Effect on Prolonged Movement Control Order (MCO) on Depression, Anxiety and Stress among University Students

Mahanim Omar, Siti Nurleena Abu Mansor and Mawardi Omar

Department of Computer and Mathematical Sciences, Universiti Teknologi MARA, Cawangan Pulau Pinang, Kampus Permatang Pauh, 13500 Pulau Pinang, Malaysia

Abstract

The whole world is confronted with difficulties during Covid-19 pandemic. Malaysian government has taken proactive measures by conducting nationwide Movement Control Orders (MCO) under the Prevention and Control of Infectious Disease Act 1988 and the Police Act 1967 for 14 days starting 18 March 2020. By the end of 2021, many people faced stressful, upsetting, and depressing due to prolonged movement control order (MCO). The objective of this paper is to analysed the ability of university students on grasping their emotional wellbeing throughout the prolonged MCO. 107 university students were asked to complete a survey consist of demographics and itemized factors on depression, anxiety and stress using Depression, Anxiety and Stress Scale (DASS–21) questionnaire between June,18 to July 23, 2021. DASS-21 score was characterized by 3 levels, (a) normal to mild, (b) moderate, and (c) severe to extremely severe. In each factor (depression, anxiety, and stress), more than 50 percent of the respondents was in normal to mild level. Nonetheless, about 30 percent of the respondents had severe to extremely severe level for anxiety which are higher than other factors (depression and stress). Based on the independent T-test, results showed that anxiety score between male and female were statistically significant (Mean: Male=4.68, Female=6.29, $p<0.05$). Chi-square results show that only community (neighbourhood) had association with stress level. Meanwhile, gender was the sole association with anxiety factor. From the finding, most female tend to have score as severe to extremely severe in anxiety. Our study highlighted the significantly value related to their demographic background such as gender and neighbourhood.

Keywords: Anxiety, Depression, Movement Control Order, Stress, Students.

Introduction

Coronavirus Disease (COVID-19) has changed the world landscape since 2020. Malaysia reported over 3.8 million confirmed cases and about 33 890 deaths from COVID-19 updated 15 March 2022 (COVID-19 Malaysia, 2022). The world has dramatically changed in social behavior, economic and social lifestyle. The government took various actions such as

lockdowns, quarantines, and restrictions of movement to curb the spread of the virus. The pandemic resulted in lockdowns in most infected countries with COVID-19, including France, Spain, Italy, Germany, Croatia, and elsewhere in the European region, including the United Kingdom, with more than 300 million people involved (Buchholz, 2020). COVID-19 cases were initially detected in Malaysia were imported cases, confirmed on 25th January 2020 (Hasyim et al., 2020). Later in the same month, World Health Organization (WHO) has declared the outbreak of COVID-19 is a public health emergency of international concern on 30th January 2020. In Southeast Asia, Filipina and Malaysia's countries-imposed lockdowns on 15 March 2020 and 18 March 2020, respectively (Fauzi & Paiman, 2021). Based on the guideline published by WHO, persons with SARSCoV-2 infection, need to go quarantine either in a medical facility or an alternative setting depending on the severity of their disease or risk factors (WHO, 2021). They also recommended 14 days of quarantine for "those who either has face to face contact or direct physical contact with someone who was confirm or probable SARS-CoV-2 infection, direct care for an individual with a confirmed or probable SARS-CoV-2 infection without using appropriate personal protective equipment or other situations and conditions, as indicated by local risk assessments."

Then, on 1st May 2020, Prime Minister Muhyiddin Yassin announced the Conditional Movement Control Order (CMCO or Conditional MCO) which start on 4th May 2020 (Alyasa, 2020) to relax some regulations implemented during MCO. Later, Malaysia entered a new phase of the Recovery Movement Control Order (RMCO) on 10th June 2020 (Loo, 2020). But then again, the trend of Covid-19 positive cases has increased with a new variant called Delta detected in the community (Mohamed Radhi, 2021). Therefore, Malaysia has imposed a Full Movement Control Order (FMCO) on all social and economic sectors in Malaysia from 1st June to 14th June 2021. Government under Health Ministry had advice persons who may have encounter the coronavirus disease to isolate themselves at home or in a dedicated quarantine facility as part of the prevention method.

Educational institutions were also forced to close, thus gave a huge impact on students as they needed to continue their education online. By June 2021, Malaysia had been through a series of prolonged MCO. Findings by Aziz et al (2021) show that university students' stress management factors were time management, internet connection, study workload, and adaptation to new norms. In addition, quarantined students had higher depressive symptoms, with female students scoring significantly higher for depression, anxiety, and stress (Pang et al., 2021b). Thus, this study hopes to extend the existing literature by empirically evaluating the impacts of prolonged MCO on factors such as anxiety, depression, and stress level among university students and evaluates the relationship between those factors with gender, family income, and type of community they live in.

Literature Review
In Malaysia, Malaysian government had implemented Movement Control Order (MCO) under the Prevention and Control of Infectious Disease Act 1988 and the Police Act 1967 for 14 days starting 18th March 2020 (Leong, 2020). The MCO encircled movement, assembly, and international and local travel restrictions. The MCO is imposed in different phases, from the strict order phase into the conditional order phase, followed by the recovery restriction phase. On 1st June 2021, the Malaysian government had imposed total lockdowns due to the number of daily positive cases showing an exponential spike (Adnan, 2021). The

government realized the series of prolonged lockdowns, which adversely affect the economic terms, mental health among the public and education sector. Thus, on 15 June 2021, the Prime Minister announced the National Recovery Plan (PPN) towards relaxing restrictions in compliance with certain objectives; in controlling the COVID-19 pandemic and, at the same time, reopening economic and social activities gradually towards the new norms (*Laporan PPN*, 2021).

The impact of lockdowns on mental health in the population is concerning. Anxiety, stress, and depression are prevalent worldwide during the quarantine/social isolation caused by the COVID 19 pandemic. There are studies about the association of COVID-19 with distress, anxiety, fear of contagion, and depression in the general population and professionals (Sundarasen et al., 2020; Bauerle et al., 2020; Kamaludin et al., 2020; Rehman et al., 2021). Post-traumatic symptoms caused by isolation were recorded in most studies (Brooks et al., 2020; Dai et al., 2020). Study in the United State adult community shows that isolation was associated with anxiety, loneliness, and financial concern (Tull et al., 2020). Other studies also reported on the effect of quarantine on society such as stress, confusion, and anger (Brooks et al., 2020). Furthermore, Yee et al (2021) highlighted in their study that approximately one in three individuals experienced mild to severe depression during the MCO. Studies conducted in more than 60 countries show that young adults are more at risk of poor mental health than old adults due to perceived stress and financial uncertainty (Varma et al., 2021). Furthermore, in US, 10% of the university students reported suffering from depression (Bieter, et. al., 2015). In addition, from a studies conducted in the Great Britain (with participants aged 13 to 25 years old), young people reported losing support, daily routine, and social ties, as well as anxiety, loneliness, and a lack of drive and purpose. A higher frequency of depression and anxiety was also found during and after periods of social isolation (Thomas, 2020).

Some students used acceptance and mental disengagement to cope with anxiety (Kamaludin et al., 2020). A study by Kalok et al (2020) shows students who received social support, especially from family contributed to lower depression and alleviated anxiety and stress levels. Woon et al (2021) revealed that students' loss of everyday routine and study disruption lead to depressive symptoms. Hussain et al (2021) gave a similar conclusion and suggested early identification and intervention for those students involved. Hence, a study by Pang et al (2021a) suggested brief psychological interventions to deal with stress for those affected by COVID-19. A study of anxiety levels among university students in Malaysia during the COVID-19 pandemic found that the socio-demographic data, age, gender, academic specialization, and living condition were significantly associated (Sundarasen et al., 2020). In addition, the female students are more anxious than male students, and anxiety symptoms were higher in the younger group of age. Financial constraints, remote online learning, and uncertainty related to their academic performance, graduation, and future career prospects are the factors that contribute to stress among Malaysian university students.

Methodology

The survey was distributed through an online platform. The respondents give their internet consent before proceeding to answer the survey. Only respondents with age 18 years old and above are allowed to answer the survey. Data were collected between 18 June 2021

to 23 July 2021. A total of 116 responses were obtained, and after separating the violating the criteria, only 107 were analysed.

The questionnaire was divided into three sections. The first section comprises demographic questions such as age, gender, and household income. The second part consists of Depression, Anxiety and Stress Scale (DASS 21) questions. DASS 21 is a simplified version of DASS-42, both developed by Lovibond and Lovibond (Lovibond and Lovibond, 1995). It has been translated and well established in English and Malay (Musa, 2007). This tool comprises twenty-one questions that covered depression, anxiety, and stress area. Each area consists of seven questions (Table 1) and a scale from 0 to 3. There are "0=Never", "1=Sometimes", "2=Often" and "3=Almost Always". This scale was added to get the score for each area. Then, the severity for the score of each level was displayed in Table 2.

Table 1
Depression, Anxiety and Stress Scale (DASS 21)

AREA: DEPRESSION	
DAS S3	I couldn't seem to experience any positive feeling at all.
DAS S5	I found it difficult to work up the initiative to do things.
DAS S10	I felt that I was using a lot of nervous energy.
DAS S13	I felt down-hearted and blue.
DAS S16	I was unable to become enthusiastic about anything.
DAS S17	I felt I wasn't worth much as a person.
DAS S21	I felt that life was meaningless.
AREA: ANXIETY	
DAS S2	I was aware of dryness of my mouth
DAS S4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)
DAS S7	I experienced trembling (eg, in the hands)
DAS S9	I was worried about situations in which I might panic and make a fool of myself
DAS S15	I felt I was close to panic
DAS S19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)
DAS S20	I felt scared without any good reason
AREA: STRESS	

DAS S1	I found it hard to wind down
DAS S6	I tended to over-react to situations
DAS S8	I felt that I was using a lot of nervous energy
DAS S11	I found myself getting agitated
DAS S12	I found it difficult to relax
DAS S14	I was intolerant of anything that kept me from getting on with what I was doing
DAS S18	I felt that I was rather touchy

Table 2
Level of DASS 21 score

Level	Depression	Anxiety	Stress
Normal to Mild	0-6	0-5	0-9
Moderate	7-10	6-7	10-16
Severe to extremely severe	11+	8+	17+

From the output of reliability statistics obtained (Table 3), Cronbach's Alpha value resulted greater than 0.6, therefore this research instrument is reliable. Having tested the validity and reliability of the proven results of the questionnaire is valid and reliable performance.

Table 3
Cronbach's Alpha for each area

Area	Cronbach's Alpha value
Depression	0.910
Anxiety	0.830
Stress	0.883

Data Analysis

The data analysis was done descriptively, and then the results were presented in tables and figures. The inferential statistics of the T-test was used to examine the difference between gender and DASS scores on anxiety, depression, and stress. This test is used to explore whether both genders show differences in DASS scores. Next, a chi-square test was used to discover if there was any association between anxiety, depression, and stress level of the score with gender, family income, and community.

Results and Discussion

The survey was distributed electronically through WhatsApp. Within 35 days (18 June 2021 to 23 July 2021) 116 responses were received. Table 4 shows among them, only 107 are students aged between eighteen to forty years old. There were students doing their diplomas, bachelor's degrees, and master's degrees students. Of overall respondents, 51 (47.7%) were male while 56 (52.3%) were female. More than half of the respondents, 59.8%, came from

B40 families with household incomes less than RM4800, and 56% of the respondents live in the city or town.

Table 4
Respondent's demographic

Characteristic		N	%
Gender	Male	51	47.7%
	Female	56	52.3%
Family income	<=RM4850	64	59.8%
	>RM4850	43	40.2%
Neighbourhood community	Town or City	60	56.1%
	Others	47	43.9%

Table 5 shows the total score for depression, anxiety, and stress. The mean score for depression for all respondents is 7.05. Noted that a scale of 7 for depression already falls at a moderate level. However, the median value for depression is 6 which means that more than 50% of the respondent still in the normal or mild level of depression. As for anxiety and stress, the mean and median levels presented are still normal and mild.

Table 5
Descriptive Statistics for a total score of Depression, Anxiety, and Stress

	Depression	Anxiety	Stress
Mean	7.05	5.52	7.04
Standard Deviation	4.81	4.03	4.43
Median	6.00	5.00	6.00
(Minimum, Maximum)	(0, 21)	(0,18)	(0,19)

Later, the scores were recoded into three levels of severity. The results showed that more than 50% of the respondents have normal to a mild level of depression, anxiety, and stress (Table 6). However, severe, and extremely severe for anxiety was quite high, 29.9%. This finding is quite similar to a previous study which are conducted among students in China (Nurunnabi et. al., 2021) where 23.8% of students reported experiencing severe to an extreme level of anxiety. On the other hand, the depression level for severe and extremely severe in this study, 19.6%, is higher than the previous study (Yee et. al., 2021; Alsalman et. al., 2021) which was 8.4% and 6%. Yee et al. (2021) also stated that approximately out of three individuals, one-person experienced mild to severe depression during the MCO. As for stress, 77.6% respondents experienced normal to mild compared to moderate (10.3%) and severe to extremely severe (12.1%).

Table 6
Frequency Level of Depression, Anxiety and Stress

	Level	Frequency	Percentage
Depression Level	Normal to mild	54	50.5
	Moderate	32	29.9
	Severe to extremely severe	21	19.6
Anxiety Level	Normal to mild	61	57.0
	Moderate	14	13.1
	Severe to extremely severe	32	29.9
Stress Level	Normal to mild	83	77.6
	Moderate	11	10.3
	Severe to extremely severe	13	12.1

Inferential statistics of T-tests (Table 7) revealed only the anxiety score defined by gender was statistically significant, where the mean score for females was higher than that for males (Mean: Male = 4.68, Female = 6.29, $p<0.05$). This finding agrees with previous findings (Sundarasen et al., 2020) that show female students are more anxious than male students. Other variables, such as family income and neighbourhood community, were not found to be significant. However, we can see from the result that in all three criteria, depression, anxiety, and stress, the average score for females was higher than that for males. Another interesting finding was that, even though there were no statistically significant differences, respondents who live in the city or town also recorded higher scores in all three criteria. This might resulted that those who live in the city or town, use to spend time with their friends and families. But by implementing prolonged lockdown, as well as quarantine for those with positive covid-19 and closed contact, these young people will feel that they were losing support, daily routine, and social life. This was also reported by (Thomas, 2020).

Table 7
Descriptive statistics for total scores by gender, family income, and community

	DASS21		N	Mean (SD)	Median (Minimum, Maximum)	p-value
Gender	Depression	Male	51	6.57 (4.94)	6 (0,21)	0.329
		Female	56	7.48 (4.69)	6.5 (0,21)	
	Anxiety	Male	51	4.68 (3.67)	3 (0,15)	0.04*
		Female	56	6.29 (4.22)	6 (0,18)	
	Stress	Male	51	6.31 (4.41)	6 (0,18)	0.107
		Female	56	7.7 (4.39)	7 (0,19)	
Family income	Depression	<=RM4850	64	6.97 (4.52)	6.5 (0,21)	0.839
		>RM4850	43	7.16 (5.26)	6 (0,21)	
	Anxiety	<=RM4850	64	5.72 (3.45)	5 (0,14)	0.543
		>RM4850	43	5.23 (4.80)	3 (0,18)	
	Stress	<=RM4850	64	7.38 (4.39)	7 (0,19)	0.339
		>RM4850	43	6.53 (4.51)	6 (0,19)	

Neighbourhood community	Depression	Town or City	60	7.42 (5.03)	7 (0,20)	0.371
		Others	47	6.57 (4.52)	6 (0,21)	
	Anxiety	Town or City	60	6.00 (4.49)	5 (0,18)	0.168
		Others	47	4.91 (3.31)	5 (0,15)	
	Stress	Town or City	60	7.38 (4.62)	6 (0,18)	0.364
		Others	47	6.60 (4.19)	6 (0,19)	

To determine if any factor is associated with the level of depression, anxiety, and stress, a Chi-square test has been conducted. From the result (Table 8), neighbourhood community was statistically significant at 95% confidence level for stress level (p-value=0.037 < 0.05). The respondent who lived in the town or city experienced moderate to severe levels of stress. In addition, gender showed statistically significant at 90% confidence level for anxiety level (p-value=0.079 < 0.10). From the finding, females tend to have anxiety score severely to extremely severe. This result is correspond with the finding by Sundarasen et al. (2020).

Table 8
Level of Depression, Anxiety and Stress by gender, family income, and community

Depression								
		Normal to mild		Moderate		Severe to extremely severe		p-value
		Freq.	%	Freq.	%	Freq.	%	
Gender	Male	26	51	18	35.3	7	13.7	0.262
	Female	28	50	14	25	14	25	
Family income	<=RM4850	32	50	22	34.4	10	15.6	0.306
	>RM4850	22	51.2	10	23.3	11	25.6	
Neighbourhood community	Town or City	29	48.3	16	26.7	15	25	0.271
	Others	25	53.2	16	34	6	12.8	
Anxiety								
		Normal to mild		Moderate		Severe to extremely severe		p-value
		Freq.	%	Freq.	%	Freq.	%	
Gender	Male	34	66.7	7	13.7	10	19.6	0.079 **
	Female	27	48.2	7	12.5	22	39.3	

Family Income	<=RM4850	34	53.1	10	15.6	20	31.3	0.521
	>RM4850	27	62.8	4	9.3	12	27.9	
Neighbourhood community	Town or City	32	53.3	8	13.3	20	33.3	0.648
	Others	29	61.7	6	12.8	12	25.5	

Stress

		Normal to mild		Moderate		Severe to extremely severe		p-value
		Freq.	%	Freq.	%	Freq.	%	
Gender	Male	42	82.4	4	7.8	5	9.8	0.524
	Female	41	73.2	7	12.5	8	14.3	
Family Income	<=RM4850	47	73.4	9	14.1	8	12.5	0.275
	>RM4850	36	83.7	2	4.7	5	11.6	
Neighbourhood community	Town or City	42	70	10	16.7	8	13.3	0.037*
	Others	41	87.2	1	2.1	5	10.6	

*p-value≤0.05   **p-value≤0.01

Conclusion

This study identified that the mean total score in depression and stress is higher compared to anxiety among students during prolonged MCO. More than 50 percent of students had normal to mild level for each score (Depression, anxiety, and stress). However, among score levels, anxiety has the highest frequency in severity. Female students had a higher significance difference in mean anxiety scores compared to male students. This study also indicated that there was an association of gender with anxiety level. Furthermore, there was an association of community with stress levels.

As a result, this study shows that the impact of lockdowns on the demographic's mental health is concerning. These preliminary findings are hoped to form an understanding of depression, anxiety, and stress among university students who are faced with prolonged MCO. It is also recommended to conduct further studies of association of gender with anxiety level as this study are clearly supportive with the other studies that highlighted the issues during the quarantine/social isolation caused by the COVID 19 pandemic.

Acknowledgments

Corresponding Author
Mahanim Omar
Department of Computer and Mathematical Sciences, Universiti Teknologi MARA, Cawangan Pulau Pinang, Kampus Permatang Pauh, 13500 Pulau Pinang, MALAYSIA. Email: mahanim@uitm.edu.my

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