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814
The Initial Phase of Covid-19: Perception of The Pandemic and it Relates to Psychological Capital, Depression & Anxiety among University Students

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Abstract
The impact of pandemic Covid-19 continues to affect every aspect of our daily life. University students are expectedly to be less impacted and have more psychological strength to face the crises. The current study examines perceptions and opinions surrounding the Covid-19 pandemic and the relationship between these and psychological capital, depression and anxiety. Correlation analysis was conducted. A total of 69 Malaysian local university students were recruited through convenient sampling. Psychological Capital Questionnaire (PCQ-24), General Anxiety Disorder Questionnaire (GAD-7) and Patient Health Questionnaire (PHQ-9) were applied. Result indicated there was no correlation between opinions on Covid-19 and anxiety, depression and psychological capital. However, three constructs of psychological capital, i.e. hope, optimism and resilience are negatively correlated with anxiety and depression. During the pandemic, individual with high level of psychological capital are less prone to experience the symptoms of depression and anxiety. It suggests that the role psychological capital plays in developing interventions to improve mental health of students.

Keywords: Pandemic Covid-19, Psychological Capital, Optimism, Depression, Anxiety.

Introduction
The worldwide outbreak of the coronavirus disease (Covid-19) has spread across and greatly impacted Malaysia in the past month (The Star, 2020). As of April 2, 2021, the cumulative number of positive cases from the Covid-19 outbreak in Malaysia has reached 5,251. The increasing number of daily cases has forced the Malaysian government to implement the Movement Control Order (MCO), effective March 18, 2020 (The Star, 2020). As of 10 April, the MCO has been extended for the third time to 28 April 2020 (The Star, 2020). In other words, a further 18 days of home confinement will be experienced by Malaysians to reduce the risk of infection and to “flatten the Covid-19 curve”. Malaysian government was praised for acting quickly during the first stages of local COVID-19 transmission, however, there were significant challenges to gaining public trust at the time (Masngut, et al., 2021) in which it

According to compensatory control theory, during highly uncertain situations individuals may be more likely to rely on external institutions to help them cope with uncertainties (Kay et al, 2000). Within this framework, we decided to study the general perceptions of the public with regard to the Covid-19 pandemic.

Approximately one-third of Malaysians were mild-to-severely depressed during MCO for Covid-19 pandemic (Yee et al., 2021). A recent study indicated that the psychological impact of Covid-19 has been moderate to severe in the context of mental health, with increased levels of anxiety, depression and stress apparent (Wang, et al., 2020). Wang and his team showed that isolation, as experienced by many in the current pandemic, is associated with obsessive-compulsive disorder, fear, and depression among young people. The study found that there is a relationship between academic pressure caused by delays in starting school - due to the isolation policy-and psychological problems. Research has shown that the stressors associated with quarantine are the fear of infection, frustration and boredom, inadequate information, financial problems, inadequate supplies, and stigma. Evidence has shown that a longer quarantine period is associated with poorer psychological outcomes (Brooks et al., 2020). Our study proposes an investigation of how psychological capital can help individuals to cope with such a situation, particularly as relate to the levels of stress, anxiety and depression associated with Covid-19 pandemic quarantining. The development of mental health care in Malaysia has been moving towards more open policies, and more advanced resources are needed instead of relying heavily on traditional treatments (Chong et al., 2013).

In this light, a focus on psychological capital can serve as an alternative and positive way to move forward in caring for Malaysians with mental illness. Psychological capital is defined as the affirmative mental state that presents in personal stages of growth and development (Seligman and Csikszentmihalyi, 2000).

Study demonstrated that university students have reported an increase in symptoms of anxiety and depression during Covid-19 compared to those in previous academic terms. The study showed that students exhibited elevated scores of depression syndrome and anxiety due to increasing Covid-19-related news. Compared to the previous academic year, they showed increased scores of anxiety and depression in general, albeit with a decrease in scores after exams. Generally, the scores are a bit higher compared to post-exam scores during a typical academic break. The negative impact of Covid-19 on the mental health of university students is seen consistently across different studies from Greece, Jordan, India, China, Turkey and Russia (Akdeniz, et al., 2020; Alzoubi, et al., 2020; Kaparounaki, et al., 2020; Gritsenko, et al., 2020; Wang and Zhao, 2020). It is important to note that university students are largely very active netizens, and as such the internet acts as a reliable source of information for them (Hamzah et al., 2015).

The current study seeks to evaluate psychological capital and its relationship to levels of anxiety and depression during the Covid-19 pandemic in Malaysia. According to Seligman and Csikszentmihalyi (2000), psychological capital is an outgrowth of positive psychology that focuses on the strength of a person. As previously mentioned, it is defined as the affirmative mental state that presents in personal stages of growth and development. Psychological
capital includes the dimensions of hope, self-efficacy, resilience, and optimism (Luthans and Youssef, 2004). It is “an individual's positive psychological state of development that is characterized by (1) having the confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive reference (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success” (Luthans, et al., 2007, pp. 541-542). During a crisis such as a pandemic, research is interested in investigating how the psychological capacity of a person will help them in managing the situation they find themselves in. According to Loo and Chong (2020), a positive attitude, or belief in emotional expression, can reduce the level of social anxiety in social media. Since most Covid-19 news is transmitted via social media, if a person could express their emotions freely, this could also reduce their social anxiety. The current research is interested in looking at how people are coping in terms of hope, self-efficacy, resilience, and optimism. As such, an investigation was conducted to explore coping strategies in the context of psychological capital by looking at levels of anxiety and depression.

Examining the impending value of Psychological Capital (PsyCap) in augmenting positive psychological outcomes would contribute to the existing literature on the appropriate consequences of psychological capital, particularly in the academic setting. It is a very well-known fact that the construct of psychological capital was initially envisioned for employees in organizations (Siu, Bakker and Jiang, 2014), but there are also practical explanations as to the pertinence of psychological capital with respect to student communities. Confirming predictions, Krasikova, et al (2015) obtained evidence regarding the positive effects of PsyCap on psychological health. Specifically, they found that soldiers with higher self-rated levels of PsyCap prior to deployment were less likely to be diagnosed with mental health problems (PTSD, anxiety, and depression) and substance abuse problems (alcohol and drug abuse) than soldiers with lower levels of PsyCap. In other words, psychological capital is negatively related to reports of psychological symptoms (i.e. anxiety, somatic complaints, and depression) (Liu et al., 2013).

According to Riolli et al (2012), psychological capital helps to buffer stress and empowers students to cope with adverse situations. Psychological capital buffers the impact of stress such that the relationship between stress and negative outcomes was reduced. A study conducted by Liu and her team (2013) revealed that psychological capital is negatively correlated with depressive syndromes. In this context, people living under the MCO may experience a high level of anxiety. Indeed, studies have shown that in a crisis, people tend to experience high levels of stress, depression, and anxiety (Economou et al., 2013). More specifically, people also tend to experience stress, anxiety and mood swings while undergoing quarantine (Brooks et al., 2020). While stress can be healthy and a way of adapting to threats by mobilizing energy towards stressors (Khan et al., 2015), in the context of a quarantine - when one might not be able to remove the threat - it is highly possible for one to experience high and unhealthy levels of stress and anxiety. In view of the studies mentioned above, this paper evaluates the relationship between opinions and perceptions of Covid-19, and anxiety, depression and psychological capital among university students.
Methodology

Design
This study adopted quantitative design. The relationship between the psychological capital of the participants and their mental health status was looked at. The relationship between psychological capital and stress levels was also studied, especially in the context of study-related issues. Descriptive information was obtained regarding demographics, knowledge of Covid-19 and study-related issues of the students of Malaysian local universities. This study was conducted online, with the participation of students within Malaysia.

Participants and Instruments
Students of local universities formed the primary sample of this study. Convenient sampling was used in the study as students were invited to participate in this study via social media app. Psychological capital was measured with the Psychological Capital Questionnaire (PCQ-24), which has been adapted for students. The participants were asked to answer 24 questions using a 6-point Likert scale. The tabulation of their scores identified their levels of hope, self-efficacy, resilience and optimism. Anxiety levels were measured using the General Anxiety Disorder Questionnaire (GAD-7). The participants were asked to answer seven questions using a 4-point Likert scale. Their total score was calculated and categorized in terms of severity, from minimal anxiety, mild anxiety, and moderate anxiety to severe anxiety. Depression levels were measured using the Patient Health Questionnaire (PHQ-9). The participants were asked to answer nine questions using a 4-point Likert scale. The total score was interpreted into different levels of depression severity, from minimal depression, mild depression, and moderate depression to severe depression.

Procedure and Data Analysis
The survey questionnaires were distributed through the online platform Google Forms. The researchers contacted the students and then distributed the Google Forms questionnaire link to the students using the WhatsApp application. All of the instruments were in the self-report scales form in which the respondents volunteered to answer the questionnaire if they met the criteria required by the study, namely that they university students. Next, when the respondent completed and submitted the questionnaire online, it meant that the respondent in question agreed to participate in the study. After the respondents answered the questionnaire, the researcher collected the data and performed the analysis. The quantitative data was assessed using the Statistical Package for Social Sciences (SPSS).

Results
The demographic data of the subjects collected in this pilot study are summarized in Table 1. The sample size of this study included 69 students studying in various universities in Malaysia. The majority of the subjects were female (N=50 students, 72%), whilst the remaining 28% (N=19 students) were male. The mean age of the subjects was 22.5 years. The religious backgrounds of the students were as follows: 57 Muslims (83%), 7 Buddhists (10%), 3 Hindus (4%) and 2 Christians (3%). The ethnicities of the subjects were Malay (N=54 students, 79%), Chinese (N=7 students, 10%), Native Sabahan (N=6 students, 9%), Indian (N=1 student, 1%) and others (N=1 student, 1%).
Table 1: Subject Demographics and Background Data

<table>
<thead>
<tr>
<th>Subject Demographics</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>50</td>
<td>72</td>
</tr>
<tr>
<td>Mean Age</td>
<td>22.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>Islam</td>
<td>57</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Hinduism</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Buddhism</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Christianity</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Malay</td>
<td>54</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Indian</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Chinese</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Native Sabahan</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

As seen in Table 2, 57 students (83%) had not left their homes within the previous five days before answering the survey, whilst 12 students (17%) had left their homes. The reasons given for leaving their homes included – to go to their workplace, to search for food resources for themselves or their families, to conduct physical activity, to go to the pharmacy, to provide care to dependents, or due to feeling restless at home.

Table 2: Descriptive Analysis of Covid-19 Survey

<table>
<thead>
<tr>
<th>Yes, I have left the house in the last five days.</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, I have not left the house in the last five days.</td>
<td>57</td>
<td>83</td>
</tr>
</tbody>
</table>

Table 3 shows the values for mean and standard deviation for all the variables. It indicates the mean and standard deviation of compliance (perceptions of Covid-19) and opinions, anxiety, and depression, as well as the dimensions of psychological capital – namely hope, self-efficacy, resilience and optimism. As seen in the table, the mean for compliance is 8.82 while that for opinion is much lower at 3.71. As for anxiety and depression, the mean of depression is somewhat higher than that for anxiety - 7.96 compared to 5.19. In terms of the means for the psychological capital dimensions, there are not great differences - hope has the highest mean of 25.57, followed by self-efficacy at 25.30, resilience at 24.61 and lastly optimism at 24.65.
Table 3: Descriptive Analysis of perceptions (compliance) & opinions about Covid-19 in relation to psychological capital, anxiety and depression.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceptions (Compliance)</td>
<td>8.82</td>
<td>1.28</td>
</tr>
<tr>
<td>Opinions</td>
<td>3.71</td>
<td>.52</td>
</tr>
<tr>
<td>Anxiety</td>
<td>5.19</td>
<td>5.19</td>
</tr>
<tr>
<td>Depression</td>
<td>7.96</td>
<td>6.90</td>
</tr>
<tr>
<td>Hope</td>
<td>25.57</td>
<td>5.31</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>25.30</td>
<td>5.57</td>
</tr>
<tr>
<td>Resilience</td>
<td>24.61</td>
<td>4.46</td>
</tr>
<tr>
<td>Optimism</td>
<td>24.65</td>
<td>3.81</td>
</tr>
</tbody>
</table>

Pearson correlation analysis was conducted to find the relationship between the variables and the results. It showed that there was no correlation between opinions on Covid-19 and anxiety, depression and psychological capital. The relationship between perceptions (compliance) and anxiety and depression was also not significant given that there was no correlation between these variables. However, there was a small, positive correlation between perception (compliance) and the ‘optimism’ dimension of psychological capital, $r = .28, p < 0.05$, with high levels of compliance associated with high levels of optimism. Pearson correlation between psychological capital and anxiety and depression showed that there were significant relationships between the dimensions of psychological capital except for self-efficacy. Negative correlations were found between anxiety and hope ($r = -.40, p < 0.01$), resilience ($r = -.32, p < 0.01$), and optimism ($r = -.31, p < 0.01$). There were also negative correlations between depression and hope ($r = -.40, p < 0.01$), resilience ($r = -.36, p < 0.01$), and optimism ($r = -.42, p < 0.01$). Thus, the higher an individual’s level of psychological capital, the lower their level of anxiety and depression (Table 4).
Table 4: Correlation between perception (compliance) & opinions about Covid-19 with regard to psychological capital, anxiety and depression.

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perception (Compliance)</td>
<td></td>
<td>.27*</td>
<td>.17</td>
<td>.07</td>
<td>.14</td>
<td>.16</td>
<td>.16</td>
<td>.28*</td>
</tr>
<tr>
<td>2. Opinions about Covid-19</td>
<td></td>
<td></td>
<td>-.10</td>
<td>-.16</td>
<td>-.07</td>
<td>-.01</td>
<td>.03</td>
<td>.14</td>
</tr>
<tr>
<td>3. Anxiety</td>
<td></td>
<td></td>
<td></td>
<td>.85**</td>
<td>-.12</td>
<td>-.40**</td>
<td>-.32**</td>
<td>-.31**</td>
</tr>
<tr>
<td>4. Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.15</td>
<td>-.40**</td>
<td>-.36**</td>
<td>-.42**</td>
</tr>
<tr>
<td>5. Self-Efficacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.733*</td>
<td>.72**</td>
<td>.49**</td>
</tr>
<tr>
<td>6. Hope</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.83**</td>
<td>.73**</td>
</tr>
<tr>
<td>7. Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.70**</td>
</tr>
<tr>
<td>8. Optimism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Discussion
The researchers found no association between opinion & behavioral compliance and anxiety & depression, which indicates that the mental health of the participants is not linked to their perceptions of Covid-19 and whether, or not, they follow the rules and norms during the pandemic. Opinion and behavioral compliance regarding the Covid-19 pandemic also depend solely on the individual’s perception and not on their mental health status. The current study’s context of behavioral compliance pertains to how an individual behaves and their attitudes towards the rules and norms that the authorities have implemented. The study shows that there is a small positive correlation between behavioral compliance and the ‘optimism’ dimension of psychological capital. One of the factors that could affect the participants’ behavioral compliance tendencies is the culture of collectivism in Southeast Asia. According to Sumaco, et al (2014), the scores obtained by Malaysia on each dimension of Hofstede’s national cultural values add up to a score of 26 out of 120, meaning that it is a collectivist society. In addition, Mishra (2015) found that those participants with a collectivist orientation displayed the highest level of optimism. Regarding the Covid-19 pandemic, Biddlestone, et al (2020) found that people who adopt a collectivist orientation also are more likely to comply with social distancing and hygiene practices to help reduce the spread of the novel coronavirus. Furthermore, neighbouring country with collectivist culture (Hofstede Insight, 2021) which is Indonesia showed that the public’s attitude toward the large-scale social restrictions was overwhelmingly favorable, with many people expressing support for the government’s COVID-19-fighting efforts (Tri Sakti, et al., 2021). Thus, as a country with a
collectivist culture, in Malaysia it can be concluded that collectivism influences an individual’s level of optimism and compliance.

The present study focuses on the associations between the psychological capital dimensions of hope, self-efficacy, resilience and optimism and anxiety & depression. Based on the analysis, the study found that there is a significant relationship between psychological capital and anxiety & depression. This is supported by Liu et al (2012) who found that psychological capital has a significant negative association with depressive symptoms, and that an increase in the dimensions of psychological capital can reduce depression. Psychological capital plays a role in reducing the levels of depression and anxiety during the Covid-19 pandemic in which individuals with a higher Psychological capital may have a more adaptive coping mechanism, helping them to overcome depression and anxiety (Turliuc & Candel, 2021). Furthermore, research by Demir (2018) shows that psychological capital negatively influences levels of anxiety.

A study by Baezzat, et al (2017) showed that the dimensions of psychological capital have a significant relationship with anxiety and depression. This study, however, found that only three dimensions of psychological capital - hope, resilience and optimism - are negatively correlated with anxiety and depression. Study on Covid-19 by Bahar Moni, et al. (2021) indicates low resilience was linked to moderate to high levels of psychological distress, whereas moderate to high resilience was linked to not only reduced psychological distress but also decreased anxiety. Besides, results of a study by Faramarzi and Khafri (2017) which showed no significant correlation between symptoms of anxiety or depression and self-efficacy. However, it contradicts the research by Baezzat, et al (2017) which did find that the self-efficacy dimension affects an individual's anxiety and depression. In addition, Selvaraj and Bhat (2018) found that the higher the levels of optimism, self-efficacy and hope among college students, the more likely they are to enjoy positive mental health. Thus, there is a slight difference between some of the findings of past research and those of the present research in terms of the dimensions of psychological capital. Other studies back up the current study’s findings that the dimensions of hope, optimism and resilience are negatively correlated with anxiety and depression. For example, Rajandram, et al (2011) found that hope and optimism are both negatively associated with an individual’s level of anxiety and depression, while the findings of Ziaian, et al (2012) indicated that individuals suffering from depression had lower resilience. In other words, these past studies support the results of the present study in the sense that hope, optimism and resilience are negatively correlated with anxiety and depression.

**Strength and Limitations of the Study**

The strength of this study is that the researchers have taken the approach of positive psychology by using psychological capital models to analyze the mental health of individuals during this pandemic. By using psychological capital, we see that the resources of hope, self-efficacy, resilience and optimism in an individual can vary and affect their well-being and mental health during the Covid-19 pandemic. This can also help the university to apply the concept of psychological capital in helping students to enhance these aforementioned resources within themselves and to develop interventions to combat mental health issues among students. However, this study also has several limitations, among which is that the use of an online platform meant the researchers were unable to control the environment of the
participants. The use of an online platform was necessitated by the standard operating procedures related to the pandemic and in view of the prioritization of safety at this time. The amount of data derived from the study was also relatively small and cannot be used to represent the general population of students in Malaysia.

**Conclusion**

This study seeks to clarify the associations between perceptions of Covid-19 and psychological capital, depression, and anxiety. The study provides insights regarding opinions and behavioral compliance with respect to the new norms and how they are influencing the mental health of individuals during Covid-19. Furthermore, this study examines psychological capital and its relationship to anxiety and depression. The findings suggest that optimism, hope, and resilience are negatively correlated with anxiety and depression. As such, individuals with a high level of psychological capital are less likely to experience symptoms of depression and anxiety. Thus, psychological capital may be an essential element in developing interventions to improve the mental health level of students, especially in the ongoing pandemic. Other than exploring young people’s psychological capital, more online mental health resources are needed to support the students’ social capital and to facilitate them in building more meaningful social networks. Future research is required to examine the interactions and roles of psychological capital in terms of its influence on mental health levels, as well as how to enhance the resources of hope, self-efficacy, resilience, and optimism. Moving forward, more mental health intervention is needed to combat with the challenging beyond COVID-19 pandemic (Chong, et al., 2021; Hassan, et al., 2021).

**Conflicts of Interests**

The authors declare no conflicts of interest.

**References**


