often expensive, preventive measures [12].

The number of papers that have addressed the issue of how students’ psychological health been affected by the pandemic and the confinement is not satisfactory. The fear of the COVID-19 infection, unexpected lockdown, and sudden implementation of online classes may lead to stress, anxiety, and other emotional problems among students [13, 14]. Odriozola-Gonzáleza et al. [13] reported that out of 2,530 members of a university in Spain, moderate to extremely severe scores of anxiety, depression, and stress were reported by 21.34%, 34.19% and 28.14% of the respondents, respectively and a total of 50.43% of participants presented moderate to severe impact of the COVID-19 outbreak. Moreover, many universities suspended normal class-based teaching and moved online, with the result that the lives of students changed drastically [15] at both academic and personal levels [16]. Bruffaerts et al [17] found that university students were more vulnerable and easily affected by a pandemic. This new academic and personal life, since college students are also vulnerable to major changes.

TAKE-HOME MESSAGE
In this Kosovo-based study, about 73.5% of college students, mainly female, have experienced such high levels of anxiety even 1 year after COVID-19. The government and universities should collaborate to provide high-quality, timely crisis-oriented psychological services for students.

Competing interests - none declared.

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Author Contributions: Conceptualization, study design, data collection, methodology, formal analysis, writing- original draft, writing- review & editing: MS. Data collection, writing- review & editing: PJ-C, FH and SB-B. Data collection, supervision, writing- review & editing: DP.

DOI 10.19204/2021/nyrf10

Received: 27/04/2021 Accepted: 28/05/2021 Published Online: 01/06/2021
in their routine and, as a consequence, to the psychological impact of the pandemic [18], negatively disrupted their psychosocial functioning, thus altering the social integration of some individuals [19].

Specifically related to this study, the literature has documented the negative influence of pandemics on students’ psychological well-being. There are several studies [20, 21] that reported high levels of anxiety during the COVID-19 outbreak on Chinese undergraduate students. In one of them, out of 7,143 students studied, 0.9% had severe anxiety, 2.7% had moderate anxiety, and 21.3% had mild anxiety. They also reported that some factors, such as place of residence, source of parental income, whether living with parents or not, and having a relative or an acquaintance infected with COVID-19, were associated with increased anxiety [22]. Another study reported that out of 3,611 university students from all over China, 557 of them (15.43%) met the cutoff of 50 and were screened positive for anxiety [23]. Saravanan et al. [24] found in their study that out of the 433 students, 15.9% of students in the United Arab Emirates universities, were anxious, while another study on anxiety experienced by university students during the COVID-19 pandemic in Saudi Arabia, found that out of 400 students, about 35% of them reported moderate to extreme levels of anxiety, which was highly associated with age, sex, and level of education [23].

Sundarasen et al. [24] in their study found that among 983 University Students in Malaysia, 20.4%, 6.6%, and 2.8% experienced minimal to moderate, marked to severe, and most extreme levels of anxiety. Almost the same results, showed also another study [25] who investigated 3,881 college students, and found that the overall incidence of anxiety was 26.60%, and the incidences of mild, moderate and severe anxiety were 23.19%, 2.71%, and 0.70%, respectively.

Higher levels of anxiety were found also in a sample of 2,038 students from more than 180 universities in China, who reported that with respect to prevalence of clinically-relevant symptoms, 15.5% of them, presented clinically relevant anxiety symptoms [26] while almost the same results, showed the study of 433 university students in the United Arab Emirates, were 15.9% of students were anxious [22].

In one of the most comprehensive and large-scale study [8], 39.8% of 30,383 students from 62 countries experienced anxiety, 45.2% of them experienced boredom, 39.1% frustration, 25.9% anger, 18.8% hopelessness and 10.0% shame. In the same study, the highest levels of anxiety were found in South America (65.7%) and Oceania (64.4%), followed by North America (55.8%) and Europe (48.7%). Least anxious were students from Africa (38.1%) and Asia (32.7%). While another meta-analytic study [27], found that the pooled prevalence of anxiety in twenty studies with a sample size of 84,097 university students, was 39.4%. Almost the same level of anxiety was reported for Italian university students, with results of 35.33% of them classified as anxious [28]. Around 18.7% of 198 Spanish University students were suffering severe anxiety and 70.2% were suffering either mild or moderate anxiety and that individuals have higher anxiety levels associated with disimproved sleep quality [29], while among Greek students the level of anxiety was found to be 42.5% [30]. Approximate results were also shown for Turkish students, who reported the anxiety levels of 12.57%, 35.75%, 28.77% and 22.91% for normal, mild, moderate and severe anxiety, respectively [31].

In the first month of cases with COVID-19 in Kosovo, Arënliu and Bërxbulli [32], reported the findings from an online survey conducted with the students of the University of Prishtina ‘Hasan Prishtina’ in Kosovo, on the level of psychological distress, as a result of citizen movement restrictions of during the COVID-19 pandemics. Out of 158 students, 24.7% reported mild psychological distress, 13.3% reported moderate psychological distress and 11.4 reported severe psychological distress. Arenliu et al expanded their study and examined the level of anxiety and depression among 904 students of one public uni-
versity in Kosovo, during the initial phase of the outbreak and blockage of the COVID19 pandemic [33]. The study took place during the lockdown measures, included strict movement restrictions, were individuals had the right to be outside 90 min per day. Results showed that 202 (22.4%) students, reported mild levels of anxiety, 98 (10.9%) reported moderate levels of anxiety, and 33 (3.7%) reported severe levels of anxiety. There were other studies focused on medical professionals' anxiety and depression [34] as well as on the effect of COVID-19 on mental health in patients and workforce [35].

The main aim of this study, therefore, was to evaluate the anxiety level at university students and explore factors influencing their anxiety, one year after the first cases with COVID 19, in Kosovo. This research aimed at the wider geographical inclusion of Kosovar students, including students from 6 main regions of Kosovo and also considered some of the variables of interest that were not included in other studies.

METHODS

Study design and procedure

This cross-sectional study was conducted in February 2021, using an online self-administered questionnaire of closed-ended questions. We decided to carry out this study using an internet-based survey, due to the current pandemic crisis and the national strict measures on the face-to-face communication. In addition, using the internet and social media, this study has shown to be an effective and time-efficient method to reach inaccessible potential participants from different regions, by eliminating any geographical boundaries. As shown in the systematic review of 109 published articles, this is an effective and cost-efficient recruitment method [36]. Considering the nature of the web-based Google form surveys, the students were instructed to fill out the questionnaire with probity, after fulfilling the eligibility criteria, consenting on voluntary participation and filling it only once. The questionnaires were anonymous to ensure the confidentiality and reliability of data. For a student to be able to participate in this study, the following eligibility criteria were implemented: Age ≥ 18 years; active enrollment in an undergraduate or postgraduate study at a Kosovar higher education institution and voluntary participation in the study.

Study participants and sampling

In this study, a total of 939 responses were received. After data cleaning, 897 responses were found to be usable. Students were mostly from six public universities in Kosovo. The mean age of students was 21.6 years (SD = 4.41). They were classified into 7 groups according to the field of study to which their undergraduate and master program belonged: Faculty of Education (n = 334), Faculty of Law (n = 151), Faculty of Arts (n = 53), Technical Faculties (n = 128), Faculty of Economy (n = 70), Faculty of Philology (n = 80) and Medical Faculty (n = 81).

Study instruments and measures

The online questionnaire was created using Google Forms. The first section comprised of nine questions about sociodemographic information including age, gender, place of residence, study level, year of study and type of academic institution, along with three questions about any recent history of infection with COVID-19 of their family members, friends and themselves.

Anxiety

The Students were asked to respond to the 7-item Generalized Anxiety Disorder Scale. This easy-to-use self-administered questionnaire is used as a screening tool and severity measure for generalized anxiety disorder [37, 38]. The GAD-7 is a well-validated screening instrument, and it has demonstrated a very good internal consistency (Cronbach’s α = 0.845). The GAD-7 takes less than 3 min to complete and is easy to score [39]. The instrument includes seven items based on seven core symptoms and inquires the frequency with which respondents suffered from these symptoms within the last two weeks. Respon-
students report their symptoms using a 4-item Likert rating scale ranging from 0 (not at all) to 3 (almost every day), and thus total scores ranged from 0 to 21 [40]. The GAD-7 scores of 5, 10, and 15 are taken as the cut-off points for mild, moderate and severe anxiety, respectively. Nowadays, the GAD-7, due to its diagnostic reliability and efficiency is the most widely used measure of anxiety in clinical practice and research, and can be applied for screening, diagnosis, and the assessment of the severity of anxiety disorders [41].

**Ethical aspects**

The study was performed in accordance with the Declaration of Helsinki and was approved by the Ethical Committee of the University of Mitrovica. All participants were informed about the study. Study participation was anonymous and voluntary, and students could withdraw from the study without any consequences. Only the researchers had access to the research data.

**Data analysis**

Data were analyzed using SPSS Version 25.0. Cronbach’s α coefficient was used as an index of internal consistency for the GAD - 7. An analysis of descriptive statistics was conducted to illustrate the demographic and other selected indicators of psychological health, with specific focus on percentages of participants scoring high in the measures that have cut-off points in anxiety. A univariate analysis (nonparametric test) was used to explore the significant associations between sample characteristics and the anxiety level during the COVID-19 epidemic. Pearson’s chi-square test was used to discover if there is a relationship between the categorical variables. T-test and analysis of variance (ANOVA) were used to explore differences between groups, while linear and multiple regressions were used to examine the possible contribution of demographic variables in students’ anxiety which showed the $P < .05$ at bivariate analysis. A two-tailed $P < .05$ was considered statistically significant.

**RESULTS**

**Socio-demographic characteristics**

The final sample of 897 students was used after 42 participants did not complete the questionnaire in its entirety. The chi square results showed significant distribution differences in most of the demographic variables in the study.

**Anxiety level of students with recent history of infection with COVID-19 for their family, friends and themselves**

The anxiety levels of 472 students who had a family member infected with COVID-19, are 21.8 %, 39.2%, 24.2% and 14.8 % for normal, mild, moderate and severe anxiety, respectively. The results from the students who did not have a family member infected (32.3 %, 37.7 %, 18.8 %, 11.2%) and who did not know about it, are lower (25.0%, 34.4%, 34.4%, 6.3%) respectively. For the 559 students who had a friend infected with COVID-19, the anxiety level was 24.3 %, 36.9%, 23.1% and 15.7 % for normal, mild, moderate and severe anxiety, respectively. The results from the students who did not have a friend infected (29.9 %, 42.3 %, 19.9 %, 7.9 %) and who did not know about it, are lower (31.9 %, 31.9 %, 25.5 %, 10.6 %), respectively. Regarding the anxiety level of 175 students infected with COVID-19, the results showed a higher level of anxiety in all scales (20% normal, 35.4% mild, 25.7% moderate, 18.9 % severe) from the full sample. The results from the students who did not have COVID-19 infection (31.5 %, 39.7 %, 19.7 %, 9.1 %) were lower, while the students who did not know about it, showed higher level of anxiety, especially for moderate and severe scale (22.8 % normal, 38.1 % mild, 23.8 % moderate, 15.3 % severe). The anxiety level of students according to the field of study is presented in Table 3. Students from Medical Faculty, Law and Arts showed higher level of severe anxiety than the students of Technical faculties and Faculty of Education. The result of the univariate analyzes showed that anxiety symp-
Table 1. Descriptive statistics of the study participants ($n = 897$).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency (N)</th>
<th>Percentage %</th>
<th>Distribution differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>719</td>
<td>80.2</td>
<td>$\chi^2 (2, N = 897) = 916.796, P = 0.000^*$</td>
</tr>
<tr>
<td>Male</td>
<td>158</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>Not respond</td>
<td>20</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Place of residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>469</td>
<td>52.3</td>
<td>$\chi^2 (1, N = 897) = 1.874, P = 0.171$</td>
</tr>
<tr>
<td>Village</td>
<td>428</td>
<td>47.7</td>
<td></td>
</tr>
<tr>
<td>Study level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>852</td>
<td>95.0</td>
<td></td>
</tr>
<tr>
<td>Master</td>
<td>45</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Bachelor Study year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>341</td>
<td>39.0</td>
<td>$\chi^2 (3, N = 897) = 174.160, P = 0.000^*$</td>
</tr>
<tr>
<td>Year 2</td>
<td>125</td>
<td>13.9</td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>271</td>
<td>30.3</td>
<td></td>
</tr>
<tr>
<td>Year 4</td>
<td>115</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>University type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>823</td>
<td>91.9</td>
<td>$\chi^2 (1, N = 897) = 625.419, P = 0.000^*$</td>
</tr>
<tr>
<td>Private</td>
<td>74</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Family member infected with COVID-19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>472</td>
<td>52.6</td>
<td>$\chi^2 (2, N = 897) = 368.074, P = 0.000^*$</td>
</tr>
<tr>
<td>No</td>
<td>393</td>
<td>43.8</td>
<td></td>
</tr>
<tr>
<td>I don't know</td>
<td>32</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Friends infected with COVID-19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>559</td>
<td>62.3</td>
<td>$\chi^2 (2, N = 897) = 4338.689, P = 0.000^*$</td>
</tr>
<tr>
<td>No</td>
<td>291</td>
<td>32.4</td>
<td></td>
</tr>
<tr>
<td>I don't know</td>
<td>47</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Participants infected with COVID-19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>175</td>
<td>19.5</td>
<td>$\chi^2 (2, N = 897) = 121.003, P = 0.000^*$</td>
</tr>
<tr>
<td>No</td>
<td>441</td>
<td>49.2</td>
<td></td>
</tr>
<tr>
<td>I don't know</td>
<td>277</td>
<td>30.9</td>
<td></td>
</tr>
</tbody>
</table>

Note: $P < 0.001^*$

Table 2. The number of students with different level of anxiety ($n = 897$).

<table>
<thead>
<tr>
<th>Anxiety</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Anxiety</td>
<td>238</td>
<td>26.5</td>
</tr>
<tr>
<td>Mild symptoms of Anxiety</td>
<td>344</td>
<td>38.4</td>
</tr>
<tr>
<td>Moderate symptoms of Anxiety</td>
<td>199</td>
<td>22.2</td>
</tr>
<tr>
<td>Severe symptoms of Anxiety</td>
<td>116</td>
<td>12.9</td>
</tr>
</tbody>
</table>

toms were significantly related to the faculty type ($P = 0.001$). Table 4 shows the relationship between the demographic variables of students and anxiety. Place of residence and university type had no significant effect on anxiety ($P > 0.05$). Moreover, female students (13.6%), students in master studies (20%), students who have been infected with COVID-19 (18.9%), students having a relative (14.8%) or having an acquaintance infected with COVID-19 (15.7%), were more likely to be severely anxious ($P < 0.05$).

T-test analyses revealed statistical gender differences $t (875) = 5.36, P = 0.000$, with female students showing higher mean ($M = 8.60$, $SD = 4.82$) than male students ($M = 6.34$, $SD = 4.70$). One-way ANOVA was introduced to assess the significance of differences in anxiety level in relation to year of study and faculty type. Year of study turned out to be insignificant ($P > 0.05$), whereas faculty type was significant $F (6, 890) = 2.942, P = 0.021$. A Tukey post hoc test revealed that the anxiety level of students of technical faculties was statistically significantly lower than of students of Faculty of Arts.
Table 3. Anxiety level according to study field.

<table>
<thead>
<tr>
<th>Faculty of Education (n = 334)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>82</td>
<td>24.6</td>
</tr>
<tr>
<td>Mild</td>
<td>147</td>
<td>44.0</td>
</tr>
<tr>
<td>Moderate</td>
<td>68</td>
<td>20.4</td>
</tr>
<tr>
<td>Severe</td>
<td>37</td>
<td>11.1</td>
</tr>
<tr>
<td>Normal</td>
<td>42</td>
<td>27.8</td>
</tr>
<tr>
<td>Faculty of Law (n = 151)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>56</td>
<td>37.1</td>
</tr>
<tr>
<td>Moderate</td>
<td>30</td>
<td>19.9</td>
</tr>
<tr>
<td>Severe</td>
<td>23</td>
<td>15.2</td>
</tr>
<tr>
<td>Normal</td>
<td>6</td>
<td>11.3</td>
</tr>
<tr>
<td>Faculty of Arts (n = 53)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>19</td>
<td>35.8</td>
</tr>
<tr>
<td>Moderate</td>
<td>20</td>
<td>37.7</td>
</tr>
<tr>
<td>Severe</td>
<td>8</td>
<td>15.1</td>
</tr>
<tr>
<td>Normal</td>
<td>48</td>
<td>37.5</td>
</tr>
<tr>
<td>Technical Faculties (n = 128)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>44</td>
<td>34.4</td>
</tr>
<tr>
<td>Moderate</td>
<td>22</td>
<td>17.2</td>
</tr>
<tr>
<td>Severe</td>
<td>14</td>
<td>10.9</td>
</tr>
<tr>
<td>Normal</td>
<td>18</td>
<td>25.7</td>
</tr>
<tr>
<td>Faculty of Economy (n = 70)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>33</td>
<td>47.1</td>
</tr>
<tr>
<td>Moderate</td>
<td>9</td>
<td>12.9</td>
</tr>
<tr>
<td>Severe</td>
<td>10</td>
<td>14.3</td>
</tr>
<tr>
<td>Normal</td>
<td>20</td>
<td>25.0</td>
</tr>
<tr>
<td>Faculty of Philology (n = 80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>26</td>
<td>32.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>23</td>
<td>28.8</td>
</tr>
<tr>
<td>Severe</td>
<td>11</td>
<td>13.8</td>
</tr>
<tr>
<td>Normal</td>
<td>22</td>
<td>27.2</td>
</tr>
<tr>
<td>Medical Faculty (n = 81)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>19</td>
<td>23.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>27</td>
<td>33.3</td>
</tr>
<tr>
<td>Severe</td>
<td>13</td>
<td>16.0</td>
</tr>
</tbody>
</table>

(P = .014). There was no statistically significant difference between the other faculties.

We entered the groups of sociodemographic variables in a linear regression analysis. In the first model we included gender and age, and only gender significantly predicted anxiety scores (β = –.148; P = 0.000) and contributed to approximately 2% of the variance. In the second model we included also the recent history of infection with COVID-19 for student’s family members, friends and themselves. Variables related to COVID-19, participants infected with COVID-19 (β = .133; P = 0.000), participants having friends infected with COVID-19 (β = -.075; P = 0.05), and including being female (β = −.154; P = 0.000), were entered and approximately 6 % of the variance.

DISCUSSION

The main goal of this study was to evaluate the anxiety level of university students and explore factors influencing their anxiety. This survey indicated that 73.5 % of students were experiencing anxiety. Of these students, 12.9% experienced severe anxiety, 22.2% experienced moderate anxiety and 38.4 % of the full sample, experienced mild anxiety.

Our findings are comparable with a number of studies who reported the range of severe anxiety symptoms from 14.35 to 21.34 % [13, 42, 43]. Higher results of severe anxiety were shown by other studies [23, 31], in which the anxiety levels reported were 28.77% to 35%, associated with age, sex, and level of education. However, few studies found opposite results with lower levels of severe anxiety from
### Table 4. Results from univariate analysis.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Anxiety level (%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Mild Anxiety</td>
<td>Moderate Anxiety</td>
<td>Severe Anxiety</td>
<td>Chi Square</td>
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Note: *P < 0.001*, **P < 0.05**

### Table 5. Linear regression analyses predicting anxiety.

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<td></td>
<td>B</td>
<td>St. err</td>
<td>Beta</td>
<td>B</td>
<td>St. err</td>
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<td>Gender (1=female)</td>
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<td>-1.632</td>
<td>.360</td>
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<td>F for change in R²</td>
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Our results are lower compared to the results of Arenliu et al., [2021], which showed values of 3.7% and 10.8% respectively for severe and moderate anxiety among students [33]. There may be several reasons for these changes. The studies used different instruments, studies were developed in different periods of restrictions time, and our research involved students from 6 regions of Kosovo. These Kosovar students' anxiety levels may have been caused by the gradually increasing distances between them and people in general, resulting from the measures that the government required to be respected. For university students, especially, a lack of social activities and peer interaction, prolonged holidays, the effect of the virus on their studies, confounded academic planning, future employment etc., would all account for higher risks not only for anxiety, but also for fear, stress, and depression [3, 25, 44, 45]. Having a relative or an acquaintance infected with COVID-19, were associated with increased anxiety also, which is in consistency with our findings [23, 46].

Significant gender differences were also found in our study, and female students showed more anxiety than male students, and such a difference in results may be a consequence of cultural factors that shape gender-related attitudes and behaviors. This result is in line with other studies [21, 27, 29, 31, 33].

Another interesting result is that the anxiety level of student’s technical faculties was statistically significantly lower in comparison to students of Faculty of Arts, which is in line with another study that found that for students being engaged in arts, humanities, and languages was a risk factor for anxiety [46]. It is difficult for us to explain these differences. Sahu [15] offered the explanation of the difficulties associated with teaching some courses, such labs, fine arts, art, and music which cannot be taught online. In our case, both technical and art programs need labs and face a big deal of difficulties in teaching. However, more in-depth studies are needed.

During the last years there have been a number of studies on anxiety among students in Kosovo. A study carried out in 2015 found that Kosovar female students showed higher anxiety than male students and the students from Kosovo showed significantly higher anxiety as compared to students from Albania [47], while a study in 2019 found that among 676 university students, 24.1% showed moderate anxiety level, and 9.5% severe anxiety level, predicted by gender, study year, previous study academic achievement and family income and showing that female students, students living in extended family, first-year students and students whose mothers did not work had higher levels of anxiety [51]. In the first month of cases with COVID-19 in Kosovo, Arënliu and Bërxulli [32], reported that out of 158 students, 24.7% reported mild psychological distress, 13.3% reported moderate psychological distress and 11.4 reported severe psychological distress. Our results are higher than the previous studies in Kosovo, but lower than the average of anxiety in student population which showed that the highest levels of anxiety were found in South America (65.7%) and Oceania (64.4%), followed by North America (55.8%) and Europe (48.7%) [8]. Similar to our results, are results from the meta-analytic study of Batra et al., (2021), which found that the pooled prevalence of anxiety in twenty studies with a sample size of 84,097 university students, was 39.4% [27], and the results reported by Villani et al. [28] who showed that 35.33% of the students were classified as anxious.

The results of this study and other studies findings of factors related to student’s anxiety have to be considered. The results of different studies indicate that university students had higher anxiety than the general population after the outbreak of COVID-19 [21], and the analysis on sleep quality during the SARS-CoV-2 pandemic, indicated that there has been a rise in sleep disturbances, a critical condition associated with anxiety, depression, and suicidal behavior [21, 49]. Also, the mental health impact of online classes is a topic that deserves further evaluation, since it might lead to overburden [50]. Our findings are also in the same line, so should be conside-
red to help design such interventions, so that those groups of students who have showed higher levels of anxiety can have the chance to better cope with this difficult situation. It is suggested that government and universities should collaborate to resolve this problem in order to provide high-quality, timely crisis-oriented psychological services for students. Taking into consideration that this current health crisis will most likely have long lasting effects [51], follow-up studies are needed in order to have a clearer picture of the magnitude of the psychological impact of COVID-19 pandemic on the student population.

References


