

# Depression, Anxiety and Stress among University Students: A Study from Saudi Arabia

<sup>1</sup>Neem Alotaibi, <sup>2</sup>Saddiga Al-Ghalib

**Abstract--***The study aimed to determine the relationship among depression, anxiety and stress among university student in Jeddah. The questionnaire's introduction contained information and short description of the study which included three demographic on gender, university and current undergraduate year (fifth year and sixth year options were for medical students). The study samples were 828 university students. This sample was randomly selected within the university students population in Jeddah. The depression, anxiety and stress (DASS21) was used in this study. DASS21 consisted three subscales such as depression, anxiety and stress. The scale contained 21 items and 7 items for each subscale. The questionnaires were shared with students through their universities via email. The respondents responses were collected electronically, coded and analysed used SPSS by applied T-test and correlation. The result found female did not score higher than males in the depression scale. However, female did score higher in anxiety and stress scale. There was statistically significant positive correlation among depression, anxiety and stress among university student in Jeddah.*

**Keywords--***University; depression; stress; anxiety; female; male*

---

## I. INTRODUCTION

Anxiety disorder and depression are serious health problems which affects large number of children and teenagers worldwide [1]. Depression is psychological disorder which 330 million people are suffering and leads 800,000 suicide cases each year around the world [2]. Depression is ranked as largest contributor to non-fatal health loss [3]. In the Kingdom of Saudi Arabia, there are increment chronic diseases including chronic mental diseases such as depression. Depression and anxiety resulted from cognitive mistakes and illogical beliefs [4].

Depression is common emotional disorder causes distress and impairs functioning which cognitive, physiological, behavioural and motivational symptoms are main features of this disorder [5]. In addition, depression also involves the symptoms such as slowdown and recession in thought, speech and movement, worthlessness, smallness, reluctance, weakness, pessimism, suicidal thoughts and feelings and slowdown in physiological functions in deep sadness mood [6]. Even though, high prevalence among university student for depression but only small minority (16.4%) of university received minimal sufficient treatment [7].

Meanwhile, anxiety is estimated to influence 6% of individuals in their life and affected with and without medical conditions [8]. The anxiety are correlated with increased risk for other psychiatric disorders such as mood disorders, drug uses and psychosis and contributes to global economic burden [9].

---

<sup>1</sup>College of Humanities, Effat University, An Nazlah Al Yamaniyyah, Jeddah22332, Saudi Arabia, nmalotaibi@effatuniversity.edu.sa

<sup>2</sup>College of Humanities, Effat University, An Nazlah Al Yamaniyyah, Jeddah 22332, Saudi Arabia, salghalib@effatuniversity.edu.sa

The rate of anxiety among students is ranged from 15% to 64.3% and is correlated with many factors such as gender, funding source, study field, education satisfaction, study year, place of living, race, mother's education, academic performance extra-curricular activity [10].

Medical students have higher anxiety levels compared with general population [11]. Anxiety can affect the students' behaviour in the classroom which those with anxiety are more passive in the study [12].

Meanwhile, stress is described as a situation that disturbs the functioning at an optimal physical and mental level [13]. Stress also known as state of tension, tension and discomfort due to agents with negative significance of frustration or repression of motivational states because difficulty or impossibility to solve the problem [14]. Stress also can cause negative effects in the university students such as poor academic performance, elevated burnout levels and decreases personal well-being [15]. However, some studies found some stress level has good effects on physiological functioning and facilitate the learning process [16]. Stress is refer to two distinct concepts such as stressor (environment characteristics or thought that determine the individual to have side effects) or tension (the individual reactions to the stress) [17]. Stress caused psychological effects on the individual such as cardiovascular disease, digestive disease and behavioural changes.

The impact of depression, anxiety and stress are different depend on individual for their response to stressor and how recognize the stress [18]. The prevalence rates of depression, anxiety and stress are high in Saudi Arabia and vary between genders which important to highlight the importance and seriousness of those conditions and people should seek appropriate professional help to help reduce the high rates. The study aimed to determine the relationship among depression, anxiety and stress among university student in Jeddah.

## II. METHODOLOGY

In this study, the hypothesis were female had statistically significant higher mean than males on depression, anxiety and stress scale and there was statistically significant positive correlation among depression, anxiety and stress. The study also used quantitative research method. The study samples were 828 university students. This sample was randomly selected within the university students population in Jeddah.

The questionnaire's introduction contained information and short description of the study which included three demographic on gender, university and current undergraduate year (fifth year and sixth year options were for medical students). The depression, anxiety and stress (DASS21) was used in this study.

DASS21 consisted three subscales such as depression, anxiety and stress. The scale contained 21 items and 7 items for each subscale. Depression subscale items included 3,5,10,13,16,17 and 21. Meanwhile, anxiety subscale items included 2,4,7,9,15,19 and 20. Stress subscale items included 1,6,8,11,12,14 and 18. The scale characterized severity of each condition which varied from normal, mild, moderate, severe and extreme severe.

For depression, normal was categorized as 0-4, mild was categorized as 5-6, moderate was categorized as 7-10, severe was categorized as 11-13 and extremely severe was categorized as more than 14. For anxiety, normal was categorized as 0-3, mild was categorized as 4-5, moderate was categorized as 7-10, severe was categorized as 8-9 and extremely severe was categorized as more than 10. Meanwhile, normal was categorized as 0-7, mild was categorized as 8-9, moderate was categorized as 10-11, severe was categorized as 13-16 and extremely severe was

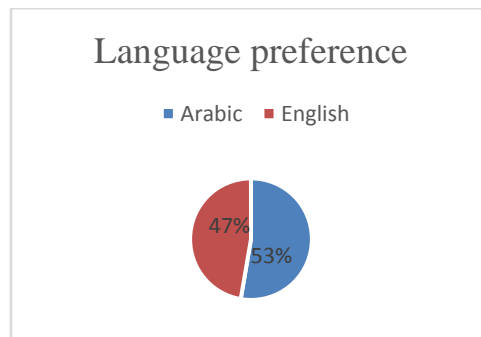
categorized as more than 17. The respondents were requested to select number 0,1,2 or 3 which indicated statement applied over past week.

The questionnaires were shared with students through their universities via email. The respondents responses were collected electronically coded and analysed used SPSS by applied T-test and correlation.

### III. RESULT AND DISCUSSION

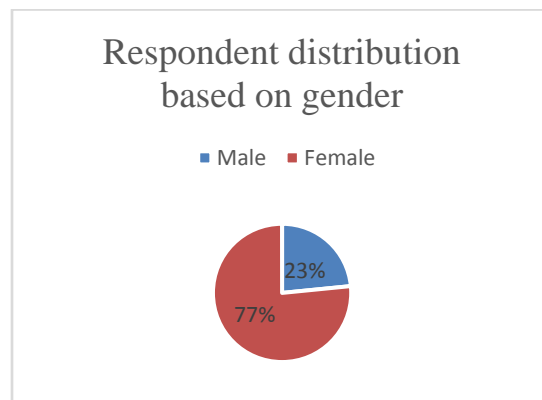
#### Result

In Figure 1, 436 respondents (52.7%) preferred Arabic and 392 respondents (47.3%) preferred English.



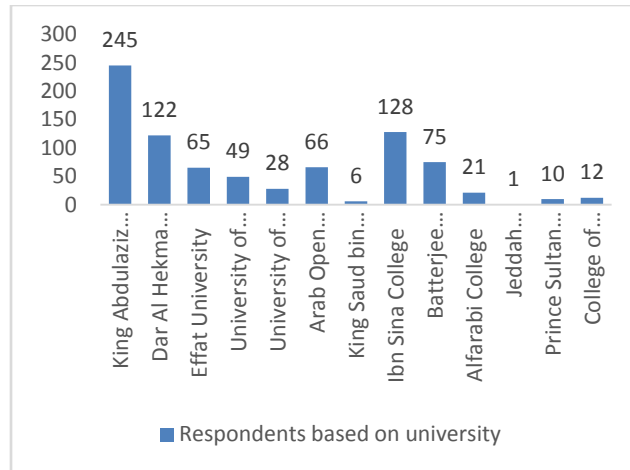
**Figure 1:** Respondent distribution based on language.

In Figure 2, 194 respondents (23.4%) were male and 634 respondents were female (76.6%).



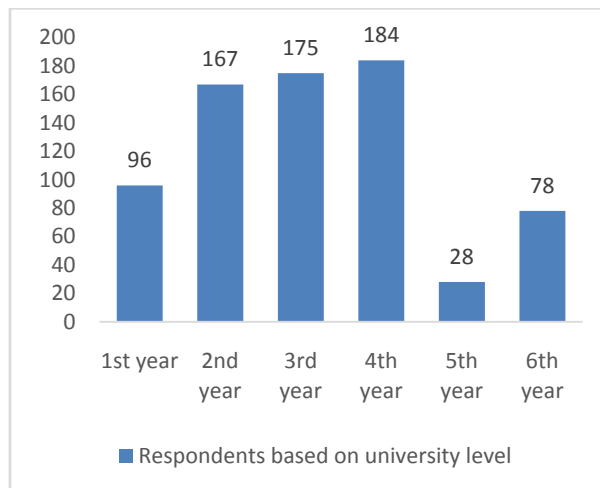
**Figure 2:** Respondent distribution based on gender.

In Figure 3, 245 respondents (29.6%) were from King Abdulaziz University and 128 respondents (15.5%) were from IbnSina College. There were only a respondent from Jeddah International College.



**Figure 3:** Respondent distribution based on university.

In Figure 4, there were 96 respondents (11.6%) in first year study and 175 respondents (21.1%) were in third year study. Meanwhile, 78 respondents (9.4%) were in sixth year and 28 respondents (15.5%) were in fifth year.



**Figure 4:** Respondent distribution based on university level.

Table 1 showed all three scales had high internal consistency. The depression subscale had high Cronbach's alpha (0.872), stress subscale had Cronbach's alpha of 0.864 and anxiety subscale had Cronbach's alpha of 0.825.

**Table 1:** Subscale reliability

Subscale	Cronbach's alpha
Depression	0.872
Anxiety	0.825
Stress	0.864

Table 2 showed 246 respondents (29.7%) had extremely severe depression level and 192 respondents (23.2%) had normal depression level. There were 170 respondents (20.5%) had scored moderate depression level and 127 respondents (15.3%) had severe depression level.

**Table 2:** Respondent distribution based on depression scale

Depression scale	Frequency	Percentage
Normal	192	23.2
Mild	93	11.2
Moderate	170	20.5
Severe	127	15.3
Extremely severe	246	29.7

In Table 3, 333 respondents (40.2%) had scored extremely severe anxiety scale and 178 respondents (21.5%) had normal anxiety scale. In addition, 98 respondents (11.8%) had severe anxiety scale and 105 respondents (12.7%) had moderate anxiety scale.

**Table 3:** Respondent distribution based on anxiety scale

Anxiety scale	Frequency	Percentage
Normal	178	21.5
Mild	114	13.8
Moderate	105	12.7
Severe	98	11.8
Extremely severe	333	40.2

In Table 4, 225 respondents (27.2%) had scored normal stress scale and 193 respondents (23.3%) had severe stress scale. Furthermore, 156 respondents (18.8%) had moderate stress scale and 91 respondents (11.0%) had mild stress scale.

**Table 4:** Respondent distribution based on stress scale

Anxiety scale	Frequency	Percentage
Severe Stress	193	23.3
Mild Stress	91	11.0
Moderate Stress	156	18.8
Normal Stress	225	27.2

In Table 5, males had scored mean of 3.10 and standard deviation of 1.55 for depression while female had scored mean of 3.19 and standard deviation of 1.53. Meanwhile, male had scored mean of 3.10 and standard deviation of 1.64 and female scored mean of 3.43 and standard deviation of 1.59 for anxiety. In addition, males had scored mean of 2.74 and standard deviation of 1.51 and female had scored mean of 3.04 and standard deviation of 1.47.

**Table 5:** Statistical result based on gender

Subscale	Gender	Mean	Standard deviation
Depression	Male	3.10	1.55
	Female	3.19	1.53
Anxiety	Male	3.10	1.64
	Female	3.43	1.59
Stress	Male	2.74	1.51
	Female	3.04	1.47

In Table 6, there was no significant difference between male and female in depression but female had scored significant higher in both anxiety and stress.

**Table 6:** Independent samples test

Subscale	t	df	Sig. (2 tailed)
Depression	-0.704	316.652	0.482
Anxiety	-2.456	312.464	0.015
Stress	-2.386	312.761	0.018

Table 7 showed highest significant correlation was between stress and depression (0.784). Meanwhile, there was significant correlation between anxiety and stress with 0.736. In addition, correlation between depression and anxiety was 0.671.

**Table 7:** Correlation

Subscale	Depression	Anxiety	Stress
Depression	1	0.671**	0.784**
Anxiety	0.671**	1	0.736**
Stress	0.784**	0.736**	1

## Discussion

In this study, male and female had performed equally in the depression scale. Based on Table 5, male had scored mean of 3.10 and standard deviation of 1.55 while female had scored mean of 3.19 and standard deviation of 1.53 for depression scale. Meanwhile, female had statistically significant higher mean than male for anxiety scale. The female were more anxious than males which lead to high prevalence rates compared to males. For stress, female had statistically significant higher mean than males. The males had scored mean of 2174 and female had scored 3.04. This result is tally with Karatas et al. (2016) findings which the gender is a significant variable on student's anxiety that female student found out had high score than male student [19]. In addition, Núñez- Peña et al. (2016) found female students had showed good academic achievement and prone in anxiety in three of four test situation included multiple-choice, open-questions, oral presentation and calculation examination [20].

There was statistically significant positive correlation among depression, anxiety and stress. Besides, there was high significant positive correlation between stress and depression and between anxiety and stress. There also

significant positive correlation between depression and anxiety. Hence, the findings showed females did not score higher than males for depression scale. However, females had scored higher in anxiety scale and stress scales.

#### IV. CONCLUSION

In conclusion, female did not score higher than males in the depression scale. However, female did score higher in anxiety and stress scale. There was statistically significant positive correlation among depression, anxiety and stress among university student in Jeddah.

#### REFERENCES

1. Alotaibi, T. 2015. Combating anxiety and depression among school children and adolescents through student counselling in Saudi Arabia. *Procedia Social and Behavioral Sciences*, 205, 2015, 18-29.
2. Amrai, K., Zalani, H.A., Arfai, F.S. and Sharifian, M.S. 2011. The relationship between the religious orientation and anxiety and depression of students. *Procedia Social and Behavioral Sciences*, 15,2011, 613-616.
3. Li, H., Ge, S., Greene, B. and Dunbar-Jacob, J.2019. Depression in the context of chronic diseases in the United States and China. *International Journal of Nursing Sciences*, 6,1, 117-122.
4. Aliabadi, S., Zobairy, M. and Zobairy, L. 2013. The relationship between depression and leisure timeactivity in female high school students.*Procedia Social and Behavioral Sciences*, 84, 2013, 256-258
5. Sharif, A.R., Tabatabaei, M.G., Hejazi, E., Askarabad, M.H., Dehshiri, G. R. and Sarif, F.R. 2011. Confirmatory factor analysis of the university student depression inveontory (USDI). *Procedia Social and Behavioral Sciences*, 30,2011, 4-9.
6. Cagan, Ö and Ünsal, A. 2014. Depression and loneliness in disabled adults. *Procedia Social and Behavioral Sciences*, 114, 2014, 754-760.
7. Paras virani , rajanitsojitra, hasumati raj, vineetjain (2014) a review on irbesartan co administered with atorvastatin for the treatment of cardiac risk. *Journal of Critical Reviews*, 1 (1), 25-28.
8. Rahmadiana, M., Karyotaki, E., Passchier, J., Cuijpers, P., Ballegooijen, W., Wimbari, S. and Riper, H. 2019. Guided internet-based transdiagnostic intervention for Indonesian university students with symptoms of anxiety and depression: a pilot study protocol. *Internet Interventions*, 15, 28-34.
9. Owens, V.A.M., Hadjistavropoulos, H.D., Schneider, L.H., Gullickson, K.M., Karin, E., Titov, N. and Dear, B.F. 2019. Transdiagnostic, internet-delivered cognitive behaviour therapy for depression and anxiety: exploring impact on health anxiety. *Internet Interventions*, 15, 60-66.
10. Lawrence, P.J., Murayama, K. and Creswell, C. 2019. Systematic review and meta-analysis: anxiety and depressive disorders in offspring of parents with anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 58, 1, 46-60.
11. Marthoenis, Meutia, I., Fathiariani, L. and Sofyan, H. 2018. Prevalence of depression and anxiety among college students living in a disaster-prone region. *Alexandria Journal of Medicine*, 54, 2018, 337-340.
12. Macauley, K., Plummer, L., Bemis, C., Brock, G., Larson, C. and Spangler, J. 2018. Prevalence and Predictors of anxiety in healthcare professions students. *Health Professions Education*, 4, 2018, 176-185.
13. Vitasari, P., Abdul Wahab, M.N., Herawan, T. and Sinnadurai, S.K. 2011. Representation of social anxiety among engineering students. *Procedia Social and Behavioral Sciences*, 30, 2011, 620-624.
14. Anitei, M., Burtaverde, V., Mihaila, T., Chraif, M. and Georgiana, D. 2015. Differences in perception of work related stressor, physical and mental health between a beauty company and a design, consultancy and management in transport infrastructure company. *Procedia Social and Behavioral Sciences*, 128, 2014, 223-227.
15. Monica, G. 2014. Study on the importance of physical education in fighting stress and a sedentary lifestyle among students at the university of Bucharest. *Procedia- Social and Behavioral Sciences*, 117, 2014, 104-109.
16. Baldi A. "Computational Approaches for Drug Design and Discovery: An Overview." *Systematic Reviews in Pharmacy* 1.1 (2010), 99-105. Print. doi:10.4103/0975-8453.59519
17. Ahmed, W.A.M. and Mohammed, B.M.A. 2019. Nursing students' stress and coping strategies during clinical training in KSA. *Journal of Tiabah University Medical Sciences*, 2019.
18. Almojali, A., Almaki, S.A., Alothman, A.S., Masuadi, E.M. and Alaqeel, M.K. 2017. The prevalence and association of stress with sleep quality among medical students. *Journal of Epidemiology and Global Health*, 7,3, 169-174.

19. Rizeanu, S. and Teodor, M. 2015. A correlative study between pain perception at the doctor and the level of self-perceived stress at undergraduate students at psychology- a pilot study. *Procedia-Social and Behavioral Sciences*, 187, 2015, 719-722.
20. Seo, E. J., Ahn, J.A., Hayman, L.L. and Kim, C.J. 2018. Quality of life in university students: the parallel mediating role of depressive symptoms and health-promoting behaviors. *Asian Nursing Research*, 12,3, 190-196.
21. Karatas, H., Alci, B., Bademcioglu, M. and Ergin, A. 2016. Examination of university students ' foreign language classroom anxiety. *Procedia- Social and Behavioral Sciences*, 232, 2016, 396-402.
22. Núñez-Peña, M.I., Suárez-Pellicioni, M. and Bono, R> 2016. Gender differences in test anxiety and their impact on higher education students' academic achievement. *Procedia-Social and Behavioral Sciences*, 228, 2016, 154-160.
23. Rajakumari.j, poornima.s, and ramya.v. "security threats and authentication approaches in wireless sensor networks." international journal of communication and computer technologies 7 (2019), 1-3. Doi:10.31838/ijccts/07.02.01
24. Lashari, S. A., Kaur, A., &Awang-Hashim, R. (2018). Home away from home - the role of social support for international students' adjustment. *Malaysian Journal of Learning and Instruction*, 15(2), 33-54.
25. Ajoje, N. S., Aziz, A. A., &MohdYusof, S. A. (2017). On modeling of interviewee motivation mental states for an intelligent coaching agent. *Journal of Telecommunication, Electronic and Computer Engineering*, 9(3-5 Special Issue), 115-121.
26. Ümit Sayin, H. Does the nervous system have an intrinsic archaic language? entoptic images and phosphenes (2014) *NeuroQuantology*, 12 (3), pp. 427-445.
27. Licata, I. A note on the origin of time in archaic universe (2014) *NeuroQuantology*, 12 (1), pp. 126-131.
28. Dr. Srivastava, S., Srivastava, K., Pandey, A.,&Sharma, A. (2014). Data Mining in Telecommunication Industries. *International Journal of Advances in Engineering and Emerging Technology*, 5(2), 75-79.
29. Mohankumar, T. (2014). Area-Efficient and High Speed Carry Select Adder. *Excel International Journal of Technology, Engineering and Management*, 1(4), 108-111.