Depression, Anxiety, and Stress Levels on DASS-21 Scale of First Semester Students at Community College

S. H. Rosli[1]*, M. H. Abdul Manah[1] and A. Abdul Kadir[1]

[1]Kolej Komuniti Ledang,
84900 Tangkak, Johor, Malaysia

*Corresponding Author's Email: hazwani@lecturer.kklej.edu.my

Abstract

The transition from high school to college is a challenging phase for students, often accompanied by academic, social, and personal stressors that can impact their mental health. First-semester students, in particular, face heightened levels of depression, anxiety, and stress, which can negatively affect their academic performance and well-being. This study aimed to assess the levels of depression, anxiety, and stress among first-semester students at Kolej Komuniti Ledang using the DASS-21 (Depression, Anxiety, Stress Scale). A sample of 97 students was selected through stratified random sampling, and data were collected via self-reported questionnaires. The analysis revealed moderate to strong positive correlations between depression, anxiety, and stress, with a significant portion of students experiencing mild to severe symptoms, particularly anxiety. The results indicate that as depression levels rise, anxiety and stress levels also tend to increase. The study concluded that these mental health issues are interrelated and must be addressed simultaneously to improve student well-being and academic success. The findings emphasize the need for comprehensive mental health interventions, including early detection, counselling, and stress management programs tailored to the specific needs of students.

Keywords: Anxiety; Depression; DASS-21; First-semester students; Stress.

1.0 Introduction

The period of transition from high school to college is a critical period in the life of the students when they undergo drastic changes in their academic, social, and personal lives. New students experience difficulties in their first semester, more academic burden, having to adapt to new social setting, all this while trying to live up to the pressures to succeed in studies. This all may have a negative impact on their mental health, lead to the feeling of sadness, anxiety, and increased stress levels (Auerbach et al., 2018). Malaysia is also a country that is afflicted by mental health issues, and these can greatly affect the academic performance of a student, the social interactions that they engage in, and their overall well-being (Ibrahim et al., 2013).

The most popular emotional struggles of college students are depression, anxiety, and stress. Some of the depression symptoms are hopelessness, lack of motivation or indifference to schoolwork or social events, whereas anxiety is typically associated with fear of failure and academic pressure. Stress is often associated with academic deadlines, being in an unclear social

24

environment, and having a lot of duties (Dyrbye et al., 2017). According to a number of studies (Saleh et al., 2017), first- semester student is always prone to these challenges because of the new and intense experiences that they undergo in their first year in the university.

In order to know how students' emotions evolve in time one should resort to the tools that monitor the feelings of worry, stress and emotional fluctuations. One of the most popular tools is the Depression Anxiety and Stress Scale, or DASS-21, that utilizes self-reporting to look into various aspects of mental health. This scale looks at ways that people are different from one another in feeling sadness, nervousness, and pressure giving a detailed insight of their emotional state. The DASS-21 has a number of three sections that specifically assess depression, anxiety, and stress (Lovibond & Lovibond, 1995). A survey conducted recently in a university displayed some of the ways through which the DASS-21 could be useful in the determination of mental issues among the students. According to Quek et al. (2019), when it was applied on the students, the scale has been discovered to be helpful in the sense that it has indicated that most students, especially the first-year students felt very anxious and stressed. Due to this, DASS-21 still remains as one of the reliable tools in tracking the changes in emotions and having a clear understanding of mental health of the students.

The DASS-21 effectiveness in the academic settings has been investigated by other studies. Leal et al. (2020) noted that the tool correctly detected emotional problems in 1st year students, anxiety being rather common among them. Abdulghani et al. (2019) also noticed that many medical students experience tremendous stress in their first years of studying at university, which is explained mostly by academic pressure and a change of the environment. In the case of first-semester students at community colleges, they are mostly faced with a combination of problems, such as academic workload, changing their social life, as well as personal necessities (Saleh et al., 2017). These sources of stress can cause too much depression, anxiety, and stress, and if they are not controlled, they could have a very negative impact on their mental wellbeing as well as their academic progress. Although there is increased awareness on the mental aspect among students, there are still little studies that are done on students at community colleges in their first semester – who may encounter different challenges from the larger universities. The scale that is frequently used for measuring the level of emotional health is the Depression, Anxiety, and Stress Scale (DASS), which registered its reliability. It is essential to understand how frequent and how severe those emotional problems are in order to construct effective support systems and increase the success and retention of students.

In Malaysia, the Ministry of Education has recognised the need for a healthy mind of a student and rolled out various measures – from having better access to counselling, mental health awareness through the campuses. However, more work is still required to ensure all students, especially the ones who are new to college, can reach the aid and support that would assist them in dealing with their mental health issues (Zakaria et al., 2020). Through this

research, the writer hopes to fill a gap that exists of the levels of depression, anxiety, and stress among first semester students of Kolej Komuniti Ledang. The findings are expected to provide the much-needed understanding when it comes to addressing the emotional difficulties that these students are likely to face and to form such strategies as may support them in adjusting to college life.

This research aims to explore the interrelationships between depression, anxiety, and stress among first-semester students at Kolej Komuniti Ledang by pursuing three specific objectives. First, to determine the correlation between depression and anxiety levels, second to establish the correlation between depression and stress levels and third, to identify the relationship between students' anxiety and stress levels. The relation between depression, anxiety and stress identified in this study is important since it is a guideline towards enhancing the general well-being of the first semester students at Kolej Komuniti Ledang. The results can be used by educators and counsellors when creating a targeted service like stress management programs, access to counselling. With the early handling of these emotional threats, students could stand a good chance to manage their mental health in the best way possible, thus having their college life more convenient, favourable, and pleasant. The findings from this research can be helpful in the establishment of more caring, and resilient environment for the first-semester students.

Depression is one of the popular mental disorders that affect millions of university students across the globe. Depression is a psychological disease that can be disastrous to the daily life of a person. It is frequently said to be a feeling of prolonged sadness, hopelessness and having no interest and pleasure in normal activities (American Psychiatric Association, 2013). Among the university students, depression has been associated with a number of contributory factors, including academic pressure, lack of finances, and lack of adequate social support. It has also been observed that the impact of depression among the students is also gender-based whereby female students are more likely to report symptoms of depression than male students (Bayram & Bilgel 2008).

Beiter et al. (2015) indicated that more than a half of the college students surveyed by them experienced moderate-to-severe depression. This was confirmed by Cheung et al. (2020) who identified depression to be prevalent among transfer student community college graduate especially since they are likely to experience academic difficulties and alien environment. Teh et al (2015) reported high rates of depression among first year students, whereby most of them are reported to be caused by heavy academic loads and lack of coping strategies. Lan et al (2020) during the COVID-19 pandemic identified that e-learning made things worse especially during the time the students were isolated, and they had limited social interaction hence increasing the depression rates. Therefore, the hypotheses are there is no significant relationship between the level of depression and anxiety among first-semester students at the Kolej Komuniti Ledang.

Anxiety is another major issue of mental health among the students and in most cases, accompanies depression. It's usually characterised by continuous fear and fearfulness and nervousness that may result into avoidance behaviours and handling of daily tasks (American Psychiatric Association, 2013). In a recent study by Sherina et al. (2020, it was established that medical students have been experiencing higher levels of anxiety than their other counterparts in other fields, and this may be due to the fact that they have been given a lot of work to do in terms of their coursework and clinical work. Mahmoud et al (2014) also observed that students who have a very good social life or those who were living with somebody close to them reported to have lower levels of anxiety.

Frazier et al. (2015) emphasized that the community college students have stressed a lot because of the challenge of balancing the academic and personal responsibilities. They also made a remark in the fact that web-based stress management programmes can be effective in alleviating this anxiety amongst the students. In a similar manner, Amir Hamzah et al (2019) established that first-year students in the Malaysian universities were reported to be highly anxious and most of these anxieties were attached to academic and financial pressure. At the same time, Asif et al (2020) state that the highest level of anxiety was detected among final-year medical students, where the state of anxiety was caused by doubts relating to their future professionalism. Therefore, the hypotheses are there is no significant relationship between the level of depression and stress among first-semester students at the Kolej Komuniti Ledang.

Students live in stress, but if stress becomes permanent and intolerable, it may give rise to more severe issues of mental health, like anxiety and depression. Stress that is long-term does not only affect the mind, but also the body. It can also manifest itself physically and bring along such states as headaches, stomach problems, etc., and even problems with sleeping (Cohen et al., 2016). In research among Malaysian undergraduates Saw et al. (2017) found out that worries on future careers and employability increased students' stress. Jensen and Nutt (2015) also mentioned that exhaustive stress can ruin the person's adaption strength, showing that healthy adaption methods aim at psychological balance. This was mainly because of the demand to balance between academics, socials and personal requirements. In more recent times, Fauzi et al. (2021) and others have demonstrated that during the initial stages of study, more so among students in health-related programmes, instances of students reporting highest rates of stress are common and this is most likely blamed on the high workload and pressure in such fields. Therefore, the hypotheses are there is no significant relationship between the level of anxiety and stress among first-semester students at the Kolej Komuniti Ledang.
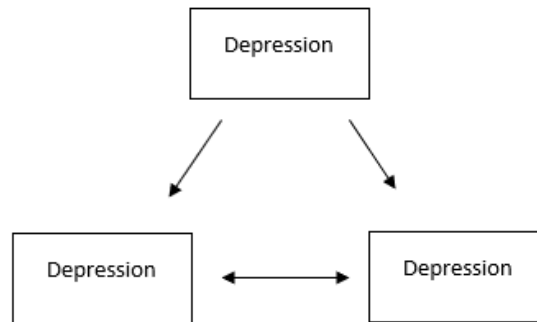
Figure 1: Research framework

This conceptual framework describes the relationships that are expected between the depression, anxiety and stress of the first semester students. In this model depression is taken as a crucial factor that can affect the states of any levels of anxiety as well as stress. As such at the same time, anxiety and stress are said to be closely related, and each one is purported to increase the other. To assess these emotional states, DASS-21 scale is used in this study that assesses the severity of depression, anxiety, and stress by self-reported answers.

2.0 Methodology

This study uses the method of quantitative research to assess the levels of depression, anxiety, and stress among first-semester students at Kolej Komuniti Ledang. The DASS-21 will be the primary data collecting tool, giving numerical data for statistical analysis. The participants in this study are first-semester students at Kolej Komuniti Ledang. The sample size will be 120 students. The respondents' data is collected via stratified random sampling. However, with students responding is 97 students, the response rate is 80.8%. According to Krejcie and Morgan's (1970) sample table, 92 respondents were required to represent the population in this study. The questionnaire was divided into two sections: Section A for demographic information (gender, race, marital status, age, and educational background) and Section B for the DASS-21 (Depression, Anxiety, and Stress Scale). The DASS-21 is a 21-item questionnaire with seven components focusing on depression, anxiety, and stress scales.

A pilot study was conducted with a small group of 10 first-semester students to assess the reliability of the DASS-21 questionnaire for this specific population. The DASS-21 questionnaire was written in Malay to ensure the students comprehended the questions. A pilot test was done with a small group of about 5 students to confirm that the questionnaire was clear and that the survey administration procedure functions well. The study employs stratified random sampling to choose 121 first-semester students from the Kolej Komuniti Ledang enrollment. Participants will be alerted about the study and invited to participate via memos. DASS-21 and demographic forms were delivered via Google Forms, giving researchers more control over the data-gathering procedure.

The data was analyzed using Statistical Package for the Social Sciences (SPSS) Version 29, starting with descriptive statistics to summarise the levels of depression, anxiety, and stress among the 97 first-semester students. The mean, standard deviation, and range for each variable were determined, and Cronbach's Alpha was used to assess the reliability of the DASS-21 scale, which revealed adequate internal consistency. The calculated Cronbach's Alpha in the dataset is approximately 0.86.

3.0 Results and Discussion

The demographic profile of first-semester students at Kolej Komuniti Ledang in Table 1 provides crucial insights for interpreting their depression, anxiety, and stress levels as measured by the DASS-21 scale. The sample consists of 57.7% male and 42.3% female students. The racial composition shows that the vast majority of students are Malay (93.8%), with only a small percentage of Indian students (6.2%). The majority of the students are single (94.8%), while a small number are either married (3.1%) or single parents (2.1%). Marital status is crucial since married students or single parents may encounter extra stressors outside of academic commitments, such as family obligations, financial difficulties, and time management issues. Most students fall within the 18 -23 age group (92.8%), with a small portion of the sample aged between 24-28 years (7.2%). The younger age group, transitioning from secondary to college, may feel stress due to academic expectations, social difficulties, and negotiating new independence. In contrast, older students may experience various challenges, such as balancing work or family obligations with their academics. The education level of the students shows that most have completed SPM/STPM (71.1%), while a smaller group holds Sijil/Matrikulasi/Diploma qualifications (26.8%). A very small percentage of students have only completed UPSR/PMR/SRP (2.1%). This diversity of educational experiences may impact how students deal with academic obstacles at community college. Those who have higher qualifications may be more prepared to handle academic stress due to prior experience, whereas those with lower qualifications may suffer more with the additional demands of postsecondary education.

Table 1: Distribution according to Demographic

Variable	Category	Frequency	Percentage %
Gender	Male	56	57.7
	Female	41	42.3
	Total	**97**	**100**
Race	Malay	91	93.8
	Indian	6	6.2
	Total	**97**	**100**
Marital Status	Married	3	3.1
	Single parent	2	2.1
	Single	92	94.8
	Total	**97**	**100**

Age	18 -23 years	90	92.8
	24-28 years	7	7.2
	Total	**97**	**100**
Education level	UPSR/PMR/SRP	2	2.1
	SPM/STPM	69	71.1
	Certificate/Matrikulasi/Diploma	26	26.8
	Total	**97**	**100**

Table 2 shows the distribution of DASS-21 score for first-semester students. Based on the DASS-21 scale results, the majority of students exhibited normal levels of depression (59.8%) and stress (64.9%), while fewer had normal anxiety levels (43.3%). Mild levels of depression (18.6%) and stress (17.5%) were reported, along with moderate anxiety in 15.5% of students. More concerning, 13.4% of students experienced severe or extremely severe anxiety, a notably higher percentage compared to the 5.2% with extremely severe depression and 3.1% with extremely severe stress. The mean score for depression (M = 1.79, SD = 1.19) suggests overall mild depressive symptoms, while anxiety (M = 2.41, SD = 1.49) shows higher variability, indicating more pronounced anxiety levels among certain students. Stress levels (M = 1.66, SD = 1.09) were generally mild, but specific students did experience higher stress. The results show that while most students have normal to mild symptoms, a significant portion of the population struggles with higher levels of anxiety, warranting attention to mental health interventions.

Table 2: Distribution of DASS-21 Score for First-Semester Students, *n*=97

Scale	Score Level					DASS-21Score M ± SD
	Normal	Mild	Moderate	Severe	Extremely Severe	
Depression	58(59.8)	18(18.6)	8(9.3)	7(7.2)	5(5.2)	1.79 ±1.19
Anxiety	42(43.3)	13(13.4)	15(15.5)	14(14.4)	13(13.4)	2.41 ±1.491
Stress	63(64.9)	17(17.5)	7(7.2)	7(7.2)	3(3.1)	1.66 ±1.089

Table 3 displays the results of the analysis. The Pearson correlation coefficient (*r*) between depression and anxiety levels is 0.63, indicating a moderate to strong positive correlation. The relationship is statistically significant with a *p*-value of 0.000 ($p < 0.01$). This suggests that a strong positive relationship between depression levels increase, and anxiety levels tend to rise as well among first-semester students at Kolej Komuniti Ledang. Hence, H_o1 is rejected. The reason for problems that first-semester students face, such as adapting to new academic surroundings, peer pressure, and dealing with personal responsibilities. The strong connection between depression and anxiety indicates that counsellors should target both illnesses concurrently, as they appear to coexist at high rates. Anxiety, in particular, increases during significant life changes, such as entering university, when students confront increasing academic obligations and frequently lack established social support networks (Krumrei-Mancuso et al., 2013).

Table 3: The Relationship between Levels of Depression and Anxiety

Variable	Pearson Correlation (r)	Significant (2-tailed), (p)
Level of Depression – Anxiety	.63**	.000

**Correlation is significant at the o. o1 level (2-tailed)

Table 4 displays the results of the analysis. The Pearson correlation coefficient (r) between depression and stress levels is 0.73, indicating a strong positive correlation. The relationship is statistically significant with a p-value of 0.000 ($p < 0.01$). This suggests that a strong positive relationship between depression levels increase, and stress levels tend to rise as well among first-semester students at Kolej Komuniti Ledang. Hence, H_o2 is rejected. First-semester students frequently confront new academic, social, and personal problems, such as adjusting to a more demanding curriculum, managing time, and navigating social dynamics. These stresses can have a major impact on both elevated stress and depression symptoms. According to O'Shea et al. (2019), as students negotiated their first year of college, the stress of adjusting to a new academic environment was strongly connected with increased levels of depression and anxiety.

Table 4: The Relationship between Levels of Depression and Stress

Variable	Pearson Correlation (r)	Significant (2-tailed), (p)
Level of Depression – Stress	.73**	.000

**Correlation is significant at the o. o1 level (2-tailed)

Table 5 displays the results of the analysis. The Pearson correlation coefficient (r) between anxiety and stress levels is 0.71, indicating a strong positive correlation. The relationship is statistically significant with a p-value of 0.000 ($p < 0.01$). This suggests that a strong positive relationship between anxiety levels increase, and stress levels tend to rise as well among first-semester students at Kolej Komuniti Ledang. Hence, H_o3 is rejected. The interaction of stress and anxiety can result in a negative cycle for students. Increased worries over academic success or social acceptance can cause stress, which can be harmful to students' general well-being and academic performance. According to Eisenberg et al. (2009), students who suffer from anxiety frequently have lower academic performance and higher dropout rates.

Table 5: The Relationship between Levels of Anxiety and Stress

Variable	Pearson Correlation (r)	Significant (2-tailed), (p)
Level of Anxiety - Stress	.71**	.000

**Correlation is significant at the 0.01 level (2-tailed)

4.0 Conclusion

Findings on this study identify a serious impact that depression, anxiety, and stress have on the first semester students at Kolej Komuniti Ledang, with severe implications on their academic performance and well-being. The moderate to strong relationship among these factors indicates that in cases of students that experience depression of higher levels, they tend to record more stress and anxiety problems. This may have a negative impact on their academic achievement and retention since students with mental health issues may have a hard time trying to achieve academically and may be at a higher risk of dropping out. Studies have revealed that in most cases; female students tend to report higher levels of stress which means that gender-specific stressors should be addressed in gender specific manner.

The results from this study will be useful in dealing with the first-semester students' mental health, particularly in community college settings. The close relations between depression, anxiety, and stress indicate the necessity of an overall mental health support. It will be beneficial for Kolej Komuniti Ledang to develop such programs together as opposed to treating the issues separately. Wider accessibility of counselling services, stress management workshops, and peer support network might act as early interventions to help students find their way around the interconnectedness of these emotional difficulties.

Lastly, the results support the role of preventative mental health education in ensuring proper well-being of the college student. Instructing the students in identifying markers of depressions, anxieties, and stress and providing them with useful approaches to handle such feelings can enable them to deal with their minds and restore the balance before issues get out of hand. Integrating the awareness of the mental health and building of resilience into the curriculum not only can help to enhance the academic performance of students but also facilitate their retention rate as mental health support encourages students to succeed.

This research has a number of limitations that should be taken into consideration when answering questions based on this research. Firstly, the size of the sample was rather limited, and the data was obtained from only 97 first-semester students of Kolej Komuniti Ledang. A bigger and wider sample from different schools or institutions would provide a better insight on the nature of depression and how it is connected to anxiety and stress amongst students. Second, data used in the study was self-reported data from DASS-21 questionnaire and this may have possibilities of inducing response bias. Although DASS-21 is a well-established and validated tool, it does not pay proper attention to complexities of mental diseases and all the factors that can lead to the diseases.

Longitudinal studies should be conducted to explore how depression, anxiety, and stress evolve in students over time, especially during key transitional moments, like starting college or going through exam periods. A longitudinal approach would provide a deeper understanding of the long-term effects of these mental health challenges and help identify critical times when

interventions could have the most impact. Qualitative research could enhance quantitative studies by offering more detailed insights into the lived experiences of students who suffer from mental health difficulties. Interviews, focus groups, or case studies might be used to investigate how individual students deal with depression, anxiety, and stress, as well as what specific environmental or personal variables contribute to their mental health. This method would allow for a more detailed understanding of the root causes and personal consequences of mental health issues in student populations.

Acknowledgement

Author Contributions

S.H. Rosli: Conceptualization, Methodology, Result, Discussion, Conclusion, Editing; **M.H. Abdul Manah**: Abstract, Data collection, Discussion, Writing-Reviewing; **A. Abdul Kadir**: Introduction, Data collection.

Conflict of Interest

The manuscript has not been published elsewhere and is not being considered by other journals. All authors have approved the review, agree with its Submission and declare no conflict of interest in the manuscript.

References

Abdulghani, H. M., AlKanhal, A. A., Mahmoud, E. S., Ponnamperuma, G. G., & Alfaris, E. A. (2019). Stress and its effects on medical students: A cross-sectional study at a college of medicine in Saudi Arabia. *Journal of Health, Population and Nutrition, 37*(1), 1-8.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Amir Hamzah, N. S., Nik Farid, N. D., Yahya, A., & Kadir, F. (2019). The prevalence and associated factors of depression, anxiety and stress among first-year undergraduate students in a public higher learning institution in Malaysia. *Journal of Child and Family Studies*, 28, 1725-1735. https://doi.org/10.1007/s10826-019-01537-y

Asif, S., Mudassar, A., Shahzad, T. Z., Raouf, M., & Pervaiz, Z. (2020). Frequency of depression, anxiety and stress among university students. *Pakistan Journal of Medical Sciences*, 36(5), 971-976. https://doi.org/10.12669/pjms.36.5.1873

Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., ... & Kessler, R. C. (2018). WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology, 127*(7), 623-638.

Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety, and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology, 43*(8), 667-672. https://doi.org/10.1007/s00127-008-0345-x

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M.,

& Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders*, *173*, 90-96. https://doi.org/10.1016/j.jad.2014.10.054

Cheung, K., Tam, K. Y., Tsang, M. H., Zhang, L. W., & Lit, D. K. C. (2020). Depression, anxiety and stress in different subgroups of first-year university students from 4-year cohort data. *Journal of Affective Disorders*, 274, 220-230. https://doi.org/10.1016/j.jad.2020.05.042

Cohen, S., Gianaros, P. J., & Manuck, S. B. (2016). A stage model of stress and disease. *Perspectives on Psychological Science, 11*(4), 456-463. https://doi.org/10.1177/1745691616646305

Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2017). Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. *Academic Medicine, 81*(4), 354-373. https://doi.org/10.1097/ACM.0b013e31828bfa0e

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2009). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry, 79*(4), 534-542.

Fauzi, M. F., Anuar, T. S., Teh, L. K., Lim, W. F., & Mohamed, W. M. W. (2021). Stress, anxiety and depression among a cohort of health sciences undergraduate students: The prevalence and risk factors. *International Journal of Environmental Research and Public Health*, 18(6), 3269. https://doi.org/10.3390/ijerph18063269

Frazier, P., Meredith, L., Greer, C., Paulsen, J. A., Howard, K., Dietz, L. R., & Qin, K. (2015). Randomized controlled trial evaluating the effectiveness of a web-based stress management program among community college students. *Anxiety, Stress, & Coping*, 28(5), 576-590. https://doi.org/10.1080/10615806.2014.987666

Ibrahim, A. K., Kelly, S. J., Adams, C. E., & Glazebrook, C. (2013). A systematic review of studies of depression prevalence in university students. *Journal of Psychiatric Research*, *47*(3), 391-400. https://doi.org/10.1016/j.jpsychires.2012.11.015

Jensen, F. E., & Nutt, A. E. (2015). The teenage brain: A neuroscientist's survival guide to raising adolescents and young adults. London, UK: HarperThorsons

Krumrei-Mancuso, E. J., Newton, F. B., Kim, E., & Wilcox, D. (2013). Psychosocial factors predicting first-year college student success. *Journal of College Student Development*, *54*(3), 247-266.

Lan, H. T. Q., Long, N. T., & Hanh, N. V. (2020). Validation of depression, anxiety, and stress scales (DASS-21): Immediate psychological responses of students in the e-learning environment. *International Journal of Higher Education*, 9(4), 117-127. https://doi.org/10.5430/ijhe.v9n4p117

Leal, G., Miranda, M. C., Neufeld, C. B., Oliveira, L. M., & Pompeia, S. (2020). Depression, anxiety, and stress in university students: A systematic review of the impact on learning. *Frontiers in Psychology, 11*, 2221. https://doi.org/10.3389/fpsyg.2020.02221

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety & Stress Scales* (2nd ed.). Sydney: Psychology Foundation.

Mahmoud, J. S. R., Staten, R. T., Hall, L.A., & Lennie, T. A. (2014). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction and coping styles. Issues in Mental Health Nursing, 33, 149-156.

O'Shea, D., Whelan, H., & Murray, L. (2019). Academic stress, depression, and anxiety in college students: A longitudinal study. *Stress and Health, 35*(5), 1037-1048. https://doi.org/10.1002/smi.2920

Quek, T. T. C., Tam, W. W. S., Tran, B. X., Zhang, M., Zhang, Z., Ho, C. S. H., & Ho, R. C. M. (2019). The global prevalence of anxiety among medical students: A meta-analysis. *International Journal of Environmental Research and Public Health, 16*(15), 2735. https://doi.org/10.3390/ijerph16152735

Saleh, D., Camart, N., & Romo, L. (2017). Predictors of stress in college students. *Frontiers in Psychology, 8,* 19. https://doi.org/10.3389/fpsyg.2017.00019

Saw, S. M., Shafie, S., & Mohd Zin, S. (2017). Career uncertainty and stress among undergraduate students in Malaysia. *Journal of Career Development, 44*(3), 215-225. https://doi.org/10.1177/0894845316680870

Sherina, M. S., Rampal, L., & Kaneson, N. (2020). Anxiety and depression among medical students: A cross-sectional study at a medical college in Malaysia. *Malaysian Journal of Public Health Medicine, 1*(1), 35-43.

Teh, C. K., Ngo, C. W., Vellasamy, R., & Vellasamy, R. D. (2015). Depression, anxiety, and stress among undergraduate students: A cross-sectional study. *Open Journal of Epidemiology,* 5(4), 260-268. https://doi.org/10.4236/ojepi.2015.54030

Zakaria, S. A., Fauziah, I., & Zulkefly, N. S. (2020). Mental health awareness among Malaysian university students: The role of psychoeducation. *Pertanika Journal of Social Sciences & Humanities, 28*(3), 1407-1418.