

# Social Media Natives and Online Learning: A Longitudinal Study across the COVID-19 Lockdowns in Malaysia

Kamarulzaman Ab. Aziz

Faculty of Business, Multimedia University, 75450 Bukit Beruang, Melaka

*kamarulzaman.aziz@mmu.edu.my*

**Abstract.** The COVID-19 pandemic has caused disruptions in various aspects of life, including education, where most pivoted to online modes. Despite the fact that today's students are hyper-connected due to their social media usage, it cannot be assumed that they would easily adapt to online learning without any difficulties or adverse effects. This study aims to explore the experiences of social media natives in Malaysia's higher education system during the three nationwide lockdowns implemented to curb the spread of COVID-19. To position the study relative to previous research, a systematic literature review was conducted using the Lens.org database. The analysis followed a longitudinal design, using a cumulative sample of 213 respondents who were surveyed during the main nationwide lockdown periods. Specifically, an online survey was administered during each of the three lockdowns, targeting social media natives enrolled in higher learning institutions. Descriptive statistics were used to analyze the quantitative data, while thematic analysis was used for the qualitative data. The study found that being social media natives did not make them immune to the challenging situation, and they did not necessarily find the shift to online learning easy or preferable. Therefore, stakeholders must be more sensitive to the needs of social media natives when adopting online learning during similar situations. The insights presented in this study serve as an essential reference as we continue to adapt to the changing landscape of education.

**Keywords:** social media native; online learning; covid-19; lockdown; mental health

## **1. Introduction**

In December 2019, a total of 41 cases of pneumonia of unknown etiology were first detected in Wuhan, the capital of Hubei Province in the People's Republic of China. On 11 February 2020, the World Health Organization (WHO) named the pneumonia outbreak 'coronavirus disease 19' or abbreviated as COVID-19. On 23 January 2020, the Government of China imposed a total lockdown in Wuhan and other neighbouring cities to quarantine the epicentre of the COVID-19 outbreak. WHO declared the outbreak a public health emergency with international concern on 30th January 2020. The COVID-19 virus continued to spread and by 11th March 2020, WHO declared it a pandemic.

COVID-19 has impacted 220 countries and territories around the world, causing many countries to close their national borders immediately and restrict the movement of people to curb the unprecedented global health crisis in public health history. As of 15 July 2021, 190 million confirmed cases of COVID-19, and more than 4 million deaths were recorded worldwide. Many believe that the disease might not disappear any time soon. The disease is seen as becoming endemic in most countries around the globe. The impacts are not only towards physical health but also mental health and socio-economic well-being (Osterrieder et.al., 2021; Al Dhaheri et. al., 2021; Son et. al., 2020; Villani et. al., 2021; Jo & Chang, 2020). The works also highlighted the importance of studying the impacts of the Pandemic on society.

Malaysia's response to COVID-19, in general, is similar to the rest of the world, with the healthcare system focusing on combating the surge of cases, lockdowns, or movement control orders to reduce risks of exposure and spread. However, a close look will show a chaotic picture of confusing SOPs and strategies (Majlis Keselamatan Negara, 2021); political turmoil (Al Jazeera, 2021; CSIS, 2021); suffering and dissatisfaction among the people (Bloomberg, 2021). The government was under a lot of criticism (The Straits Times, 2021a&b; Reuters, 2021), from within and the international community. To simplify our understanding of the measures taken, we categorize them into three major nationwide lockdowns; First Lock-down (18/3/2020 till 3/5/2020), Second Lockdown (13/1/2021 till 4/3/2021) and Third Lockdown (10/5/2021 till 10/10/2021). The inter-state travel restriction was finally lifted on 11/10/2021 after enforcement in 2020. In between, there were localized lockdowns, according to states, etc.

The COVID-19 pandemic has paused non-essential economic activities, causing many industries to revise and adjust their future outlooks (World Economic Forum, 2021). Other sectors were not spared, including education. According to UNESCO (2021), almost all of the world's student population was affected by the pandemic. Schools were closed for durations from 1 to 10 weeks in some countries, topping around 70 plus weeks in total for some such as India, Bolivia, and Argentina. In

Malaysia, it was reported that schools were closed for a total of 52 weeks, impacting 7,962,033 learners with 1,284,876 of them at the tertiary level. It was reported by TheGlobalEconomy.com (2021) that Malaysia's average percentage of eligible children that enroll in tertiary education over the period from 1979 to 2019 is 22.66%. For 2019 the number was 43.06% which was higher than the global average of 35.91%. In general, students enter the higher education level in Malaysia from the age of 17 onwards.

Closing schools and campuses was necessary to control the spread of COVID-19. However, prolonged disruptions to classes cannot be sustained indefinitely without negatively impacting students. Entire cohorts of students risk being held back and put at a disadvantage. In addition, continued closures could place the sustainability of private education sectors at risk. Therefore, we saw a massive shift towards online learning worldwide, with many institutions adopting full or hybrid versions of it. Malaysia was no exception, as the lockdowns forced both workers and students to transition to remote learning. Online platforms such as Zoom, Google Meet, Webex, Microsoft Teams, and others were widely used for conducting classes. While this approach allowed learning to continue, it also posed its own set of challenges, which were explored in this study.

Over the past couple of decades, online learning had been increasing in popularity. It had been revolutionizing teaching and learning at all levels. Online learning also can be seen as democratizing education, allowing learning to be accessible beyond the classrooms and campuses. Furthermore, the blending of both traditional and online learning modes for students allows for more impactful education. Online learning can supplement the teaching process by allowing "students to learn whenever and wherever they want, at their own pace" (Shafie et. al., 2021) (p.706).

Nacu et. al. (2018) highlighted how technological advancement has further facilitated the implementation of online learning, enabling the youth to explore various interests and determine their learning process. The study also noted that this trend has led to the increasing importance placed on the development of 21st-century skills among the youth. The West or developed nations led the trend in online learning, whilst the developing nations lag due to infrastructural, economic, social, and political challenges (Shafie et. al., 2021). The COVID-19 pandemic has become another factor for online learning adoption.

It was reported by DataReportal (2021), that Internet penetration in Malaysia was at 84.2% in January 2021, social media usage was at 86.0% of the total population, and mobile connection was at 122.8% of the total population. Thus, one could expect that the move to online learning would not be a significant challenge. Furthermore, the student population could be considered as what Brandtzæg (2016) would define as "social media natives". Being social media natives and hyper-

networked individuals, such students most likely will take to online learning like ducks to water. Furthermore, since their social media world is predominantly online, the social media natives will not be adversely affected by the situation. Their mental health will not suffer as access to social media is not affected by the Pandemic and lockdowns. Or are these false assumptions? This is what this study sought to investigate.

Specifically, this study seeks to investigate and discuss the social media natives within Malaysia's higher education system perspectives on online learning during the COVID-19 pandemic and across the three nationwide lockdown periods. Also, to investigate whether the situation has any adverse effects on their mental health. It is envisioned that the findings and recommendations from this study will be able to contribute towards effective measures and policies.

## **2. Literature Review**

In order to achieve a good appreciation of the current understanding of the concepts being investigated in this study, a systematic literature review was conducted (Tranfield, et al., 2003). The aim is to have a good understanding of the current state of the art or related discourse. The search was done using the Lens.org platform. The benefits of using this platform are increasingly recognized by researchers (Martín-Martín et. al., 2021, Penfold, 2020).

The search parameters used on The Lens for this study were the Scholarly Works application; Date Range (2011-2021); Field (Title, Abstract, Keyword, Field of Study); and Publication Type (Journal, Conference Proceedings Article, Dissertation). The publication types were selected because they are peer-reviewed. The date range gives the opportunity to review works published over a decade up until 31st August 2021, searching for the specified search terms in the article's title, abstract, keywords, and field of study. The search was done in stages, using search terms that increasingly become more specific. This search strategy was designed to allow for a good understanding of the topic, and gain insights into the research trends and importance, zooming towards the focus of this study. The following Table 1 provides the outcome of the search conducted.

As can be seen from Table 1, only the first search on "Social Media Natives" returned a total of 10 scholarly works: 9 journal papers and 1 conference proceedings article. In the initial review of the 10 papers identified from the search, 5 were identified as not relevant. The papers were discussing "social media native advertising". The remaining searches returned 0 scholarly work. There seems to be a research gap on social media natives in general and more specifically in the contexts of online learning, Malaysia, mental health, and the current COVID-19 pandemic. The analysis from Lens (<https://link.lens.org/XkbSsygk3Nh>) showed that

the earliest paper was published in 2017. The trend has been at the same rate since then.

Table 1: Systematic literature review statistics (1)

Search String	Total	Journal	Dissertation	Conference Proceedings Article
<b>“Social Media Natives”</b>	10	9	0	1
<b>“Social Media Natives” AND “Online Learning”</b>	0	0	0	0
<b>“Social Media Natives” AND “Covid”</b>	0	0	0	0
<b>“Social Media Natives” AND “Malaysia”</b>	0	0	0	0
<b>“Social Media Natives” AND “Mental Health”</b>	0	0	0	0
<b>“Social Media Natives” AND “Online Learning” AND “Covid” AND “Malaysia”</b>	0	0	0	0
<b>“Social Media Natives” AND “Online Learning” AND “Covid” AND “Malaysia” AND “Mental Health”</b>	0	0	0	0

Due to the limited number of references found, the search strategy was adapted by replacing social media natives with the search term “youth”. The term will most likely refer to the same group of interest given that the search period is the same. The following Table 2 reports the outcome of the search.

The outcome of the second part of the search on Lens provided us with more references to form the understanding for our discussion. Also, the findings once again point to the research gap in the context of Malaysia. As expected, the papers on youth, online learning, and the pandemic only go back to 2020 (<https://link.lens.org/aawqLKdXPR>) but the numbers suggest that it is a subject of interest among researchers.

It also can be said that a research area is emerging on youth and online learning during the global pandemic and the implications towards their mental health (<https://link.lens.org/PSa5tSa6aac>). From the 2 searches, 6 papers were excluded after the initial review due to access limitations. The following sections will review the literature identified from both searches further.

Table 2: Systematic literature review statistics (2)

Search String	Total	Journal	Dissertation	Conference Proceedings Article
“Youth” AND “Online Learning” AND “Covid”	32	32	0	0
“Youth” AND “Online Learning” AND “Covid” AND “Malaysia”	0	0	0	0
“Youth” AND “Online Learning” AND “Covid” AND “Mental Health”	7	4	0	0
“Youth” AND “Online Learning” AND “Covid” AND “Mental Health” AND “Malaysia”	0	0	0	0

## 2.1. Social media natives

Giles (2017) recognized the year 2010 as the watershed moment to recognize generations that can be considered social media natives. These generations are those that did not experience life before social media. This is in line with the mapping of social media development and impacts (Edosomwan et. al., 2011). Clark (2018) also recognizes those who grew up with smartphones and social media as “social media natives”. His study explored the implications of social media natives moving into adulthood, recognizing that social media at its core was simply to enable society to connect and communicate using digital channels, now are enabling the adult social media natives to engage in prosociality, lobbying for policy changes, influence elections and even bringing down regimes. This discussion was also seen in the work by Kampf (2018).

Hollenbaugh (2019) recognized the various terms used for groups characterized by the surrounding technological evolution and their adoption. Namely, ‘social media natives’, “digital natives” and “digital immigrants”. Simply, the term “native” suggests being of the environment always. While the “immigrants” originate from a different environment and migrate into the digital or social media environment as technology evolves around them over time. The migration here is in terms of technology adoption and diffusion amongst those born before 1980, some are innovators who are quick to adopt technologies while others might be laggards in such adoption. This suggests the youths of today are social media natives, users of multiple social media applications such as Facebook, Instagram, Snapchat, TikTok, etc., more than the older digital natives and digital immigrants. Furthermore, the paper suggested that there is a need to study the social media natives’ experiences, as the group is distinct, and it should not be assumed that theirs are identical to others.

Lastly, Pagoto et. al. (2019) (p.1) suggested that since “... social media is intricately embedded in our lives, and we now have an entire generation of social media natives, the time has come for a public health research agenda to guide not only the public’s use of social media but also the design of social media platforms in ways that improve health and well-being.” This call is even more important given the outbreak of the COVID-19 pandemic. Furthermore, these studies point to the importance of understanding the social media natives better and the development of targeted solutions tailored to their needs as well as nature.

## **2.2. Youth, online learning, covid-19 and mental health**

Researchers were quick to highlight and discuss the move to online learning as a measure to ensure the continuation of teaching and learning during the pandemic (Narine & Meier, 2020) and the resulting lockdowns mandated by governments in many countries (Ancheta, 2020; Perazzo Logioia et. al., 2021). Kligler-Vilenchik and Literat (2020) recognized the irony in how youth’s “screen time” used to be a concern. Instead, for online classes, we are more concerned with how to sustain the “screen time” and ensure engagement. Gallagher et. al. (2020) was surprised by the apparent preference for anonymity among students when moved to online learning. This was contrary to the observed active engagement in their social media and online lives. The questions were whether the behaviour was a reaction to the unprecedented events or was it because of the enforced isolation.

Ancheta (2020) reported that university students in Manila experienced many challenges with online learning, which included internet connectivity, the online teaching and technical skills of the professors, and communication or interaction issues. Branquinho et. al. (2020) studied the effects the pandemic had on youths in Portugal and found that the respondents reported both positive and negative impacts. These included:

1. Having more time to perform pleasant and personal development activities
2. Allows for a greater selection of friendships
3. Experiencing headaches and muscle pain
4. Symptoms of depression, anxiety, and loneliness
5. Longer screen time
6. Higher risks to be involved with substance abuse
7. Increase cases of family conflicts and disagreements
8. Loss or missing of important life moments, contacts, and social skills

The study recommended some coping strategies such as maintaining a positive outlook; doing fun and enjoyable activities; regular contact and communication with family and friends; and establishing routines.

Fuji et. al. (2020) highlighted an important issue on how the pandemic and the measures such as online learning might not take into consideration the youths from frequently marginalized groups such as refugees. Cherubini (2020) echoed this point and cautioned about the possible deepening marginalization post-pandemic. The work called for immediate measures and plans to ensure the negative impacts on the youths' learning, as well as progress, can be kept to the minimum. Kim et. al. (2020) suggested online knowledge-building communities in public libraries as a measure to enable community engagement during the pandemic. More thoughts are needed when considering the needs of other categories of students such as those with special needs or on the autism spectrum (Kuo et. al., 2021), and incoming new students either immigrants or international enrolment (Pillay et. al., 2021).

Alexander and Shareck (2021) continued the debate on the impacts the situation may have on the youth in general and those marginalized youth in particular. They argued that the lockdowns although necessary to combat COVID-19, also meant that healthy activities such as sports and school were restricted. Solutions such as promoting indoor physical activities and online learning tools may address the problem but may also increase inequalities. Pavlovic et al (2021) confirmed that students were found to be significantly less physically active due to school closure. Liu et. al. (2021) zoomed on the health consequences of school closure and the move to online learning on students. Specifically, the study found that there was an increased risk of myopia development among the students. Sleep patterns and behaviours also can be impacted (Simon et. al., 2021).

Several studies discussed the various effects the COVID-19 pandemic had on students including their mental health (Bourne et. al., 2021; Schaefer et. al., 2021; Pumariaga, 2021). A study by Literat (2021) reported how students expressed their dissatisfaction with the online learning experience. The study found there was a feeling of powerlessness, being unheard, and not being seen by the adults, all through a backdrop of stress in general due to the pandemic and the effects it has on their home environment. The stress led them to feel overwhelmed, struggling to meet the demands of schoolwork while trying to adapt to the new situation. Some were seen to rebel by cheating, leading to the discussion on how modes of assessments need to also adapt. Sorea et. al. (2021) also noted the increase in students engaging in plagiarism. Their recommendations included increasing efforts to better train the students with skills the various works or assignments demand; getting the educators to be more involved with their wards; for the schools to acquire and use anti-plagiarism software as well as publish clear anti-plagiarism policies; and including courses on ethics and ethical education in the school curriculum. Pavlovic et al (2021) reported for those schools that remained open, there were still challenges reported such as how to address the stress on the students and faculty due to constant worry of exposure or infection; how to implement and maintain social distancing; and how to allow access to resources and facilities such



as the gymnasium as well as lab equipment while ensuring safety. According to Soroko (2021), augmented reality is a viable solution for those practical and laboratory-based classes.

Arguably, technology is a major factor affecting the situation. ICT is key in enabling online learning. Thus, the quality level of existing infra and infostructure had been identified as a key success factor for the implementation of online education in countries (Perazzo Logioia et. al., 2021). Technology development and the pervasiveness of the digital divide or social inequalities compound the failure risks to ensure educational continuity. This was also highlighted by Graves et. al. (2021).

Clearly, there is a need beyond ensuring minimal disruption to the education of the students through the pandemic, lockdowns, and social distancing, towards providing support and care to ensure their well-being while navigating the stressful situation. Pumariega (2021) found that there are instances where students were found to have fair better when moved to the online learning modes because of COVID-19. Specifically, those with social anxiety symptoms seemed to have done better because the isolation protected them from their normal stress triggers. However, the study warned about the severity of their symptoms when the schools reopen. Furthermore, the student's needs are not the only ones that require attention, parents and carers have become more involved in the education process. Insani et. al. (2021) (p.22) pointed out, "the Covid-19 pandemic have caused parents and children to be in one place at the same time." The stress levels for parents in supervising and managing their children's education increased during this period (Asmawati & Hidayat, 2020). Thus, supporting resources giving guidance to the parents had been found to be helpful for parenting during learning from home. Kuo et. al. (2021) suggested that maybe there is a need to develop online learning programs, not for the students, but for their parents and caregivers.

### **3. Research Methodology**

This section outlines the methods and procedures employed in this study, including the sampling process and the development of the survey instrument. The primary objective of the study was to examine the perspectives of social media natives enrolled in Malaysian universities regarding online learning during the COVID-19 pandemic, specifically across the three major lockdown periods. Two research questions were formulated for this purpose: (1) How did social media natives respond to the lockdown, movement control order, and social distancing measures implemented to combat COVID-19? and (2) How did social media natives respond to the transition to online learning as a result of these measures? Furthermore, this study also hypothesised that;

- H1: Social Media Natives are not adversely affected by the measures implemented to combat COVID-19, including lockdowns, movement control orders, and social distancing.
- H2: Social media natives demonstrate a preference for online learning and virtual classrooms over traditional in-person learning formats.
- H3: The lockdowns, movement control orders, and social distancing measures implemented to combat COVID-19 do not result in a negative impact on the mental health of social media natives in the higher education system in Malaysia.

### **3.1. Research design**

The purpose of this study was to investigate the effects of the COVID-19 pandemic and subsequent move to online learning among social media natives in Malaysian higher education institutions. To accomplish this, a longitudinal study design was adopted, which involves observing variables over a period of time and recording changes in their relationships. In this study, data was collected at regular but distant intervals using surveys as the data collection method (Thomas, 2020). This approach allows for a more comprehensive understanding of how the pandemic and online learning impacted the social media natives over time, providing insights that can inform future policies and measures in similar situations.

Specifically, the online survey using a self-administered questionnaire was conducted during the three main nationwide lockdown periods. Given the situation, COVID-19 risks, and lock-down restrictions, the snowball sampling technique was deemed most suitable for the study. This technique is used by numerous works (Zhang et. al., 2018; Byambasuren et. al., 2019; Shukla & Sharma, 2018). Specifically, the link for the online survey was shared with the researchers' contacts consisting of students and academics. The contacts were encouraged to share the survey to target respondents in their networks. Inclusion criteria were confirmed via demographic questions, namely, age, nationality, and studentship (program, year of study, and field of study). It was expected that the response rate would be low due to the situation, a time of high stress due to the Pandemic and lockdown. The survey was conducted three times, 1st cycle was right after the first nationwide lockdown (18/3/2020 till 3/5/2020), 2nd cycle was during the second nationwide lockdown (13/1/2021 till 4/3/2021) and 3rd cycle was during the third nation-wide lockdown (10/5/2021 till 10/10/2021). Different contacts were used for each cycle to initiate the snowball sampling. The 1st cycle achieved a sample size of 64, the 2nd cycle achieved a sample size of 51, and the 3rd cycle achieved a sample size of 98. Collectively, the study achieved a total of 213 responses.

### **3.2. Research instrument**

The online self-administered survey used in this study was designed with simplicity and brevity in mind to encourage maximum participation from the target respondents who were experiencing a difficult situation. The survey consisted of four sections, with the first section focusing on demographic questions. The second section contained four questions that aimed to investigate the social media natives' perspective on online learning. The third section consisted of questions that sought to understand the mental health symptoms experienced by the respondents. The last section was optional and provided space for additional feedback, as well as an opportunity to opt-in or opt-out for updates from the study. To ensure the face validity of the survey, subject matter experts within the faculty were consulted, and their inputs were incorporated into the survey questions.

The study offered respondents the option to provide their email addresses to opt-in for the survey outcome. The number of respondents opting in notably increased in the 3rd cycle, with 39 expressing interest in obtaining further information on the study. No such interest was expressed in the earlier cycles. This could be due to heightened frustration among respondents, with participation in the study serving as an outlet to express their opinions. By the 3rd cycle, there were numerous reports in mainstream and social media regarding mental health and online learning issues (The Star, 2021a) as well as online learning issues (The Star, 2021b; Channel News Asia, 2021; Twitter, 2021). These students were invited to provide their perspectives and recommendations for better coping with the situation, particularly with regard to their institutions and fellow students. The qualitative data from the open-ended questions were analysed using the thematic analysis technique by Braun & Clarke (2006) and Maguire & Delahunt (2017). The following section outlines the study's findings.

## **4. Results and Discussion**

This section presents the findings from the completed survey. Specifically, the demographic profile of the sample, the outcome of the hypotheses testing, and the discussion based on the findings.

### **4.1. Profile of respondents**

A descriptive analysis was conducted to study the respondents' demographic profiles and verify the inclusion criteria. Table 3 presents the profile of the respondents. A total of 213 responses were collected across the 3 cycles. Specifically, the 1st cycle (1st nationwide lockdown) achieved a sample size of 64, the 2nd cycle (2nd nationwide lockdown) achieved a sample size of 51, and the 3rd cycle (3rd nationwide lockdown) achieved a sample size of 98. Out of the 213, 97 were male (45.54%) and 116 were female (54.46%), 203 were aged 25 years old or younger (95.3%), 9 were aged 26 – 30 years old (4.22%), and 1 in the category of

31 years old or older. Those aged 30 years old or younger in 2020 would be born in 1990 or later, and thus considered social media natives. This is consistent with Hollenbaugh (2019), where "born after 1980" was used as the threshold. Thus, one respondent aged 31 years old and above (3rd cycle) is excluded from further analysis.

Table 3: Profile of respondents

	1st Cycle (%)	2nd Cycle (%)	3rd Cycle (%)
<b>1. Gender</b>			
Male	50.0	47.06	58.16
Female	50.0	52.94	41.84
<b>2. Age</b>			
≤ 19 years	1.56	0.0	0.0
20 – 25 years	98.44	92.16	93.88
26 – 30 years	0.0	7.84	5.10
≥ 31 years	0.0	0.0	1.02
<b>3. Nationality</b>			
Malaysian	98.44	92.16	96.94
Others	1.56	7.84	3.06
<b>4. Locality</b>			
Johor	0.0	7.84	3.06
Melaka	0.0	7.84	8.16
Negeri Sembilan	0.0	9.80	6.12
Selangor	60.94	33.33	26.53
Putrajaya	18.75	7.84	0.0
Kuala Lumpur	18.75	9.80	0.0
Perak	0.0	3.92	11.22
Kedah	0.0	5.88	8.16
Pulau Pinang	0.0	0.0	4.08
Perlis	0.0	0.0	0.0
Kelantan	0.0	5.88	12.24
Terengganu	0.0	0.0	5.10
Pahang	0.0	0.0	11.22
Sarawak	0.0	0.0	3.06
Sabah	0.0	0.0	1.02
Labuan	0.0	0.0	0.0
<b>5. Race</b>			
Malay	76.56	58.82	71.43
Chinese	6.25	13.73	10.20
Indian	15.63	17.65	15.31
Others	1.56	9.80	3.06
<b>6. Programme</b>			
Undergraduate	100.0	100.0	100.0
<b>7. Year of Study</b>			
1st	1.56	35.29	4.08
2nd	25.0	21.57	61.22
3rd	37.5	15.69	19.39

<b>4th</b>	25.0	5.88	14.29
<b>≥ 5th</b>	10.94	21.57	1.02
<b>8. Field of Study</b>			
<b>Social Sciences, Arts &amp; Humanities</b>	100.0	100.0	1.02
<b>Sciences, Engineering &amp; Technology</b>	0.0	0.0	98.98

All 213 respondents were students, with the majority at the undergraduate level. The students were at various stages of their programs and from various fields. Furthermore, 8 respondents were international students (1 from 1st cycle, 4 from 2nd cycle, and 3 from 3rd cycle) and thus excluded from the subsequent discussions. Thus, the study achieved a total of 204 (63 for 1st cycle, 47 for 2nd cycle, and 94 for 3rd cycle) valid responses.

The responses across the 3 cycles came from respondents from all regions of the country. Initially, the responses received in 1st cycle largely were from the central region as the snowball was initiated with students and academics from the researcher's institution. The 2nd cycle managed to collect responses from beyond the central region, as the snowball included more contacts from other institutions. However, the responses received were still relatively moderate as many institutions did not resume their teaching activities online or hybrid. By the 2nd nationwide lockdown, most campuses were closed, students left for home, and some resumed learning via online learning. However, during this period, challenges such as the digital divide, infrastructural issues, network coverage, and reach became major stumbling blocks for many. Thus, it likely hampered the survey from generating a high number of responses. When the 3rd nationwide lockdown was announced, the authorities and service providers had come up with some measures to address some of the issues, the institutions also have come up with strategic responses that enabled teaching and learning to resume, with most opting for online learning. Learning from home and working from home, had become part of the new normal. Thus, when the 3rd cycle of snowball sampling was initiated, the survey managed to generate a higher number of responses from across the nation. Also, in terms of racial distribution, the collective sample has respondents from the three main ethnic groups in Malaysia, namely, Malay, Chinese and Indian. Thus, arguably the collective sample enables the study to have a good representation of the target group of interest – Malaysian social media natives who had to adapt to online learning because of the COVID-19 pandemic.

## 4.2. Analysis

The second section of the survey first sought to determine whether the respondents agree with the view that the youths and their generation are hyper-networked or social media natives. Furthermore, the respondents were guided to reflect as a social media native, whether 1) they were affected by the social distancing and lockdowns

enforced in response to COVID-19, II) they preferred online learning and virtual classrooms, III) they do not particularly miss campus life and physical/normal classes. Figures 1-4 present the findings.

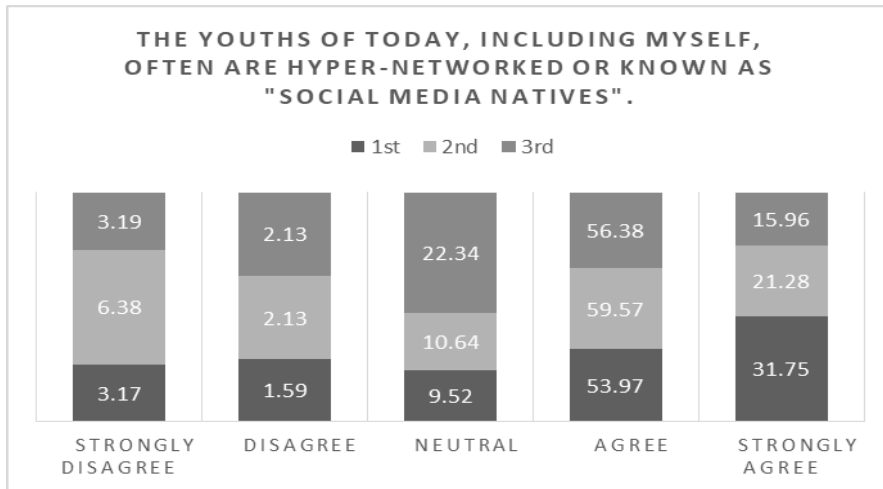


Fig. 1: Social media native

Firstly, (see Figure 1) the survey seeks to confirm the samples' identifying themselves as social media natives. It is important to note that while the majority of respondents identified as social media natives, there was still a significant number who did not identify as such. In the first sample, 14.28% disagreed or strongly disagreed with the statement, while 19.15% and 27.46% for the second and third samples respectively. This suggests that while social media use may be prevalent among university students in Malaysia, it is not universal. Additionally, as the samples were taken from different regions with varying levels of development, it is possible that access to and use of social media may vary based on location and resources. Therefore, it is important to take these factors into consideration when interpreting the findings of this study.

Secondly, (see Figure 2) the survey seeks to determine the overall impact of the lockdown/movement control order/social distancing enforced to fight Covid-19 had on the social media natives. The results suggest that while social media activities may not have been hampered by the lockdowns, other aspects of life such as face-to-face interactions, access to resources, and mental health may have been affected. Additionally, it's possible that the respondents may have adapted to the situation and developed coping mechanisms, leading them to feel less negatively affected over time. Studies have highlighted the surge of online activities seen due to the lockdowns (De' et. al, 2021). Future studies could delve deeper into these possibilities to gain a more comprehensive understanding of the effects of the lockdowns on individuals.

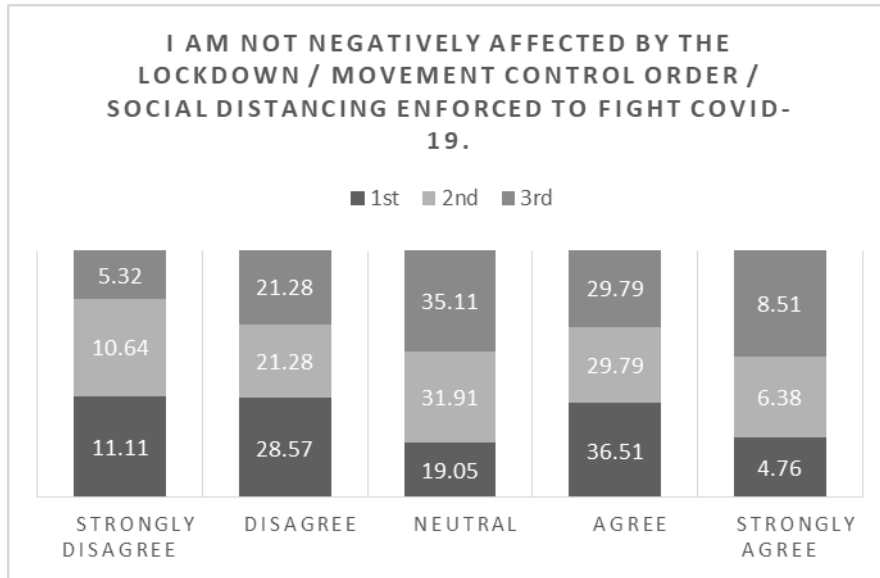


Fig. 2: Affected by lockdown

We investigated social media natives' perspectives on online learning and virtual classrooms due to the pandemic (see Figure 3). In the 1st lockdown, 38.10% disagreed or strongly disagreed, while 34.92% agreed or strongly agreed. For the 2nd lockdown, 25.53% disagreed or strongly disagreed, while 36.17% agreed or strongly agreed. In the 3rd lockdown, 34.05% disagreed or strongly disagreed, and 28.73% agreed or strongly agreed. The neutrals were 26.98% in the 1st lockdown, then 38.3% and 37.23% for the 2nd and 3rd lockdowns respectively. In general, a sizable portion of social media natives (about a third) preferred online learning and virtual classrooms due to their tech-savvy nature. However, the evolving patterns observed may be due to the adaptation period in the 1st sample, the "new normal" acceptance in the 2nd sample, and challenges with the digital divide in the 3rd sample. Additionally, institutions lacked standard guidelines for implementation, resulting in various approaches and strategies. Jie and Mat Ali (2021) (p.23) highlighted "... most were not prepared for online learning due to the unexpected abruptness of COVID-19. Many issues were raised but little guidelines were available to be followed."

Figure 4 shows our investigation into whether social media natives significantly miss being on campus and attending physical classes. While these experiences provide both learning and social opportunities, our survey data reveals that the majority of respondents do not miss them. In the first cycle, 31.75% agreed or strongly agreed, while 39.68% disagreed or strongly disagreed. The second cycle saw a larger proportion (61.70%) disagreeing or strongly disagreeing, with only 19.15% agreeing or strongly agreeing. In the third cycle, the proportions returned to similar levels as the first cycle, with 38.30% disagreeing or strongly disagreeing,

and 25.53% agreeing or strongly agreeing. The difference in proportions peaked during the second cycle, which suggests that the novelty of online learning wore off by this point, leading to a realization that physical attendance is missed. However, by the third cycle, respondents may have reached a state of acceptance. Geography may have also influenced the results, as students in areas with more social activities are more likely to miss them. These findings reject hypotheses H1 and H2, affirming the importance of both learning and social experiences in university, as argued by McInnis (2004) and Jorgenson et al. (2018).

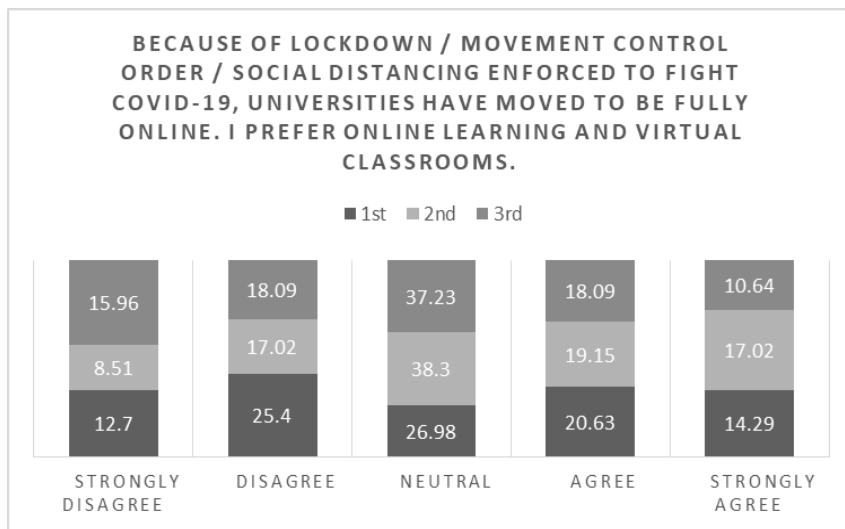


Fig. 3: Preference for online learning and virtual classroom

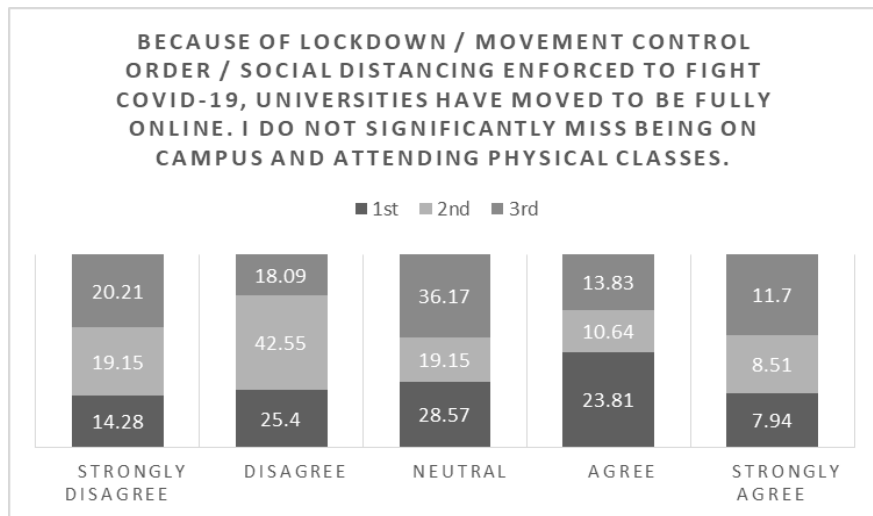


Fig. 4: Preference for traditional mode



Figure 5 shows that anxiety was the most common mental health symptom experienced during the lockdowns, followed by stress and depression. In the 1st cycle, 57.56% of respondents experienced anxiety, 48.33% experienced stress, and 37.18% experienced depression. In the 2nd cycle, 57.06% experienced anxiety, 50.65% experienced stress, and 40.95% experienced depression. Finally, in the 3rd cycle, 61.03% experienced anxiety, 55.92% experienced stress, and 45.31% experienced depression. The increase in the proportion of respondents experiencing these symptoms over time may be due to the prolonged duration of the lockdowns and the uncertainties caused by the pandemic.

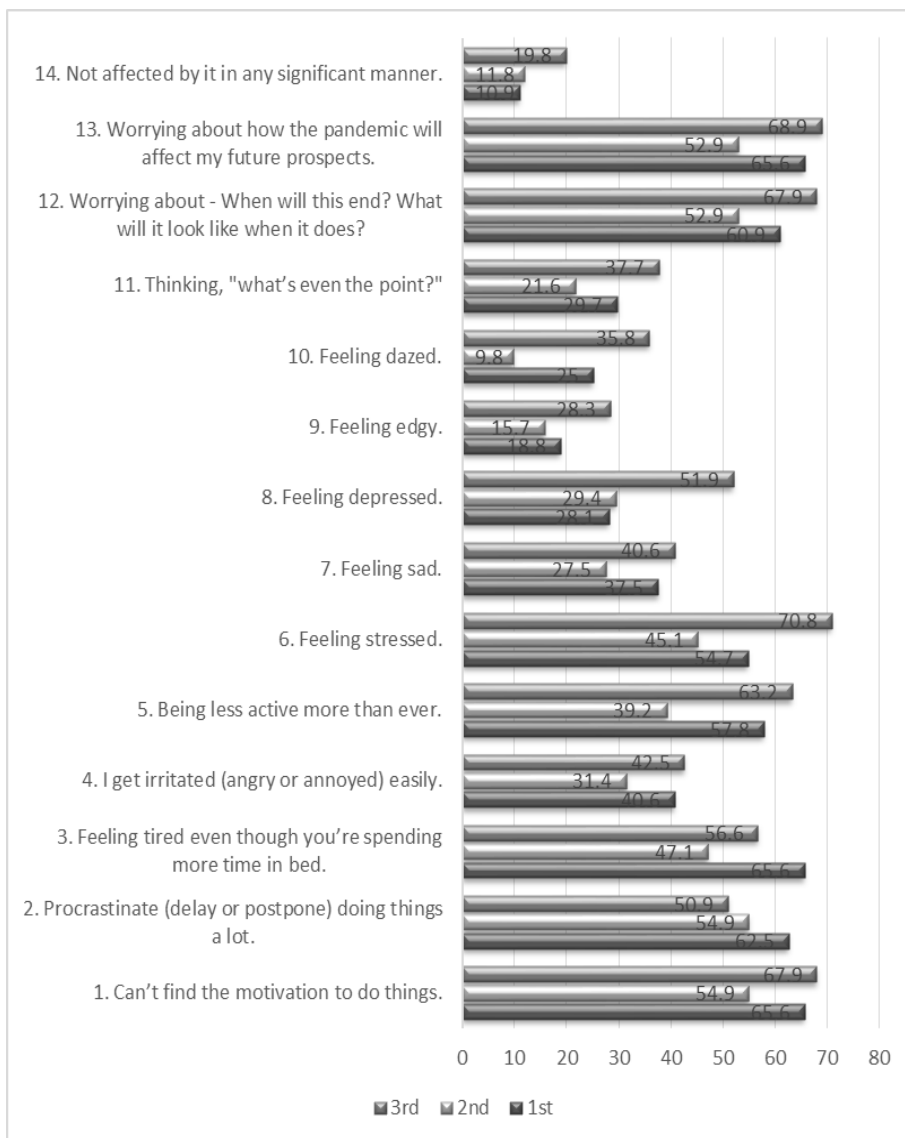


Fig. 5: Mental health symptoms

It is clear from the data collected that the social media natives were not immune to the mental health impacts of the COVID-19 pandemic, despite their proficiency in social media use. The results show that they experienced symptoms of anxiety, depression, and stress during the lockdowns, indicating that the situation had a significant impact on their mental health. It is also evident that they were deprived of new material and opportunities to create engaging content due to the lockdowns, leading to decreased motivation, procrastination, and stress. Therefore, caution should be taken not to assume resilience in the face of self-isolation without additional data that speaks directly to the mechanisms underlying resilience (Weinstein & Nguyen, 2020). The findings reject the hypothesis that social media natives are more resilient to the impacts of the COVID-19 pandemic due to their proficiency in social media use (H3). Like their counterparts in other countries (Yang et. al. 2021), Malaysian social media natives were affected by the impacts of the Pandemic.

In terms of coping mechanisms, the students were asked to share their recommendations for dealing with the mental health symptoms experienced during the lockdowns. The thematic analysis indicated that the most commonly cited recommendations were engaging in physical exercise, practising self-care activities such as meditation or journaling, talking to friends or family members, and seeking professional help from mental health professionals (see Figure 6). The difference most likely is due to the issue of emotional awareness or intelligence (Van Beveren, 2019).

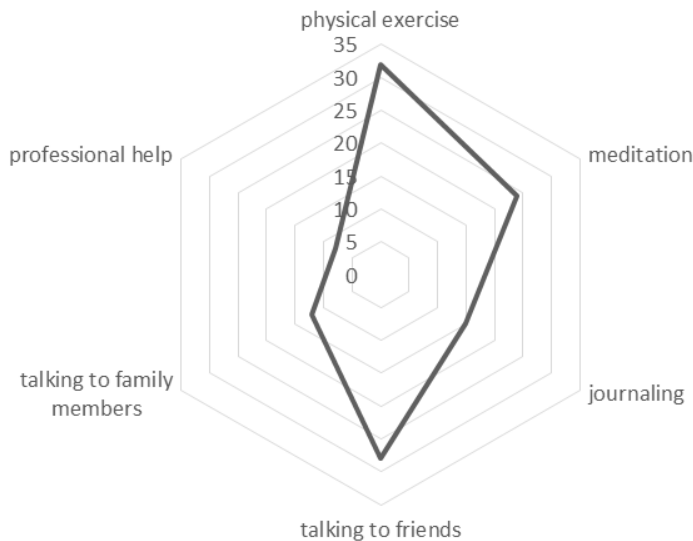


Fig. 6. Coping strategies

Overall, these findings highlight the significant impact of the COVID-19 pandemic and associated lockdowns on the mental health of university students. It is essential for universities to provide support and resources to help students cope with the challenges they are facing during these difficult times.

#### **4.3. Discussions and practical recommendations**

The study's findings indicate that students experienced challenges adjusting to the pandemic. Technical issues were reported, along with mental health struggles like stress, anxiety, and depression. Support programs and initiatives are needed to help students cope. Even though social media natives may not face as many technological issues, unequal infrastructure can still impact them. Some students may also be holding out for a return to pre-pandemic normalcy. Interventions are needed to help students adapt and become more resilient. Equipping them with skills for independent and online learning can ensure that knowledge attainment is not compromised. According to Garcia (2021), strategies like delegation and research-oriented projects can help wean students off being solely taught and foster their involvement.

The literature review highlights research gaps on social media natives, which require further exploration as they grow and mature and play more significant roles in society. With millennials, Gen Z, and Gen A largely being social media natives, researchers should focus on this area to produce targeted initiatives, products, and solutions to suit them effectively. Geographical, cultural, and socio-economic factors should also be considered, and longitudinal studies may provide valuable insights into the evolution of social media natives as they age. Additionally, research on the COVID-19 pandemic's impact on various sectors, including social media natives, is crucial to inform strategies and policies in response to the pandemic becoming endemic.

Institutions also need to address the changes. The reactionary measures implemented over the past months need to be evaluated and lessons identified for better readiness. Moving forward plans should be in place to ensure smoother implementation of measures if further lockdowns are needed and for long-term operation. Institutions should engage their students and learn about the issues, challenges as well as needs. This would be critical for their ability to formulate action plans that will ensure survival in this new era. Technology infrastructure had become significantly important (Sandars et. al., 2020) and institutions need to quickly address any weaknesses or limitations of their existing systems discovered over the past few months. There had been some studies (OECD, 2021; World Bank, 2021; McKinsey, 2021) compiling information key to enable institutions to ensure the continuation of teaching and learning. Management should review such resources and formulate the strategy that is most suited for their institution's

circumstances. Pilevari et. al. (2021) emphasized the importance of a resilient e-learning system.

Educators also need to learn and adapt. Many lecturers had to learn new methods of teaching and use new tools for their online classes. They need to accelerate their mastery of these new skill sets and continue to explore new ones to further enhance the quality of the teaching process. The students should not be short-changed because of the change from the conventional mode to online. Educators should be more consultative and engage their students to continuously improve their teaching. This is in line with the findings by Belhaj et. al. (2022). Some subjects may lend themselves more readily to online learning than others. Thus, some lecturers may find adapting their material for online mode more challenging. For example, subjects normally taught in laboratories and with special hardware or software, would pose a significant challenge to deliver via virtual class. There had been suggestions to use technologies such as virtual or augmented reality. Jie and Mat Ali (2021) highlighted educators need comprehensive training, access to resources and technical support, as well as information on pedagogy.

The findings from this study also have implications for the enhancement of the policy framework for education in Malaysia. The main framework consists of the Malaysian Education Policy and the Malaysian Education Blueprint 2013-2025 (Prime Minister Office, 2021). However, the country had gone through several major changes politically and compounded by the Pandemic. Thus, the current policymakers have the opportunity to improve the documents with the insights and lessons learned over the past few months. Addendums can be introduced to provide guidelines on how to ensure continuity of the education process; institution disaster recovery and preparedness; adaptation of processes, facilities, and curriculum under the new normal. These will help to ensure the sustainability and growth of institutions in the country through this unprecedented time.

The findings also suggest that the policy framework addressing mental health namely, the Mental Health Policy (1998); the Mental Health Act (2001); the Psychiatric and Mental Health Services Operational Policy (2011); and the National Strategic Plan for Mental Health 2020-2025 (Ministry of Health, 2021), all should be updated to consider the lessons learned from the Pandemic. Provisions should be made to cater to the needs of the youths when experiencing such stressful situations. Also, there should be comprehensive guidelines for mental health services in educational institutions to ensure sufficient support will be made available to the students.

Next, the policymakers also need to expedite the efforts in increasing the quality of the national infra and infostructure to provide better access around the country. Digital divide issues should be a priority. Students cannot be marginalized just because of where they live. The Malaysia Digital Economy Blueprint 2021-2030

(Economic Planning Unit, 2021) mapped the key targets to drive the nation's digital agenda. However, the challenges highlighted in the findings suggest the need for expediting the efforts to realize those targets. Furthermore, incentives should be provided to private sectors, NGOs, and social enterprises that offer assistance as well as solutions to problems identified. Multi-actor solutions most likely would lead to more sustainable actions. This is in line with the conclusion by Yang et al., (2021).

## 5. Conclusions

This study highlights the importance of researching social media natives and the impact of COVID-19 on the education sector. The findings suggest that social media natives have been significantly affected by the pandemic and online learning, and hypotheses H1, H2, and H3 are rejected. Authorities and educators must provide a stable environment for students to continue their education during such difficult times. Although this study achieved its research objectives, its findings cannot be generalized due to the small sample size. Future studies should aim for a larger sample size and comparative analysis among subgroups. It would also be beneficial to explore how social media natives adapt to the new normal in the endemic phase of COVID-19. These findings can inform effective policies and programs to navigate similar challenges in the future.

## Acknowledgements

This research was supported by the Fisabilillah R&D Grant Scheme from Tabung Amanah Zakat MMU [Grant Code: MMUE/210011]. Appreciation also to all reviewers and editors for their constructive feedback.

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