



UNIVERSITI PUTRA MALAYSIA

**CABIN FEVER AND ITS ASSOCIATED FACTORS AMONG
UNIVERSITI PUTRA MALAYSIA (SERDANG CAMPUS) STUDENTS
WHO STAYED IN CAMPUS DURING MOVEMENT CONTROL ORDER
(MCO) IN 2020**

GROUP 17

**KUMUTHINI A/P ULAGANTHERAN
MUHAMMAD AMIRUL BIN AZIZ
FOONG WEI ERN**

**lp
FPSK1 2020 16**

CERTIFICATION

It is hereby certified that we have read the project dissertation entitled CABIN FEVER AND ITS ASSOCIATED FACTORS AMONG UNIVERSITI PUTRA MALAYSIA (SERDANG CAMPUS) STUDENTS WHO STAYED IN CAMPUS DURING MOVEMENT CONTROL ORDER (MCO) IN 2020 by KUMUTHINI A/P ULAGANTHERAN, MUHAMMAD AMIRUL BIN AZIZ and FOONG WEI ERN

and in our opinion it is satisfactory in terms of scope, quality and presentation as a requirement for the Project 11.

.....

(Supervisor)

Dr. Aidalina binti Mahmud

MBChB (Otago), M. Community Medicine (Health & Hospital Management) (UKM),

PhD (Community Health) (UKM)

Faculty of Medicine and Health Sciences

Universiti Putra Malaysia

.....

(Co-Supervisor)

Dr. Mohd Rafee Bin Baharudin

Diploma in Agriculture (UPM), Diploma in Public Health Inspector,

Bs.KPP (UPM), MSc. (Environmental Science), PhD (Env. & Occ. Risk Assessment)

Faculty of Medicine and Health Sciences

Universiti Putra Malaysia

DECLARATION

We declare that the project is our original work except for quotations and citations which have been duly acknowledged. We also declare that it has not been previously and is not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institutions.

.....

KUMUTHINI A/P ULAGANTHERAN

Date:

.....

MUHAMMAD AMIRUL BIN AZIZ

Date:

.....

FOONG WEI ERN

Date:

ACKNOWLEDGEMENT

This project was completed with the help, support, guidance and cooperation of many individuals who we would like to express the greatest gratitude to.

First and foremost, we would like to acknowledge the Dean and Deputy Dean (Academic) of Faculty of Medicine and Health Sciences, Universiti Putra Malaysia for giving us permission to conduct this study.

We would like to thank our supervisor, Dr. Aidalina binti Mahmud who guided us patiently throughout this project. Not forgetting our co-supervisor, Dr. Mohd Rafee Bin Baharudin for advising us when required. We would like to express greatest appreciation to their willingness of sharing knowledge, experience and precious time with us to complete this study.

In addition, we would like to acknowledge our module coordinator of Research Methodology, Dr. Kulanthayan K.C. Mani for efficiently coordinating the progress of our research. He scheduled our research precisely and always ensured that we were able to carry out the research accordingly. Furthermore, we would like to thank all doctors and staffs of Universiti Putra Malaysia, for giving us valuable suggestion and comments.

Lastly, special thanks to everyone whom we have failed to mention by name, for all help, support and guidance in completing this project. May this project contribute for education for the present and the future.

ABSTRACT

CABIN FEVER AND ITS ASSOCIATED FACTORS AMONG UNIVERSITI PUTRA MALAYSIA (SERDANG CAMPUS) STUDENTS WHO STAYED IN CAMPUS DURING MOVEMENT CONTROL ORDER (MCO) IN 2020

Kumuthini A/P U.¹, Muhammad Amirul¹, Foong W.E.¹, Aidalina Mahmud², Mohd Rafee²

*¹ Second Year Medical Student, Faculty of Medicine and Health Sciences, Universiti Putra
Malaysia*

*² Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra
Malaysia*

ABSTRACT

Introduction: In Malaysia, the government enforced the Movement Control Order (MCO) on March 18, 2020 to slow the transmission of SARS-CoV-2, the virus of the COVID-19 pandemic. The MCO restricted most activity including those of university students. Many students had to remain within their college premises for weeks even though the universities were closed. Being confined in a space for an extended period can result in a condition called cabin fever, which a range of negative emotions and distress. Presence of cabin fever may lead to psychological problems such as depression and anxiety, which in turn could be serious enough to result in suicide. Detecting cabin fever among students may help relevant authorities to generate remedial measures, preventing it from progressing to more serious psychological problems. Therefore, the aim of this study was to determine the prevalence, severity, and associated factors of cabin fever among a public university's students who remained in campus during the MCO period. This study also explored the coping strategies used by these students to overcome cabin fever. **Methods:** A cross sectional study was carried out among students from a public university in Selangor, who remained in residential colleges in the Serdang campus during the current MCO period. The study tool was a self-administered online questionnaire. The questionnaire has three sections: The questionnaire was divided into three sections: section A collects socio-demographic, academic, and family data, section B collects data on signs and symptoms of Cabin Fever using the Cabin Fever Scale (CFS) and section C collects data on

coping strategies that the students experienced during the MCO. All data collected was analyzed using IBM statistical Package for Social Science (SPSS) version 25.0 involving descriptive analyses and statistical tests for associations such as chi-square tests and ANOVA. **Results:** The prevalence of cabin fever among the respondents was 46% and it was associated with age group, gender, ethnicity, duration of study and family monthly income. The coping strategies found to be effective in reducing the prevalence of cabin fever were chatting with friends and family and self-motivation.



ABSTRAK

DEMAM KABIN DAN FAKTOR-FAKTOR YANG BERKAITAN DENGANNYA DALAM KALANGAN PELAJAR UNIVERSITI PUTRA MALAYSIA (KAMPUS SERDANG) YANG MENETAP DI KAMPUS SEWAKTU PERINTAH KAWALAN PERGERAKAN (PKP) 2020

Kumuthini A/P U.¹, Muhammad Amirul¹, Foong W.E.¹, Aidalina Mahmud², Mohd Rafee²

¹ *Pelajar Perubatan Tahun Dua, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia*

² *Jabatan Kesihatan Komuniti, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia*

ABSTRAK

Pengenalan: Di Malaysia, kerajaan telah melaksanakan Perintah Kawalan Pergerakan (PKP) pada Mac 18, 2020 dengan tujuan untuk mengurangkan perebakan SARS-CoV-2, virus penyebab kepada pandemik COVID-19. PKP menghadkan kebanyakan aktiviti termasuk aktiviti yang melibatkan para mahasiswa. Kebanyakan mahasiswa terpaksa menetap di kolej bagi tempoh yang panjang walaupun universiti telah ditutup. Pengurungan dalam suatu tempat bagi tempoh yang panjang akan mengakibatkan demam kabin yang merupakan suatu kondisi di mana seseorang mengalami stres dan emosi yang negatif. Keadaan ini akan menyebabkan masalah mental dan psikologikal seperti kemurungan dan kegelisahan yang mampu mencetuskan masalah bunuh diri. Pengesanan kumpulan mahasiswa yang mengalami demam kabin akan dapat membantu pihak berkenaan yang berkuasa dalam usaha merancang strategi dan program yang sesuai bagi membendung masalah psikologikal yang lebih serius. Oleh itu, tujuan kajian ini adalah untuk mengetahui kejadian, tahap keparahan, dan faktor-faktor yang berkait rapat dengan gejala demam kabin dalam kalangan pelajar universiti yang menetap di kolej kediaman semasa PKP dikuatkuasakan. Kajian ini juga dapat mengenal pasti cara pelepasan stress yang diamalkan oleh para mahasiswa pada tempoh PKP ini. **Kaedah:** Suatu kajian keratan rentas telah dijalankan dalam kalangan mahasiswa yang menetap di kolej kediaman Universiti

Putra Malaysia (Kampus Serdang) pada masa PKP dilaksanakan. Kajian ini dijalankan dalam bentuk soal selidik menggunakan tinjauan rantaian internet. Borang soal selidik ini mengandungi tiga bahagian: Bahagian A mengumpulkan maklumat mengenai latar belakang sosiodemografik, keluarga dan akademik pelajar; Bahagian B mengumpulkan maklumat mengenai simptom demam kabin yang dialami pelajar dengan menggunakan skala demam kabin dan Bahagian C mengumpulkan maklumat mengenai cara pelepasan stress yang digunakan oleh pelajar pada masa PKP. Semua data yang dikumpulkan telah dianalisis dengan menggunakan IBM SPSS Statistik versi 25.0. **Keputusan:** 46% daripada semua mahasiswa yang menetap dalam kampus pada masa PKP dikuatkuasakan mengalami demam kabin dan kejadian ini didapati berhubung kait dengan umur, jantina, kaum, semester dan pendapatan bulanan keluarga seseorang mahasiswa. Jalan penyelesaian yang berkesan bagi mengurangkan stres termasuk berbual-bual dengan ahli keluarga dan kawan serta memotivasikan diri.

TABLE OF CONTENT

	Title	Page
	APPROVAL SHEET	ii
	DECLARATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vii
	LIST OF TABLES	1
CHAPTER		
1	INTRODUCTION	
	1.1 Background	2
	1.2 Problem Statement	4
	1.3 Significance of Study	5
	1.4 Research Questions	6
	1.5 Objectives	6
	1.6 Research Hypothesis	8
2	LITERATURE REVIEW	
	2.1 Introduction	9
	2.2 Symptoms of Cabin Fever	11
	2.3 Mental Health of Public during Movement Control Order due to COVID-19	14
	2.4 Prevalence of Mental Health Disorder among Public during Movement Restriction Periods	16
	2.4.1 Trend Description	18
	2.5 Factors Associated with Higher Level of Mental Illness among The Public or University Students	19
	2.5.1 Socio-demographic Factors	19
	2.5.2 Academic Factors	21
	2.5.3 Family Factors	23
	2.5.4 Coping Strategies	24
	2.6 Conceptual Framework	25
3	METHODOLOGY	
	3.1 Location of Research	26
	3.2 Duration	26
	3.3 Study Design	26
	3.4 Sampling	27
	3.4.1 Study Population	27
	3.4.2 Sampling Population	27
	3.4.3 Sampling Criteria	27
	3.4.4 Sampling Frame	27
	3.4.5 Sampling Unit	27
	3.4.6 Sample Size and Sampling Method	28
	3.5 Variables	30
	3.5.1 Dependent Variables	30

	3.5.2 Independent Variables	30
3.6	Data Collection	30
	3.6.1 Study Instrument	30
	3.6.2 Data Collection Technique	31
3.7	Operational Definition	32
	3.7.1 Dependent Variables	32
	3.7.2 Independent Variables	32
3.8	Quality Control	33
3.9	Data Analysis	34
3.10	Ethical Approval	35
4	RESULTS	
4.1	Response Rate	36
4.2	Normality Assessment	36
4.3	Characteristics of Respondents	37
	4.3.1 Socio-demographic Factors	37
	4.3.2 Academic Factors	38
	4.3.3 Family Factors	39
4.4	Prevalence of Cabin Fever among University Students who Remained in Residential Colleges on Campus during MCO	40
4.5	Common Symptoms among Students who Have Cabin Fever during MCO	41
4.6	Association between Socio-demographic Factors and The Prevalence and Severity of Cabin Fever	42
4.7	Association between Academic Factors and The Prevalence and Severity of Cabin Fever	43
4.8	Association between Family Factors and The Prevalence and Severity of Cabin Fever	44
4.9	Association between Coping Factors and The Prevalence and Severity of Cabin Fever	45
5	DISCUSSION	
5.1	Response Rate	49
5.2	Prevalence and Severity of Cabin Fever among University Students	49
5.3	Common Symptoms of Cabin Fever among University Students	50
5.4	Association between Different Factors and The Prevalence and Severity of Cabin Fever	
	5.4.1 Socio-demographic Factors	50
	5.4.2 Academic Factors	52
	5.4.3 Family Factors	53
	5.4.4 Coping Factors	54
6	CONCLUSION AND RECOMMENDATIONS	
6.1	Conclusion	55
6.2	Strengths and Limitations	55
6.3	Recommendations	56

REFERENCES

APPENDICES

Consent Form	65
Questionnaire	69
Gantt Chart	75
Approval Letter from JKEUPM	76



LIST OF TABLE

Table	Title	Page
3.9	Statistical Test According to Study Objectives	34
4.1	Distribution of the respondents by socio-demographic characteristics (N=383)	37
4.2	Distribution of Respondents by Academic Factors (N=383)	38
4.3	Distribution of Respondents by Family Factors (N=383)	39
4.4	Frequencies of Respondents with and without cabin fever during MCO	40
4.5	Common Symptoms among Students Who Have Cabin Fever during MCO	41
4.6	Association between Socio-demographic Factors and the Prevalence and Severity of Cabin Fever	42
4.7	Association between Academic Factors and the Prevalence and Severity of Cabin Fever	43
4.8	Association between Family Factors and the Prevalence and Severity of Cabin Fever	44
4.9	Association between the coping factors with the prevalence of cabin fever among the UPM students who stayed on Serdang campus during MCO	46

Chapter 1

Introduction

1.1 Background

In December 2019, the authorities in Wuhan, China announced an outbreak of unknown causes of pneumonia among its residents which was later identified as COVID-19 (World Health Organization, 2020). According to the World Health Organization (2020), COVID-19 is a novel disease of a new strain virus from the coronavirus family (SARS-Cov2) that can lead to respiratory infections among humans. With an extremely high rate of infectivity, this disease unexpectedly spread to more than 100 countries in just 3 months (World Health Organization, 2020). As reported by the World Health Organization (2020), by February 2020, there were more than 120 000 cases of COVID-19 disease in 114 countries that resulted in more than 4000 deaths worldwide. These numbers have forced the World Health Organization to declare COVID-19 as a pandemic (World Health Organization, 2020).

Malaysia managed its first case of COVID-19 on January 24, 2020 (World Health Organization, 2020). Over the following weeks, there was an increase in COVID-19 cases in the country. With the emergence of multiple clusters of COVID-19 cases, led the Malaysian government to declare a drastic action called the Movement Control Order (MCO) beginning March 18, 2020 (Malaysian Healthcare Travel Council, 2020). The MCO was carried out under the provision of Prevention and Control of Infectious Diseases Act 1988 (Act 342). Under this order, mass movement and gathering were prohibited, all non-essential sectors were closed including higher education institutions (Malaysian Healthcare Travel Council, 2020). This first phase of the Movement Control Order (MCO), which ended on March 31, 2020 initially, was

subsequently extended to the second phase of MCO (March 31, 2020 - April 14, 2020), third phase (April 15, 2020 - April 28, 2020), fourth phase (April 29, 2020- May 3, 2020), and later, a conditional movement control order (CMCO) effective May 4, 2020 (Ministry Of Health, 2020).

University students were greatly affected by the closure of their institutes during these MCOs and CMCOs implementation (Malaysian Healthcare Travel Council, 2020). When the MCO was first implemented, students could return home, but they were encouraged to stay at their residential colleges. Thus, some of the students managed to get home while others stayed in college during the early phase of MCO. However, when the Malaysian prime minister declared that the MCO was to be extended, many students were shocked and had no choice but to stay in their colleges for a longer period. After a month of being confined in residential colleges, students could go back provided they complied to the prescribed standard operating procedure (SOP) (Malaysian Healthcare Travel Council, 2020).

However, because college-bound students did not have - proper preparation during the MCO, some of them did experience - mental health problems. One conducted in the universities in India reported that almost half of the students were feeling stressed during the lockdown (Raj and Fatima, 2020). At the same time, there was also an increase in anxiety among students as reported in one university in Philippines (Baloran, 2020). Also, a research among the students in University of Valladolid, in Spain found that students have a higher score of anxiety, depression and stress based on their course (Odriozola-González et al., 2020).

All these psychological symptoms are associated with the condition known as cabin fever. Adriene (2020) defined cabin fever as a collection of negative emotions that felt during isolation from society .The symptoms of Cabin fever include stress, dizziness, rage, agitation, weakness, demotivation, depression, lack of interest, and food craving (Adriene, 2020). Some of the factors associated with cabin fever or anxiety during this pandemic may include long quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss and stigma (Brooks et al., 2020). Therefore, we aim to determine prevalence of the cabin fever among student of Universiti Putra Malaysia and its associated factors among Universiti Putra Malaysia, a public university in Malaysia.

1.2 Problem Statement

Research done during the early phase of the pandemic focused mainly on the probable origin of the SARS-CoV-2 associated with the COVID-19 outbreak (Zhang et al., 2020) and also the challenges of the COVID-19 testing (Tan et al.,2020). while more recent studies focus on the general psychological impacts of the pandemic of COVID-19 on the general populations in China (Wang et al., 2020) instead of the psychological impacts of the pandemic on university students especially those who have to quarantine themselves in the campus due to the enforcement of Movement Controlled Order (MCO) by government. Local research on COVID-19 is scarce. One research in Malaysia studied the impact of this pandemic on the economy of Malaysia due to the imposition of drastic lockdown and restricted activities of most non-essential sectors in Malaysia, the practices, knowledge and attitudes of residents towards this pandemic (Azlan et al., 2020).

Although several studies have shown that lockdown during pandemic is strongly related to mental health problems due to the spread of rumors and wrong information on social media (Gao et al., 2020), there is no specific research mainly focusing on the psychological impacts of lockdown, particularly cabin fever on the students who have spent their period of MCO in the campus. Moreover, there is a study in China showing that prevalence of anxiety and depression is higher among people affected by quarantine as opposed to those unaffected by the quarantine during the COVID-19 epidemic (Lei et al., 2020). Thus, this study is important to understand the prevalence of cabin fever as well as the associating factors of cabin fever to make sure that effective prevention and management strategies can be suggested to minimize the effect of MCO on the mental health of university students.

1.3 Significance of Studies

So far there is no known study such as this being carried out in Malaysia, so it would add to the body of knowledge on the effects of movement restriction orders on the wellbeing of university students in this country.

The results of this study will also assist the relevant authorities especially that of the university to create suitable programs or improve on current programs in facilitating students during the unique circumstances involving pandemics, to prevent the occurrence of cabin fever and its more serious consequences of depression and anxiety.

1.4 Research Questions

This study will answer the questions below:

- 1.4.1 What is the prevalence and level of severity of cabin fever among university students who remained in residential colleges on campus during MCO?
- 1.4.2 What are the factors associated with cabin fever among university students who remained in residential colleges on campus during MCO?
- 1.4.3 How did the students cope with cabin fever?

1.5 Objectives

Main Objective

To determine the prevalence of cabin fever and its associated factors among Universiti Putra Malaysia (UPM) students who remained in residential colleges on campus during MCO.

Specific Objectives

1. To determine the prevalence of cabin fever among university students who remained in residential colleges on campus during MCO.
2. To determine the common symptoms among students who have cabin fever during MCO.
3. To determine the association between socio-demographic factors (age, gender, ethnicity, religion and nationality) and the prevalence and severity of cabin fever.
4. To study the association between academic factors (duration of study and area of study) and the prevalence and severity of cabin fever.
5. To study the association between family factors (family size, average monthly family

income and hometown) and the prevalence and severity of cabin fever.

6. To study the association between coping factors (e.g. Family support, hobbies, etc.). and the prevalence and severity of cabin fever.



1.6 Research Hypothesis

1. There is association between socio-demographic factors (age, gender, ethnicity, religion and nationality) and the prevalence and severity of cabin fever.
2. There is association between academic factors (duration of study and area of study) and the prevalence and severity of cabin fever.
3. There is association between family factors (family size, average monthly family income, hometown) and the prevalence and severity of cabin fever.
4. There is association between coping factors (e.g. Family support, hobbies, etc.). and the prevalence and severity of cabin fever.

Chapter 2

Literature review

2.1 Introduction

The 2019 Coronavirus disease (COVID-19) epidemic is a public health emergency of international concern and poses a challenge to psychological resilience (Wang et al., 2020). Due to public health and outlined economic reasons, it is well recognized that COVID-19 presents a serious threat for mental health around the globe; for example, a WHO technical guidance note (WHO 2020), stated that –the main psychological impact to date is elevated rates of stress or anxiety, with a warning that –as new measures and impacts are introduced – especially quarantine and its effects in many people’s usual activities, routines of livelihoods – level of loneliness, depression, harmful alcohol or drug use and self-harm or suicidal behavior are also expected to rise. There are some expected mental and physical health consequences of this pandemic which include: extreme fear and uncertainty, lowered perceived health, negative societal behaviors driven by fear and distorted perceptions of risk, including distress reactions (insomnia, anger, extreme fear of illness even in those not exposed) and health risk behaviors (increased use of alcohol and tobacco, social isolation) as well as mental health disorder such as PTSD, anxiety disorders and depression (ĆOSIĆ, K. et al., 2020). A research conducted in China showed that during a period of individual self-isolation during the COVID-19 virus epidemic in central China, increased social capital and interaction improved sleep quality by reducing anxiety and stress. People who must self-isolate themselves for 14 days during the pandemic have lower sleep qualities due to higher levels of stress. Although the study focused on individuals (n=170) who self-isolated at home for 14 days in central China, the result is quite relatable to our study as

students staying in campus have to isolate themselves far away from their family members in hometowns and may also have experienced depression and loneliness during this MCO period spent in campus.



2.2 Symptoms of Cabin Fever

From the Journal of Social Psychology, cabin fever is described as “some combination of irritability, moodiness, boredom, depression or feeling of dissatisfaction in response to confinement, bad weather, routine, isolation, or lack of stimulation”. It seems to be a keyword for understanding individual moods, anger, depression, the structuring of works and recreational activities, stresses in everyday routine, relationship tensions, relationship solutions to dealing with stresses and tensions. Many of the symptoms or defining characteristics of cabin fever are relationship matters. Even though cabin fever can be defined as a psychological state of an individual, it may originate in, affect, and be dealt with through relationships. It is not only a matter to deal in oneself, but also a matter to face in one’s relationship.

According to the Cambridge Dictionary, Cabin Fever is defined as the feeling of being angry and bored because you have been inside for too long. In a recent study by a Malaysian student on cabin fever showed characteristics of cabin fever in the Cabin Fever Scale.

Characteristics include anxiousness, low enthusiasm or energy, depression, trouble in focusing, impatience, frequent food cravings, less motivation, loneliness, difficulty in waking up, hopelessness, fluctuations in weight, boredom, and dissatisfaction. (Chin,2020)

Elicitation interviews on the subject of "restlessness" were completed with an example of 35 Minnesota men and women, ages 17 to 84. Witness originations of restlessness covered yet were not indistinguishable with common behavioral science terms, and even learned sources contrasted from each other in understanding of the idea. The emotions that were generally striking in witness reports included sentiments of disappointment at home, anxiety, weariness, peevishness, and expecting to break schedule. Witnesses regularly revealed managing claustrophobia through self-improvement or help is given by companions and family members. Hardly any individuals had ever looked for help from experts. Many adapting arrangements included a change in physical or mental landscape. Also, having the idea of "cabin fever" may have been valuable, giving an approach to decipher what was happening and to highlight adapting techniques. (Rosenblatt, 1984)

Based on the News Strait Times, research in the United Kingdom has discovered huge gloom and huge nervousness have multiplied after a Covid-19 lockdown was implemented in the nation. A comparable circumstance was likewise detailed in Italy, driving the Italian government to dispatch an across the nation mental help program for those intellectually influenced by the lockdown. There is as of now developing proof something similar is going on here. At the International Islamic University Malaysia (IIUM), information has indicated a rising pattern in students looking for counselling during the Movement Control Order (MCO) period. This included instances of melancholy and nervousness because of different variables, remembering living for disconnection, not having the option to see their families, stress over their families' prosperity, and worry on the effect of the lockdown on their examination plans. As the MCO delays, IIUM keeps on giving devoted directing solely to IIUM students who may require enthusiastic and mental support. IIUM has additionally executed different tasks and exercises to

occupy students' time and to mollify the effect of MCO on the psychological wellness of students, including getting them to chip in activities, for example, delivering individual defensive gear for clinical officials, creating clinical gadgets for use in combating Covid-19, online tazkirah and virtual hangouts.

A cross-sectional study carried out in West Bengal to investigate the psychological impact of COVID-19 on pandemic on general population has reported that 71.8% and 24.7% of the respondents (n= 507) felt more worried and depressed during the lockdown with majority of the respondents worried about the financial loss they were incurring during this period. 33.1% of the respondents also reported of having disturbed sleep-wake cycle during this period. The anxiety level among the population can be seen through the actions of the respondents trying to calm themselves down during the pandemic by getting help of psychiatric helpline (2.2%), starting on antidepressant or anti-anxiety drugs (2%) or sleeping pills (4.5%) (Chakraborty, K., & Chatterjee, M., 2020).

Another study carried out to examine the psychological impact of lockdown during the 2003 SARS outbreak in Canada also reported that the most common feeling expressed during the lockdown was boredom (62.2%), isolation (60.6%) and frustration (58.5%). Other feelings reported by the respondents include annoyance, worry, loneliness, helplessness, anger, fear, sadness, and guilt.

All in all, these are the symptoms experienced and it is relevant to study this to have better coping methods in the future pandemics.

2.3 Mental health of public during movement control order due to COVID-19

At present, there is still no data on the mental health status of COVID 19 patients, so further action is still unknown (Xiang et al., 2020). Therefore, the actions taken during the outbreak of SARS 2003 may serve as a guide for the next steps in public mental health during this pandemic. During the early SARS 2003 outbreak, it was reported that many mental health problems including depression, anxiety and stress were reported (Maunder et al., 2003). Also, during COVID-19 pandemic, mental health issues such as anxiety, depression, and fear have been reported (Yao, Chen, & Xu, 2020). These emotional symptoms cannot be ignored during this pandemic as they can cause people with existing mental illness to relapse or exacerbate their mental health due to higher levels of stress than the general public (Yao, Chen, & Xu, 2020).

A study of mental health conditions was conducted on 1210 people in 194 cities in China after a 2-week outbreak of COVID-19 there. The study found that 53.8% of respondents had moderate to severe psychological impact, 16.5% had moderate to severe depression, 28.8% had moderate to severe depression, and 8.1% of respondents had moderate to severe stress (Wang et al, 2020). A moderate to severe mental health score is higher when measured using the IES-R method than DASS-21 has been reported. The differences between these scores is that the IES-R assesses the state of psychological health after an event while DASS-21 does not emphasize it (Wang et al, 2020). Respondents were most likely to consider the event as the COVID-19 outbreak. This result shows that the respondents have more psychological impact after the COVID 19 outbreak.

Based on data collected by the National Health Interview Survey (NHIS), differences in U.S adults mental health in 2018 and 2020 have been compared. By the comparison, more than one quarter of U.S. adults, during the COVID-19 pandemic, are suspected to have psychological

problems, which are 8 times higher than in 2018 (Twenge & Joiner, 2020). However, this comparison has limitations that do not provide accurate results. Thus, a study to examine the state of mental health of the public of the U.S during COVID-19 pandemic was conducted. From the study of 1020 respondents, it reported that about half of the respondents had at least mild anxiety and depressive symptoms, which are 52.1% and 27.3% respectively (Kantor & Kantor, 2020). These results show that the burden of physiological impact during the COVID-19 pandemic is a serious matter that needs to be solved.

To date, there has been little information on the prevalence of mental disorders in Malaysians during the movement control order in COVID-19 pandemic. Therefore, a review of existing data may provide insight into the current state of mental health of Malaysians. Even before the COVID-19 pandemic, Malaysia had already experienced an increase in the number of psychological issues. Based on the survey conducted by the Ministry of Health, there is an increase of 3 times the mental health problems among adults since 1996 (Ministry of Health, 2015). According to a study conducted on 962 Malaysian public, it was found that there was an escalation of anxiety trends during the Movement Control Order in Malaysia (Wong & Alias, 2020). Therefore, through the search for available information, it was found that mental health among Malaysians before and during the pandemic was so worrying that further studies should be conducted to fill this lack of information.

2.4 Prevalence of Mental Health Disorder among Public during Movement Restriction

Periods

Large-scale human disasters such as global pandemic diseases, natural disasters, man-made tragedies, war conflicts and social crises are traumatized that they can cause massive stress-related disorders and have adverse effects on the mental health of the public. COVID-19 being the main concern of the global pandemic after MERS and SARS is also strongly related to some psychological impacts among societies all around the world. The maximum extent of the social and economic impacts that are brought by this pandemic cannot be estimated yet but can be roughly expected to be great considering that various countries have implemented lockdown or Movement Restricted Order to minimize and prevent the spread of the infection. Due to the side effects on various fields in the country, COVID-19 has been expected to be a new threat for global mental health.

From UNESCO official website, as of 25th March 2020, 150 countries have closed schools and educational institutions nationwide, affecting over 80% of the world 's student population. Several countries have implemented localized school closures and these closures are expected to be nationwide. Most governments around the world have temporarily closed educational institutions to minimize the spread of COVID-19 pandemic. UNESCO tracks the evolution of COVID-19 caused closures of educational institutions by tracking the timing, duration of school and universities closure as well as tracking the number of students affected by level of education and sex. This will then be displayed on an interactive map which will be updated on a weekly basis. Based on UNESCO Institute for Statistic Data, until 21st June 2020, there are a total of 1091439976 affected learners with 123 country-wide closures. The implementation of lockdown which occurs around the world is hence expected to affect the

mental health status of students worldwide.

Due to the rapid spread and rise in cases of COVID-19, healthcare facilities are receiving a huge influx of patients. At the same time, some mental health providers report a surge in people seeking mental health treatment, as Americans report feeling anxious about the pandemic and its consequences. 36% of Americans told an American Psychiatric Association poll that the pandemic has affected their mental health, and according to a PiplSay poll, 31% of Americans said that they have difficulty falling asleep and maintaining sleep due to the anxiety brought by this pandemic indirectly. As lockdown and Movement Restricted Order was implemented, remote therapy services also reported an increase in demand— Talkspace told Bloomberg it experienced a 65% increase in customers since mid-February and Brightside has reported a 50% increase in new users since the start of the year (Porterfield, 2020). A new study from researchers in San Diego State University and Florida University shows that in April, more than 1 in 4 U.S. adults met the criteria that psychologists use to diagnose serious mental distress and illness. That represents a huge increase from data collected in 2018 (Heid, 2020).

A cross-sectional study involving 1210 respondents from 194 cities in China shows that 53.8% of respondents rated the psychological impact of the outbreak as moderate or severe; 16.5% reported moderate to severe depressive symptoms; 28.8% reported moderate to severe anxiety symptoms; and 8.1% reported moderate to severe stress levels. The method used in this study is cross-sectional study to identify the public 's immediate psychological response during the epidemic of COVID-19 by using an anonymous online questionnaire. Recruitment of the respondents involve the use of snowball sampling strategy, which focused on recruiting the public living in mainland China during the epidemic of COVID-19. The online survey was first distributed to university students and they were recommended to disseminate to others. Of all respondents, 24.5% reported minimal psychological impact, 21.7% rated mild psychological

impact and 53.8% reported a moderate or severe psychological impact.

Despite the fact that there's still limited data on the psychological impacts of lockdown during MCO on the public in Malaysia, there are some evidences through local mass media reports, including that shown in social media showing that the movement restriction order enforced since 18th March 2020 following the first death case reported in Malaysia on 17th March has some impacts on the behavioral changes among the residents in Malaysia which include panic buying, mass travelling (such as those working in city rushing back to hometown due to fear of separation with their loved ones during MCO) and even absconding from treatment facilities (Koh et al., 2020). These behavioral changes observed can be related to the high anxiety level in the face of the pandemic which has caused death all around the world especially among the vulnerable groups. However, the article reporting about these behavioral changes is solely the attempts of the authors to analyze and provide some initial explanation for these behaviors from the perspective of a behaviorist considering that the reasons behind these behavioral changes are yet to be assessed in depth using systematic research method.

2.4.1 Trend Description

In the face of this deadly epidemic, the number of people whose mental health is affected tends to be greater than the number of people affected by the infection. Past tragedies have revealed that the mental health implications can last longer and have greater prevalence than the epidemic itself and that the psychosocial and economic impacts can be incalculable and have a great impact on the well-being of society. Since the economic costs associated with mental disorders and its treatment is high, improving mental health and implementing effective mental health disorders prevention strategies can be beneficial. In addition to a concrete fear of getting

infected by the nasty virus, the COVID-19 pandemic has implications for other aspects: family organization, closings of schools, companies and public places, changes in work schedules, isolation, leading to feelings of abandonment and loneliness. Moreover, it can result in high uncertainty due to the economic and social ramifications of this large-scale tragedy (Ornell et al., 2020).

2.5 Factors associated with higher level of mental illness among the public or university students

Concerns about mental health in the public indicate that this situation needs to be considered. Not contrary to this statement, students also have a lot to do with their psychological health during the COVID-19 pandemic. Based on the analysis conducted on 500 university students and colleges in Bangladesh, students who study in university have association with higher DASS stress sub score ($B=2.61$, 95% CI: 0.29 to 4.93) and IES scores ($B=4.07$, 95% CI: 0.67 to 7.48). (Khan, Sultana, Hossain, Hadan, Ahmed & Sikder, 2020). Therefore, research on factors that are relevant to the psychological health of students during the COVID-19 pandemic should be conducted as a first step in determining intervention for this issue. there are several factors that are related to psychological health problems, and the compilation of data on these factors is as follows.

2.5.1 Socio-demographic Factors

Socio-demographic factors are particularly important in every study, so this factor has been used a lot in previous studies to find its association with mental health. One component of socio demographic factors is gender, which is usually divided as male and female. One study has been done for the US general population to find the risk factor associated with the mental health

outcome. From this study, females are reported to have more severe anxiety and depression than male, which is 16.1% ($p=0.002$) and 13.2% ($p=0.008$) respectively (Kantor & Kantor, 2020). A study from university of Valladolid, Spain also reported that female have higher score for anxiety (8.66; $p < 0.0001$) and depression (4.60; $p < 0.0001$) than male (Odriozola-González, Planchuelo-Gómez, Irurtia-Muñiz, & de Luis-García, 2020) .

Another study carried out with the purpose to investigate the psychological impact of the COVID-19 epidemic on college students in China have shown that gender is not an associating factor with higher level of stress during the pandemic. This study shows that gender has no significant effect on anxiety ($p=0.421$) and both genders experienced similar stressed and negative emotions because of the epidemic (Cao et al., 2020).

Age is also part of socio-demographic factors that have been studied to identify its association with psychological wellbeing. A study for university students in Bengali, Bangladesh during COVID-19 outbreak reported that age 25 and more have high significant association with higher IES scale, a scale that measure the impact of event ($B=0.53$, 95% CI: 0.21 to 0.84) (Khan et al., 2020). Another study was also done to determine the differing effects of social isolation by age group by the Kaiser Family Foundation. In this study it has been reported that the older adults have addressed less likelihood of negative impacts on their mental health as compared to the adults aged 18-64, 31% and 49% respectively. However, it also has been studied that older age groups are more vulnerable to poor mental health due to living alone. In 2018, it has been reported that 27% of adults older than 65 living on their own. Older adults are particularly at-risk for depression, which is frequently misdiagnosed and undertreated inside this population. The prevalence of depression will increase for those who need facilities or are patients. Suicidal ideation is high among older adults. In 2018, older adults accounted for 9,102 out of 48,344

suicide deaths in the U.S. (Panchal et al., 2020). Besides age and gender, ethnicity also has been used as variables to find its association with the mental condition. From the study that has been done for undergraduates from 5 different universities in Malaysia, it's reported that there is significant difference in psychological health between races in Malaysia ($F = 3.534$, $p \leq .05$) (Nordin, Talib, Yaacob, & Sabran, 2010). From on way ANOVA test, it shows that mean mental health for Indian, Malays, Sabahans and Sarawakians, and Chinese was 4.044 (S.D = 2.195), 4.310 (S.D = 2.438), 4.413 (S.D = 2.350) and 4.743 (S.D = 2.499) respectively (Nordin, Talib, Yaacob, & Sabran, 2010). Although the above-mentioned study was conducted not in a time of pandemic as pandemics as large as COVID-19 have never happened before in Malaysia, the study did give a general description of the mental condition of university students between different races in Malaysia.

2.5.2 Academic Factors

Because the target population for future studies is university students, it is therefore important to review existing data on the association between academic factors such as year of study and area of study with the students 'mental health. A study carried out in the University of Valladolid, Spain shows that students from Engineering & Architecture area showed lower symptomatic scores while Arts & Humanities and Social Sciences & Law students show higher scores related to anxiety, depression, and stress. The area of study has been shown to be a very significant associating factor of stress among university students during the pandemic with all the p-values of different comparison groups (Art & Humanities vs Engineering & Architecture; Social Sciences & Law vs Engineering & Architecture; Health Sciences vs Engineering & Architecture) less than 0.05. The second factor to be investigated under academic factor will be the year of study. From the same study carried out in University of Valladolid, Spain, undergraduate students at 6th year of their studies (only medical students) presented significant

lower depression compared to the 1st year students. However, the year of study is only a significant associating factor of stress when the 1st year students are to be compared with the 4th and 6th years ($p < 0.05$ in both 1st year students vs 4th years students and 1st years students vs 6th years students). (Odriozola et al., 2020).

A study reported that there was a significant difference between the undergraduates' mental health based on the year of study ($F = 3.926$, $p = .008$) (Nordin, Talib, Yaacob, & Sabran, 2010). In this study, mean mental health is measured, and it reported that mental health for third year is the best (Mean = 4.220, S.D = 2.340), followed by first year (Mean = 4.363, S.D = 2.444) and second year (Mean = 4.721, S.D = 2.540) .

From the same study, it also reported that there are significant differences in the students' psychological health according to their field of study ($F = 5.793$, $p = .003$) (Nordin, Talib, Yaacob, & Sabran, 2010). However, one study has been done to compare the level of depression, anxiety, and stress using the DASS scale between engineering students and non-engineering students in technical universities in Malaysia. In this study, it is reported that there is no significant difference of student mental health status according to their field of study, which is stress is $Z = -0.488$, ($p = 0.626$), anxiety is $Z = -0.171$, ($p = 0.864$) and depression is $Z = -0.679$, ($p = 0.497$) (Lee, & Syaid, 2017).

Again, the above-mentioned study was also not conducted in a time of pandemic as pandemics as large as COVID-19 have never happened before in Malaysia, but the study did give a general description of the mental condition of university students between in different circumstances in Malaysia.

2.5.3 Family factor

Besides socio-demographic and academic factors, family factors also can be used as variables to find the association between it and the mental health of public or university students. A study carried out to investigate the psychological impact of COVID-19 epidemic on college students in China has reported that family income stability is a protective factor against anxiety (OR=0.810, 95% CI= 0.709-0.925). Family income has been concluded as a significant associating factor to the level of stress faced by college students during this pandemic ($p<0.001$). Another factor to be studied under family factor is the place of residence. From the same study carried out on the college students in China, less respondents who are residing in urban area (21.24%) has cabin fever compared to those residing in the rural area (27.75%) with $p<0.001$ (Cao et al., 2020). Another study also found that those who live in rural areas reported more severe anxiety than urban areas, which is 16.6% and 12% respectively (Kantor & Kantor, 2020). In Malaysia, it was reported that the prevalence of psychological morbidity is highest in Sabah and labuan (42.9%), followed by Kuala Lumpur (39.8%), and Kelantan (39.1%), (Ministry of health, 2015). Additionally, one study has been done to find the association between hometown and mental health wellbeing during the COVID-19 pandemic in the US young adult population. From this study, it is reported that the mean for Post-traumatic stress disorder (PTSD) and depression scale were higher among the population that live in the worst-hit areas (Liu, Zhang, Wong, & Hyun, 2020).

Another study was carried out to study the mental health among homeless people and people in shelter by the Kaiser Family Foundation around the late of March relating to the current pandemic situation. In that toll it shows that those sheltering in a place reported of negative mental health impacts with 47% percentage compared to those who did not shelter in a place with a percentage of 37%. (Panchal et al., 2020).

2.5.4 Coping Strategies

A cross-sectional study conducted among two local private colleges in the province of Davao del Sur, Southern Philippines reported that there are some coping strategies the students used to cope with the anxiety faced during COVID-19 pandemic. 90.19% (478) followed strict personal protective measures and about 80.00% avoid going out in public places to reduce exposure from COVID-19. The other less commonly used coping strategies include reading about COVID-19, do relaxation activities, praying, chat with family and friends, using social media, play online games, self-motivation, get help from physicians, try to be busy, avoid from media news about COVID-19 and vent emotions by crying (Baloran, 2020).

Several factors have a high association to a person's psychological health problems. These factors include socio-demographic, academic, family and coping strategies. Therefore, an assessment of these factors needs to be done to the Malaysian university students so that the next steps can be identified. Hence, in the event of a Movement Control Order re-occurring in the future, the health problems among university students will be improved.

2.6 Conceptual framework

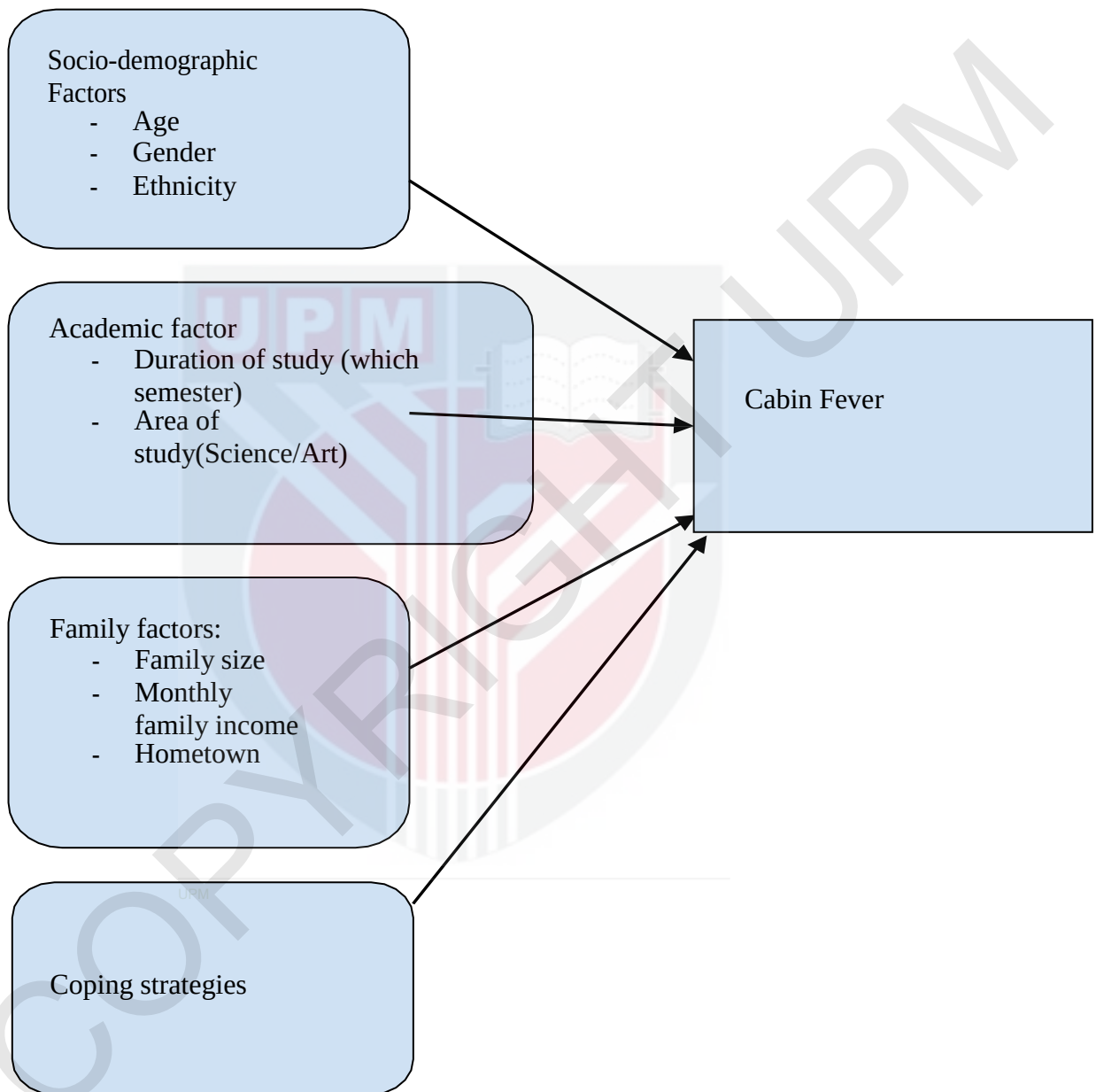


Figure 1.1 Conceptual Framework

Chapter 3

Methodology

3.1 Location of research:

This study was conducted in Universiti Putra Malaysia (UPM), Serdang Campus 's residential colleges. UPM provides 17 residential colleges to house more than 3000 students. Each residential college offers a variety of complete and modern facilities to meet the needs of students. UPM Serdang campus is located in the State of Selangor, Malaysia about 17 kilometers north of Putrajaya, the federal administrative centre of the Malaysian capital; and 22 kilometers south of Kuala Lumpur city center. Universiti Putra Malaysia is one of Malaysia's leading research universities offering undergraduate and postgraduate courses with a focus on agricultural sciences. Other fields include science, engineering, medicine, veterinary medicine, business, and social sciences. UPM was founded in 1931 as the School of Agriculture, and currently ranks 159th top university according to the QS World University Rankings® 2020.

3.2 Duration:

The data collection was conducted between 17 and 24 August 2020.

3.3 Study Design

This was a cross-sectional study.

3.4 Sampling

3.4.1 Study Population

The study population was university students from Universiti Putra Malaysia (Serdang Campus) who stayed on campus during the Movement Restriction Order implementation in Malaysia in 2020.

3.4.2 Sampling Population

The sampling population was university students who remained on university campus of Universiti Putra Malaysia (UPM), Serdang Campus during the Movement Restriction Order implementation in Malaysia in 2020.

3.4.3 Sampling Criteria

Inclusion criteria were UPM students who remained in residential colleges of the Serdang UPM campus during MCO period (between March 2020 and April 2020). Exclusion criteria were UPM students who stayed in other residential premises such as apartments or houses during the MCO period.

3.4.4 Sampling Frame

List of students who were residing at the residential colleges in UPM Serdang Campus.

3.4.5 Sampling Unit

The sampling unit was a single university student.

3.4.6 Sample Size and Sampling Method

The sample size was calculated based on the knowledge that there are approximately 400 students still in the UPM Serdang Campus' residential colleges in June 2020. The formula used to calculate **for 2 Proportion Test (Finite Population)** was used, as follows.

$$n = \frac{\{[z_{(1-\alpha/2)} * \sqrt{2\bar{P}(1-\bar{P})}] + [z_{(1-\beta)} * \sqrt{P_1(1-P_1) + P_2(1-P_2)}]\}^2}{(P_1 - P_2)^2}$$

$$\bar{P} = (P_1 + P_2)/2$$

P1 = estimated proportion (e.g., for intervention group - from previous study)

P2 = estimated proportion (e.g., for control group - from previous study)

Z (1- α /2) = 1.96 for 95% CI; z = 1.645 for 90% CI; z = 2.58 for 99% CI

z (1- β) = power = 80% = 0.84

With a finite, small population, the variability of the sample is less than expected, and therefore a “finite population correction”, FPC, was applied to account for this greater efficiency in the sampling process. To apply a finite population correction to the sample size calculation for comparing two proportions above, we can simply include $f_1 = (N_1 - n)/(N_1 - 1)$ and $f_2 = (N_2 - n)/(N_2 - 1)$ in the formula as follows.

Substituting f_1 and f_2 into the formula below, we get the following.

$$n = (Z_{\alpha/2} + Z_{\beta})^2 * (f_1 * p_1(1-p_1) + f_2 * p_2(1-p_2)) / (p_1 - p_2)^2, \text{ hence}$$

$$n = X * A / (1 + X * B),$$

$$\text{where } X = (Z_{\alpha/2} + Z_{\beta})^2 / (p_1 - p_2)^2,$$

$$A = (N_1/(N_1 - 1)) * (p_1 * (1 - p_1)) + (N_2/(N_2 - 1)) * (p_2 * (1 - p_2)), \text{ and}$$

$$B = (1/(N_1 - 1)) * (p_1 * (1 - p_1)) + (1/(N_2 - 1)) * (p_2 * (1 - p_2))$$

Sample Size Estimation

No.	Research Objective	Formula Used	Independent Variable Type	Estimated Minimum Sample Size
	To determine the prevalence of cabin fever among university students who stay in campus during MCO P= Prevalence of students having cabin fever symptom during lockdown due to COVID- 19 (Raj & Fatima, 2020)	Prevalence P= 0.516 (51.6%) d= 5% (0.05) 95% CI		383
	To study the association between age group and cabin fever P1= Individual aged 16- 19 with mental health distress P2= Individual aged 20 and above with mental health distress. (Ministry of Health, 2020)	Two proportion formula for finite population P1= 30.8% P2= 24.52%	Categorical	276
	To study the association between monthly family income and cabin fever P1= Stable family income P2= Not stable family income (Cao et al., 2020)	Two proportion formula for finite population P1= 20.97% P2=28.34%	Categorical	240
	To study the association between hometown (place of origin) of students and cabin fever P1= Urban areas P2= Rural area (Cao et al., 2020)	Two proportion formula for finite population P1= 21.24% P2=27.75%	Categorical	240

The minimum sample size chosen was 383. If 20% non-response rate is used, then the minimum sample size is 450. Because the number of currently available potential respondents were approximately 400, hence the study have included all of them to participate in the study.

3.5 Variables

3.5.1 Dependent Variables

The dependent variable in this study was cabin fever presence (yes/no).

3.5.2 Independent variables

The independent variables in this study were divided into four groups, which were sociodemographic, academic factors, family factors, and coping strategies.

3.6 Data collection

3.6.1 Study instrument

Socio-demographic questions included age, gender and ethnicity, academic status questions include duration and area of study, family status include family size, family income and hometown, and coping strategies. Cabin Fever Scale (CFS) was used to measure the scale of cabin fever among the university students. The study instrument was a self-administered questionnaire. The questionnaire was divided into three sections: Section A, B and C. Section A collected socio-demographic, academic, and family data. Section B collected data on signs and symptoms of Cabin Fever. Section C collected data on coping strategies that the students experienced during the MCO. Questions in Sections A were developed by the researchers and the questions in Section B were adopted from the Cabin Fever Scale (CFS) Questionnaire while

questions in Section C were adopted from Baloran, E. T. (2020). The CFS questionnaire was developed by a Malaysian academician specifically for the use among Malaysians in the MCO context (Chin, 2020). The reliability test for this scale is Cronbach alpha of 0.927. The CFS has 13 questions. All the questions have answers in the form of a Likert Scale: 0 to 3, of which the score zero (0) refers to –did not apply to me at all to score 3 which refers to –apply to me very much at all the time. The maximum score is 39 while the minimum score is 0. The cut off score is 14. Any score above 14 will indicate that the respondent had experienced cabin fever. The higher the score, the more serious the cabin fever.

3.6.2 Data Collection technique

The data was obtained via an online questionnaire consisting of socio-demographic questions, and Cabin fever scale (CFS). The Cabin Fever scale contained 13 items. The total score was produced by adding all the 13 items 's scores altogether. All the questions were rated from 0 to 3, which did not apply to me at all for score 0 to apply to me very much at all the time for score 3. The maximum score is 39 while the minimum score is 0.

The questionnaire for this study will be in the electronic form, such as Google Form. In this Google Form, background information about the study and the consent statement has been included. The form was designed as such that the respondent have to read the study background followed by the consent statement. At the end of the consent statement there was a YES button, which if clicked indicates that the respondent consents to participating in this study. On the other hand, if the respondent does not want to participate in the study, he/she can click on the —NO button and the Google Form will be terminated. For respondents who consented, they will be brought to the pages containing questions of Sections A, B and C. The design of the form was as such that it will be compulsory for the respondent to answer all questions.

This Google Form was distributed through messaging service, namely WhatsApp. The assistance of the Heads of Administration Office UPM was sought, to contact the students who reside in their respective colleges; and to distribute the study questionnaire through WhatsApp. In this manner, the confidentiality of the identity of the respondents was maintained as the researchers would not have the names nor the personal details (phone numbers) of the respondents. Repeat blast of the WhatsApp message containing the questionnaire has been done once again, 4 days after the first distribution to ensure maximum response from the respondents.

3.7 Operational definition

3.7.1 Dependent variable

A high score in cabin fever scale indicates having severe cabin fever symptoms. According to the cabin fever scale, mean score of respondents having cabin fever is 19.2, and those who did not was 8.9. Thus, the cutoff point is 14 [cutoff point = $(19.2+8.90)/2$], which means score below the 14 indicates no cabin fever and score above the 14 indicates cabin fever.

3.7.2 Independent variables

No.	Term	Definition
1	Gender	Gender is divided into male and female, and respondent must answer it according to their own biological sex.
2	Age	Age refers to the respondent 's age during the Movement

		Control Order in 2020.
3	Ethnicity	Respondent 's race such as Malay, Indian, Chinese, Sabah and Sarawak, Bumiputera and others.
4	Area of studies	Field of studies of respondents during the Movement Control Order in 2020, such as arts & humanities, social science & law, health science & medicine and engineering & architecture.
5	Year of study	Year of studies refers to the current year of study during the Movement Control Order in 2020. It can range between first year to fifth year.
6	Family size	Family size refers to the number of family members including siblings and parents during the Movement Control Order 2020.
7	Family income	Family income refers to the monthly income of the breadwinner of the family.
8	Hometown	Hometown refers to the location of home where respondents 'families live during the Movement Control Order 2020.
9	Coping strategies	Coping strategies measure the attitude and practice of respondents during MCO via 12 different questions (Baloran, 2020).

3.8 Quality Control

The Cabin fever Scale (CFS) questionnaire was adopted from a research website carried out by Chin Weng Chong. The author has done the validity assessment and the reliability of this questionnaire is Cronbach alpha of 0.927 (Chin, 2020).

3.9 Data Analysis

Data was analyzed using IBM Statistical Package for Social Science (SPSS) version 25.0. Descriptive statistics was used to describe the characteristics of the respondents. Normality tests has been done for continuous data. In all statistical analyses, a 'p' value of < 0.05 (95% confidence interval) was statistically significant.

Table 3.9 Statistical Test According to Study Objectives

No.	Objective	Statistical testing
1	To determine the prevalence and level of severity of cabin fever among university students who remained in residential colleges on campus during MCO.	Frequency and Percentage
2	To determine the association between sociodemographic factors (age, gender, ethnicity) and the prevalence and severity of cabin fever.	Chi-square, ANOVA
3.	To study the association between academic factors (duration of study, area of study) and the prevalence and severity of cabin fever.	Chi-square, ANOVA
4.	To study the association between family factors (family size, average monthly family income, hometown) and the prevalence and severity of cabin fever.	Chi-square, ANOVA

5.	To study the association between coping factors (e.g. Family support, hobbies, etc.). and the prevalence and severity of cabin fever.	Chi-square, ANOVA
----	---	-------------------

3.10 Ethical Approval

The study was conducted by the Cabin Fever Scale in Universiti Putra Malaysia's residential colleges' premises among the students who stayed in campus of Universiti Putra Malaysia throughout the Movement Restriction Order until permitted to go home. Thus, the research proposal was submitted to the Ethics Committee for Research Involving Human Subject (JKEUPM) of Universiti Putra Malaysia (JKEUPM) for evaluation and approval. Data from the respondents has been kept confidential and not be identified. Informed consent was obtained from the respondents prior to conducting the study.

Chapter 4

Results

4.1 Response Rate

Questionnaires were distributed to 415 students and 383 returned completed questionnaires. Therefore, the response rate was 92.3% (383/415).

4.2 Normality Assessment

Normality tests was carried out on quantitative variables which include the age and the cabin fever score of the respondents.

Tests of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Age	.381	383	.000	.687	383	.000

For the variable of age, since $p < 0.001$, the data is not normally distributed with the median of 18 and interquartile range of 3.

Tests of Normality

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Score	.081	383	.000	.958	383	.000

For the variable cabin fever score, since $p < 0.001$, the data is not normally distributed with the median of 14 and interquartile range of 14.

4.3 Characteristic of Respondents

4.3.1 Socio-demographic Factors

Table 4.1 shows the distribution of the respondents by socio-demographic characteristics of the respondents. Majority of the respondents were aged 18 years old (63.2%) (as most of the respondents were from Asasi Sains Pertanian), were females (64%), were of Malay ethnicity (79.9%), were Muslims (83.6%) and were Malaysians (99.5%).

Table 4.1 Distribution of the respondents by socio-demographic characteristics (N=383)

Variables	Frequency	Percentage (%)
Age		
17	10	2.6
18	242	63.2
19	3	0.8
20	6	1.6
21	32	8.4
22	26	6.8
23	20	5.2
24	19	5.0
25	8	2.1
26	9	2.3
27	4	1.0
28	1	0.3
32	1	0.3
34	1	0.3
37	1	0.3
Gender		
Male	138	36.0
Female	245	64.0
Ethnicity		
Malay	306	79.9
Indian	23	6.0
Chinese	30	7.8
Other	24	6.3
Religion		

Islam	320	83.6
Buddha	23	6.0
Hindu	22	5.7
Christian	17	4.4
Other	1	0.3
Nationality		
Malaysian	381	99.5
Other	2	0.5

4.3.2 Academic Factors

Table 4.2 shows the distribution of the respondents by academic factors of the respondents. Majority of the respondents were having Semester 1 during MCO (67.6%) and were from Asasi Sains Pertanian (57.7%).

Table 4.2 Distribution of Respondents by Academic Factors (N=383)

Variables	Frequency	Percentage (%)
Semester		
Semester 1	259	67.6
Semester 2	12	3.1
Semester 3	5	1.3
Semester 4	34	8.9
Semester 5	6	1.6
Semester 6	33	8.6
Other	34	8.9
Area of Study		
Faculty of Agriculture	30	7.8
Faculty of Forestry	11	2.9
Faculty of Veterinary Medicine	3	0.8
Faculty of Economics and Management	1	0.3
Faculty of Engineering	3	0.8
Faculty of Educational Studies	7	1.8
Faculty of Science	17	4.4
Faculty of Food Science and Technology	3	0.8
Faculty of Human Ecology	12	3.1
Faculty of Modern Languages and Communication	4	1.0
Faculty of Design and Architecture	2	0.5

Faculty of Medicine and Health Sciences	59	15.4
Faculty of Biotechnology and Biomolecular Sciences	4	1.0
Faculty of Environmental Studies	1	0.3
Institute of Bioscience	1	0.3
Halal Product Research Institute	2	0.5
Institute of Agriculture and Food Policy Studies	1	0.3
Institute of Utropical Agriculture	1	0.3
Asasi Sains Pertanian	221	57.7

4.3.3 Family Factors

Table 4.3 shows the distribution of the respondents by family factors of the respondents. Most of the respondents in this study were having family monthly income of RM5000 and above (43.6%) and were having less than or equal to 5 siblings (82.2%) and were from Selangor (24.5%).

Table 4.3 Distribution of Respondents by Family Factors (N=383)

Variables	Frequency	Percentage (%)
Family Size (Number of Siblings)		
Less than or equal to 5	315	82.2
More than 5	68	17.8
Family Monthly Income		
Less than RM1000	38	9.9
RM1000 - RM2000	55	14.4
RM2000 - RM3000	54	14.1
RM3000 - RM4000	27	7.0
RM4000 - RM5000	42	11.0
RM5000 and above	167	43.6
Hometown		
Kedah	27	7.0
Pulau Pinang	14	3.7
Perak	39	10.2
Selangor	94	24.5
Melaka	15	3.9
Negeri Sembilan	25	6.5
Johor	56	14.6
Pahang	20	5.2

Kelantan	21	5.5
Terengganu	15	3.9
Sabah	24	6.3
Sarawak	14	3.7
Wilayah Persekutuan	17	4.4
Other	2	0.5

4.4 Prevalence of Cabin Fever among University Students who remained in Residential Colleges on Campus during MCO

Table 4.4 showed the frequencies of respondents with and without cabin fever during MCO. Respondents with score lower or equal to 14 were considered to be free from cabin fever while those who had scores higher than 14 were considered to be having cabin fever with the higher score indicating more severe condition. Overall, the data collected showed that 46.0% of the students who remained on campus during MCO were suffering from cabin fever. The score of cabin fever ranged from 0 to 39. The data collected showed that the cabin fever score among the respondents has a median of 14 and interquartile range of 14.

Table 4.4 Frequencies of Respondents with and without cabin fever during MCO (N=383)

	Frequency (f)	Percentage (%)
No cabin fever (score less than or equal to 14)	207	54.0
Have cabin fever (score higher than 14)	176	46.0

4.5 Common Symptoms among Students Who Have Cabin Fever during MCO

Table 4.5 Common Symptoms among Students Who Have Cabin Fever during MCO

No.	Symptom of Cabin Fever	Among respondents with cabin fever (176, 46.0%), score of			
		0 – Did not apply to me at all	1 – Applied to me to some degree or some part of time	2 – Applied to me to a considerable degree or a good part of time	3 – Applied to me very much or most of the time
1	Feel anxious	18(10.2%)	80(45.5%)	53(30.1%)	25(14.2%)
2	Experienced lack of energy and enthusiasm	7(4.0%)	59(33.5%)	72(40.9%)	38(21.6%)
3	Feel sad or depressed	9(5.1%)	58(33.0%)	73(41.5%)	36(20.5%)
4	Had trouble concentrating	5(2.8%)	39(22.2%)	80(45.5%)	52(29.5%)
5	Lacking patience	18(10.2%)	75(42.6%)	52(29.5%)	31(17.6%)
6	Craving for food	9(5.1%)	29(16.5%)	63(35.8%)	75(42.6%)
7	Had decreased motivation	7(4.0%)	60(34.1%)	60(34.1%)	49(27.8%)
8	Felt lonely	10(5.7%)	50(28.4%)	65(36.9%)	51(29.0%)
9	Had difficulty waking up	19(10.8%)	53(30.1%)	56(31.8%)	48(27.3%)
10	Felt hopeless	41(23.3%)	79(44.9%)	30(17.0%)	26(14.8%)
11	Experienced changes in weight	28(15.9%)	57(32.4%)	54(30.7%)	88(50.0%)
12	Felt bored	3(1.7%)	31(17.6%)	54(30.7%)	88(50.0%)
13	Felt dissatisfied	10(5.7%)	48(27.3%)	63(35.8%)	55(31.3%)

The symptoms were considered to be common among students suffering from cabin fever when most respondents with cabin fever have or experienced that feeling very much or most of the time (Likert scale of 3). From the data collected and analyzed, the common symptoms of cabin fever among the university students include feeling bored (50.0% of respondents with cabin fever), craving for food (42.6% of respondents with cabin fever), feeling dissatisfied (31.3% of respondents with cabin fever), had trouble concentrating (29.5% of respondents with cabin fever) and feeling lonely (29.0% of respondents with cabin fever).

4.6 Association between Socio-demographic Factors and the Prevalence and Severity of Cabin Fever

Table 4.6 Association between Socio-demographic Factors and the Prevalence and Severity of Cabin Fever

Variables	No Cabin Fever		Have Cabin Fever		X^2	df	p-value
	n	%	n	%			
Age Group							
Less than or equal to 20	167	64.0	94	36.0	32.581	1	<0.001
Greater than or equal to 21	40	32.8	82	67.2			
Gender							
Male	85	61.6	53	38.4	4.948	1	0.026
Female	122	49.8	123	50.2			
Ethnicity							
Malay	171	55.9	135	44.1	9.005	3	0.029
Indian	14	60.9	9	39.1			
Chinese	16	53.3	14	46.7			
Other	6	25.0	18	75.0			
Religion							
Islam	174	54.4	146	45.6	3.171	4	0.530
Buddha	12	52.2	11	47.8			
Hindu	14	63.6	8	36.4			
Christian	7	41.2	10	58.8			
Other	0	0.0	1	100			
Nationality*							
Malaysian	206	54.1	175	45.9	n/a	n/a	1.000
Other	1	50.0	1	50.0			

*Fischer's Exact Test is used as more than 20% of the cells have expected counts of less than 5.

Table 4.6 exhibited the frequency and percentage of students who remained in residential colleges in UPM Serdang Campus during MCO with or without cabin fever and association of socio-demographic factors which include the age group, gender, ethnicity, religion and nationality with cabin fever. The results demonstrated that students who are in the age group of greater than or equal to 21 experience higher proportion of cabin fever (67.2%) as compared to the younger age group (less than or equal to 20) (36.0%) and there is significant association between age group and the prevalence of cabin fever with p-value less than 0.001. Besides that, the results also showed that female students (50.2%) contributed to higher proportion of cabin fever compared to male students (38.4%) and gender is said to be having a statistically significant association with the prevalence of

cabin fever with p-value of 0.026. From the data collected, it also revealed that highest prevalence of cabin fever was seen among students who are of other ethnicity (75.0%) while the lowest prevalence of cabin fever was among students of Indian ethnicity with p-value of 0.029. However, there is no significant association between religion and nationality with the prevalence of cabin fever with p-values of 0.530 and 1.000 respectively.

4.7 Association between Academic Factor and The Prevalence and Severity of Cabin Fever

Table 4.7: Association between Academic Factors and the Prevalence and Severity of Cabin Fever

Variable	Prevalence of Cabin Fever		X^2	df	p-value
	No Cabin Fever (n, %)	Have Cabin Fever (n, %)			
Duration of study: Semester 3 and below Semester 4 and above	171, 62.0% 36, 33.6%	105, 38.0% 71, 66.4%	24.885	1	<0.001

Analysis of prevalence of cabin fever based on duration of study as depicted in Table 4.7 demonstrated that there is significant association between duration of study and the prevalence of cabin fever. The students from semester 4 and above experienced higher proportion of cabin fever (66.4%) as compared to the students from semester 3 and below (38.0%).

4.8 Association between Family Factors and The Prevalence and Severity of Cabin Fever

Table 4.8 Association between Family Factors and the Prevalence and Severity of Cabin Fever

Variables	No Cabin fever		Have Cabin fever		X ²	df	p-value
	n	%	n	%			
Hometown					8.441	5	0.134
Northern	46	56.8	35	43.2			
Southern	57	60.0	38	40.0			
Eastern	30	52.6	27	47.4			
Central	60	55	49	45			
East Malaysia	13	33.3	26	66.7			
Oversea	1	50.0	1	50.0			
Number of sibling					1.626	1	0.202
Less than or equal to 5	175	55.6	140	44.4			
More than 5	32	47.1	36	52.9			
Average Family Monthly Income							

Less than RM3000	70	47.6	77	52.4	3.969	1	0.046
More than RM3000	137	58.1	99	41.9			

Data analysis demonstrated that there is no association between hometown ($P= 0.134$) and number of siblings ($P= 0.202$) with the prevalence of cabin fever. However, There is a significant association between family income with the prevalence of cabin fever ($P=0.046$) . Results show that the students with family income of less than RM3000 were found to contribute to a higher proportion of cabin fever (52.4%) compared to students from family with monthly income of more than RM3000 (41.9%).

4.9 Association between Coping Factors and the Prevalence and Severity of Cabin Fever

Table 4.9 shows the frequency and proportion of students with or without cabin fever and the association between the coping factors with the prevalence of cabin fever. In the Pearson Chi square, there is an association between students who chat with family and friends to relieve stress and obtain support with the prevalence of cabin fever ($P=0.027$). The result demonstrates that students that did not chat with family and friends to relieve their stress have a higher proportion of cabin fever (70.0%) as compared to students who chat with their family and friends (44.6%).

There is association between the students that motivate themselves to face the COVID-19 outbreak with a positive attitude with the prevalence of cabin fever ($P<0.001$). Results show that students that do not motivate themselves have higher prevalence of cabin fever (77.8%) as compared to student that motivate themselves (42.7%)

There is also an association between students who vent emotions by crying or screaming with the prevalence of cabin fever ($P<0.001$). There students who vent their emotion through crying

or screaming are having higher proportion of cabin fever (60.2%) as compared to the student who did not vent their emotion through crying and screaming (38.8%)

There is no statistically significant association between other coping mechanisms with the prevalence of the cabin fever.

Table 4.9 Association between the coping factors with the prevalence of cabin fever among the UPM students who stayed on Serdang campus during MCO.

Coping Mechanism	No		Yes		X^2	df	p-value
	n	%	n	%			
Follow strict personal protective measures.					0.696	1	0.404
Yes	196	54.6	163	45.4			
No	11	45.8	13	54.2			
Read about COVID-19, its prevention and mechanism of action.					0.082	1	0.775
Yes	201	54.2	170	45.8			
No	6	50.0	6	50.0			
Avoid going out in public places to minimize exposure from COVID-19.					<0.001	1	0.983
Yes	193	54.1	164	45.9			
No	14	53.8	12	46.2			
Do relaxation activities, e.g. Meditation, sports, exercise, listening to music, etc.					0.035	1	0.853
Yes	195	54.2	165	45.8			
No	12	52.2	11	47.8			

Praying, worshiping.					0.694	1	0.405
Yes	197	54.6	164	45.4			
No	10	45.5	12	54.5			
Chat with family and friends to relieve stress and obtain support.					4.913	1	0.027
Yes	201	55.4	162	44.6			
No	6	30.0	14	70.0			
Use social media such as Facebook, twitter etc.					1.663	1	0.197
Yes	194	53.3	170	46.7			
No	13	10.3	6	8.7			
Play online games and computer games.					0.994	1	0.319
Yes	119	52.0	110	48.0			
No	88	57.1	66	42.9			
Motivate myself to face the COVID-19 outbreak with a positive attitude.					16.204	1	<0.001
Yes	199	57.3	148	42.7			
No	8	22.2	28	77.8			
Get help from doctors/health providers to reduce my stress.					0.004	1	0.952
Yes	43	53.8	37	46.3			
No	164	54.1	139	45.9			
Avoid media news about COVID-19 and related fatalities.							

Yes	36	45.0	44	55.0	3.332	1	0.068
No	171	56.4	132	43.6			
Vent emotions by crying, screaming etc.					15.616	1	<0.001
Yes	51	39.8	77	60.2			
No	156	61.2	99	38.8			



Chapter 5

Discussion

5.1 Response Rate

The response rate for this study was 92.3%. The possible reasons for non-response in this study were refusal to participate or failure of access to the questionnaire due to overlook while distributing the questionnaire via online platform (WhatsApp).

5.2 Prevalence and Severity of Cabin Fever

The prevalence of cabin fever among the students who stayed on campus in UPM (Serdang Campus) during Movement Control Order (MCO) was 46.0%. Since we use 14 as the cut-off point for cabin fever scale, those who have a total score of 14 and below were considered as having no cabin fever symptoms while those with cabin fever score more than 14 were considered as suffering from cabin fever with higher score indicating more severe condition. This prevalence was lower compared to a previous study which was conducted on 1210 people in 194 cities in China after a 2-week outbreak of COVID-19 there that found that 53.8% of respondents had moderate to severe psychological impact, 16.5% had moderate to severe depression, 28.8% had moderate to severe depression, and 8.1% of respondents had moderate to severe stress (Wang et al, 2020). This may be due to the fact that most of the students were able to cope with the negative emotions faced during the quarantine by effective coping mechanism and also the fact that China was the place of origin of the outbreak which may lead to higher stress level among the residents.

5.3 Common Symptoms of Cabin Fever among University Students

From the result obtained, some of the common symptoms of cabin fever among the students who remained on campus during MCO include feeling bored, craving for food, feeling dissatisfied, had trouble concentrating and feeling lonely. These are some of the symptoms under the definition of cabin fever which was stated as a range of negative emotions one experienced due to isolation for a long period of time which include anxiousness, low enthusiasm, depression, trouble in focusing, impatience, frequent food craving, loneliness, boredom and dissatisfaction and others. The term cabin fever describes the psychological symptoms that a person may experience when they are confined to their home for extended periods (Dresden, 2020).

5.4 Association between Different Factors and The Prevalence and Severity of Cabin Fever

5.4.1 Socio-demographic Factors

a) Age Group

Previous research reported that university students age 25 and more have higher IES scale, a scale that measure the impact of event ($B=0.53$, 95% CI: 0.21 to 0.84) (Khan et al., 2020). From the research that we have carried out, we have found that students who are in the age group of greater than or equal to 21 experience higher proportion of cabin fever (67.2%) as compared to the younger age group (less than or equal to 20) (36.0%) and there is significant association between age group and the prevalence of cabin fever with p-value less than 0.001. This means that each age group face different level of stress during the movement control order implementation and this may be related to the different type of burden and responsibilities that they were having in the midst of the pandemic. Students from the older age group have contributed to higher prevalence of cabin fever and this may be due to the fact that they were near to graduation and they have more responsibilities and more important roles to take over when they started to work soon.

b) Gender

From our result, in term of the prevalence of cabin fever among students who stayed on campus during MCO, female students have reported higher prevalence compared to the male students (50.2% and 38.4% respectively). This result was similar to that of a study which has been done for the US general population to find the risk factor associated with the mental health outcome that has demonstrated that females are reported to have more severe anxiety and depression than male, which is 16.1% ($p=0.002$) and 13.2% ($p=0.008$) respectively (Kantor & Kantor, 2020).

However, the majority of the respondents answering the questionnaire in this research were females which contributed to 64.0% of the total respondents and hence this may have affected the accuracy of the result.

c) Ethnicity

From the study that has been done for undergraduates from 5 different universities in Malaysia, it's reported that there is significant difference in psychological health between races in Malaysia ($F = 3.534$, $p \leq .05$) (Nordin, Talib, Yaacob, & Sabran, 2010). In the study that we have conducted, it has also shown that there is significant association between ethnicity and the prevalence of cabin fever with $p\text{-value} < 0.05$ and the respondents from 'other' ethnicity contributed to the highest prevalence of cabin fever (75.0%). Therefore, race was proven to be a great factor that would influence the prevalence of cabin fever among the university students who stayed on campus during MCO.

d) Religion

From the data that has been collected and analyzed, it has shown that religion has no

significant association between the religion and the prevalence of cabin fever ($p > 0.05$). However, considering that majority of the respondents were Muslims (83.6%), there may be bias or inaccuracy in the result.

e) Nationality

The data analyzed demonstrated that there is no significant association between nationality and the prevalence of cabin fever ($p > 0.05$). However, the result may be inaccurate as most of the respondents who took part in the study were Malaysians (99.5%).

5.4.2 Academic Factor

a) Semester

A study carried out in University of Valladolid, Spain showed that undergraduate students at 6th year of their studies (only medical students) presented significant lower depression compared to the 1st year students. However, the year of study is only a significant associating factor of stress when the 1st year students are to be compared with the 4th and 6th years ($p < 0.05$ in both 1st year students vs 4th years students and 1st years students vs 6th years students). (Odriozola et al., 2020).

However, from the study that we have carried out, it showed that students from semester 4 and above experienced higher proportion of cabin fever (66.4%) as compared to the students from semester 3 and below. The contradiction reported from this study may be due to the variability of the target group of respondents in this study while the previous study was only focusing on medical students.

5.4.3 Family Factor

a) Family Size (Number of Siblings)

From the research that we have conducted, it has shown that there is no significant association between family size (measured by the number of siblings) and the prevalence of cabin fever among the respondents.

b) Family Monthly Income

Result from this study showed that family income has a significant association with the prevalence of cabin fever with $p < 0.05$. Those who were from family with monthly income less than RM3000 have reported to have contributed to higher prevalence of cabin fever (52.4%). This result is similar to the result from a study carried out to investigate the psychological impact of COVID-19 epidemic on college students in China that has reported that family income stability is a protective factor against anxiety (OR=0.810, 95% CI= 0.709-0.925) and hence family income has been concluded as a significant associating factor to the level of stress faced by college students during this pandemic ($p < 0.001$) (Cao et al., 2020).

c) Hometown

Data that has been collected has shown that there's no significant association between hometown and the prevalence of cabin fever. This is different from the study which has been carried out in China which has shown that less respondents who are residing in urban area (21.24%) has cabin fever compared to those residing in the rural area (27.75%) with $p < 0.001$ (Cao et al., 2020). The difference in the result may be due to the difference in the method of interpretation and categorization of this factor with the previous study having hometown being categorized as either 'rural' or 'urban' area instead of what we have done in this study (according

to the part of country that they are residing at).

5.4.4 Coping Factors

From the data collected and analysed, it has been shown that there were some effective coping factors which can help in reducing the prevalence of cabin fever among the university students during the period of isolation upon the implementation of MCO and this included chatting with friends and family and also to self-motivate ($p = 0.027$ and $p < 0.001$ respectively). It has also shown that venting out emotion by crying and screaming may increase the prevalence of cabin fever among the university students and hence this coping factor were said to be an improper way of relaxing.

Chapter 6

Conclusion and Recommendations

6.1 Conclusion

From this study, it can be concluded that the prevalence of cabin fever is higher among female students, and the prevalence of cabin fever is associated with age, gender, ethnicity, duration of study and family monthly income. Coping mechanisms that were found to be effective in reducing the prevalence of cabin fever include chatting with family and friends and self-motivation. As the presence of cabin fever may lead to psychological problems such as depression and anxiety, actions must be taken by the related parties to prevent and control the prevalence of cabin fever, focusing on the university students who have factors associated with cabin fever.

6.2 Strengths and Limitations

a) Strengths

The cabin fever scale used in this study has been validated with Cronbach alpha of 0.927 (Chin, 2020). Besides that, the inclusion criteria was important to provide an insight of association between different factors and the prevalence of cabin fever among the university students who stayed on campus during MCO.

b) Limitations

Despite all the strengths of the study as stated above, there were some limitations found from this study. First, the study carried out was focusing on the prevalence of cabin fever of students during the period of isolation upon the implementation of MCO but students may have prior problems or difficulties before that they showed symptoms of cabin fever which were barely related to MCO. Besides that, respondents of the study were required to answer the questionnaire

based on their feelings and experiences during the period of MCO and this may lead to recall bias. Also, there was limited time to find sufficient respondents for participation in this study due to the short time allocated for data collection. As the questionnaire was mainly distributed via WhatsApp, non-response bias was reported. There was also difficulty in getting access to all students who stayed on campus during MCO as some may overlook the questionnaire sent via WhatsApp. Difficulty in getting access to students from certain area of study and hence insufficient data collection on this factor and inability to interpret and determine the association between the area of study and the prevalence and severity of cabin fever was also a limitation of this study. True comparison between this study and other similar studies on psychological effects of movement control order or lockdown cannot be made because the differences in the study tools and definitions used.

6.3 Recommendations

Further studies should be carried out using other study design such as cohort or case control study. Case control study is able to evaluate multiple exposures (different characteristics) in relation to the cases (individual who is suffering from cabin fever) clearly rather than cross-sectional study. Meanwhile, cohort study can provide clear temporal relationship between exposure (different stresses or burden source) and the cases (individuals suffering from cabin fever) and hence reducing the limitation of the study stated before. In addition, further study should focus more on those prone to get cabin fever (females, Chinese etc.) and effective coping mechanisms and supervision should be suggested to prevent the worsening of the psychological impact of cabin fever among this group of university students who are at risk.

From the result, we have found out that some coping strategies used by the students which include chatting with friends and family and self-motivating were effective in reducing the

prevalence of cabin fever among the students who stayed on campus during MCO. Hence, this should be emphasized and recommended more frequently among the students so that they are aware of this coping strategy in the face of stress in the future. Meanwhile, there is one coping strategy found to be improper in relieving stress and will increase one's risk of developing cabin fever which is to vent out emotion by screaming and crying. By this, students should be told about this so that they know the proper way of releasing their stress in the future.

All in all, related parties and authorities should consider the important factors (socio-demographic, family and academic factors) when developing appropriate programmes to help in reducing the prevalence of cabin fever among the university students.

REFERENCES

- Abdullah, M., Dr. (2020, April 14). Staying on campus during MCO a strain on students. *New Straits Times*. Retrieved June 7, 2020, from <https://www.nst.com.my/opinion/columnists/2020/04/584261/staying-campus-during-mco-strain-students>
- Amoran, O. E., Lawoyin, T. O., & Oni, O. O. (2005). Risk factors associated with mental illness in Oyo State, Nigeria: A Community based study. *Annals of general psychiatry*, 4(1), 19.
- Baloran, E. T. (2020). Knowledge, Attitudes, Anxiety, and Coping Strategies of Students during COVID-19 Pandemic. *Journal of Loss and Trauma*, 1-8.
- Chin, W. C. (2020). Cabin Fever Scale (CFS). [Manuscript in preparation]. School of American Degree Program, SEGI College Penang, Malaysia.
- Chakraborty, K., & Chatterjee, M. (2020). Psychological impact of COVID-19 pandemic on general population in West Bengal: A cross-sectional study. *Indian Journal of Psychiatry*, 62(3), 266–272. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_276_20
- Ćosić, K., Popović, S., Šarlija, M., & Kesedžić, I. (2020). Impact of Human Disasters and COVID-19 Pandemic on Mental Health: Potential of Digital Psychiatry. *Psychiatria Danubina*, 32(1), 25–31. <https://doi.org/10.24869/psyd.2020.25>
- Dresden, D. (2020, June 8). Cabin fever: Definition, symptoms, and how to cope. Retrieved October 04, 2020, from <https://www.medicalnewstoday.com/articles/cabin-fever> & There must be some kinda way outta here: A history of cabin fever - Life - Good living. (n.d.). Retrieved October 04, 2020, from <https://www.dailycare.com.au/good-living/life/there-must-be-some-kind-a-way-outta-here-a-history-of-cabin-fever/>

Frederiksen, B., Gomez, I., Salganicoff, A., & Ranji, U. (2020, March 20). Coronavirus: A Look at Gender Differences in Awareness and Actions. Retrieved June 10, 2020, from <https://www.kff.org/coronavirus-covid-19/issue-brief/coronavirus-a-look-at-gender-differences-in-awareness-and-actions/>

Kantor, B. N., & Kantor, J. (2020). Mental health outcomes and associations during the coronavirus disease 2019 pandemic: A cross-sectional survey of the US general population. *medRxiv*.

Khan, A. H., Sultana, M. S., Hossain, S., Hasan, M. T., Ahmed, H. U., & Sikder, M. T. (2020). The impact of COVID-19 pandemic on mental health & wellbeing among home-quarantined Bangladeshi students: A cross-sectional pilot study.

Koh EBY, Pang NTP, Shoesmith WD, James S, Nor Hadi NM, Loo JL. The behaviour changes in response to COVID-19 pandemic within Malaysia. *Malays J Med Sci*. 2020;27(2):45–50. <https://doi.org/10.21315/mjms2020.27.2.5>

Latiff, L. A., Aszahari, M. A. A., Ab Khalek, N. F., Fang, K. J., & Ibrahim, N. (2014). Prevalence of mental health problems and the associated factors among undergraduate students in a public university, Malaysia. *International Journal of Public Health and Clinical Sciences*, 1(1), 59-69.

Laurie Guimond, Alexia Desmeules. (2019) Choosing the northern periphery: Paradoxes in the ways of dwelling of new residents of Eastern Minganie (North Shore, Québec, Canada). *Population, Space and Place* 25:6.

Lee, M. F., & Syaid, S. (2017). Factors contributing towards Malaysian technical university (MTU) students 'mental health. *Pertanika Journal of Social Sciences & Humanities*, 25,

93-100.

Liu BD. *Being an American 2nd Year Medical Student in the COVID-19 Pandemic. Int J Med Students.* 2020 Jan-Apr;8(1):77-78.

Liu, C. H., Zhang, E., Wong, G. T. F., & Hyun, S. (2020). Factors Associated with Depression, Anxiety, and PTSD Symptomatology During the COVID-19 Pandemic: Clinical Implications for US Young Adult Mental Health. *Psychiatry Research*, 113172.

Malaysia Healthcare Travel Council. (2020). Pm statement to covid-19 social distancing measures. Retrieved from <https://www.mhtc.org.my/mhtc/2020/03/16/pm-statement-to-covid-19-social-distancing-measures/>

Malaysia Healthcare Travel Council. (2020). Statement by PM on the extension of the movement control order until 12 May. Retrieved from <https://www.mhtc.org.my/mhtc/2020/04/24/statement-by-pm-on-the-extension-of-the-movement-control-order-until-12-may/>

Malaysia Healthcare Travel Council. (2020). Statement by PM on the extension of the movement control order. Retrieved from [mhtc.org.my/mhtc/2020/03/25/statement-by-pm-on-the-extension-of-the-movement-control-order/](https://www.mhtc.org.my/mhtc/2020/03/25/statement-by-pm-on-the-extension-of-the-movement-control-order/)

Maunder R, Hunter J, Vincent L, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *CMAJ* 2003; 168: 1245–51.

Ministry of Health (Malaysia). National Health and Morbidity Survey 2015. Volume II: non-communicable diseases, risk factors and other health problems. Kuala Lumpur: Ministry of Health Malaysia; 2015.

Ministry of Health. (2020). Situasi semasa pandemik COVID-19 di Malaysia. Retrieved from http://covid-19.moh.gov.my/archive:mar_2020

Nordin, N. M., Talib, M. A., Yaacob, S. N., & Sabran, M. S. (2010). A study on selected demographic characteristics and mental health of young adults in public higher learning institutions in Malaysia. *Global Journal of Health Science*, 2(2), 104.

Odriozola-González, P., Planchuelo-Gómez, Á., Irurtia, M. J., & de Luis-García, R. (2020).

Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Research*, 113108.

Odriozola-González, P., Planchuelo-Gómez, Á., Irurtia-Muñiz, M. J., & de Luis-García, R.

(2020). Psychological symptoms of the outbreak of the COVID-19 crisis and confinement in the population of Spain.

Ornell F, Schuch JB, Sordi AO, Kessler FHP. __Pandemic fear “and COVID-19: mental health burden and strategies. *Braz J Psychiatry*. 2020; 42:232-235.

<http://dx.doi.org/10.1590/1516-4446-2020-0008>

Panchal, N., Kamal, R., Orgera, K., @cynthiaccox, C., Garfield, R., Hamel, L., . . .

Chidambaram, P. (2020, April 21). The Implications of COVID-19 for Mental Health and Substance Use. Retrieved June 10, 2020, from <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use>

Paul C. Rosenblatt. (1984) Epsitemology and Ontology in Cross-Cultural Research. *Behavior Science Research* 19:1-4, pages 112-126.

Paula Odriozola, González, Álvaro Planchuelo, Gómez, María Irurtia, Rodrigo Luis, García.

Psychological Effects of the Covid-19 Outbreak and Lockdown Among Students and Workers of a Spanish University.

<https://www.sciencedirect.com/science/article/pii/S0165178120313147#bib0021>

Prime Minister 's office of Malaysia. (2020). Restriction movement order. Retrieved from <https://www.pmo.gov.my/2020/03/movement-control-order/>

Raj, U., & Fatima, A. (2020). Stress in Students after Lockdown Due to COVID-19 Threat and the Effects of Attending Online Classes. *Available at SSRN 3584220*.

Rosenblatt, P. C., Anderson, R. M., & Johnson, P. A. (1984). *Journal of Social Psychology*, 123(1), 43. <https://doi.org/10.1080/00224545.1984.9924512>

Samantha Brooks, Rebecca Webster, Louise Smith, Lisa Woodland, Simon Wessely, Neil Greenberg, Gideon Rubin. The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence. <https://www.sciencedirect.com/science/article/pii/S0140673620304608>

Tang, W., Hu, T., Hu, B., Jin, C., Wang, G., Xie, C., ... & Xu, J. (2020). Prevalence and correlates of PTSD and depressive symptoms one month after the outbreak of the COVID-19 epidemic in a sample of home-quarantined Chinese university students. *Journal of affective disorders*.

Twenge, J., & Joiner, T. (2020). Mental distress among US adults during the COVID-19 pandemic.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China.

Wen Cong, Chin. (2020). Cabin Fever Scale: CFS. 10.13140/RG.2.2.13351.29606/3.

Wenjun, Cao., Ziwei, Fang., Guoqiang, Hou., Mei Han, Xinrong, Xu., Jiaxin, Dong., Jianzhong, Zheng. The Psychological Impact of the Covid-19 Epidemic on College Students in China. <https://www.sciencedirect.com/science/article/pii/S0165178120305400#bib0033>

Williams, L., Regagliolo, A., & Rasmussen, S. (2012). Predicting psychological responses to Influenza A, H1N1 (—Swine flul): The role of illness perceptions. *Psychology, Health & Medicine*, 17(4), 383–391. <https://doi.org/10.1080/13548506.2011.626564>

Wong, L. P., & Alias, H. (2020). Temporal changes in psycho behavioural responses during the early phase of the COVID-19 pandemic in Malaysia.

World Health Organization. (2020). Coronavirus disease (COVID-19) in Malaysia. Retrieved from [https://www.who.int/malaysia/emergencies/coronavirus-disease-\(covid-19\)-in-malaysia](https://www.who.int/malaysia/emergencies/coronavirus-disease-(covid-19)-in-malaysia)

World Health Organization. (2020). WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. Retrieved from [https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19 --11-march-2020](https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--11-march-2020)

Xiang, Y. T., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., & Ng, C. H. (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *The Lancet Psychiatry*, 7(3), 228-229.

Xiao, H., Zhang, Y., Kong, D., Li, S., & Yang, N. (2020). Social Capital and Sleep Quality in Individuals Who Self-Isolated for 14 Days During the Coronavirus Disease 2019

(COVID-19) Outbreak in January 2020 in China. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research*, 26, e923921.
<https://doi.org/10.12659/MSM.923921>

Yao, H., Chen, J. H., & Xu, Y. F. (2020). Patients with mental health disorders in the COVID-19 epidemic. *The Lancet Psychiatry*, 7(4), e21.

Yingfei Zhang-Zheng Ma (2020). Impact Of the Covid-19 Pandemic on Mental Health and Quality Of Life Among Local Residents in Liaoning Province, China: A Cross-sectional Study <https://www.mdpi.com/1660-4601/17/7/2381/htm#B12-ijerph-17-02381>

APPENDICES

i) Consent Form



**JAWATANKUASA ETIKA UNIVERSITI UNTUK
PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,
SELANGOR, MALAYSIA**

FORM 2.4: RESPONDENT'S INFORMATION SHEET AND INFORMED CONSENT FORM

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

1. STUDY TITLE:

Cabin fever and its associated factors among UNIVERSITI PUTRA MALAYSIA (Serdang Campus) students who stayed on campus during Movement Control Order (MCO) in 2020.

2. INTRODUCTION:

In Malaysia, the government enforced the Movement Control Order (MCO) in order on March 18, 2020. Many students had to remain within their college premises for weeks even though the universities were closed. Being confined in a space for an extended period can result in a condition called cabin fever. Therefore, the aim of this study is to determine the occurrence, severity, and associated factors of cabin fever among a public university's students who remained in campus during the MCO period. Detecting cabin fever among students may help relevant authorities to generate remedial measures, preventing it from progressing to more serious psychological problems.

3. WHAT WILL YOU HAVE TO DO?

As a student who remained in campus during the MCO period, you and 400 other students, are invited to participate in this study.

This study will be in the form of a questionnaire using online survey form. The link to the survey is provided at the end of this information sheet. Please click on the link after you have completed reading this information sheet so that you can be part of this study.

Once you have clicked on the link, you will be brought to an electronic page containing an electronic survey form. At the beginning of the electronic survey form, you will need to give your consent to be part of this study. This can be done through a few simple steps.

- You just have to read the statement provided,
- Provide information of 3 simple items, and
- If you agree to become a participant of this study, you click "Yes". If you do not agree then you click on the button "No" and you will be disconnected from this link.

If you click "Yes", you will be asked if you wish to know the results related to your participation in the research. You can then click the Yes or No button provided.

After that, if you have consented to participate in this study, you will be given a set of simple questions for you to answer. These questions ask your background. You do not need to give your name or any self-identifying information. Once completed, you just need to answer several questions in the next section of

the electronic form, on how you felt during your stay in campus during the MCO period using the Cabin Fever Scale.

After you have completed answering all questions, you do not need to click on any buttons. You simply close the electronic survey form. Your answers will be automatically submitted to the researcher's database. This whole process will only take about 10 minutes.

Just to note that **respondents will not be paid for your participation in this study.**

4. WHO SHOULD NOT PARTICIPATE IN THE STUDY?

You should not participate in this study if you did not stay on campus in residential colleges of UPM during the Movement Restriction Order (MCO).

5. WHAT WILL BE THE BENEFITS OF THE STUDY?

(a) TO YOU AS THE SUBJECT?

You will be allowed to reflect on your assessment experience related to the score of Cabin Fever Scale and be able to give your opinions on the approach that you used to complete the assessments. Once the research is done, you may use approaches used by other students who had lower CFS score to cater to better mental health management.

TO THE INVESTIGATOR?

The investigator can determine the factors which may account for the symptoms experienced by the students due to staying in a confined space during the MCO period and to curate better ways to prevent students from experiencing such symptoms in case of more lockdown periods in the future.

6. WHAT ARE THE POSSIBLE RISKS?

Since this is a survey study, there are no risks associated with this study.

7. WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL?

The research investigators will collect personal information about you as a part of the study but your identity (name, student ID) will not be asked. The data obtained from this study can be shared during discussions or any other related sessions within our research team. However, apart from our team, any other information concerning you will be kept in strict confidentiality.

8. WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH?

You can contact:

- a) Dr. Aidalina Mahmud (03-89472416)
Department of Community Health,
Faculty of Medicine & Health Sciences,
43400 UPM Serdang,
Selangor.
aidalina@upm.edu.my

b) Associate Professor Dr. Mohd Rafee Baharuddin (0389472672)

Department of Community Health,
Faculty of Medicine & Health Sciences,
43400 UPM Serdang,
Selangor.

mohdrafee@upm.edu.my

c) Foong Wei Ern (0192262682)

d) Muhammad Amirul Bin Aziz (01140787658)

e) Kumuthini A/P Ulagantheran (0174050933)

Link to the research site: <https://bit.ly/CabinFeverScale>



9. CONSENT

Name:

Identification card or passport number:

Address:

I have been informed about the nature of the research in terms of methodology, possible adverse effects and complications (as written in the Respondent's Information Sheet). I understand that I have the right to withdraw from this research at any time without giving any reason whatsoever. I also understand that this study is confidential and all information provided with regard to my identity will remain private and confidential.

I hereby voluntarily agree to take part in the online questionnaire-based research as stated above.

YES

NO

I wish to know the results related to my participation in the research.

YES

NO

I confirm that I have explained to the respondent the nature and purpose of the above-mentioned research.

Date

Signature
(Researcher)

ii) Questionnaire

**Cabin Fever and Its Associated Factors Among Universiti Putra
Malaysia
(Serdang Campus) Students Who Stayed in Campus During
Movement Control Order (MCO) in 2020.**

SECTION A: Sociodemographic, academic and family factors

SEKSYEN A: Faktor sosiodemografi, akademik dan keluarga

Instruction: Please answer all questions in this section by ticking [/] the appropriate answer.

Arahan: Sila jawab semua soalan pada bahagian ini dengan tandakan [/] pada jawapan berkaitan.

- Age/ Umur: _____
- Gender/ Jantina:
Male/ Lelaki
Female/ Perempuan
- Ethnicity/ Kaum:
Malay/ Melayu
Chinese/ Cina
Indian/ India
Others/ Lain-lain: _____
- Religion/ Agama:
Islam/ Islam
Buddha/ Buddha
Hindu/ Hindu
Christian/ Kristian
Others/ Lain-lain: _____
- Nationality/ Kewarganegaraan
Malaysia
Others/Lain-lain: _____

- Semester of study during the MCO/*Semester pengajian semasa PKP*

Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Other/ Lain-lain:

- Area of study/ *Bidang pengajian*

Faculty of Agriculture
Faculty of Forestry
Faculty of Veterinary Medicine
Faculty of Economics and Management
Faculty of Engineering
Faculty of Educational Studies
Faculty of Science
Faculty of Food Science and Technology
Faculty of Human Ecology
Faculty of Modern Languages and Communication
Faculty of Design and Architecture
Faculty of Medicine and Health Sciences
Faculty of Computer Science and Information Technology
Faculty of Biotechnology and Biomolecular Sciences
Faculty of Environmental Studies
Institute of Bioscience
Institute of Advanced Technology (ITMA)
Institute of Gerontology
Institute of Mathematical Research
Halal Product Research Institute
Institute of Tropical Forestry and Forest Product
Institute of Agriculture and Food Policy Studies
Institute for Social Science Studies
Institute of UTropical Agriculture

- How many siblings do you have? / *Berapa jumlah adik beradik anda?*
- Where is your hometown/ *Di manakah rumah keluarga anda?*
- Average monthly family income/ *Purata pendapatan bulanan keluarga:*

less than RM1000/ *kurang daripada RM1000*
RM1000 - RM2000/ *RM1000 - RM2000*
RM2000 - RM3000/ *RM2000 - RM3000*
RM3000 - RM4000/ *RM3000 - RM4000*
RM4000 - RM5000/ *RM4000 - RM5000*
RM5000 and above/ *RM5000 dan lebih*

SECTION B: Cabin Fever Scale

SEKSYEN B: Skala Cabin Fever

Instruction: Please read each statement and choose a number (0,1,2 or 3) to indicate how much the statement applied to you during your stay in the residential college during MCO period.

Arahan: Arahan: Sila baca setiap pernyataan dan pilih nombor (0,1,2 atau 3) untuk menunjukkan berapa banyak pernyataan tersebut menepati keadaan anda semasa anda tinggal di kolej kediaman selama tempoh Perintah kawalan Pergerakan (PKP).

Scale/skala:

1. Did not apply to me at all /*Sama sekali tidak berlaku untuk saya*
2. Applied to me to some degree or some of the time/ *Kadang-kadang terjadi kepada saya atau pada tahap tertentu*
3. Applied to me to a considerable degree or a good part of time / *Selalu terjadi kepada saya atau pada tahap yang sederhana*
4. Applied to me very much or most of the time / *Sangat kejadat terjadi kepada saya atau pada tahap yang agak serius*

No.	Item	0	1	2	3
1.	I felt anxious. <i>Saya berasa cemas.</i>				
2.	I experienced a lack of energy and enthusiasm. <i>Saya mengalami kekurangan tenaga dan semangat.</i>				
3.	I felt sad and depressed. <i>Saya berasa sedih dan tertekan.</i>				
4.	I had trouble concentrating. <i>Saya menghadapi masalah untuk menumpukan perhatian.</i>				
5.	I found myself lacking patience. <i>Saya mendapati diri saya kurang sabar.</i>				
6.	I found myself craving for				

	food. <i>Saya mendapati diri saya sentiasa mahu makan.</i>				
7.	I had decreased motivation. <i>Saya mengalami penurunan tahap motivasi.</i>				
8.	I felt lonely. <i>Saya berasa sunyi.</i>				
9.	I had difficulty waking up. <i>Saya sukar bangun daripada tidur.</i>				
10.	I felt hopeless. <i>Saya berasa tiada harapan.</i>				
11.	I experienced changes in my weight. <i>Saya mengalami perubahan berat badan.</i>				
12.	I felt bored. <i>Saya berasa bosan.</i>				
13.	I felt dissatisfied. <i>Saya berasa tidak berpuas hati.</i>				

SECTION C: Coping strategies
SEKSYEN C: Strategi mengatasi

Instruction: Please read each statement and choose the best answer(s) on what you did to you during your stay in the residential college during MCO period.

Arahan: Sila baca setiap pernyataan dan pilih jawapan terbaik mengenai apa yang anda lakukan kepada anda semasa anda tinggal di kolej kediaman selama tempoh MCO.

No.	Items	Yes/Ya	No/Tidak
1.	Follow strict personal protective measures. <i>Ikuti langkah perlindungan diri yang ketat</i>		
2.	Read about COVID-19, its prevention and mechanism of action. <i>Baca mengenai COVID-19, pencegahan dan mekanisme tindakannya.</i>		
3.	Avoid going out in public places to minimize exposure from COVID-19. <i>Elakkan keluar di tempat awam untuk mengurangkan pendedahan daripada COVID-19.</i>		
4.	Do relaxation activities, e.g. Meditation, sports, exercise, listening to music, etc. <i>Lakukan aktiviti santai, seperti meditasi, sukan, senaman, mendengar muzik, dll.</i>		
5.	Praying, worshiping. <i>Berdoa, beribadah.</i>		
6.	Chat with family and friends to relieve stress and obtain support. <i>Berbual dengan keluarga dan rakan untuk menghilangkan tekanan dan mendapatkan sokongan.</i>		
7.	Use social media such as Facebook, twitter etc. <i>Gunakan media sosial seperti Facebook, twitter dll.</i>		
8.	Play online games and computer games. <i>Bermain permainan dalam talian dan permainan computer.</i>		
9.	Motivate myself to face the COVID-19 outbreak with a positive attitude. <i>Memotivasikan diri saya untuk menghadapi wabak COVID-19 dengan sikap positif.</i>		
10.	Get help from doctors/health providers to reduce my stress. <i>Dapatkan bantuan doktor / perkhidmatan kesihatan untuk mengurangkan tekanan saya.</i>		

11	Try to be busy at home in activities that would keep my mind away from COVID-19. Cuba untuk menyibukkan diri dengan aktiviti-aktiviti yang boleh membuat pemikiran tidak tertumpu kepada COVID-19		
12	Avoid media news about COVID-19 and related fatalities. <i>Elakkan berita media mengenai COVID-19 dan kematian yang berkaitan.</i>		
13	Vent emotions by crying, screaming etc. <i>Lepaskan emosi dengan menangis, menjerit dll.</i>		



iii) **Gantt Chart**

Months Activities	June	July	August	September	October
Proposal Preparation					
Proposal Submission					
Proposal Presentation					
Preparation of ethical approval/ letters to respective organization					
Data collection and data analysis					
Submission of data analysis report					
Data Analysis Presentation					
Report writing and poster preparation					
Submission of final report and scientific articles					
Poster competition					
Preparation for final presentation					
Final presentation					
Submission logbook					

iv) Approval Letter from JKEUPM

Ref. no: UPM/TNCPI/RMC/JKEUPM/1.4.18.2 (JKEUPM)

Date: 21 July 2020

Dear Prof./Dr./Mr./Ms.,

APPLICATION FOR JKEUPM ETHICAL CLEARANCE: APPROVED

With reference to the above, I am pleased to inform you that your application for ethical clearance for the research project entitled '**Cabin Fever and its Associated Factors among Universiti Putra Malaysia (Serdang Campus) Students Who Stayed in Campus During Movement Control Order (MCO) In 2020**' has been approved.

Please note that the official letter of approval will be issued as soon as possible. However, the ethical clearance is considered effective from the date of this email, and you may now proceed with your research.

Kindly remind the ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

Researchers should also complete a Study Final Report upon study completion. The form can be obtained from the Ethics Committee for Research Involving Human Subjects (JKEUPM) website (<http://www.tncpi.upm.edu.my/faildokumen>).

If you have any enquiries, please contact Ms. Nurulhasanah Ishak (03-97691605) or Ms. Nor Ellia Abd Ajis (03-97691244).

Note: Please use this reference number for any transaction:- **JKEUPM-2020-226**

Thank you.

Yours faithfully,

Prof. Dr. Zamberi Sekawi
Chair
Ethics Committee for Research Involving Human Subjects
Universiti Putra Malaysia

