

THE MENTAL WELL-BEING AMONG UNDERGRADUATE STUDENTS: A CROSS-SECTIONAL STUDY

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Abstract. The mental well-being of undergraduate students has become a growing concern globally due to the significant challenges they face during their transition to university life. This study investigates the levels of depression, anxiety, and stress among undergraduate students at Universiti Selangor (UNISEL), focusing on different academic years. Using the established Depression, Anxiety, and Stress Scale (DASS-21) instrument, data were collected from 1,312 students through convenience sampling. The results revealed that 12.4% of students experienced an extremely severe level of depression, 26.5% reported an extremely severe level of anxiety, and 4.7% were found to be in an extremely severe level of stress. Notably, second-year students exhibited higher levels of stress and depression compared to first-year students, suggesting that academic pressures may intensify as students' progress. However, the results also showed that third-year students had lower levels of anxiety than first-year students, which could indicate better coping mechanisms or adaptation over time. These findings highlight the importance of continuous monitoring of students' mental health and developing targeted strategies to address these challenges throughout students' academic journeys. By creating a supportive environment and implementing mental health initiatives, the higher education institution can contribute to improving the overall well-being of undergraduate students, ensuring they are better equipped to juggle the responsibilities of university life successfully.

Keywords: *mental health, psychology, anxiety, stress, higher education*

Introduction

Undergraduate's student mental well-being is one of the widely recognised critical concerns worldwide due to its nature of life changing experience and devastating impact it has towards long term mental health issues. This concern is due to the transition between a more secular student's life to university life that presents numerous challenges which leads to stress, anxiety and depression. It is a transition where students undergo a different experience in life, a phase where they experience ambiguity and a transition where social support is much needed, can be pinpointed to a lot of contributing factors. There are a few unique factors which can be seen in Malaysian undergraduate student's where their family expectations and pressure from the society is a more active factor when compared with other regions or countries. The focus of this research is to explore the prevalence of mental health issues, what are the contributing factors, what coping strategies are usually being used by the students and the role of universities in supporting their mental health.

Literature review

Mental well-being among undergraduate students

Mental well-being has become a growing concern among undergraduate students in Malaysia. Research indicates a significant prevalence of mental health issues such as

depression, anxiety, and stress among university students, with variations based on region-specific factors. For instance, a study by George et al. (2022) reported that 60.4% of dental students in Malaysia experienced depression, 75.2% faced anxiety, and 50.4% dealt with stress. Similarly, a study by Fauzi et al. (2021) revealed that at Universiti Teknologi MARA (UiTM), 65% of health sciences students experienced high stress levels, with 85.1% suffering from anxiety and 51.4% from depression, indicating that mental health issues are prevalent among Malaysian undergraduates. Globally, students experience similar mental health challenges, but with different stress triggers. For instance, Santiago et al. (2024) found that 84.2% of medical students in Brazil reported high stress levels, particularly around exams. However, in Malaysia, a unique factor contributing to stress is the combined pressure from academics and family expectations, which isn't as prominent in Western contexts where financial stress is often more significant (Alotaibi et al., 2024; George et al., 2022).

Contributing factors to mental health issues among students

Academic demands are a primary source of mental health challenges for students worldwide. In Malaysia, this pressure is particularly intense among medical and health sciences students. George et al. (2022) noted that academic pressure resulted in anxiety for 75.2% of dental students, while Fauzi et al. (2021) found that 49% of UiTM students experienced severe stress due to academic workloads. In Western countries, however, the competitive nature of higher education and financial concerns are more frequently linked to anxiety and depression (Cowand et al., 2024). Financial difficulties also play a major role in student mental health issues, especially in Malaysia. According to Jauhari et al. (2022), financial stress was a key contributor to anxiety and depression among Malaysian medical students. Similar trends were observed by Alotaibi et al. (2024) in Kuwait, where students facing financial difficulties exhibited higher levels of anxiety and depression. Although financial stress affects students everywhere, its impact is often more severe in low-and middle-income countries where financial support systems are less developed. Support from family and friends can significantly help students manage stress and anxiety. Jauhari et al. (2022) reported that Malaysian students with strong family support had better mental health outcomes. Other global studies support this finding, highlighting that students with robust social support networks are better equipped to handle stress. For instance, Cowand et al. (2024) found that American students with high levels of self-compassion and social support reported lower stress and better mental health overall.

Mental health interventions and coping mechanisms

Universities play a vital role in providing mental health resources. However, in Malaysia, comprehensive mental health support systems are often lacking. George et al. (2022) recommended expanding counseling services and mental health workshops in Malaysian universities, noting that students who accessed these resources reported lower levels of stress, anxiety, and depression. Fauzi et al. (2021) similarly suggested implementing stress management programs and regular mental health screenings. Globally, universities' mental health support varies. In South Africa, for example, Vagiri et al. (2024) reported the successful introduction of mental health programs focused on resilience and well-being for medical students. In Jordan, universities launched mental health interventions during the COVID-19 pandemic to address the

challenges posed by remote learning (Tarawneh et al., 2024). Students adopt various coping strategies to deal with mental health challenges, and these strategies vary regionally. In Malaysia, Jauhari et al. (2022) found that many students turned to religious practices like prayer. Additionally, Fauzi et al. (2021) emphasized the importance of social support from family and friends in helping students manage stress. Globally, strategies like mindfulness and exercise are commonly employed. Cowand et al. (2024) found that self-compassion and mindfulness practices contributed to lower stress and better well-being among students.

Gaps in the research

Several research gaps exist regarding student mental health, particularly in Malaysia and Southeast Asia. First, there's a lack of longitudinal studies exploring the long-term impact of academic and financial stress on mental health. Most studies, like those by George et al. (2022) and Jauhari et al. (2022), are cross-sectional, which limits insights into how these stressors develop over time. Additionally, more research is needed to examine the effects of virtual learning on student mental health, especially in the context of the COVID-19 pandemic (Tarawneh et al., 2024).

Materials and Methods

The study involved a total of 1,312 Universiti Selangor (UNISEL) students from three different academic years: first, second, and third. Each group represents the distribution over the three-year period. Participants were recruited through convenience sampling from various faculties within the university to ensure diversity in academic disciplines. The Depression, Anxiety, and Stress Scale (DASS-21) developed by Lovibond and Lovibond (1995) was used to measure depression, anxiety, and stress levels among the participants. The instrument is a well-validated and widely used self-report questionnaire designed to measure the severity of a range of symptoms common to depression, anxiety, and stress. The DASS-21 consists of 21 items, with seven items per subscale (depression, anxiety, and stress). Participants rated the extent to which they experienced each symptom over the past week on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). Data collection was conducted in a controlled setting, where participants completed the DASS-21 with the demographic information during scheduled sessions. The confidentiality and anonymity of the participants were ensured throughout the study. The data analysis involved both descriptive and inferential statistical techniques to examine the levels of depression, anxiety, and stress among the participants and to compare these levels across the three academic years. Means, standard deviations, and frequency distributions were calculated for each subscale of the DASS-21 to provide an overview of the depression, anxiety, and stress levels among the participants. Meanwhile, a two-way ANOVA (Analysis of Variance) was conducted to compare the mean scores of depression, anxiety, and stress across the first, second, and third-year students. This analysis helped determine if there were statistically significant differences in the levels of these psychological states among the different academic years. All statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS) version 27. The significance level was set at $p < 0.05$ for all tests.

Results and Discussion

Demographic details

The study included a total of 1,312 respondents. As stated in Table 1, 460 were first-year students (35.1%), 574 were second-year students (43.8%), and 278 were third-year students (21.2%). The sample also consisted of 356 males (27.1%) and 956 females (72.9%) (Table 1).

Table 1. Demographic details of the respondents.

| Variables | Frequency (N=1312) | Percentage (%) |
|----------------------|--------------------|----------------|
| Gender | | |
| Male | 356 | 27.1 |
| Female | 956 | 72.9 |
| Year of study | | |
| First-year students | 460 | 35.1 |
| Second-year students | 574 | 43.8 |
| Third-year students | 278 | 21.2 |

Depression levels

The analysis showed that 47.9% of students exhibited normal levels of depression, while 12.8% had mild depression, 19.4% were moderately depressed, 7.4% experienced severe depression, and 12.4% reported extremely severe depression. Overall, 19.8% of students fell into the severe or extremely severe depression categories as in Table 2. Normal levels of depression, which are occasionally referred to as "normal sadness," exhibit distinctive characteristics that distinguish them from severe depression. Despite having some similarities to clinical depression, empirical data show that normal depression is distinct from it, in terms of symptom patterns and affective responses. While this remains on, typical symptoms of moderate depression is the presence of symptoms that are more persistent and severe than those of normal depression, but that are less severe than those of clinical depression. Individuals who are experiencing moderate depression should make it a priority to seek intervention and resources to prevent the condition from becoming more severe. Smirnova et al. (2018) have discovered that individuals experiencing moderate depression exhibit unique language patterns, including a high frequency of single-clause phrases and extensive written responses, which distinguish them from those experiencing normal depression.

Table 2. The levels of depression among undergraduate students.

| Levels of depression | Frequency (N=1312) | Percentage (%) |
|----------------------|--------------------|----------------|
| Normal | 629 | 47.9 |
| Mild | 168 | 12.8 |
| Moderate | 255 | 19.4 |
| Severe | 97 | 7.4 |
| Extremely severe | 163 | 12.4 |

Although most respondents reported normal or mild depression, it is impossible to avoid the 19.8% of undergraduate students suffering from extremely severe depression, which is concerning the institution. This is consistent with earlier research by George et al. (2022) and Fauzi et al. (2021) reported that 60.4% of dental students and 51.4% of health sciences students in Malaysia experience significant levels of depression.

Emmert et al. (2024) pointed out that academic stress and inadequate sleep quality were the main contributors to this increase. The growing prevalence of depression among university students globally is certainly alarming. This reveals a concerning pattern in the mental health of university students, highlighting how important it is for interventions and support services to address these challenges. Meanwhile, a cross tabulation analysis revealed the distribution of depression levels across first-year, second-year, and third-year students (*Table 3*). Among first-year students, 55.2% (n=254) exhibited normal depression levels, compared to 43.5% (n=250) of second-year students and 45.0% (n=125) of third-year students. Severe and extremely severe depression was reported by 17.8% (n=82) of first-year students, 20.9% (n=120) of second-year students, and 20.9% (n=58) of third-year students.

Table 3. *The levels of depression based on years of study.*

| Levels | Year of study | | | Total |
|------------------|---------------|----------|----------|-------|
| | 1st year | 2nd year | 3rd year | |
| Normal | 254 | 250 | 125 | 629 |
| Mild | 43 | 85 | 40 | 168 |
| Moderate | 81 | 119 | 55 | 255 |
| Severe | 35 | 45 | 17 | 97 |
| Extremely severe | 47 | 75 | 41 | 163 |
| Total | 460 | 574 | 278 | 1312 |

First-year students usually display lower levels of depression in comparison to their second- and third-year peers. This may be attributed to the initial adaptation phase, during which the freshness and enthusiasm of attending university prevent students from experiencing some of the pressures they will encounter in the future. Furthermore, the first-year curriculum is typically structured to be less academically demanding, providing a transitional phase prior to the more severe requirements of subsequent years. The general absence of significant academic stress may account for the increased percentage of first-year students exhibiting typical levels of depression. As students go towards the upcoming academic year, they encounter greater academic pressure and competition. Magfur et al. (2023) state that academic pressure significantly contributes to depression, especially in later years when workloads intensify and expectations escalate. Students in their second and third years face increased challenges in their field of study, including large projects and assignments, as well as research requirements, which contribute to increased stress and depression.

Anxiety levels

In terms of anxiety, 34.3% of students displayed normal anxiety levels. Mild anxiety was reported by 7.5% of the students, 20.4% had moderate anxiety, 11.4% were severely anxious, and 26.5% experienced extremely severe anxiety. In total, 37.8% of students were categorized as having severe or extremely severe anxiety (*Table 4*). Anxiety levels among undergraduate students are a serious issue, with a high percentage of students experiencing normal anxiety, characterised by a tolerable state that enables persons to operate normally in daily life. In terms of psychology, worry to some extent is normal and even adaptive; it keeps people focused and awake, especially in demanding or dangerous circumstances. Nonetheless, the most concerning discovery is that 37.9% of students endure severe to extremely severe anxiety, which can

significantly hinder their academic performance and overall well-being. The significant rate of severe anxiety is sometimes associated with academic pressure, particularly in competitive and high-expectation settings such as those in Malaysia. Research shows this issue, indicating that anxiety is widespread among undergraduates worldwide. Ahmed et al. (2023) reported a weighted mean prevalence of 39.65% for non-specific anxiety among undergraduate students, which closely corresponds with the results of our study. Additional research indicates that specific demographic and academic variables affect anxiety levels. Female students are more prone to report greater anxiety levels, particularly in demanding fields such as medicine (Maciel et al., 2024; Tan et al., 2023).

Table 4. *The levels of anxiety among undergraduate students.*

| Levels of depression | Frequency (N=1312) | Percentage (%) |
|----------------------|--------------------|----------------|
| Normal | 450 | 34.3 |
| Mild | 98 | 7.5 |
| Moderate | 267 | 20.4 |
| Severe | 149 | 11.4 |
| Extremely severe | 348 | 26.5 |

In addition, 39.6% (n=182) of first-year students exhibited normal anxiety levels, while 31.4% (n=180) of second-year students and 31.7% (n=88) of third-year students showed the same. Severe and extremely severe anxiety was reported by 34.6% (n=159) of first-year students, 38.4% (n=220) of second-year students, and 42.4% (n=118) of third-year students. This is summarised in *Table 5*. The significant difference in severe anxiety levels between first-year and third-year students can be attributed to several important factors concerning psychological discomfort and coping strategies. Students typically have more effective coping strategies and support systems in place by their third year, which lessens the effects of academic requirements. Mansoor et al. (2023) observe that although anxiety is prevalent among third-year medical students, the level of it is typically reduced due to their increased adjustment to course expectations and academic practices. In the beginning stages of their education, third-year students generally acquire effective stress management techniques, including time management and problem-solving skills, which mitigate the severity of their anxiety. These established skills allow them to address learning challenges with greater confidence, resulting in a reduced incidence of severe anxiety relative to first-year students. Another reason for third year students to demonstrate a better readiness to manage stress and anxiety cues is because of their familiarity with academic pressures such as assignments deadlines and tests (Asio et al., 2024). The experience with the university environment and expectations reduces the overall impact of academic stresses that lead to a significant decrease in extreme anxiety levels. Third-year students usually have a more developed social support network that includes friendships, peer mentoring, and connections with teachers that help them both mentally and emotionally. First-year students who are still getting used to their new social surroundings often feel anxious and alone. These support systems are very helpful in lowering the amount of anxiety. These support systems get improved over time, which helps third-year students feel more grounded and lowers their levels of extreme anxiety.

Table 5. *The levels of anxiety based on years of study.*

| Levels | Year of study | Total |
|--------|---------------|-------|
|--------|---------------|-------|

| | 1st year | 2nd year | 3rd year | |
|------------------|----------|----------|----------|------|
| Normal | 182 | 180 | 88 | 450 |
| Mild | 36 | 43 | 19 | 98 |
| Moderate | 83 | 131 | 53 | 267 |
| Severe | 49 | 66 | 34 | 149 |
| Extremely severe | 110 | 154 | 84 | 348 |
| Total | 460 | 574 | 278 | 1312 |

Stress level

Table 6 displayed the stress levels among undergraduate students. It is reported that 55.0% of students were found to have normal stress levels. Mild stress was observed in 13.7%, while 14.7% had moderate stress levels. Severe stress was present in 11.9% of students, and 4.7% exhibited extremely severe stress. Altogether, 16.6% of students were classified as having severe or extremely severe stress levels. The findings reveal that more than half of the undergraduate students experience normal levels of stress, a state where stress does not impair daily functioning or cause significant emotional distress. Individuals in this group may feel occasional irritability, nervousness, or tension, but these emotions do not dominate their lives or significantly affect their well-being. However, 16.6% of students report severe or extremely severe stress, a level of stress that can seriously impair academic performance, social functioning, and overall well-being. Prolonged exposure to such high stress levels can lead to serious physical health issues, such as a weakened immune system and cardiovascular problems, as well as mental health disorders like anxiety and depression. Aziz et al. (2024) reported that 55.7% of students experienced moderate psychological well-being in correlation with academic stress, while Kashif et al. (2024) emphasised that academic stress is a significant predictor of mental health problems. This aligns with broader trends, as Emmerton et al. (2024) noted a global decline in student mental health, with increasing reports of severe stress. The effects of severe stress can result in behavioral changes, poor decision-making, social withdrawal, academic disengagement, absenteeism, and a higher risk of student dropout. This dichotomy in stress levels highlights the varying impacts of academic pressure on students' mental health. Academic performance pressure, test anxiety, and workload are significant contributors to elevated stress levels. To combat these challenges, coping mechanisms such as mindfulness, time management, and institutional support are essential in helping students manage their stress (Islam and Rabbi, 2024). While many students cope effectively with stress, the substantial minority facing severe challenges requires targeted interventions, as emphasized by Odanga (2024).

Table 6. The levels of stress among undergraduate students.

| Levels of depression | Frequency (N=1312) | Percentage (%) |
|----------------------|--------------------|----------------|
| Normal | 721 | 55 |
| Mild | 180 | 13.7 |
| Moderate | 193 | 14.7 |
| Severe | 156 | 11.9 |
| Extremely severe | 62 | 4.7 |

The analysis of stress levels showed that 61.7% (n=284) of first-year students had normal stress levels, compared to 51.2% (n=294) of second-year students and 51.4% (n=143) of third-year students. Severe and extremely severe stress was reported by

14.3% (n=66) of first-year students, 17.4% (n = 100) of second-year students, and 18.7% (n=52) of third-year students (*Table 7*).

Table 7. *The levels of stress based on years of study.*

| Levels | Year of study | | | Total |
|------------------|---------------|----------|----------|-------|
| | 1st year | 2nd year | 3rd year | |
| Normal | 284 | 294 | 143 | 629 |
| Mild | 53 | 84 | 43 | 168 |
| Moderate | 57 | 96 | 40 | 255 |
| Severe | 48 | 69 | 39 | 97 |
| Extremely severe | 18 | 31 | 13 | 163 |
| Total | 460 | 574 | 278 | 1312 |

The difference in depression, anxiety and stress levels between first, second and third years students

A two-way ANOVA was conducted to compare the levels of depression, anxiety, and stress across first-, second-, and third-year students (*Table 8* and *Table 9*). There was a significant difference in depression levels among the groups, $F(2, 1309)=4.09$, $p=.017$, anxiety levels, $F(2, 1309)=4.06$, $p=.017$, and stress levels, $F(2, 1309)=4.66$, $p=.010$. First-year students reported significantly lower extremely severe levels for depression compared to second-year students ($p=.021$), but no significant differences were found between first- and third-year or second- and third-year students. However, it is a different case for anxiety levels across years of study. Third-year students had significantly lower extremely severe levels for anxiety compared to first-year students ($p = .031$), but no significant differences were observed between first-and second-year or second-and third-year students. Finally, first-year students experienced significantly lower extremely severe levels for stress compared to second-year students ($p=.012$), while differences between first-and third-year and second-and third-year students were not significant.

Table 8. *The differences between the levels of depression, anxiety and stress between years of study.*

| Category | Sum of squares | df | Mean square | F | Sig. |
|-------------------|----------------|------|-------------|-------|------|
| Depression levels | | | | | |
| Between group | 16.573 | 2 | 8.287 | | |
| Within group | 2649.652 | 1309 | 2.024 | | |
| Total | 2666.225 | 1311 | | 4.094 | .017 |
| Anxiety levels | | | | | |
| Between group | 21.106 | 2 | 10.553 | | |
| Within group | 3400.052 | 1309 | 2.597 | | |
| Total | 3421.158 | 1311 | | 4.063 | .017 |
| Stress level | | | | | |
| Between group | 14.805 | 2 | 7.403 | | |
| Within group | 2080.509 | 1309 | 1.589 | | |
| Total | 2095.314 | 1311 | | 4.658 | .010 |

Table 9. *The differences between the levels of depression, anxiety and stress between the first-year, second-year, and third-year students.*

| Dependent variable | Years of study | Years of study | Std. Error | Sig. |
|--------------------|----------------|----------------|------------|------|
|--------------------|----------------|----------------|------------|------|

| | | | | |
|-------------------|--------|--------|-------|-------|
| Depression levels | Year 1 | Year 2 | .089 | .089 |
| | | Year 3 | 0.021 | 0.021 |
| | Year 2 | Year 1 | .108 | .108 |
| | | Year 3 | 0.084 | 0.084 |
| | Year 3 | Year 1 | .089 | .089 |
| | | Year 2 | 0.021 | 0.021 |
| Anxiety levels | Year 1 | Year 2 | .104 | .104 |
| | | Year 3 | 0.997 | 0.997 |
| | Year 2 | Year 1 | .108 | .108 |
| | | Year 3 | 0.084 | 0.084 |
| | Year 3 | Year 1 | .104 | .104 |
| | | Year 2 | 0.997 | 0.997 |
| Stress levels | Year 1 | Year 2 | .101 | .101 |
| | | Year 3 | 0.053 | 0.053 |
| | Year 2 | Year 1 | .122 | .122 |
| | | Year 3 | 0.031 | 0.031 |
| | Year 3 | Year 1 | .101 | .101 |
| | | Year 2 | .092 | .092 |

The overall results of this study show that a student's mental health may change over the course of their academic year. Particularly in their senior year when academic expectations rise dramatically, students' mental health is greatly influenced by their academic year. Final-year students frequently encounter elevated stress levels because of anticipated internships, projects, and career planning, which may exacerbate feelings of anxiety and depression. Studies demonstrate that heightened learning anxiety might interfere with daily functions and adversely impact mental well-being (Berutu and Mutiawati, 2023). According to a systematic review, factors like trauma, a lack of social support system, and academic pressures are associated with poor mental health outcomes (Campbell et al., 2022). Final-year medical students experience major psychological distress related to exam preparation, underscoring the need for targeted mental health interventions (Karabacak et al., 2023). The various factors contributing to stress for students in their final years indicate an urgent desire for more comprehensive mental health support in universities (Emmerton et al., 2024).

Conclusion

The researchers noted that the study had several limitations, such as using self-reported data (which introduces bias from having students rate how they feel), among others. Furthermore, this low variability in demographics and other external stressors, such as family problems and part-time work limit the generalisability of the results. In the light of these limitations, the sampling should be more varied in terms of demographic, as well as objective measures besides self-reports to enable a broader view on mental well-being in further research. Finally, targeted mental health support coupled with “biopsychosocial” analysis considering other influences on students' wellbeing will provide an enhanced understanding of this issue. All in all, the study provides valuable insights into the mental well-being of undergraduate students, highlighting the number of students who experience varying levels of stress, anxiety and depressive symptoms, highlighting the importance of mental health interventions within academic institutions. In addition, educational institutions should aim to create a

supportive environment that addresses holistic aspects of students' needs including academic, social and emotional which contribute to their overall well-being. Thus, this study has the potential to enlighten faculty, staff, parents, and the broader community about the mental health challenges that students encounter. This greater awareness can foster a more compassionate and supportive environment on campus, where students feel understood and valued (Son et al., 2020).

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Conflict of interest

The authors declare no conflict of interest regarding the research conducted.

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