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Stress and Anxiety Levels among Second Year Students in Three Faculties of the University of Peradeniya

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ABSTRACT

Background: University students often experience high levels of stress and anxiety due to academic, familial, economic, and relationship challenges. Effective interventions require a clear understanding of the prevalence and triggers of these issues. **Aims:** This study aims to assess stress and anxiety levels and identify associated factors among second-year students in the Faculties of Arts, Medicine, and Management at the University of Peradeniya. **Methods:** A descriptive cross-sectional study was conducted in 2023, excluding repeaters. A total of 613 students (167 Medical, 130 Management, 316 Arts) were selected through simple random sampling. Data were collected via an online questionnaire, including general information, stress and anxiety triggers, and the Depression Anxiety Stress Scale 21 (DASS-21). Statistical analysis was performed using SPSS version 26.0, employing descriptive statistics and Pearson's Chi-square test. **Results:** Medical students reported the highest levels of stress (44.44%) and anxiety (67.32%), while Arts students had the lowest stress levels (35.44%) and Management students the lowest anxiety levels (49.58%). Females in the Arts faculty reported higher stress, whereas males in other faculties reported more stress and anxiety. Key stressors included assignments, limited resources, and dissatisfaction with lectures and exams. Anxiety was notably linked to poor grades, study environment issues, and perceived obesity among Arts students. **Conclusions:** Stress and anxiety levels varied across faculties, with medical students being the most affected. Academic-related factors were the primary stressors, though non-academic issues like rejections and chronic illnesses also played a significant role.

Keywords: Stress, anxiety, students, medical, universities

INTRODUCTION

Stress and anxiety are common mental health issues that affect almost everyone during some stage of their lives. These are responses of the human body to deal with adversity and help us to overcome such situations. However, these emotions can get out of hand and result in

mental health issues which can affect our day-to-day life in an adverse manner.

Stress is not only the body's response to psychological strain but also the physical and emotional aspects of it. Although everyone experiences stress to a certain degree, the way it affects you depends on your ability to withstand it. A little bit of stress is good for improving



performance, but too much stress can be harmful to an individual. (1) On the other hand, anxiety can be defined as a feeling of worry or fear that is almost always interconnected with stress. (2)

Everyone has feelings of stress and anxiety at some point in their life. For example, you may feel worried and anxious about sitting an exam or having a medical test or facing a job interview. During times like these, feeling anxious can be perfectly normal. However, some people find it hard to control their worries. Their feelings of stress and anxiety are more constant and can often affect their daily lives. (1)

University students in particular are at a stage in their life where they may be subject to situations that induce stress and anxiety due to their transition from home to university life and their struggles to stand as an independent individual in society. Heavy academic work load, financial constraints, relationship problems with peers and teachers, romantic relationship breakups and many other factors contribute to increase the stress and anxiety levels of university students all over the world. (3)

METHODOLOGY

This study was conducted as a descriptive cross-sectional study with an analytical component. Our aim was to assess the prevalence of stress and anxiety levels among second-year students in different faculties of the University of Peradeniya. The research was conducted in three faculties of the University of Peradeniya during the period from 7th August to 21st August 2023.

Sample sizes were calculated for each faculty considering their student populations. To account for non-respondents, 10% was added to the calculated sample sizes, prior to sampling.

The resulting figures (316 for Arts, 167 for Medicine, and 130 for Management) therefore represent the targeted sample sizes. Simple random sampling was used in each faculty with the help of computer-based random number generation, and students were selected accordingly. Second-year students in the Medical, Arts, and Management faculties of the University of Peradeniya in 2023 were included in the study,

while students who had been transferred to these batches from previous years due to repeating were excluded.

Our predictor variables included assignments, lecture and practical session schedules, duration of study leave, workload, extracurricular activities, study medium, study environment, relationships, rejection, individual health, and social factors, while stress and anxiety were our outcome variables.

Data was collected using a Google Form-based online method. Participants could select their preferred language, among English, Sinhala, and Tamil, at the beginning. Consent was obtained through a consent form, and only those who gave consent were able to proceed with the rest of the questionnaire. The questionnaire consisted of three parts: the first part for general information, the second part to assess the factors associated with stress and anxiety, and the third part to assess stress and anxiety using the DASS 21. (4) The questionnaire was provided in all three main languages which were English (4), Sinhala (5) and Tamil (6) languages that were validated to the Sri Lankan population. The Statistical Package for the Social Sciences (SPSS) was used for data analysis. Responses were analyzed by the research group, and individual stress and anxiety levels were calculated according to the DASS 21 scoring system. A pretest was conducted. We obtained informed consent from all the participants. The consent form was attached to the front of the questionnaire, clearly stating the individuals' right to refuse participation in this research and outlining the research objectives and how their private data would be handled. Therefore, decision to participate was entirely autonomous. Ethical clearance was granted by the Ethics Review Committee of the Faculty of Medicine, University of Peradeniya which is Research project No 2023/EC/SP/05 entitled "Stress and Anxiety levels among 2nd year students in different faculties of University of Peradeniya".

RESULTS

Sample Size, Response Rate, and Exclusions

The study assessed stress and anxiety levels among second-year students from the faculties of

Arts, Medicine, and Management at the University of Peradeniya. A total of 613 students were selected through simple random sampling, with specific efforts made to minimize non-response bias. After excluding students who had been transferred due to academic delays, the final sample sizes were 306 for the Arts faculty, 166 for the medical faculty, and 128 for the Management faculty.

Gender Distribution

As shown in figure 1, among the respondents, 67.21% were female, 32.25% were male, and 0.54% preferred not to disclose their gender. This distribution was consistent across the faculties.

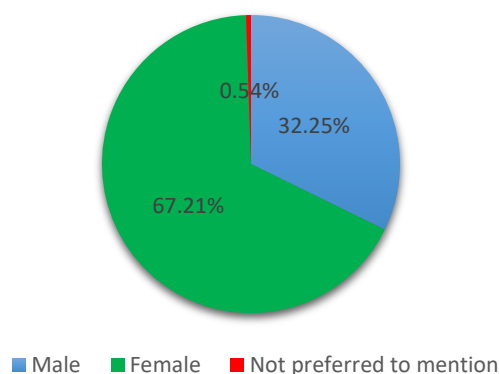


Figure 1: Gender Distribution of responders

Stress Levels among Second-Year Students

Stress levels were categorized according to the DAAS-21 scale, ranging from normal to extremely severe. The overall findings were as follows (Figure 2):

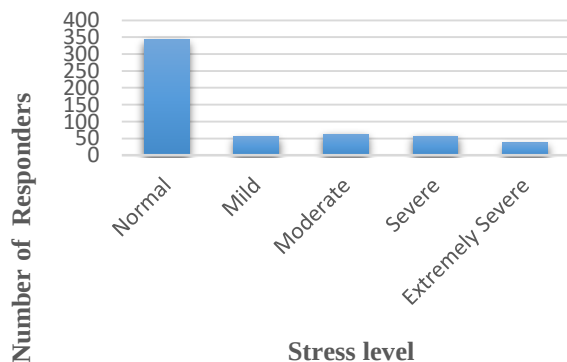


Figure 2: Stress level among responders

- Normal Stress: 61.62% of students

- Mild Stress: 10.09%

- Moderate Stress: 11.35%

- Severe Stress: 10.27%

- Extremely Severe Stress: 6.67%

Faculty-Wise Breakdown:

- Arts: 64.56% had normal stress; 6.67% had extremely severe stress.

- Medicine: 55.56% had normal stress; 5.89% had extremely severe stress.

- Management: 62.39% had normal stress; 7.69% had extremely severe stress.

Anxiety levels were also measured using the DAAS-21 scale.

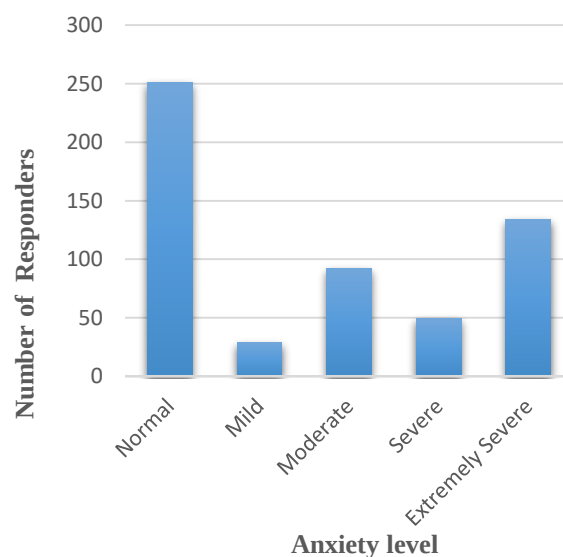


Figure 3: Anxiety level among responders

- Normal Anxiety: 45.23% of students

- Mild Anxiety: 5.22%

- Moderate Anxiety: 16.57%

- Severe Anxiety: 8.82%

- Extremely Severe Anxiety: 24.14%

Faculty-Wise Breakdown:

- Arts: 49.82% had normal anxiety; 22.75% had extremely severe anxiety.
- Medicine: 32.68% had normal anxiety; 28.76% had extremely severe anxiety.
- Management: 50.42% had normal anxiety; 23.93% had extremely severe anxiety.

The study examined factors both related and not related to academics, assessing their association with stress and anxiety levels using Pearson's Chi-square test.

Factors Related to Academics**Statistically Significant Findings ($p < 0.05$):**

- Assignments: Students across all faculties who faced frequent assignments or believed they had insufficient time or resources to complete those reported higher stress and anxiety levels.
- Study Leave: Lack of adequate study leave before exams was significantly associated with increased stress and anxiety, particularly in the Medical and Arts faculties.
- Lecture and Practical Sessions: Excessive time spent in lectures and practicals was linked to higher stress and anxiety levels, particularly in the Arts and Medical faculties.
- Extracurricular Activities: A lack of time for extracurricular activities was associated with elevated stress and anxiety, with notable significance in all faculties.
- Study Environment: Students who perceived their study environments as insufficiently conducive reported higher levels of stress and anxiety.

Factors Not Related to Academics**Statistically Significant Findings ($p < 0.05$):**

- Gender: Male students generally exhibited higher anxiety levels than female students across all

faculties, with notable differences in the Medical and Management faculties.

- Romantic Breakups and Rejection: Recent romantic breakups and rejections were significantly associated with increased stress and anxiety, with higher impacts observed in the Arts and Management faculties.
- Chronic Illness: Students taking medication for chronic illnesses, or those with close relations doing so, reported significantly higher levels of stress and anxiety.
- Body Image: Students who considered themselves overweight or obese showed higher anxiety levels, particularly in the Arts faculty.

Ethical Considerations and Participant Support

Given the proportion of students identified with extremely severe anxiety, ethical considerations were taken into account during the study. As data collection was conducted through an anonymous, self-administered online questionnaire, individual participants could not be identified for direct follow-up. However, participants were provided with information regarding available mental health support services within the University of Peradeniya, including university counselling services and relevant healthcare facilities. They were encouraged to seek professional help if experiencing significant psychological distress or symptoms suggestive of severe anxiety.

DISCUSSION**Stress Levels**

The overall stress level among respondents was 38.38%, which is notably lower than similar studies conducted in the past. For instance, a 2016 study among nursing students at the University of Peradeniya (7) reported that 82.6% of students experienced stress-related symptoms, while a study on radiography students showed a 73.83% stress rate. (8) However, our findings are comparable to a study conducted at the Kothalawala Defense University (9), where 27.7% of Allied Health undergraduates reported stress. This variation suggests that stress levels can

fluctuate over time and differ significantly between faculties.

When comparing the faculties, Medicine had the highest percentage of students reporting stress (44.44%), while Arts had the lowest (35.44%), and Management was in between (37.61%). Given the demanding nature of the Medicine curriculum, it is unsurprising that nearly half of the students reported stress symptoms. In contrast, the Arts faculty's less intensive curriculum may contribute to the lower stress levels observed. Nevertheless, it is concerning that stress levels remain high across all faculties, aligning with global trends where about one-third of university students suffer from diagnosable psychiatric conditions. (10).

The majority of students across all faculties maintained normal stress levels, which is a positive indication of effective stress management. However, around 10% of students reported mild stress, which, although lower in severity, still requires attention to prevent escalation. More concerning is the 7.5% to 15.5% of students who reported severe stress, as well as the smaller percentage who experienced extremely severe stress. These findings underscore the importance of providing targeted interventions to prevent further deterioration of mental health among these students.

Anxiety Levels

Anxiety was reported by 54.27% of students, a figure slightly lower than the 59.8% reported in a previous study among nursing students (7) but significantly lower than the 92.52% found among radiography students. (8) However, the figures of the study done in Defense University using Allied health Undergraduates shows 40.5% students had anxiety which is lower than the figures of our study (Gamage et al., 2021).

As with stress, Medicine students reported the highest levels of anxiety (67.32%), while Management students reported the lowest (49.58%), and Arts students fell in between (50.18%). These figures exceed global estimates, where approximately one-third of university

students have a diagnosable psychiatric disorder (10).

While a substantial portion of students in all three faculties managed anxiety within normal levels, moderate anxiety was reported by, suggesting 12% to 23% of students that a significant number of students face considerable challenges. Severe anxiety was reported by 8.1 to 10% of students, indicating a substantial impact on their daily functioning and well-being. Additionally, 22% to 29% of students reported extremely severe anxiety, a particularly alarming finding given the potential for serious mental and physical health consequences.

Factors Associated with Stress and Anxiety:

Factors related to academics associated with Stress and Anxiety

The study revealed that academic-related factors influencing stress and anxiety varied across faculties and between the two conditions. In the Arts faculty, issues such as time management, lecture and practical sessions, exam results, extracurricular activities, grades, study environment, and study medium were linked to stress. Anxiety in this faculty was additionally associated with study leave and exam preparation. For the Management faculty, stress was primarily linked to time management, resources, lecture and practical sessions, exam results, extracurricular activities, and study environment. Anxiety in this faculty was influenced by grades, along with the previously mentioned factors. In the Medical faculty, anxiety was associated with time management, exam results, and grades, while stress was connected to study leave and difficulty levels.

These findings align with previous research, such as (12), which identified heavy workload and academic pressures as major stressors for undergraduates. The study also found that a significant number of students across faculties struggled with time management and resources, with medical faculty students facing these issues less frequently compared to their counterparts in Arts and Management.

Regarding study leave and exam preparation, dissatisfaction was high across all faculties, particularly in Management, indicating a need for more effective time management and preparation strategies. The study reflects the findings of (13), which emphasized examination-related stress over study leave duration.

The study also noted that a substantial proportion of students found lecture and practical session times excessive, impacting their ability to balance academic and personal life. This issue was most pronounced in Management students, who also faced limitations in engaging in extracurricular activities. A significant concern was the pressure to maintain high grades (12), particularly among medical students, aligning with (14), which highlighted academic performance as a primary stressor.

Issues related to the study environment and medium were also reported, with Management students experiencing greater challenges due to the transition to English medium. This aligns with (15), which identified language barriers as a significant stressor.

Factors not related to academics associated with stress and anxiety

Non-academic factors, such as romantic rejection and chronic illnesses, also contributed to stress and anxiety. Gender differences in stress and anxiety levels were observed, with males in Medicine and Management showing higher stress levels, consistent with findings.(12) In contrast, females in the Arts faculty exhibited slightly higher stress levels, potentially due to the high female-to-male ratio.

In the Medical faculty, non-academic factors had less impact on stress but were linked to anxiety. This may be due to the high academic demands overshadowing non-academic concerns. In contrast, in the Arts and Management faculties, factors like chronic illness and recent rejection were more prominent, affecting both stress and anxiety. Arts students also reported anxiety related to perceived obesity, reflecting societal pressures related to their future professions.

Overall, these findings underscore the complex interplay between academic and non-academic factors in influencing student well-being and highlight the need for targeted interventions to address these diverse stressors.

Limitations

As a limitation, in our study, we have only included second year students in Arts, Medical and Management faculties of University of Peradeniya. Therefore, the results can't completely represent either the whole university students in Sri Lanka or all students in University of Peradeniya. However, the study results can be used to do further studies on similar population to get representative results.

Further, some aspects of this survey are depended on memory of the participants. Therefore, there could have been a recall bias affecting the accuracy of the information we have gathered.

CONCLUSION

In conclusion, the study underscores the need for faculty-specific interventions to address the stress and anxiety experienced by students. The high levels of stress and anxiety observed, particularly in the medical faculty, indicate that these students may benefit from enhanced support systems, including mental health resources and stress management programs. Proactive measures are essential to safeguard the mental health and well-being of students, ensuring they can thrive academically and personally.

Author declaration

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Authors' contributions:

NPH, THH, SDH, NPGH, All, HAA: Conception, design, acquisition of data, analysis, interpretation, and drafting the final report

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The authors declare that there is no financial or non-financial conflict of interest.

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Statement on data availability:

Data will be available on request from the corresponding author.

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