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Development of Cabin Fever Scale in Malaysia

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ABSTRACT

To prevent the spread of COVID-19, the Malaysian government implemented a movement control order, an emergency policy that instructed all people in the country to stay home. Being confined in a building for a lengthy period exposes individuals to the risk of having a range of symptoms known as cabin fever. Considering the negative impact of cabin fever, it is crucial to assess cabin fever symptoms among Malaysians. However, there is a lack of validated instruments; hence, this study attempts to develop an instrument for Malaysian adults, named Cabin Fever Scale (CFS). A total of 124 adults (75% females; *M* = 29.3 years) were recruited via the snowball sampling method to participate in an online survey. Exploratory factor analyses showed that the CFS items were pooled into two factors: behavioural symptoms (six items) and emotional symptoms (four items). Findings show that Malaysians viewed cabin fever as both behavioural and emotional symptoms. The behavioural symptoms comprise food craving, decreased motivation, difficulty waking up, and frequent naps, while emotional symptoms include anxiety, lethargy, depression, impatience, hopelessness, and dissatisfaction. Both CFS subscales demonstrated good internal reliability with Cronbach's Alpha values of .768 (behavioural symptom) and .908 (emotional symptom). The 10-item CFS is deemed a psychometrically sound instrument for measuring cabin fever in Malaysia.

Keywords: cabin fever, COVID-19, Malaysia, movement control order, scale

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1 INTRODUCTION

An outburst of 2019 new coronavirus disease (COVID-19) in Wuhan, China, has spread dramatically nationwide and then all over the world. In Malaysia, Movement Control Order (MCO) was implemented as a preventive measure of Malaysia's government towards the COVID-19 coronavirus pandemic on the 18th of March 2020, and it was implemented throughout the country. In this current situation, cabin fever is expected to influence people's lives during the movement control. Cabin fever is defined as distressing claustrophobic irritability or restlessness experienced when a person, or a group, is stuck in an isolated setting for a lengthy period. During cabin fever, a person may experience drowsiness or sleeplessness, distrust anyone they are with or argue about going outside (Alexander, 1994). Cabin fever is not a disease, but the related symptoms may lead to making illogical decisions that could threaten the whole life (Kehoe & Abbott, 1975). Not everyone suffering from cabin fever will have the same symptoms (Gielan, 2011). However, many people report feeling nervous, lack of energy (Chen et al., 2020), no concentration, no tolerant, desire for food, no motivation, isolated, difficulty to wake up, hopeless, change in weight, bored and dissatisfied (Gielan, 2011).

In this brief period, several studies investigate the symptoms related to cabin fever and the effects of lockdown in other countries. Wang et al. (2020) explained that the instant psychological responses and related factors during the early stage of the COVID-19 were widespread among the general population in China among 1210 respondents. About 53.8% of respondents rated the psychological impact of the outbreak as moderate to severe symptoms. The findings recognising the factors related to a lower level of psychological impact, and better mental health status can be used to formulate psychological interventions to improve the mental health of vulnerable groups during the COVID-19 pandemic.

In another research, Dayrit and Mendoza (2020) explained the control of COVID-19 and elaborated on some of the critical elements of counter COVID-19 responses. They concluded it is important to review the emerging lessons even this early. After WHO declared a public health emergency on the 31st of January 2020, cases were detected worldwide. A brief psychotic disorder is the sudden onset of psychosis that lasts for less than a month. For example, in Malaysia, Nathratul et al. (2020) reported a 31-year-old man who presented one week's history of odd behaviour. The person was causing a disturbance in his neighbourhood. He was afraid and distressed, as he felt there were not enough preventive measures that were being put into place to curb the outbreak of the disease.

Lee and You (2020), in their study, explained the significance of the psychological responses, which related to behavioural responses and suggestively influenced the society's level of public health emergency preparedness regarding the COVID-19 pandemic. This result has significance for instigating public health strategies for the pandemic and understanding future emerging infectious diseases. In another study by Nathratul et al. (2020), among 2766 participants through an online survey from 18-22 March 2020 found the frequency of psychiatric symptoms and identified risk and protective factors for psychological distress in the population. The significant finding of this study is an important benchmark for recognising persons at greater risk of suffering

from psychological distress and the results are useful for tailoring psychological interventions targeting the post-traumatic nature of the distress.

Likewise, Saltzman et al. (2020) explored the potential impact of COVID-19 on loneliness and well-being. Social support is an essential consideration for understanding the impact of COVID-19 Psychological First Aid and Skills for Psychological Recovery, which are tools used to inform response methods to help people connect during isolation and are interventions adapted to COVID-specific needs for what may be prolonged isolation and post isolation. According to Social Isolation Theory, isolation heightens sensitivity to social threats and motivates the renewal of social connections (Cacioppo et al., 2011). Evidence indicates that loneliness heightens sensitivity to social threats and motivates the renewal of social connections, but it can also impair executive functioning, sleep, and mental and physical well-being. Together, these effects contribute to higher morbidity and mortality rates in lonely older adults (Cacioppo & Cacioppo, 2014). So, staying home and isolation from society increases the risk of developing various symptoms linked with cabin fever.

WHO and all the public health organisations in the world are acting to contain the COVID-19 pandemic? Like any mental health condition, cabin fever is best treated with a therapist or other trained mental health professionals (Rosenblatt et al., 1984). However, before any coping, intervention or even treatment in severe cases is given, it is important to measure it. There are many symptoms of having cabin fever, but there is no scale to measure it. Therefore, this paper aims to develop an instrument to measure the symptoms of cabin fever among Malaysians. This study is the first research that has developed the Cabin Fever Scale (CFS) that assesses a range of symptoms in response to being confined in a building for some time. Given the many unknowns of COVID-19, studies are needed to understand the more considerable behavioural health impact to make sure resources are available, current, and evidence-informed. Future studies are also needed to understand how access to technology may help buffer loneliness and isolation and thus improve the social outcomes of the current pandemic.

2 METHODOLOGY

This correlational study was done from the 21st of March 2020 to the 27th of March 2020 (during the MCO period). The snowball sampling method was used in this study. The corresponding author created an online survey and posted the link on a social networking site. The online survey was shared with Malaysians who are staying at home and they were then asked to share the online survey with their friends. Informed consent was obtained from participants before they responded to the online survey. A total of 124 Malaysian adults with a mean age of 29.3 years old participated in the study. The sample comprises 25% males and 75% females, with 64.5% working from home and 35.5% not working from home. Based on the response of “yes” or “no” to the question “Do you consider yourself as having ‘Cabin Fever’ in these few days?,” 46.8% reported having cabin fever, and 53.2% reported having no cabin fever.

The items of the Cabin Fever Scale (CFS; see Appendix) were generated by the corresponding author based on literature review and content analysis on the Internet regarding the symptoms of

cabin fever. After that, a list of cabin fever symptoms was produced, consisting of restlessness, anxiety, lethargy, depression, trouble concentrating, impatience, food craving, decreased motivation, loneliness, difficulty waking up, and taking naps frequently, hopelessness, weight changes, boredom, and dissatisfaction. These 15 items were then administered to the participants on a Likert-type scale with the options of 0 = Did not apply to me at all to 3 = Applied to me very much or most of the time. The examples of items of the CFS are "I experienced a lack of energy and enthusiasm" and "I had difficulty waking up." Then, SPSS version 25 was used to perform statistical analyses such as exploratory factor analysis (EFA) and independent sample t-test.

3 RESULTS AND DISCUSSION

An EFA with maximum likelihood and Promax rotation was conducted on the 15 items of the Cabin Fever Scale (CFS) using SPSS version 25. Following the eigenvalue method, three factors were extracted. The Kaiser-Meyer-Olkin (KMO) value was .906, exceeding the recommended value of .60. Besides, the Bartlett's test of Sphericity was significant ($p < .001$), suggesting that factor analysis is appropriate. The three-factor in total explained 56.525% of variance. However, items that were found to have low factor loading (< .40) or yielded cross-loading on two or more factors as well as the factor with only an item were deleted. Two items (item 9: loneliness and item 13: weight changes) were found to have low factor loading (< .40). It suggests that loneliness and weight changes do not indicate cabin fever for Malaysians. Another two items (item 1: restlessness and item 5: trouble concentrating) yielded cross-loading on two factors, whereas an item (item 14: boredom) was the only item loaded on the third factor. These three items were deleted to ease the formation of the CFS subscales. The EFA was conducted again after the removal of the five items.

Eventually, the KMO (.904) and Bartlett's test ($p < .001$) supported the appropriateness for factor analysis. The pattern matrix showed that all the ten items had large factor loadings (> .50) on the target factor and small factor loadings on the other factors (see Table 1). The two factors accounted for 57.831% of the total variance. Each factor was named according to the content of the items. The first factor labelled as an emotional symptom with six items accounted for 50.607% of the variance. The second factor of behavioural symptom with four items made up 7.225% of the variance. The Cronbach's alpha coefficients for the two dimensions ranged from .768 (behavioural symptom) to .908 (emotional symptom), indicating good internal consistency for each of the dimensions in the CFS.

The study aimed to develop a new instrument for assessing cabin fever. The instrument was called Cabin Fever Scale (CFS). The CFS original version consisted of 15 items. An EFA was performed to provide empirical evidence of the construct validity of CFS. The EFA extracted two factors (Emotional Symptom and Behavioural Symptom), which consisted of 10 items, which contributed 57.831% of the total score variance. These two factors represent the critical areas in measuring cabin fever symptoms in Malaysians. The emotional symptom dimension includes anxiety, lethargy, depression, impatience, hopelessness, and dissatisfaction. On the other hand, the behavioural symptoms dimension comprises food craving, decreased motivation, difficulty waking up, and frequently taking naps. Besides the content validity, CFS has good internal reliability for each of the dimensions.

Table 1. Summary of Factor Loading by Maximum Likelihood for the CFS (N = 124)

Items	Factor	
	1	2
2. I felt anxious	**.891**	-.191
3. I experienced a lack of energy and enthusiasm	**.623**	.212
4. I felt sad or depressed	**.846**	-.001
6. I found myself lacking patience	**.819**	-.042
12. I felt hopeless	**.750**	.027
15. I felt dissatisfied	**.717**	.142
7. I found myself craving for food	.069	**.508**
8. I had decreased motivation	.375	**.510**
10. I had difficulty waking up	-.069	**.821**
11. I took naps frequently	-.115	**.699**

Note. Factor 1 = Emotional Symptom, Factor 2 = Behavioural Symptom, Item 1, 5, 9, 13, and 14 were eliminated.

Table 2 shows the results of the independent sample t-test, in which there are significant differences in the CFS score between Malaysians who self-reported having cabin fever and those who self-reported having no cabin fever. Malaysians, who reported having cabin fever (M = 14.466) scored significantly higher than Malaysians who reported having no cabin fever (M = 7.030) in the CFS. This further confirms the CFS's known-group validity in determining those who have cabin fever symptoms and those who do not. Therefore, future researchers could use the CFS to identify whether people experience cabin fever symptoms or not. Besides that, the mean scores of those reporting presence and absence of cabin fever can be used to suggest the cut-off point when administering the CFS. For example, those who scored closer to the score of 15 suggest the probability of experiencing cabin fever.

Table 2. Self-report of Cabin Fever (N = 124)

Variable	**Mean**		**T**	**p**
	Presence	**Absence**		
Cabin fever	14.466	7.030	6.113^{***}	.000

Note. ***p < .001

On the other hand, Table 3 indicates results of independent sample t-test, where there are significant differences in the CFS score between Malaysians who reported working from home and those who did not work from home. Malaysians who were working from home (M = 9.275) scored significantly lower than Malaysians who did not work from home (M = 12.750). This means while staying at home exposing individuals to the risk of cabin fever, working from home protects Malaysians from experiencing cabin fever. Future researchers could explore the underlying mechanism that explains how cabin fever is reduced by working from home.

Table 3. Working from Home ($N = 124$)

Variable	Mean		t	p
	Working from home	Not working from home		
Cabin fever	9.275	12.750	-2.369*	.020

Note. *p < .05

4 CONCLUSION

In response to the COVID-19 pandemic, the Malaysia government took a preventive measure, known as MCO, on the 18th of March 2020. During the MCO period, Malaysians must stay at home to prevent the spread of COVID-19 in Malaysia. However, staying at home increases the risk of developing symptoms of cabin fever. Therefore, it is crucial to examine the symptoms of cabin fever among Malaysians. However, there is a lack of validated instruments for measuring cabin fever. Therefore, this paper developed a cabin fever measure named Cabin Fever Scale (CFS). Exploratory factor analysis suggested two dimensions: emotional symptoms and behavioural symptoms in assessing cabin fever. The CFS demonstrated good internal consistency in both dimensions. In conclusion, the findings suggest that the 10-item CFS is useful in measuring cabin fever symptoms in the Malaysian population. Moreover, Malaysians working from home had a significantly lower level of cabin fever symptoms than those who were not working from home, indicating that working from home helps alleviate the symptoms of cabin fever.

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APPENDIX

Cabin Fever Scale (CFS)

Instruction: Please read each statement and choose a number (0, 1, 2 or 3) to indicate how much the statement applied to you in these few days. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0: Did not apply to me at all
1: Applied to me or some of the 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. I felt anxious.
2. I experienced a lack of energy and enthusiasm.
3. I felt sad or depressed.
4. I found myself lacking patience.
5. I felt hopeless.
6. I felt dissatisfied.
7. I found myself craving for food.
8. I had decreased motivation.
9. I had difficulty waking up.
10. I took naps frequently.

Score Interpretation

Emotional symptoms: Item 1, 2, 3, 4, 5, and 6.
Behavioural symptoms: Item 7, 8, 9, and 10.