# COMPARISON OF STRESS AND ANXIETY LEVELS OF THE KOSOVAR POPULATION WITH DEMOGRAPHIC VARIABLES DURING THE COVID-19 PANDEMIC

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## ABSTRACT

**Introduction:** The pandemic of COVID-19 has had a major impact on public mental health. As a result, in times of crisis, such as a pandemic, monitoring and oversight of the population's mental health is a top priority.

**Purpose:** The goal of this study is to compare the level of stress and anxiety in the Kosovar population to demographic variables (gender, urban-rural, age) during the COVID-19 pandemic.

**Methods:** The research was conducted through an online survey using the Anxiety and Stress Scale Questionnaire (DASS-21). The target population of the study is: people of at least 18 years of age and older and at the same time a citizen of Kosovo. In this research have participated 303 participants, 154 females and 149 males and
was conducted in November 2020-January 2021.

**Results:** Data analysis was performed through SPSS. Mean Whitney-U analysis for gender differences shows that there are significant differences in the level of anxiety ($U = 9216.5$, $p =.003$) and that men show a higher level of anxiety, while in stress there are no significant differences ($U = 10527.500$, $p =.214$), although on average there are differences. Regarding urban-rural differences in the level of stress, there are no significant differences, while in the level of anxiety, there are significant differences and urban places show a higher level of anxiety ($U = 7053.5$, $p =.000$). In Spearman correlation analysis, there is a negative but not significant correlation ($r = -. 052$; $p = .369$) for stress, and ($r = -. 022$; $p = .704$) for anxiety. While Kruskall Wallis analysis reveals no significant differences in stress and anxiety levels among different ages of the population, only on average

**Conclusion**: From the research results, we conclude that in Kosovar society during the pandemic situation, the male gender has shown a higher level of anxiety and that urban areas were affected more by the high level of anxiety than rural areas, and as a result people over the age of 50 show the highest average of anxiety, while in stress, people aged 18-30 show the highest average.

**Keywords**: COVID-19, stress, anxiety, age, gender, urban-rural, population.

## INTRODUCTION

COVID-19 has already "conquered" the world with a frightening speed, including Kosovo, where the number of infected is very high, as well as deaths, but more worrying is that these are figures that change every day. The World Health Organization (WHO) and public health authorities around the world are taking steps to slow the spread of COVID-19 and reduce the rate of infection. The Government of Kosovo is implementing a series of policies and measures, including border control, mandatory quarantines, movement restrictions, bans on large gatherings, and blockades of entire cities or states, thus leading to major changes in the lives of social and psychological individuals.

According to the WHO, social isolation, fear of infection, loss of family members, anxiety about the loss of material goods, loss of employment, and worries about the future show that the COVID-19 pandemic has never before produced such disturbing effects on the mental health of the population, and especially risk groups such as children, adolescents, the elderly, people with severe mental health disorders, people predisposed to mental health disorders, women, and, of course, health professionals. Given the importance of studying the Kosovar population during the Covid-19 pandemic, I have researched the comparison of stress and anxiety levels and demographic characteristics.

In psychology, the transactional model of stress and coping by Lazarus considers stress as the result of bringing about the relationship between the coping resources that a person has available and the demands of the situation in which he finds himself. Lazarus emphasizes the importance of individual differences in the experience of stress, realizing that the relationship of stress is constantly changing as a result of the constant interaction between the person and his surroundings (Lazarus, 1990).

### 1.1 Relevant studies

According to the findings of studies conducted during the period of COVID-19, it is noted that the prevalence of COVID-19 has been significantly affected by demographic characteristics, where the results showed that people under the age of 40, and especially those under 25, women, and those with low incomes reported higher levels of isolation stress. The nature of the place where people live and their working situation during the closure also contributed to people's stress, albeit with lower levels of impact (Rodríguez, Valle, Piñeiro, Rodríguez-Llorente, Guerrero, Martins, 2020).

According to a recent study conducted in Italy, the implications of quarantine on psychological concerns in the adult population are highlighted 20% of participants reported severe levels of stress and anxiety. Factors associated with a higher level of psychological distress were being a student, having a low income or low level of education within the family, suffering from flu-like symptoms or having poor health, living with elderly or disabled people (Fornili, Petri, Berrocal, Fiorentino, Ricceri, 2021).

In a study by Hidalgo et al., 2020, a total of 640 students (72% women) between 18 and 47 years old were surveyed (M = 21.69; S.D = 4.093). The mean levels that resulted from stress, anxiety, and depression were considered above non-pathological levels. Women showed higher levels of fear of COVID-19 than men. Depression can be positively related to fear of COVID-19 and

stress, and indirectly, as a result of these two factors, positively mediated by anxiety. A study conducted by Akalu, 2021 in Ethiopia found that the chances of developing depression were higher among female respondents compared to their counterparts. In this study, general depression, anxiety, and stress were significantly higher.

## METHODOLOGY

### 2.1. Participants and samples

The study's target population is all Kosovo residents, more specifically all citizens of the Republic of Kosovo. Participants were chosen based on the following criteria: (1) being at least 18 years old, and (2) being a Kosovo citizen. We used the quantitative method for this research. This study's design is of the correlational variety. As a result, the design used in this.

In this research paticipate 303 participants, of which 154 or 50.83% were female and 149 of them or 49.17% were male, starting from the age of 18 to the age of 60, 136 or (44.88%) are 18-30 years, 146 or (48.19%) are 30-50 years, and 21 or (6.93%) over 50 years, from urban- rural place 214 or (70.63%) were resident in city and 89 or (29.37%) of them were living in the rural, 60 or (19.80%) of them were in high school, 125 or (41.26%) in the faculty, 20 or (6.60%) in specialization, 84 or (27.72%) in master and 14 or (4.62%) in doctorate. Below are tables presented in order to describe the distribution of respondents

### 2.2. Instruments

Questionnaires were used as measuring instruments to measure the respective variables, including some demographic questions, for the self-administered nature of this research. Previously, the first section contained demographic data, in which participants provided information such as their age, gender, course of study, and place of residence (urban or rural), followed by questions about stress and anxiety. The DASS-21 questionnaire was used to assess stress and anxiety levels with the exclusion of depression so the short version ASS-21 (Lovibond and Lovibond, 1995). This is a 21-item self-report questionnaire that examines recent experiences of stress (e.g., "I had a hard time relaxing") and anxiety (e.g., "I felt close to panicking"). Each subscale (stress and anxiety) comprises seven questions, for a total of fourteen, which are assessed on a four-point Likert scale ranging from 0 (It wasn't like that at all) to 3 (It wasn't like that at all) (It was like that most of the time). The lowest scores indicate a normal or mild level, whilst the highest numbers indicate a severe or greater degree.

### 2.3. Organization and procedure of research

The ASS-21 Questionnaire was used to construct an online survey on Google. Following the translation stage, the questionnaire was translated into Albanian. The data was collected for about two month in 2020-2021, from the end of November 2020 to the end of January 2021. All of the writers used social media to spread the word about this poll. To boost the possibility of attracting responders from a variety of demographics, all of the authors disseminated the online poll using their personal social media profiles. The online survey method was ideal for gathering data and for the time frame in which our study was done.

Respondents were notified in our online survey that their participation in the study was entirely optional, and that they could opt out at any time. Throughout the process, confidentiality was maintained. By ensuring that no personally identifying information from respondents was collected, the risk of self-report bias was reduced. Furthermore, we designed our online survey so that only respondents who had previously finished it could access it; as a result, it was less probable that a responder would complete it more than once. The process of filling out the surveys takes about 10 minutes.

## 2.4 Data analysis

The Statistical Package for Social Sciences (SPSS) version 20 was used to analyze the data. The relevant analyses were carried out when the procedure of entering the data into SPSS was completed. The level of the Cronbach's Alpha coefficient, which evaluates the reliability of psychometric tests (Cronbach, 1951). was used to determine the reliability or consistency of the proposed questionnaires. The data was first analyzed using the data normality test, and then non-parametric analyses were applied to produce the conclusions because the data had an abnormal distribution. Reliability for 303 participants for the questionnaires resulted in the following values: for stress $\alpha$ = .925 with 7 questions, for anxiety $\alpha$ = .904 with 7 questions. All values of Cronbach's alpha coefficient were greater than 0.700. Therefore, all scales could be considered internally consistent

## RESULT

Data analyzes were performed through the SPSS Statistical Package. In the beginning, descriptive statistics were performed, which show the total number, minimum, maximum, average and standard deviation of the main variables (see table 1 and 1a.) The average age of the participants in this study is 33.89 with DS = 11,491.

Table 1.Descriptive statistics for all study variables

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Gender | 303 | - | - | - | - |
| Age | 303 | 18.00 | 60.00 | 33.89 | 11.4913 |
| Stress | 303 | .00 | 19.00 | 9.0521 | 5.40546 |
| Anxiety | 303 | .00 | 22.00 | 11.886 | 6.94146 |

Note. DS = standard deviation. N = number of participants. M = mean. Min=minimum. Max = maximum

Table 1a. Demographic structure of the sample

|  |  | N | Percent % |
|---|---|---|---|
| Gender |  |  |  |
|  | Female | 154 | 50.83% |
|  | Male | 149 | 49.17% |
| Where do you live |  |  |  |
|  | Urban | 214 | 70.63% |
|  | Rural | 89 | 29.37% |
| Level of education |  |  |  |
|  | High school | 60 | 19.80% |
|  | Faculty | 125 | 41.26% |
|  | Specialization | 20 | 6.60% |
|  | Master | 84 | 27.72% |
|  | Doctoral | 14 | 4.62% |
| Total |  | 303 | 100.0% |

Table 2. Mean Whitney U test for gender differences in stress and anxiety levels

|  | Stress | Anxiety |
|---|---|---|
| Mann-Whitney U | 10527.500 | 9216.5 |
| Wilcoxon W | 22462.5 | 21151.50 |
| Z | -1.242 | -2.965 |
| Asymp. Sig. (2-tailed) | .214 | .003 |

The Mann-Whitney test was conducted to evaluate the hypothesis that there are gender differences in the level of stress and anxiety in the population. The analysis shows that there are no gender differences in the level of stress as p> 0.05 versus the level of anxiety where there are gender differences. We conclude that there are significant differences in anxiety levels between gender groups, with men showing a higher level of anxiety than women (U = 9216.5, p =.003).The Mann-Whitney U test resulted in the highest range for males (M = 24904.50) compared to females (M = 21151.50), and the difference was (z = -2.965, p = 0.003). Whereas in the level of stress, although the differences are not significant on average, there are differences where men, although in smaller numbers than women, 149 men with 154 women show a higher level of stress than women M = 23593.50 and the average of women M=22462.50.

Table 3. Mean Whitney U test for differences in stress and anxiety levels by urban-rural

|  | Stress | Anxiety |
|---|---|---|
| Mann-Whitney U | 9068.500 | 7053.5 |
| Wilcoxon W | 32073.5 | 30058.50 |
| Z | -.656 | -3.562 |
| Asymp. Sig. (2-tailed) | .512 | .000 |

The Mann-Whitney test was performed to evaluate the hypothesis that there are differences in terms of urban-rural settlement in the level of stress and anxiety in the population. The analysis shows that there are no differences in the level of stress as $p > 0.05$ versus the level of anxiety where there are differences in terms of residence as $p = .000$. From this we conclude that there are significant differences between urban-rural groups in the level of anxiety where participants from the urban show a higher level of anxiety than participants from the rural (U = 7053.5, p = .000). The Mann-Whitney U test resulted in the highest ranking per urban (M = 30058.50) compared to the rural (M = 15997.50), and the difference was (z = -3.562, p = 0.000). Whereas in the level of stress, although the differences are not significant, on average there are differences where the participants from the urban show a higher level of stress than the participants from the rural. The average for the rural is M = 13982.50 and the average for the urban is M = 32073.50.

Table 4. Correlation analysis between stress, anxiety and age

| Spearman's rho | | 1 | 2 | 3 |
|---|---|---|---|---|
| 1.Age | Correlation Coefficient | 1.000 | -.052 | -.022 |
| | Sig. (2-tailed) | . | .369 | .704 |
| | N | 303 | 303 | 303 |
| 2.Stress | Correlation Coefficient | | 1.000 | - |
| | Sig. (2-tailed) | | . | |
| | N | | 303 | |
| 3. Anxiety | Correlation Coefficient | | | 1.000 |
| | Sig. (2-tailed) | | | . |
| | N | | | 303 |

From the correlation analysis of Speraman, it is seen that age and stress have a negative but not significant correlation (r =-.052; p =.369), which means they have a low negative correlation, so with the increase of one variable the other variable decreases. Age and anxiety also have non-significant negative correlations (r =-.022; p =.704). The correlation value r =-.022 indicates a low negative correlation.

Table 4.1. Kruskal-Wallis analyze for age difference on stress and anxiety level

| | Stress | Anxiety |
|---|---|---|
| Chi-Square | .810 | .571 |
| df | 2 | 2 |
| Asymp. Sig. (2-tailed) | .667 | .752 |

Test results show that there are no significant age differences in stress level $\chi2(2)=.810$, p =.667, and there are no significant age differences in anxiety level $\chi2(2)=.571$, p=.752. While in terms of the average level of stress from 303 participants, 136 are aged 18-30 with an average of M =

155.63, 146 are between the ages of 30-50 and have an average of M = 146.34, and 21 people over the age of 50 have an average of M = 152.95. So, although there are no significant differences in the averages, people aged 18-30 show the highest average, and secondly, the highest average is people aged 30-50. Whereas in anxiety, the highest average is shown by people over 50 years old (M = 159.38), secondly, people aged 18-30 (M = 153.58), and finally, people aged 30-50 (M = 147.34). As a result of anxiety, people over the age of 50 show the highest average, while in stress, people aged 18-30 show the highest average.

## DISCUSSION

The main objective of this research was to measure the levels of anxiety, stress and their possible differences according to gender, age and place of residence among the population of Kosovo. From our results, we conclude that there are differences in the level of anxiety and that men show a higher level of anxiety than women. In the level of stress, although the differences are not significant, there are differences in the average where men still show a higher level of anxiety and higher stress than women. This result of ours is not in line with other research such as (Akalu, 2021) and (Rodríguez, Valle, Piñeiro, Rodríguez-Llorente, Guerrero, Martins, 2020) where women have actually shown higher levels of stress and anxiety as and greater fear of COVID-19. The reason why men in our population have shown higher levels of anxiety is probably due to culture as we are a collectivist culture and men are the ones who run our homes and feel more competent and responsible for the safety of their family than women, and factors (safety, food, work, health) may have influenced this outcome.

Regarding the urban-rural areas, we conclude that there are significant differences between urban and rural groups in the level of anxiety, where participants from the city show a higher level of anxiety than participants from the village. While at the stress level, although the differences are not significant, on average there are differences where participants from the city show a higher level of stress than participants from the village. We justify this result by not having a balanced distribution of participants between urban and rural areas, but it is still true that during the pandemic, people in rural areas were less concerned because the environment where they stayed was not frequented by many people, the air was cleaner, and they had larger living spaces, in contrast to citizens in urban areas.

As for the relationship between age and stress and anxiety, there is no correlation, where for stress we have (r = -. 052; p = .369), and for anxiety (r = -. 022; p = .704). However, according to the Kruskall Wallis test, on average, people aged 18-30 show a higher level of stress, while in anxiety, people over the age of 50 show the highest average. From this, it can be said that people over the age of 50 have been more predisposed to anxiety because they have been more influenced by information that older people are more affected by COVID-19, have lower immunity, and that the number of deaths is higher the older the person, although in the US, age has not been shown to have a significant correlation with stress and anxiety. However, we can not deny that these results can be influenced by many other factors, such as financial situation, employment, profession, etc.

The conditions in which people in Kosovo have to deal with the pandemic are extremely unfavorable in many ways. The rapid spread of the disease, the large number of people affected,

the increasing number of deaths, distrust of the health system, ignorance and misinformation may have contributed significantly to the fact that they experience fear of COVID-19. This fear is like a factor influencing anxiety and stress. Designing and implementing tailored strategies for the prevention and control of COVID-19 can be extremely important in reducing mental health problems in the community.

## CONCLUSION

Based on our results, our findings show that we conclude that there are significant differences in anxiety levels between the gender groups, with men showing higher levels of anxiety, and urban-rural areas showing higher levels of anxiety, than rural areas, and in terms of age, there are no correlation and significant differences in stress and anxiety, although on average there are differences. Regarding the recommendations, we recommend the following, that next time the distribution be done physically. The second recommendation is to continue progress in future studies on this topic, it would be better to consider, among other things, census measurements for other variables related to the economy, employment status, and so on.

## Limits

This study yielded new findings in the current Kosovar context, but that does not mean it was without flaws. Regarding the limitations of this research we can mention the way of filling in the questionnaires online, this can probably affect the answer wrong, as we were not present (physically) while completing the questionnaire. While mail and internet surveys are less expensive, they have lower response rates, which is a drawback. However, given the circumstances, this was the most effective method of data collection.

Another limitation is the method of distribution of the questionnaires, which was through social media. Due to the nature of the study, which is an internet-based internet survey, potential respondents who did not have internet access during the data collection phase and whose perspectives would have been relevant to the study could have been left out. We can also mention that the distribution of respondents according to demographic data was not equal, except for gender which was almost the same number of women and men in the place of residence and in the age division we did not have an equal number of participants.

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