

# PREDICTIVE FACTORS OF DEPRESSION AMONG UNIVERSITY STUDENTS: A STUDY ON UNIVERSITY KUALA LUMPUR MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY (UNIKL MIIT) STUDENTS

Yasmin Yahya, Norhatta Mohd, Naziren Nazaruddin, Siti Nabila Sanusi\*

Faculty of MIIT, Technical Foundation Section, University of Kuala Lumpur (UniKL), Malaysia

**ABSTRACT:** *Depression among students has been a main concern to most of the higher learning institution nowadays. Thus, the goal for this research is to predict the causes of depression among Engineering Technology students by case study at the Malaysian Institute of Information Technology (MIIT), Universiti Kuala Lumpur (UniKL). Total samples of 191 were obtained from diploma and bachelor students with a mix of different programs (area of specialization). Questionnaires were distributed to students by random sampling; then, the collected data were integrated into electronics statistical software. A few statistical tests were conducted including descriptive statistics, chi square test and step wise multiple linear regression to fulfill the objectives of the study. Results shown that there was significant contribution between environment, residency and social interpersonal stress towards depression. While considering all the stress factors, relationship with friends was found to be the main contributor to the stress among the students. It was recommended that the university should find ways to offer solutions to the problems and develop proper guidelines to reduce students' stress towards depression.*

## 1. INTRODUCTION

First year university or college students are the group of people who are easily to get stress. They need to adjust to the different environment and variation of social background; in addition, they have to struggle for academic achievement and social requirement in preparing for their future careers [1]. Those factors can give a big impact to the students especially the new students as they have to starts a new life. Their high hope in achieving educational success has generated a very stressful situation. This condition need to be treated as it can lead to serious incidents and hazardous to their physical and mental health.

Currently, university students have more complex problem than they did over decade ago [2]. Several studies have reported that the common problems related to psychology among students are anxiety, stress and depression [3, 4, 5]. Research done by Samsuddin *et. al* [3] reported that some of the university students in Malaysia have the percentage of moderately severity or above with stress level 23.73%, depression 37.2% and anxiety 63%. This concurs with Bayram and Bilgel [4] findings that the percentage of moderately severity or above were 27%, 27.1% and 47.1%, respectively. A similar research done in the USA also found that college students experienced the increased depression and anxiety levels [6]. Misra[7] showed that when stress become negative perception, it will affect students' academic performance. Study by Mohd Sidik *et al.* [8] proved that 41.9% of university students are having emotional disorder.

Some common stressors had been identified such as greater academic demand, adapting in new environment, changes in social life and financial issue. Some significant predictors of stress found by Dyrbye *et al.* [5] were conflict and unsatisfactory relationship with a roommate and also conflict with a faculty or staff member. Cohen and Janicky, [9] reported that retired persons had low levels of stress compared to the unemployed persons. They also suggested that people with lower socioeconomic status, women and younger adults were among those who suffered greater stress related health risks. Research done for British students revealed that low academic achievement was caused by depression and financial problems Andrews and Wilding [17].

Comparing male and female in term of their level of

depression, females resulted to have higher level of stress, depression and anxiety [4, 5] which can lead to health and social complications. [5, 11, 12]. Bayram and Bilgel [4] proved in their study that study duration and students' satisfaction in their study were the main factors contributed to the depression. New students were more depressed compared to senior students while those who satisfied in their study experienced less depression. Similar report done by Renk and Smith [13] suggested that the significant factors of the stress related to academic that faced by students came from anxiety, problem-focused coping, and support from others.

Early detection of the factors that contribute to the depression among university students is essential to prevent mental health problems in this population. This is crucial for their educational achievement as well as their future career development. A relationship study between depression, stress and their correlates such as social interpersonal, social intrapersonal, gender, academic status, environment, financial support and friends have scarcely been conducted in University Kuala Lumpur (UniKL) specifically in Malaysia Institute of Information Technology (MIIT).

The objectives of this study are (1) to assess the significant predictors of depression among UniKL MIIT students and (2) to determine the relationship between depression level and students' socio-demographic. The findings from this study will therefore assist the academic management to develop coping strategies in supporting their students to adapt and face challenging situations.

## 2. MATERIAL AND METHODS

In this section, we discuss the study design, sample size and methods utilized in this study.

### Design of Study

A prevalence study among UniKL MIIT students was conducted during September – December 2015 semester. This is the suitable method to collect data as it is a quick and easy method [14]. A total of 191 questionnaires were distributed through random sampling for both diploma and degree students. The programs that participated in this study are Diploma in Computer and Networking (DCNET), Diploma in Information Technology (DIT), Diploma in Multimedia (DIM), Bachelor in Computer and Entrepreneur Management (BCEM), Bachelor in Networking System

(BNS) and Bachelor in Software Engineering (BSE). Respondents were given a set of questionnaires to answer in 30 minutes during class and the response rate was hundred percent.

The Questionnaire used was adopted from Quyen [15] and adjusted to suit the scope of this study. The reliability test on Cronbach Alpha coefficient shown the value of 0.775 indicated it is high reliability. In this study, the reliability test was also done in the pilot test on 28 UniKL MIIT students with Cronbach Alpha coefficient of 0.758. There were three parts in the questionnaire: Part I (general information), Part II (CES-D: Center for Epidemiologic Studies Depression Scale) and part III (student stress). Part III was divided into four factors: interpersonal factors, intrapersonal factors, social factors and academic factors. In this part, 4-score Likert scale was used with 1 for totally disagree, 2 for disagree, 3 for agree and 4 for totally agree. Besides, "yes or no" questions were used for part II and scores were labeled 1 for yes and 0 for no.

### Data Analysis

Data analysis was carried out to analyze the descriptive and inductive statistics which cover all the research questions. This study employed statistical software of Statistical Package for Social Science (SPSS) to do all the statistical tests. Missing values or any illogical data values had been catered during the process of data cleansing. The qualitative variables such as student's program, gender, ethnic group, religion, living status, parent status, financial support and financial status were presented in number and percentage. Multiple linear regressions using stepwise approach was used to obtain the significant predictors for students' depression. The relationship between depression level and socio-demographic variables such as students' program, gender, residency, living status, financial support, relationship with friend and relationship with family was tested using Chi-square test. In this study, depression level is categorized into three levels based on the mean of students' depression; low (1 – 2.5), medium (2.1 – 2.5) and high (2.6 – 4.0). The probability acceptance level ( $p$ -value) less than 0.05 was set for statistical significance throughout this study.

### 3. RESULTS

In this section, we display the findings of each analysis applied in this study.

#### Respondents

A total 191 students participated in this study comprises of 92 diploma students and 99 degree students. Overall, 47.1% of the participants were males ( $N = 90$ ) and 52.9% were females ( $N = 101$ ). Majority of the participants were Malays (98.4%) while only one Indian participant, no Chinese participant and only two from other ethnic groups. As UniKL MIIT is the city campus, 78% of them live in the city. With regard to residency, 88.5% of them stay with their family or rented room or house and only 11.5% of them stay at the university's hostel. For study financial support, most of them took MARA loan (82.7%), parent support (14.1%), PTPTN loan (2.1%) and 1% from others financial support. The students were asked whether they have enough money for their education and living; since majority of them had

education loan, only 3.1% were not enough for tuition fees. In term of living condition, 37.2% of them were not enough money for living condition, 31.4% were nearly sufficient, 23.6% were sufficient and 4.7% were declared as more than enough. For their relationship with friends, 42.4% were very satisfied, 53.4% were somewhat satisfied, 2.1% were unsatisfied and 2.1% were unsatisfied at all. The results for relationship with family were quite similar to the relationship with friends; 64.4% were very satisfied, 29.8% were somewhat satisfied, 4.7% were unsatisfied and 1.1% were unsatisfied at all. The details of the information regarding the socio-demographic of the respondents are shown in Table 1.

**Table-1: The details of participants' character of demographic**

Character	No. of respondent (n)	Percentage (%)
Gender		
Male	90	47.1
Female	101	52.9
Ethnic group		
Malay	188	98.4
Chinese	0	0
Indian	1	0.5
Others	2	1.0
Religion		
Islam	189	99.0
Buddhist	0	0
Hindu	1	0.5
Christian	1	0.5
Living status		
Suburban	42	22
City	149	78
Residency		
UniKL MIIT hostel	22	11.5
Room/house rent	134	70.2
Parent home	35	18.3
Financial support for study		
Parents	158	82.7
MARA loan	4	2.1
PTPTN loan	2	1.0
Others		
Financial status		
Not sufficient for tuition fee	6	3.1
Not sufficient for living	71	37.2
Nearly sufficient	60	31.4
Sufficient	45	23.6
More than enough	9	4.7
Relationship with friends		
Very satisfied	81	42.4
Satisfied	102	53.4
Unsatisfied	4	2.1
Unsatisfied at all	4	2.1
Relationship with family		
Very satisfied	123	64.4
Satisfied	57	29.8
Unsatisfied	9	4.7
Unsatisfied at all	2	1.05

**Multiple linear regressions**

Analysis on the factors that contribute to the students' depression using multiple linear regressions revealed that only four significant predictors with p-value less than 0.05. The significant predictors were environmental stress, residency and social interpersonal stress. (Table2).

**Table-2: Predictors for depression among UniKL MIIT students**

Factor	Coefficient	t-value	p-value
Constant	1.533	10.821	0.000
Environment Stress	0.468	3.783	0.000
Residency	0.140	2.896	0.004
Social Interpersonal Stress	0.352	2.669	0.008

**Chi-square test**

Table 3 displays the correlation between depression level (high, medium and low) and categorical factors (student program, gender, residency, living status, and financial support, relationship with friend and relationship with family). There was high correlation between depression level and relationship with friend with the chi-square value of 17.288 and p-value of 0.008. Other factors were not significantly associated.

**Table-3: Relationship between depression level and categorical factors**

Factor	$\chi^2$ value	p-value
Student program	13.384	0.203
Gender	0.592	0.744
Residency	4.889	0.299
Living status	0.085	0.958
Financial support	3.534	0.739
Relationship with friend	17.288	0.008
Relationship with family	10.033	0.123

**4. DISCUSSION**

The present study addresses the main factors of depression among UniKL MIIT students by examining the socio-demographic factors as well as stress factors that might contribute to the symptom. The socio-demographic factors that were examined in this study were gender, ethnic group, religion, living status, residency, financial support for study, financial status, relationship with friend and relationship with family. The stress factors were interpersonal stress, intrapersonal stress, social stress and academic stress. Among all the important factors, only environment stress, residency and social interpersonal stress were found significantly related to the students' depression.

Environment Stress shown the most significant predictor for depression among UniKL MIIT students with the smallest p-value of 0.000 followed by residency and social interpersonal stress which obtained the p-value of 0.004 and 0.008 respectively. The environmental stress is due to the new challenging study behaviour and environment because some of the students came from rural area such as different states, culture and language. They need time to adapt with the new environment inside and outside the classroom. These findings

were supported by Khan et al. [16] where they found in their research that the main cause of depression was socio-demographic factors such as living environment and socio-economic factors. This study also showed that students who do not stay with their parents had higher depression than those who stay with parents. In addition, students who had separated parents having depressed more than those who have both parents living together.

The association between depressions level and categorical factors was tested using the Chi-square test. The factor of relationship with friend gave the p-value less than 0.05 with significant result of 0.008. Other factors such as student program, gender, residency, living status, financial support and relationship with family were not found to have significant association with depression. This finding differs from previous research done by Shamsuddin et al. [3] where they discovered that gender, living status and financial support were significantly affected students' depression.

**5. CONCLUSION**

The result of this study indicated that there is relationship between students' stress and depression and relationship with friends is ranked as the main factor of stress. Furthermore, environment stress is the most contributory predictor of stress towards depression among Universiti Kuala Lumpur, Malaysian Institute of Information Technology students. On the basis of these findings, it is recommended that certain suitable programs and techniques should be implemented in reducing and coping with stress more effectively among students at an early stage for remedial actions. Confidential counselling services to students and academic staff should also be given to helping them to develop their communication, social skill and stress prevention regardless of their gender, programmes, level and academic status. These programs are essential in order to eliminate stress at their study place and stressors encountered by the students. Follow-up and consistent evaluation should be carried out so that the impact can be maintained over a certain period of time.

**6. LIMITATION AND FUTURE RESEARCH**

Despite achieving interesting results, some cautions regarding the present study has certain limitations and should be considered. This study is cross-sectional design and the sample size for each group of students has significant limitations in term of the findings applied to the total population. Hence, it limits the generalizability of our results. Future studies should consider a different type of sampling design such as stratified random sample which might offer appropriate description of the different clusters of students in each program and semester study in the total student population. More self-questionnaires are required to determine the relationship between students' characteristic and depression.

**7. ACKNOWLEDGEMENTS**

The authors would like to thank the Universiti Kuala Lumpur on Short Term Research Grant (STRG), the lecturers and respondents involved in this study.

**8. REFERENCES**

- [1] Uehara, T., Takeuchi, K., Kubota, F., Oshima, K., & Ishikawa, O.. Annual transition of major depressive episode in university students using a structured self-rating questionnaire. *Asia-Pacific Psychiatry*, 2(2), 99-104. (2010).
- [2] Kumaraswamy, N.. Academic stress, anxiety and depression among college students-A brief review. *International Review of Social Sciences and Humanities*, 5(1), 135-43. (2013).
- [3] Shamsuddin, K., Fadzil, F., Ismail, W. S. W., Shah, S. A., Omar, K., Muhammad, N. A., ... & Mahadevan, R. Correlates of depression, anxiety and stress among Malaysian university students. *Asian journal of psychiatry*, 6(4), 318-323. (2013).
- [4] Bayram, N., Bilgel, N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology* 43, 667–672. (2008).
- [5] Dyrbye, L.N., Thomas, M.R., Eacker, A., et al. Race, ethnicity, and medical student well-being in the United States. *Archives of Internal Medicine* 167, 2103–2109. (2007).
- [6] Mahmoud, J. S. R., Staten, R. T., Hall, L. A., & Lennie, T. A. The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Issues in mental health nursing*, 33(3), 149-156. (2012).
- [7] Misra, R., & McKean, M. College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1), 41. (2000).
- [8] Mohd Sidik, S., Rampal, L., & Kaneson, N. Prevalence of emotional disorders among medical students in a Malaysian university. *Asia Pacific Family Medicine*, 2(4), 213-217. (2003).
- [9] Cohen, S., & JANICKI-DEVERTS, Denise (2012). Who's stressed? Distributions of psychological stress in the United States in probability samples from 1983, and 2009. *Journal of Applied Social Psychology*, 42(6), 1320-1334. (2006).
- [10] Redhwan A. N., Dhekra H. N. Prevalence and Associated Factors of Emotional Disorder among Malaysian University Students. *International Journal of Collaborative Research on Internal Medicine & Public Health*, vol. 4 no. 7. (2012).
- [11] Bangasser, D. A., Curtis, A., Reyes, B. A., Bethea, T. T., Parastatidis, I., Ischiropoulos, H.& Valentino, R. J. Sex differences in corticotropin-releasing factor receptor signaling and trafficking: potential role in female vulnerability to stress-related psychopathology. *Molecular psychiatry*, 15(9), 896-904. (2010).
- [12] Zaid, Z. A., Chan, S. C., & Ho, J. J. Emotional disorders among medical students in a Malaysian private medical school. *Singapore medical journal*, 48(10), 895. (2007).
- [13] Renk, K., & Smith, T. Predictors of academic-related stress in college students: An examination of coping, social support, parenting, and anxiety. *Naspa Journal*, 44(3), 405-431. (2007).
- [14] Tuckman, B.W. Conducting educational research. *New York: Harcont Brace Jovanovich Inc.* (1978).
- [15] Quyen Dinh Ho Depression & Stress among The First Year Medical Students in University of Medicine and Pharmacy at Ho Chin Min City, Vietnam. *Thesis: College of Public Health Sciences, Chulalongkorn University.* (2007).
- [16] Khan, T. M., Sulaiman, S. A., & Hassali, M. A. The causes of depression? A survey among Malaysians about perception for causes of depression. *Asian Journal of Pharmaceutical and Clinical Research*, 2, 6-9. (2008).
- 17 Andrews, B., & Wilding, J. M. (2004). The relation of depression and anxiety to life-stress and achievement in students. *British Journal of Psychology*, 95, 509-521