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Using Dass-21 to Measure the Psychological Stress of Malaysians during Covid-19

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Abstract

The Movement Control Order (MCO) was imposed in Malaysia in March 2021 due to the Covid-19 pandemic. This six-month control led to a substantial psychological impact among Malaysians. Using the DASS-21 instrument, a quantitative survey was conducted. 400 Malaysians answered a questionnaire to examine whether demographic factors, risk perception, individual behaviour, mental health and media usage affected the psychological impact of Malaysians during COVID-19. Findings indicate that COVID-19 did impact Malaysians which was due to the movement constraint. Besides contributing to the body of knowledge, this study shows that workplace policies that affect quality of life need immediate attention.

Keywords: Psychological Impact; COVID-19; Mental Health; Quality of Life, SDG

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1.0 Introduction

As a result of the announcement of the Emergency Committee, the Director-General of the WHO announced on 30 January 2020, that Covid -19 is a Public Health Emergency of International Concern (PHEIC) (WHO, 2020), and the Malaysian government imposed a Movement Control Order (MCO) by March 2020. During this period, studies and reports showed that COVID-19 had a tremendous psychological impact on Malaysians. Many Malaysians, immaterial whether gainfully employed or not, faced a negative psychological impact, with an increase in anxiety levels, stress, and depression.

DASS-21, a set of three self-report scales, was used in this research to measure the emotional states of depression, anxiety, and stress. The three DASS-21 scales each have seven items that are classified into subscales with related material, and it has been proven to be a reliable and valid instrument which aids in defining, comprehending, and measuring the emotional states of depression, anxiety, and stress (Lovibond, 2021).

1.1 Problem of the Study

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The ASEAN Post in 2020 reported that the COVID-19 pandemic had shaken livings and dramatically changed how people live (The Asean Post, 2020). Adding to this adversity, many Malaysians lost their jobs, and their lives and livelihoods were affected. This caused stress and anxiety as people could not get food on the table or pay their bills and loans. During this period, depression had affected half a million Malaysian adults, “according to the National Health and Morbidity Survey 2019, a figure that got much worse given the impact of COVID-19 on jobs and lives. Thus, concerns and stress needed immediate attention where cooperation and unity of all parties and strata of society were required to control pressure and curb this virus.

Although specific and uncontrolled infection-related fears, widespread anxiety, frustration, and boredom have been assumed to undermine subjective wellbeing and quality of life, resilience and enhanced social support are protective factors that may help with lifestyle changes and rehabilitation instruments (Serafini et al., 2020).

The first large-scale study in Malaysia to assess the impacts of the COVID-19 pandemic on the general population, conducted by Tan et al., (2023) found that though the pandemic is close to ending, the mental health of the general population in Malaysia was particularly impacted and their quality of life decreased during the pandemic period.

This survey study was conducted in late 2020, soon after the MCO was lifted in the country.

1.2 Objectives of Study

This research is guided by two objectives:

Objective 1 -To examine the relationship between demographic factors and stress level during the conditional lockdown in Malaysia during COVID-19.

Objective 2 -To investigate whether risk perception, individual’s behaviour, mental health, and media usage have an effect on the psychological impact among Malaysians during COVID-19.

2.0 Literature Review

2.1 Maslow’s Hierarchy of Needs Theory

Abraham Maslow, in his hierarchy of needs theory, identified a motivational principle that includes a five-tier model of human needs, where lower needs must be met before higher needs can be taken care of by individuals. The needs are from the bottom of the hierarchy upwards: physiological, comfort, love and belonging, self-esteem and self-realization (McLeod, 2020). However, according to Gagnon (2020), a psychologist, he felt that “psychological needs can be described as a psychological disorder in which something is required or wanted. The classical approach to personality issues considers them to be problems in an undesirable sense. struggle, confrontation, remorse, bad conscience, anxiety, depression, anger, stress, humiliation, self-punishment, feeling inferior or indignity.” It will all trigger psychic discomfort, interrupt the output quality, and they are all uncontrollable (Maslow, 1962).

2.2 The impact of COVID-19 on psychology

The most significant and profound psychological effect of outbreaks on the general population is demonstrated by Alkhamees, Alrashed, Alzunaydi, Almohimeed & Aljohani, (2020); and also Rodriguez-Rey, Garrido-Hermansaiz & Collado, (2020). Figure 1 summarises the most significant psychological reactions to COVID-19 infection in the population (Serani et.al, 2020).

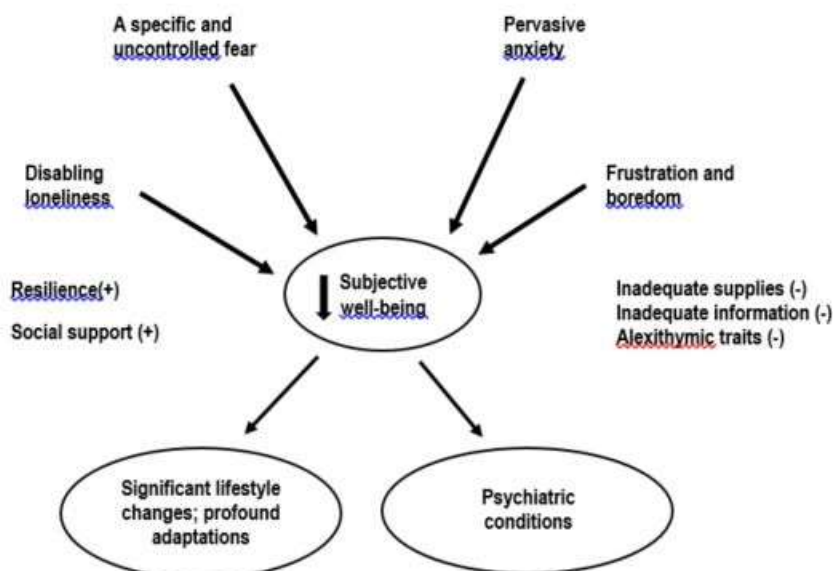


Figure 1 - Summary of the most relevant psychological reactions in the general population related to COVID-19 infection (Serafini, 2020)

COVID-19 patients also had a higher prevalence of mental problems such as anxiety, depression, suicidal ideation, and insomnia when compared to movement controls (Xuanzhen, 2021). According to Mir et al., (2023) young individuals, especially university students, were more likely to experience psychological suffering in the event of a health catastrophe, which was proved by evidence where about 36% and 73% of the population sampled in the research showed symptoms of anxiety and depression respectively during the pandemic.

2.3 *The Impact of Covid-19 on Malaysians*

In late 2020, the Ministry of Health (MOH) reported that the three government psychosocial hotlines received a tremendous number of 11,791 calls for assistance from March to August 2020, i.e. during the highest COVID-19 pandemic. Meanwhile, Bukit Aman headquarter (the Malaysian police headquarters) also reported that at least one suicide was reported countrywide daily during the movement control order (MCO) from March 18th to October 30th (Code Blue, 2020).

According to a Health Tracking Poll in July 2020, many adults reported specific negative impacts on their mental health and wellbeing as a result of the coronavirus, such as difficulty in sleeping (36%), eating (32%), increased alcohol consumption or substance use (12%), and worsening chronic conditions (12%) (Panchal, Kamal, Cox & Garfield, 2021).

Malaysians were not spared the pandemic. The uncertainty about the pandemic and the new routines that people had to adapt to during the MCO caused worry, anxiety and emotional instability. The enforcement authorities have also brought socioeconomic sacrifices. The limitation of everyday business due to the MCO imposed financial hardship on many, leading to psychological distress (Rozainee Khairudin, 2020).

A survey conducted by the Department of Statistics Malaysia (DOSM), found that nearly 47 per cent of self-employed employees had lost their jobs (DOSM 2020).

2.4 *Mental health and demographic factors*

Research has shown that there is a direct relationship between different demographic factors such as age, gender, and income groups with the ability to manage stress and its impacts (Faraj, 2022; Jamebozorgi, Karamoozian, Bardsiri, & Sheikhbardsiri, 2022; Khamseh et al., 2011). Evidence suggests that demographic factors were highly related to stress levels during the conditional lockdown in Malaysia during COVID-19 (Faraj, 2022).

Gender has been found to be a significant predictor of stress during the pandemic. Studies have shown that women experience higher levels of stress compared to men (Bisht, Bisht, & Sagar, 2021). This may be due to the disproportionate burden of caregiving responsibilities and domestic work that women often bear and the increased risk of domestic violence during lockdowns. Indeed, COVID-19 fear and anxiety could potentially be overwhelming and thus increase mental stress on women and society. Siow, et al., (2022) discovered that females and doctors were linked to a greater psychosocial impact from the pandemic among healthcare workers.

Age is another demographic factor that is related to stress during the pandemic. Older adults at higher risk of severe illness and death from COVID-19 may experience more stress and anxiety related to the pandemic. Younger adults, on the other hand, may experience stress related to the disruption of their education, employment (Subramaniam et al. 2022) and social lives (Bisht et al., 2021)

Education level has also been found to be related to stress during the pandemic. Studies have shown that individuals with lower levels of education experience higher levels of stress and anxiety (Kowal et al., 2020). This may be due to the increased risk of job loss and financial hardship among individuals with lower education levels. Mahmud et al. (2020) found that almost 22% - 33% of the health sciences students from a public university in Malaysia have had psychological problems revealed by depression, anxiety and stress during the COVID-19 pandemic.

In addition to these demographic factors, other factors such as income, employment status, and living arrangements can also influence stress levels during the pandemic.

2.5 *Risk perception, individual behaviour, mental health and media usage on the psychological impact*

The relationship between risk perception, individual behaviour, mental health, and media usage on the psychological impact of Malaysians during COVID-19 can be complex and interrelated. Risk perception refers to an individual's subjective assessment of the likelihood and severity of a threat or hazard, in this case, COVID-19. A higher risk perception can lead to more cautious behaviour, such as wearing masks and social distancing.

Individual behaviour, such as adherence to public health guidelines, can also be influenced by various factors, including risk perception, social norms, and personal beliefs. The extent to which individuals follow recommended guidelines can affect their risk of infection and mental health.

The pandemic and associated stressors can also impact mental health, such as social isolation, economic uncertainty, and fear of infection (Talevi et al., 2020). The psychological impact of the pandemic can range from anxiety and depression to more severe mental health conditions.

Media usage can influence risk perception and individual behaviour by shaping people's perceptions of the pandemic and its risks (Zhong, Huang, & Liu, 2021). For example, exposure to sensationalized or exaggerated news stories can increase anxiety and fear among individuals. On the other hand, accurate and reliable information can help individuals make informed decisions about their behaviour and risk perception.

3.0 Methodology

3.1 Participant and procedure

The study was conducted soon after the MCO in December 2020. Using a purposive sampling of different age groups, ethnicity and occupational status, 400 Malaysians were given a self-administered questionnaire. However, only 352 questionnaires were usable. The targeted Malaysians for this study were above 18, and data was collected using online Google forms. A pre-test and pilot test was conducted to measure the reliability.

3.2 Measures

The survey for this study used the DASS-21 instrument to measure the psychological impact to test on depression, anxiety, and stress. This study used a self-administered questionnaire with a Likert-scale question to obtain the data. The researcher developed Section A - the demographic variable. As for the independent variables, it was adapted from "The COVID-19 Pandemic Mental Health Questionnaire (COPAQ)". The questionnaire is a freshly created and comprehensive self-reporting tool for the personal and social effects of the coronavirus pandemic, with a global treatment scope. The survey encompasses various areas of interest influenced by the outbreak of the COVID-19 pandemic (Rek, S., Freeman, D., Reinhard, M., Keeser, D., & Padberg, 2020). The questionnaire consisted of eight variables but only four were taken based on the situation in Malaysia. The variables are risk perception, individual behaviour, mental health, and media usage. The risk perception is a short self-report question which comprises of 8-items in perceiving an individual's risk perception on the COVID-19 pandemic (Rek, Freeman, Reinhard, 2020). The individual's behaviour is a long 11-item self-report assessing one's level of behaviour since the COVID-19 pandemic over the past two weeks (Rek, Freeman, Reinhard, 2020). The assessment of mental health measures mental health aspects such as the feeling of stress, worries, concerns and thoughts. The question is a 10-item scale over the past 14 days (Rek, Freeman, Reinhard, 2020). The assessment on media usage consists of a 6-item scale over the past 14 days that assess the media consumption around COVID-19 issues by the respondents (Rek, Freeman, Reinhard, 2020). The DASS-21 is a validated self-report questionnaire consisting of 21 items that measure levels of anxiety, depression, and stress over the past week, which was adapted from Lovibond, S.H & Lovibond, P.H. (1995).

4.0 Findings

4.1 The relationship between demographic factors and stress level during the conditional lockdown in Malaysia during COVID-19

The analysis was done using chi-square analysis. Based on Table 1, out of nine demographic variables, four variables had a significant impact on the conditional lockdown among Malaysians. The variables are gender, educational background, employment status, and loss of job or wages during COVID-19 pandemic.

Females were more affected than males. Also, those with a lower level of educational background were more affected. Interesting to note that employees with fixed incomes were less affected than housewives or retirees who had no income.

Table 1. Demographic Factors against the Conditional Lockdown among Malaysians during COVID-19 Pandemic

Variable	Category	I have felt stressed or burdened a lot by the conditional lockdown		Total	Significance Level
		Disagree	Agree		
		N (%)	N (%)		
Age	18-37	148 (53.6)	128 (46.4)	276 (100.0)	0.138
	38-67	48 (63.2)	28 (36.8)	76 (100.0)	
Gender	Male	98 (63.2)	57 (36.8)	155 (100.0)	0.011**
	Female	98 (49.7)	99 (50.3)	197 (100.0)	
Marital Status	Married	70 (58.3)	50 (41.7)	120 (100.0)	0.471
	Widowed/Divorced/Single	126 (54.3)	106 (45.7)	232 (100.0)	
Ethnicity	Malay	161 (57.5)	119 (42.5)	280 (100.0)	0.176
	Non-Malay	35 (48.6)	37 (51.4)	72 (100.0)	
Educational Background	SPM/STPM/Diploma	89 (61.0)	57 (39.0)	146 (100.0)	0.093*
	Degree/Master/PhD	107 (51.9)	99 (48.1)	206 (100.0)	
Household Income	RM0 to RM9,000	184 (56.4)	142 (43.6)	326 (100.0)	0.310
	RM9,001 and above	12 (46.2)	14 (53.8)	26 (100.0)	
Employment Status	Employed/Self-employed	146 (64.9)	79 (35.1)	225 (100.0)	0.000***
	Unemployed/Housewife/Retired/Student	50 (39.4)	77 (60.6)	127 (100.0)	
"Did you lose your job or any wages during COVID-19 pandemic?"	Yes	35 (36.8)	60 (63.2)	95 (100.0)	0.000***
	No	161 (62.6)	96 (37.4)	257 (100.0)	
Household Members	1-3	54 (50.5)	53 (49.5)	107 (100.0)	0.193
	4 or more	142 (58.0)	103 (42.0)	245 (100.0)	

Note: ***Significant at 1%, **Significant at 5%, *Significant at 10%

4.2 To investigate whether risk perception, individual behaviour, mental health, and media usage have an effect on the psychological impact among Malaysians during COVID-19

The objective of running a multiple linear regression was to examine the associated factors on the psychological impact among Malaysians during COVID-19. The findings suggest that risk perception and mental health have a significant impact on the changes in psychological level among Malaysians as shown in Table 2

Table 2 - Regression Analysis on DASS-21

Model	Unstandardized β	Standardized β	t	pvalue
Constant	-1.151	-	-0.165	0.869
Risk Perception	0.292	0.106	2.032	0.043**
Individual's Behaviour	-0.055	-0.019	-0.391	0.696
Mental Health	0.814	0.424	7.351	0.000***
Media Usage	-0.012	-0.005	-0.089	0.929

a. Dependent Variable: DASS-21
 b. ***Significant at 1%, **Significant at 5%, *Significant at 10%
 Source: Based on Survey

The results suggest that, only two predictor variables had significant effects on total psychological levels (namely Depression, Anxiety & Stress) among Malaysians, namely risk perception and mental health. Between the two variables, mental health was a more significant predictor compared to risk perception.

5.0 Discussion

5.1 The relationship between demographic factors and stress level during the conditional lockdown in Malaysia during COVID-19

Out of the nine demographic factors, only four factors are significant, namely gender, educational background, employment status, and losing a job or wages during COVID-19 pandemic.

Gender had a significant relationship with stress level, where the female is more stressed than the male. This is supported by a community survey done by ThinkCity (2020), where females are more concerned about their relationships with their family. On the other hand, another reason was because females needed to face the extra work, especially when there are working from home during the MCO, and also needed to support their children in learning since schools were closed (Traunmüller, Stefitz, Gaisbachgrabner, & Schwerdtfeger, 2020). In fact, another study showed that being a woman, having fair or poor general health status, being 18 to 24 years old, spending 8 or more hours a day on screen, and knowing someone infected predicted higher levels of psychological impact (Matthew H. E. M. Browning et al, 2021).

Next is the educational background. Those with a higher educational background (degree, master, and PhD) were less stressed than those with a lower level of educational background. Perhaps, it could be due to the respondents who could easily adapt to the current situation. It is vice versa with those who agree because they were more concerned about their post-graduate plans and the economy (Keckojevic, Basch, Sullivan, & Davi, 2020).

Next, the employment status. Most of the respondents who are employed or self-employed were less affected by the conditional lockdown. It might be that those employed or self-employed respondents were able to adapt to the current situation compared to the housewives, retirees and students.

Lastly, the question asked was, "did you lose your job or any wages during COVID-19 pandemic?" Surprisingly, there were 82.1% (N=161) of the respondents who state that they did not lose their jobs or wages despite of the conditional lockdown. The findings however contradict the previous study (Lim, 2020; Roy, 2021a, 2021b). This perhaps refers to organizations which implemented work-from-home policies during the pandemic.

5.2 To investigate whether risk perception, individual behavior, mental health, and media usage have an effect on the psychological impact among Malaysians during COVID-19

Based on a multiple regression analysis, high levels of risk perception were significantly associated with higher DASS ($\beta = 0.292, p < 0.05$). Thus, the findings is consistent with the previous study (Keckojevic et al., 2020). This means that people who have high risk will have a high level of depression, anxiety, and stress.

Next, high levels of mental health conditions were also significantly associated with higher DASS scores ($\beta = 0.814, p < 0.01$). This finding is also consistent with past studies (Sundarasen et al., 2020). It means that those who are highly mentally affected may experience a high level of depression, anxiety, and stress.

6.0 Conclusion & Recommendations

Interestingly, Chi-square analysis shows that females, those with lower educational achievement and working in fixed jobs, had higher stress levels during MCO. Secondly, regression analysis shows that risk perception and mental health had an effect on the psychological impact among Malaysians during COVID-19.

Our results suggest that the psychological impact on Malaysians was reported at a worrying level, especially when the government announced the MCO. It was also reported that it was not only the adults who were affected but students and children too since this pandemic has caused a major alarm not just in Malaysia but to the whole world. However, those with higher educational level, employed and self-employed people, respondents who had income were not affected during COVID -19. Besides, the results also show that most working people were not affected by the conditional lockdown because they probably had the opportunity of working from home or they received government aids such as PRIHATIN Economic Stimulus Package, i-sinar, moratorium, Bantuan Prihatin Rakyat (BPR), and Geran Khas Prihatin (GKP). Indirectly, this reduced the burden or relieved their stress during the MCO.

Hence, the results suggest that the government should continue to provide initiatives such as targeted financial help which will help ease the burden of the affected people and counselling sessions for those who are psychologically affected. In addition, this study also suggests that since COVID-19 affected vulnerable individuals, places such as schools, colleges, universities, institutions and workplaces should maintain and adapt to more flexible working arrangements by allowing their students and staff to have a hybrid learning and working environment. This indirectly would minimize the number of people infected by the virus.

The limitation in this study is the time period it was done and the sample size. Future research using mixed method and a larger sample size should study the consequences of MCO and Covid19.

7.0 Suggestion for Future Research

It is recommended that new research should be conducted to explore what's the current situation of the Malaysians – two years down the road with Covid-19 as an endemic.

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Paper Contribution to Related Field of Study

This paper re-establishes the use of DASS-21 instrument as a measure of long-term impact of stress over a target population.

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