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Conational Drivers of Psychological Well-Being (PWB) and Psychology During Online Distance Learning (ODL): Evidence from Higher Learning Institutions (HLIs) Students in Malaysia

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Abstract

Purpose: The purpose of this study is to determine the significance of online learning antecedents (i.e., technical and financial issues, burden of assignments, non-conducive learning environment, students' attitudes, time management, instructors, and fatigue) to psychological well-being.

Theoretical framework: There are two levels of variables included in the theoretical framework of the current study, which are the antecedent variables (i.e., technical and financial issues, burden of assignments, non-conducive learning environment, students' attitudes, time management, instructors, and fatigue) and psychological well-being. The model has a direct relationship between independent variables and psychological well-being. Theories of Human Well-Being and Subjective Well Being
Quality of Life Theory shall form the basis of the theoretical framework for this study.

Design/methodology/approach: Data were analyzed using structured partial least squares modelling (PLS-SEM) where Smart PLS version 4 statistical software was used for the PLS-SEM analysis. In this quantitative study, data were collected using a self-administered questionnaire and the sample included 386 Malaysian university students who were currently enrolled in an online course.

Findings: The findings revealed that all online learning antecedents were significantly related to students' psychological well-being. Besides, the findings also showed that technology and financial issues had a greater impact on the psychological well-being of university students, while the other factors had a moderate effect.

Research, Practical & Social implications: Future research may discover some lecturer-related factors that influence students' online learning experiences. For example, in the case of students, other demographic factors such as students' age, gender, and degree programmes can be investigated to identify the challenges faced by students and the strategies they employ to overcome the challenges. Since this study only consists of business and management as well as accounting students, future studies can focus on other degree programmes at the university. Future studies can also expand the learning context to several higher education institutions from different geographical regions to increase the robustness of the findings

Originality/value: To improve students' psychological well-being, all parties should work together to ensure the success of online learning among university students. Additionally, academic advisors and university counselling services should also increase supportive counselling for students with average academic performance to promote online learning and mental health. In essence, for online learning to succeed, institutions must first train students to take initiative such as communicating with lecturers and classmates or self-study

Keywords: Psychological Well-Being, University, Online Lerarning, Malaysia

1.0 INTRODUCTION

The outbreak of the 2019 coronavirus disease (COVID-19), which started at the end of 2019 in China, has become worse and has spread around the world so rapidly. In Malaysia, local outbreaks started appearing in March 2020, and action to reduce the pandemic was immediately taken by the Malaysian government. On March 18, 2020, a nationwide Movement Control Order (MCO) was declared to control the virus outbreak, and this kind of action has been taken by almost all countries around the world. Public health, including mental health, has become a threat to the world's population since the declaration of COVID-19 as a global pandemic. As indicated by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the pandemic has disrupted the learning process of more than a billion students in 129 countries around the world. According to Shahzad et al. (2020), the Malaysian Higher Education Ministry and nearly the rest of the world issued orders to close public schools and higher education institutions as a precaution against the COVID-19 pandemic. Alternatively, due to MCO, the Malaysian Ministry of Higher Education encouraged all higher education institutions to offer lectures using online learning. Consequently, all educational institutions, including universities, have quickly converted their courses and programmes to online delivery to maintain the consistency of teaching and evaluation. Online learning has its own challenges, and such a drastic change has caused anxiety among students. As a result, many students lose out on learning opportunities because their chosen field of study is not suitable for solely online instruction, such as clinical work in the medical and health sciences (Bentata, 2020).

Evidently, university students are a particularly high-risk demographic for mental health issues (Browne et al., 2017). The pandemic's unavoidable mental and social consequences are unavoidable; hence, it is critical to take steps to build strength and adapt to such harmful consequences. Some students stay up late and wake up at any time, while other students have insomnia. Altering sleep patterns can lead to poor sleep quality and poor physical and mental health. Students around the world reported physical symptoms such as eye strain and back pain from participating in hours of online learning (Ganne et al., 2021, Gupta et al., 2021). Based on a survey by the Australian Government Tertiary Education Quality and Standards Agency involving almost 120 higher education providers in Australia, up to 50% of students did not like online learning. In the initial phase of online learning implementation, classroom materials were only presented in digital form, so most students had yet to fully experience the learning process. Additionally, some students shared that they struggled with limited devices and limited internet connectivity for learning purposes. As a result of this situation, university students reportedly had higher levels of anxiety than the general population after the COVID-19 outbreak (Wang & Zhao, 2020). This is consistent with the findings on the impact of COVID-19 and lockdowns on Chinese university students, which reported significant negative impacts on students' mental health and high levels of anxiety (Cao et al., 2020).

The same cases apply to Spanish universities (Odriozola-González et al., 2020) where the incidence of anxiety disorders was higher among students than in the general population. Several stressors were determined in their study, including money problems and their impact on daily life. Other stressors include student housing, family income stability, parental mental health, decreased social interaction, rising numbers of new cases and states affected, and travel bans, all of which are impacting daily life. Brunei is no different; some students experienced dry eyes and carpal tunnel syndrome as a result of staring at the computer screen for six hours. Since Zoom is the main method of e-learning in Brunei, both students and faculties suffered from mental exhaustion known as Zoom fatigue (Alam, 2022). Zoom fatigue in this case refers to the burnout caused by long video calls. Generally, video calls absorb a lot of cognitive weight and emotional power, leading to fatigue (Williams, 2021). A study in Malaysia also found that university students experienced mild to moderate, severe to severe, and most extreme anxiety when studying online during the pandemic. The key stressors include financial constraints, remote online education, and uncertainty about academic and career futures. In addition, factors related to peers influence, parental socialization and self-dominance are also related to emotional and financial well-being (Alwi, Amir Hashim & Ali, 2015). Other stressors also include financial restrictions, remote online learning, and uncertainty about academic performance and future career prospects (Sundarasen, et al., 2020). Furthermore, some students are stressed out due to technological issues such as interrupted internet access, a lack of knowledge of the platforms and systems they use, unfavourable teaching methods, and a lack of

support from family and faculty (Awang Kader et al., 2022). This is supported by prior research in 2021 by Universiti Teknologi MARA (UiTM), which found that online learning made 28.3% of the students feel anxious or uneasy although 19.6% of them were joyful and only 5.9% felt extremely happy (Nor Aziah, 2021).

Moreover, this can also be supported by a recent study showing that Malaysian children and teenagers, especially those who spend a lot of time online for classes and socializing, are developing anxiety and depression due to excessive online use since the COVID-19 pandemic. To assess students' digital wellness and determine how they were adjusting to the new normal, local telco Digi surveyed 1,746 students nationally who were under the age of 21 for the study entitled "Life under COVID-19 for youngsters online: Values & Challenges." Three of the top four responses when asked about what students felt about taking classes online were unfavourable: 39% of the respondents reported worrying about their grades and tests, 31% reported worrying about their ability to follow online lessons, and 26% reported feeling unmotivated to study. Meanwhile, "I like the flexibility of online classes" was the only one of the top four answers that was true, and 28% of those who answered agreed with the answer. Additionally, negative attitudes were found to grow with age: 10- to 12-year-olds reported a lower positive net sentiment at 3%, 13- to 15-year-olds reported a negative net sentiment at 8%, 16- to 18-year-olds showed a negative net sentiment at -17%, and college-age children (19- to 21-year-olds) displayed the worst opinion at -25%. The study, which was conducted from August to September 2021, found that 71% of the participants stated they have spent more time on the internet since the pandemic, while 22% of them spent the same amount of time, and 7% stated that they spent less time on the internet. Online learning (74%), entertainment (64%) such as streaming television shows and YouTube videos, and social networking (49% each) were the activities they mostly engaged in, while researching (26%) and vlogging (3%) comprised a small portion (Tariq, 2022). Therefore, Abdullah et al. (2022) conclude that teacher or instructor support has the greatest impact on ensuring the sustainability of student learning during the COVID-19 pandemic. Universities can better support students' psychological well-being by understanding how students respond to stressors because psychological distress has a negative impact on students' ability to learn, participate, and enjoy university life (Baik et al., 2019).

Accordingly, the current study examines online learning experiences for the psychological well-being of university students in Malaysia. Several factors that impact psychological well-being were analyzed, including technical issues, burden of assignments, a non-conducive learning environment, students' attitudes, time management, and instructors. This is in line with a few studies that have examined these variables. Besides, according to earlier research, the next study on university students' psychological well-being should assess students' attitudes (Marler et al., 2021). Their study also used fatigue as a mediator since previous research has suggested that future research uses a more sophisticated analytical strategy to identify the confounding factors affecting students' psychological well-being and the mediating role of fatigue (Mosleh et al., 2022). Additionally, little focus has been placed on the different dimensions of fatigue and its mediating function in the connection between the quality of life and mental health issues (Bazazan et al., 2019). Therefore, the current study finds it necessary to look into the role of students' attitudes (Marler et al., 2021) and fatigue (Mosleh et al., 2022) as new variables to be included in psychological well-being research, as recommended by previous studies.

We believe that the results of this study will help higher education institutions, especially Malaysian universities, to develop psychological intervention practices for supporting students should similar pandemics were to occur again in the future. In addition, we also deem it necessary to provide guidance to policymakers on the possible mechanisms to reduce the impact of anxiety on students during such health crises.

2.0 LITERATURE REVIEW

2.1 PSYCHOLOGICAL WELL-BEING

Psychological well-being refers to the emotional health, overall functioning, and absence of distress of an individual. Commonly, the idea is described as a combination of positive emotional states such as happiness (the hedonic perspective) and excellent individual and social functioning. As such, well-being also indicates excellent psychological functioning and experience. Well-being is also the subject of both casual interpersonal queries (e.g., "How are you?") and thorough scientific inquiry (Ryan & Deci, 2001; Shamuni et al., 2021). Previous authors define well-being as the quality of one's life and the sense of being healthy and able to function

well (Huppert, 2009). Those with high psychological well-being would have feelings of joy, competence, social support, and overall life satisfaction (Huppert, 2009; Shamuni et al., 2021). During the COVID-19 pandemic, when face-to-face instruction was replaced with online learning, university students might experience psychological effects. Besides, university students reportedly experienced post-traumatic stress disorder, wrath, fear, melancholy, anxiousness, and emotional disorders during the outbreak (Ahmad et al., 2022; Al-Rabiaah et al., 2020; Brooks et al., 2020; Cao et al., 2020; Cooper et al., 2014; Liu et al., 2020; Moldofsky & Patcai, 2011; Qiu et al., 2020).

Furthermore, college students were concerned about their academic performance and probable graduation delays (Ahmad et al., 2022; Qiu et al., 2020). In addition to online learning, the psychological adjustment also occurs due to the intellectual, social, and emotional problems associated with the transition from high school to college (Ahmad et al., 2022; Stamp et al., 2015). Previous research involving 325 students from a university in the northern portion of Peninsular Malaysia revealed that 34.9% of the students were depressed, 60.9% of them were worried, and 32% were stressed. This indicates the severity of the burden borne by university students from participating in online education (Ahmad et al., 2022). Moreover, another study also revealed that 45.5% of undergraduate respondents reported having serious depression. Due to their extended confinement to their homes or hostels and the need to attend online courses, there was probably a significant prevalence of depression. Besides, long hours spent in front of digital devices invariably resulted in physical and mental exhaustion as well as boredom, fatigue, and loss of interest (Shamuni et al., 2021). Overall, there are several factors that might contribute to depression among university students, including a heavy workload of assignments, changes in sleeping patterns, distractions, an environment that fosters stress, financial challenges, and an unconducive learning environment. Hence, to better understand psychological discomfort among university students in Malaysia, this study aims to measure the level of psychological symptoms such as depression, anxiety, and stress.

2.2 TECHNICAL AND FINANCIAL ISSUES

Online or remote learning indicates that students need a delivery method because they are geographically separated from their instructors (Aguilera-Hermida, 2020; Wang et al., 2013; Wilde & Hsu, 2019). When governments around the world closed schools and universities to combat the COVID-19 pandemic, the use of digital tools and platforms became the only means to ensure the continuity of teaching and learning. As a result, teachers and students have been forced to engage in emergency remote learning. Based on COVID-19 experiences, research has attempted to assess the opportunities and limitations of emergency remote instruction. Evidently, technical issues remain the biggest obstacles to digital learning, such as a lack of computers, laptops, tablets, and other necessary electronic equipment, as well as unreliable and inconsistent internet connections (Mabrouk et al., 2022). According to other studies, the biggest difficulties also include technological constraints such as network issues and a lack of computer equipment (Mabrouk et al., 2022; Zalat et al., 2021). Previous research, which investigated the experiences of South Korean college students, found that although students acknowledged certain benefits of emergency distance education, many complained about the connection's instability (Shim & Lee, 2020). The fact that some internet technologies were unfamiliar to some participants caused them concern (Aguilera-Hermida, 2020). In fact, some students had never taken an online course before even though they are generally IT-aware and proficient at using technology. Some of them began their first semester entirely online and this might cause them to feel lost, especially in 2020 when COVID-19 occurred all over the world, making it rather stressful for them. Additionally, students might have to share the internet connection with other siblings who were also schooling and doing their homework or studying at home. Due to financial constraints, some students had to share access to technology, including laptops, PCs, tablets, and other devices with their siblings.

As supported by a prior qualitative study in which 66 out of 147 respondents mentioned problems associated with a shaky internet connection, a lack of devices, and insufficient data as obstacles to online learning during the COVID-19 pandemic, a strong internet connection is, therefore, important for everyone to access higher quality online learning courses because those without reliable digital connections or with outdated technologies will be mostly excluded from the syllabus. Additionally, the study noted that not all students live in the same area of the home and that it is crucial to consider how many family members are present at home, as

some may live together with their families and share hotspots. Thus, it will be difficult, especially during the restricted movement order, to pay extra money only to use the internet (Ilias et al., 2020). This is also supported by earlier research, which revealed that the technological and financial issues faced by university students who study online have the highest mean among the independent variables. This shows that technological and financial concerns are crucial for students engaging in online learning (Azira et al., 2023). Therefore, we proposed the following hypothesis:

Hypothesis 1: *There is a significant relationship between technical and financial issues with psychological well-being among university students*.

2.3 BURDEN OF ASSIGNMENTS

Many teachers believe that homework or assignments are important to reinforce what students have learned. In fact, it has long been held that assigning homework to students plays a significant role in their education, regardless of whether the purpose is to provide extra practice, reinforce previously covered material, or introduce new material to students (Hong, Wan, & Peng, 2011). However, having too much homework may cause students to become stressed. During the initial wave of the COVID-19 pandemic, there were some academic-related concerns that caused worry or hardship among students. According to earlier studies, most college students reported having numerous tough assignments to complete, a lack of time discipline, and trouble understanding class topics (Hasanah et al., 2020; Maqableh & Alia, 2021). This condition was further linked to the lack of opportunities to discuss lecture content or projects with their lecturers and college friends. Most students were also dissatisfied with the transition from offline or physical classes to online classes because it affected their time management and learning-life balance. This is in line with a study by Abdullah (2020), which found that the worry about the COVID-19 virus outbreak and the restriction of physical movement during the movement control order (MCO) caused students to lose enthusiasm and feel burdened to complete their assignments.

In another study involving undergraduate students of the Faculty of Education, Universiti Kebangsaan Malaysia (UKM) who took courses online during the COVID-19 pandemic, the study found that students failed to manage time well due to a lack of skills in using technology and this matters as another main challenge for students other than planning assignments, especially assignments involving group work (Abdul Aziz et al., 2021). However, contrary to a study by Keane et al. (2022), some college students believed that they did not need to spend time travelling to campus and that they could complete certain tasks and assignments more efficiently at home if available technologies were optimized and lecturers shared clear information and instructions with them. Thus, the following hypothesis is proposed in the current study:

Hypothesis 2: There is a significant relationship between burden of assignments and psychological well-being among university students.

2.4 NON-CONDUCIVE LEARNING ENVIRONMENT

Learning must be effective for students to be equipped with the requisite knowledge and abilities. In this regard, the learning environment serves as an important aspect (Walberg 1981; Moos 1979). Tessmer and Harris (1992) define the learning environment as the space designated for learning, regardless of whether it includes a classroom, a science laboratory, an open area, or an office. This entails a location where learning occurs in a social, psychological, and pedagogical context, which influences student achievement and attitude (Doppelt & Schunn 2008). As a result, the learning environment encompasses all variables involved in the learning context, whether physical, social, or psychological, which can encourage students to participate in the learning process and influence student behaviour, in addition to developing their cognitive skills or perceptions. However, during the pandemic, the learning environment was focused on the home, which is where online learning took place. Additionally, limited space and social interaction also have an impact on learning effectiveness and student performance (Yan et al., 2021). According to Shahul Hamid et al. (2022), students were unable to focus on learning at home during the pandemic. Thus, an unconducive home environment will have a detrimental effect on the continuity of student learning. As confirmed by Abdul Aziz et al. (2020), disturbances in the home environment can cause students to lose their learning focus, especially when they have

other commitments such as helping parents with daily chores at home, which will make their study time management irregular.

In line with other studies, a non-conducive learning environment at home accounted for more than 61.29% of the external factors experienced by Malaysian secondary school students, which have an impact on their psychological well-being (Muhammad Zaki et al., 2021). Due to the government's order, everyone was required to stay at home and this increased the noise level from devices, family conversations, and other sources, making it difficult for students to focus during online classes and study sessions (Allam et al., 2020; Fatoni et al., 2020; Muhammad Zaki et al., 2021). Besides, some students might also deal with family problems, which could consequently raise their stress levels. As a result of students' inability to keep up with the syllabus, students tend to experience emotional burnout and stress, which negatively impact their academic performance (Muhammad Zaki et al., 2021). However, students held a variety of opinions; some students believed that on-campus learning is helpful because it helps keep their motivation and fosters their discipline due to the daily routine. Meanwhile, others claim that taking online classes, which allow them to study from home, is a more effective way to balance a busy schedule and remain focused (Keane, 2022). Therefore, we proposed the following hypothesis:

Hypothesis 3: *There is a significant relationship between a non-conducive learning environment and psychological well-being among university students.*

2.5 STUDENTS' ATTITUDES

Learning is a process that leads to change as a result of gaining experience and it increases the potential for improved performance and potential learning. Understanding, conceiving ideas, making connections between prior and new knowledge, and independent and critical thinking are all components of deep and long-term learning. Accordingly, positive or negative attitudes towards learning are valuable for the success of learning. Attitude is an inclination that is attributed to individuals, which creates ideas, feelings, and behaviours about a psychological object in an orderly manner (Cetin, 2006). There are positive and negative attitudes towards student learning (Sen, 2022). One of the negative attitudes towards learning is procrastination, which can be defined as the intentional delay of a task (Nordby et al., 2017; Santelli et al., 2020). Late assignment submissions are sometimes generalized as procrastination. The delay can come at any point in the action, whether at the beginning of the task or at its completion. College students are particularly prone to procrastination, which is a common occurrence. In fact, around 70% of college students admitted to being procrastinators (Santelli et al., 2020; You, 2015). While it may be thought of as a harmless trait, procrastination frequently leads to late assignments.

Additionally, in online classes, lecturers tend to struggle with a lack of student contact. Most students switch off their cameras; hence, instructors are unaware of whether students in the class are seated in front of a computer. Besides, when lecturers have questions or remarks regarding the subject matter covered during an online class, they must repeatedly call out the names of the students. A lack of focus during the teaching and learning process is another negative student attitude. To further support this statement, previous studies found that students may be distracted by other things such as social media and friends rather than paying attention to the lecturers (Joshi, Gokhale, & Acharya, 2012). Moreover, in the new norm where every class is taught online, students' attitudes are also deteriorating. Evidently, students develop a lazy attitude, sleep poorly, and wake up late (Mallillin et al., 2021). Due to procrastinating and focusing on unimportant activities such as playing games and updating their status on social media all the time, students are prone to late assignment submissions and a lack of focus during online classes. This can lead to a lack of quality in the assignment's outcome and students' failure to perform well in quizzes and tests, resulting in poor academic performance. Therefore, we proposed the following hypothesis:

Hypothesis 4: There is a significant relationship between students' attitudes and psychological well-being among university students.

2.6 TIME MANAGEMENT

In education, it is crucial to know how students use their time. Time management is one of the major encounters that students face at tertiary education institutions, and this has a bearing on their academic

performance and social life (Mukwevho, 2022). Students are distracted by television, social media, and the internet, which consumes their study time (Hanson et al., 2011). The subscale for time management measures how well students are able to plan their days and set aside extra time for studying (Touma & Nyman, 2021). Effective management skills help students work towards their goals and avoid unnecessary activities that distract their attention. Since time management is vital for students to set their study goals, mismanagement will disturb their academic achievement. Thus, time management is another typical problem faced by university students, which has a negative impact on their personal and everyday routine activities as well as their educational system.

Undergraduates complained that the semester is too short to adequately cover each subject (Hassan et al., 2021). As a result, failure occurs due to poor timing and low achievement levels. Since completing coursework and other lengthy research tasks takes a significant amount of time, students' workload could increase and this impacts their academic performance (Hassan et al., 2021; Khawar et al., 2021). Thus, effective time management can promote productivity and self-confidence, as well as help students perform better academically (Ahmad et al., 2019). Students can also improve their marks and overall performance by managing their time wisely (Adams & Blair, 2019). Indeed, time management skills are necessary for completing assignments; while this does not necessarily include the amount of time spent to complete the assignment, the effectiveness of the time spent to complete the assignments also matters (Suamuang et al., 2020). Therefore, we proposed the following hypothesis:

Hypothesis 5: There is a significant relationship between time management and psychological well-being among university students.

2.7 INSTRUCTORS

The factors influencing students' continued use of online learning were examined in previous studies (Kara, 2021; Liu & Pu, 2020) and the findings demonstrated that students' willingness to continue using online learning is positively influenced by the quality level of the instructor, course design, and system usability. Previous researchers have also looked into literature-based concepts used in online learning from a student's perspective, where the two most important components for online learning are technology and instructor skill (Van Wart et al., 2020). When teaching online, instructors must incorporate interactive methods into the lecture and this may involve conversations with the students, showing videos to the students, and using software or other applications to make the interaction between instructors and students more engaging and interactive.

Communication, particularly in the education sector, should be studied because communication between instructors and students can improve the learning experience and create a positive environment. Communication simply refers to the transmission of information from one person or group to another (Alawamleh et al., 2022). Thus, communication will be effective when the information transferred is fully comprehended by the receiver. The goals of communicating with others online are the same as those of communicating face-to-face: building relationships, sharing knowledge, and feeling heard and understood. Communication between teachers and students in any classroom setting is driven by a desire to share information and foster mutual understanding and rapport. Due to the absence of body language, online communication with students requires more preparation than traditional classroom communication (Alawamleh et al., 2022). Therefore, we proposed the following hypothesis:

Hypothesis 6: There is a significant relationship between instructors and psychological well-being among university students.

2.8 FATIGUE

Due to its complexity and multifaceted character, there is no widely agreed definition of fatigue although it is generally accepted to be associated with several physiological, psychological, and behavioural processes in reaction to excessive demands and inadequate recovery (Aaronson et al., 1999; Shen et al., 2006). The word "fatigue" is used a lot in the working world, especially in the medical field as well as in research carried out by doctors and nurses. For instance, a common definition of occupational fatigue, which includes fatigue in nursing practice, denotes a multidimensional construct that comprises mental, physical, and overall fatigue (Barker & Nussbaum, 2010; Parhizi et al., 2013). Due to the complexity of the notion, numerous

methods of measuring fatigue have been developed. Although some researchers have used sleep as a measure of fatigue, others have also used biometric methods such as blood pressure measurement to distinguish between people who are fatigued and those who are not (Burns et al., 2020; Husain et al., 2019; White et al., 2008).

The Occupational Fatigue/Exhaustion Recovery (OFER) scale (Husain et al., 2019; Winwood & Lushington, 2006), which assesses a wide variety of fatigue symptoms from work fatigue (acute) to general fatigue (chronic), is one of the most often employed tools. Acute fatigue is typically a state of momentary incapacity caused by excessive physical and mental activity, which can be relieved by rest or task modification. Inadvertently, acute exhaustion serves as a protection against severe fatigue, as it signals the employee to rest (Husain et al., 2019; Tiesinga et al., 1996; Winwood & Lushington, 2006). Meanwhile, chronic fatigue is characterized by deteriorating patterns of productivity, interest, participation, commitment, focus, unpleasant emotions, and motivation (Husain et al., 2019; Winwood & Lushington, 2006). In the context of higher education institutions among undergraduates during online learning, fatigue can be assessed by determining whether it is acute or chronic fatigue. Acute fatigue often lasts for one month or less, whereas chronic fatigue can last for six months or longer. Hence, universities must identify the level of fatigue among students to take preventative measures because increased exhaustion might result in stress, depression, and even suicide. Therefore, we proposed the following hypothesis:

Hypothesis 7: There is a significant relationship between fatigue and psychological well-being among university students.

2.9 UNDERPINNING THEORIES

Few theories were selected which are theories of human well-being and subjective well being and also theory of quality of life. These theories fit with this study as those are related to psychological well-being field and it gives good insightful ideas in enhancing the selected field.

2.10 THEORIES OF HUMAN WELL BEING AND SUBJECTIVE WELL BEING

Are you happy? You sound great? Does happiness equal to health? Happiness is a personal assessment of one's level of happiness with various aspects of life (Lijadi, 2018). Conversely, well-being encompasses more than just affect; it also refers to one's cognitive judgement as well as happiness with their general quality of life (Carlquist et al. 2017). In addition, the word "well-being" has distinct meanings in different languages. Lomas (2016) discovered 216 'untranslatable' terms for happiness from languages across the world. He further organized the words into three categories: feelings (comprising positive and complex feelings); relationships (comprising intimacy and pro sociality) and character (comprising personal resources and spirituality) to enrich understanding of cultural differences in constructions of well-being. The terms 'happiness' and 'life satisfaction' are also frequently used interchangeably.

However, studies show that when people were asked to rate how happy and satisfied with life they were, they gave different answers (Becchetti & Conzo, 2017).Happiness has been thought to include at least two components: hedonia (pleasure) and eudaimonia (a well-lived life) (Waterman 2013). Hedonistic ideas of happiness have to do with getting as much pleasure out of life as possible and avoiding pain as much as possible.In contrast, eudaimonic ideas refer to having a sense of purpose in life, autonomy, self-acceptance, connectivity, and a psychological sense of vitality (Ryan & Deci 2000; Ryan & Huta 2009; Ryff 2014; Ryff & Singer 2008). According to the eudaimonic viewpoint, human thought and conduct are not solely motivated by the desire to maximize pleasure. Instead, happiness is to be defined in terms of what people can be and do, which includes the ability to access basic bodily needs, develop, and fulfil their aspirations (i.e., freely pursuing family and social relationships, education, a job, and other interests (Boffo et al. 2017). In a university setting, students may pursue interests such as interactive learning methods in classes, the use of more applications for presentations, and participation in more university activities. They may avoid doing something they dislike or put forth less effort to do something, such as putting forth less effort in doing assignments and failing to score in tests or quizzes due to close deadlines. This is an example of hedonic well-being. Students with high eudaimonic well-being, on the other hand, have shown that high levels of eudaimonic well-being favour the adoption of highly adaptive coping strategies, such as positive reevaluation of problems, task engagement, or the search for

help for instrumental and emotional purposes (Figueroa et. al., 2005, González et. al., 2002 & Freire et. al., 2018) Students with low levels of eudaimonic well-being, on the other hand, used maladaptive coping strategies more frequently, such as blaming oneself for problems, ignoring them, or escaping through fantasizing thoughts (Freire et. al., 2018).

After reviewing the literature, this study relates to Subjective Well-Being as the theory for psychological well-being. The theory of subjective well-being (SWB) relates to an individual's dimensions of satisfaction judgement, pleasant emotions and moods (positive affect), and absence of unpleasant emotions and moods (negative affect) (Diener 1984b; Diener et al. 1985). Subjective well-being is defined as the sum of a person's cognitive and emotional assessments of their lives, whereas life satisfaction is a more cognitive component of SWB because it relates to a cognitive judgmental process by which a person analyses her quality of life (Diener et al. 1999). Happiness, on the other hand, is viewed as an affective component of SWB by enhancing positive affect and limiting negative affect (Lyubomirsky et al. 2005).

2.11 QUALITY OF LIFE THEORY

Sociologist Veenhoven (1994; 1999; 2006; 2014) has spent three decades researching quality of life. He conducted a fundamental meta-analytic literature study and described it in The Quality-of-Life Matrix Model by investigating variants of prospective quality of life: outward opportunities vs inner human traits in two life domains: life chances and life results. The matrix depicts several perspectives on quality of life; when individuals take advantage of their outer chances and inner traits, their quality of life can be seen in the life result domain. The end outcome is a reflection of one's assessment of one's surroundings and self-esteem.

1. Environmental live ability refers to good living conditions and the overall quality of society. Ecologists see live ability in the natural environment and define it in terms of global warming. Economists may refer to it as wellbeing.
2. A person's life-ability refers to their inner life chances; how well they are equipped to deal with life's issues. Psychologists may refer to this as self-efficacy, intelligence or potential, or self-actualization; biologists refer to it as adaptive potential; and in medicine, we refer to this quality of life as the lack of functional flaws such as physical and mental sickness.
3. Life utility is the external worth of a life result. A good life is one that is meaningful to others, such as societal contribution, pro-social behaviour, ecologically responsible living, and virtuous living, and it is sometimes described as the essence of true happiness.
4. Life appreciation is how you feel about the things that have happened in your life. It is also called subjective well-being, life satisfaction, and happiness.

To achieve a quality of life, according to Nussbaum and Sen (1993), a person must have three factors: functioning (achievement of a person), freedom (range of choice and autonomy for judgment/measurement of quality of life), and conversion efficiency (ability of person to convert his/her resources into functioning's given his/her freedom; depends on individual, society, and environment).

As noted in the previous discussion, human well-being is a complex, subjective value concept. People's perceptions of happiness change based on where, when, and how they play their roles. Because the evaluation of one's well-being refers to a specific point in time for a specific group, in a specific area, and is often dependent on a range of needs and wants that differ according to culture, gender, age, and so on, its conceptual heterogeneity can theoretically have an infinite number of combinations. For each individual, well-being can be said to be dependent on the fulfilment of those needs and wants, where some are met, resulting in a sense of contentment, while others are not, leading to a sense of longing (Lijadi, 2018). Hence, this study employs seven (7) constructs that lead to psychological well-being during online learning among university students. There are technical and financial issues, the burden of assignment, a non-conducive learning environment, student attitude, time management, fatigue, and issues with instructors.

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3.0 PROPOSED THEORETICAL FRAMEWORK

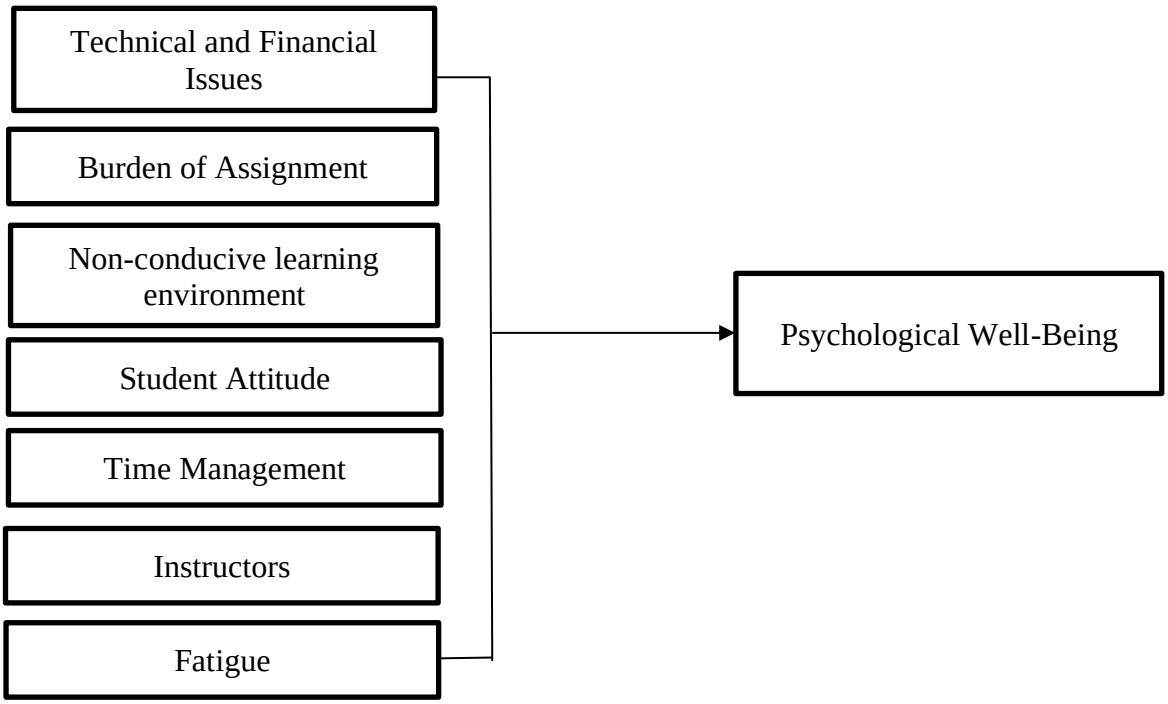

Figure 3.1: Theoretical Framework

4.0 RESEARCH METHODOLOGY

Structured partial least squares modelling (PLS-SEM) was used to analyze the data. The PLS-SEM analysis was carried out using Smart PLS version 4. Wold (1982) developed PLS-SEM, a non-parametric modelling technique that examines a complex research model in exploratory studies with fewer constraints on sample size and data distribution (Hair et al., 2017). The use of PLS-SEM application in higher education research has increased due to its high flexibility and prominence (Ghasemy et. al., 2020). As the goal of PLS-SEM is to maximize the explained variance of endogenous latent variables (Hair et al., 2017), this analysis approach is ideal for assessing the predictive capabilities of the potential factor constructs (technical and financial issues, burden of assignments, students' attitudes, time management, fatigue, and instructor) towards psychological well-being.

A self-administered questionnaire was used to collect the data for this quantitative study. The participants in this study include Malaysian university students who were enrolled in Bachelor's degree programmes between June 2022 and August 2022 as well as enrolled in an online course. In reference to G-Power, a sample size of 151 is necessary for this study; however, 386 individuals filled out the survey on Google Forms. Besides, due to the COVID-19 pandemic, information was gathered from the respondents through online data collection.

4.1 MEASUREMENT

All the measurement components are based on earlier studies. Constructs such as (1) "the psychological element is a key factor in the success of the educational process," (2) "the prolonged use of e-learning tools often leads to boredom, nervousness, and tension," and other constructs were created for the 10 predictor variables in reference to the studies by Haider and Al-Salman (2020), Nambiar (2020), and Wijaya et al. (2020). Meanwhile, 11 constructs for technical and financial issues were taken from Barrot et al. (2021), Nambiar (2020), Wahab and Othman (2021), and Zalat et al. (2021), constituting statements such as (1) "I am having insufficient internet

connectivity when having online learning at home" and (2) "I have no computers or laptops." In addition, Ahad et al. (2020), Songsirisak (2019), and Abdul Aziz et al. (2021), among others, provided six items for measuring burden of assignments, which include constructs such as (1) "the lecturer assigns many assignments during online learning" and (2) "online learning allows my assignments to be completed faster." Moreover, six (6) measurements were taken from another previous study to represent the third variable of the study, non-conducive learning environment, which includes statements such as (1) "my learning focus is distracted by the work that needs to be done at home" and (2) "being with my family can reduce my study pressure" (Hamid et al., 2020).

The measurement for students' attitudes, which is the fourth variable, was taken from Steel (2010) and Wijaya et al. (2020) with statements such as (1) "I get lazy when using online learning" and (2) "I prefer attending physical classes to online learning." Subsequently, as for the time management variable, five constructs (Touma & Nyman, 2021) were used and the list includes the following items: (1) "I schedule extra study time for my online courses because I know they require a lot of time," (2) "I try to schedule the same time each day or each week to study for my online courses, and I follow the schedule," and three more items. The next variable, namely instructors, comes with 10 items and the measurement was taken from Yu (2021) and Zhu et al. (2021) with items such as (1) "my lecturer(s) provided appropriate feedback to my learning outcomes, such as assignments, discussions, and exam results" and (2) "my lecturer(s) kept doing question & answer sessions to check whether I understand the learning content well." Finally, the final variable, fatigue, was measured using 10 items that were taken from Winwood et al. (2005), which include statements such as (1) "I spend a lot of my free time recovering from online classes" and (2) "I frequently wonder how long I can keep going at my assignments given by my lecturers," and others. Each measurement item was rated on a five-point Likert scale where 1 = strongly disagree and 5 = strongly agree.

5.0 RESULTS

5.1 DESCRIPTIVE ANALYSIS

Gender	Number	Percentage
Female	294	76.16%
Male	92	23.83%
Grand Total	**386**	**100%**

5.2 GENDER ANALYSIS

There were 294 female students involved in this study, which is equivalent to 76.16%, while the other 92 respondents are male students, which is equivalent to 28.83%. Overall, many female students were involved in this study because females are typically dominant in higher education institutions in Malaysia.

Age	Number	Percentage
18-22 years old	232	60.10%
23-27 years old	153	39.63%
Above 27 years old	1	0.27%
Grand Total	**386**	**100%**

5.3 AGE ANALYSIS

In this study, there were 232 students ranging from 18-22 years old, which is equivalent to 60.10%, while the other 153 students involved in this study were 23-27 years old, which is equivalent to 39.63%. Furthermore, only one student aged above 27 years took part in this study, which is equivalent to 0.27%.

Study Level	Number	Percentage
Bachelor's degree	220	56.99%
Diploma	166	43.01%
Grand Total	**386**	**100%**

5.4 STUDY LEVEL

A total of 220 Bachelor's degree students were involved in this study, which is equivalent to 56.99%, while the other 166 students were diploma students, which is equivalent to 43.01%.

Learning Method	Number	Percentage
Face-to-face class	212	54.92%
Online learning	174	45.08%
Grand Total	**386**	**100%**

5.5 LEARNING METHOD

Overall, 212 students preferred face-to-face learning, which is equivalent to 54.92%, whereas the remaining 174 students preferred online learning, which is equivalent to 45.08%.

5.6 DISCRIMINANT VALIDITY

Discriminant validity refers to the extent to which a group of items estimates only one construct and how this construct is distinctly estimated (Hair et al., 2017). Discriminant validity was tested based on the criteria suggested by Fornell and Larcker (1981), where the value of each construct should be higher than the correlations among the constructs. As indicated in Table 2.0, the bold value of each construct in this study was higher than the correlation value among the constructs; hence, this proves that the model has adequate reliability and validity.

Table 2.0 Discriminant Validity

Construct	Psychological well-being	Technical and financial issues	Burden of assignments	Non-conducive learning environment	Students' attitudes	Time management	Instructors	Fatigue
Psychological well-being	**0.87**							
Technical and financial issues	0.70	**0.84**						
Burden of assignments	0.56	0.67	**0.79**					
Non-conducive learning environment	0.54	0.57	0.53	**0.75**				
Students' attitudes	0.63	0.70	0.66	0.61	**0.87**			
Time management	0.77	0.69	0.54	0.55	0.66	**0.83**		
Instructors	0.80	0.72	0.78	0.73	0.78	0.80	**0.81**	
Fatigue	0.70	0.71	0.70	0.69	0.72	0.65	0.72	**0.74**

5.7 CONFIRMATORY FACTOR ANALYSIS (CFA)

As for the Variance Extracted (AVE), Hair et al. (2017) stated that the AVE value should be greater than 0.50, where a latent variable can explain more than half the variance of its indicators on average. Thus, all constructs in this study had an AVE larger than 0.50, indicating that they meet the acceptable standard of convergent validity.

Since the acceptable internal consistency of Composite Reliability is 0.70 and that of Cronbach's Alpha is 0.60 (Hair et al., 2017), all constructs in this study have met the rule of thumb for Composite Reliability as they were above 0.70, as well as the rule of thumb for Cronbach's Alpha, as the values were larger than 0.60.

Table 3.0 Confirmatory Factor Analysis (CFA)

Construct	Items	Average Variance Extracted (AVE)	Composite Reliability	Cronbach's Alpha
Psychological well-being	10 items	0.70	0.83	0.80
Technical and financial issues	11 items	0.71	0.86	0.76

Burden of assignments	6 items	0.68	0.81	0.73
Non-conducive learning environment	6 items	0.66	0.89	0.70
Students' attitudes	11 items	0.59	0.82	0.75
Time management	5 items	0.75	0.80	0.82
Instructors	10 items	0.79	0.91	0.92
Fatigue	10 items	0.64	0.87	0.80

5.8 STRUCTURAL ANALYSIS

Effect size f^2 was further used to measure the effect size of an independent variable on a dependent variable in the model based on the rule of thumb of **0.02 (weak)**, **0.15 (medium)**, and **0.35 (large)** (Hair et al., 2017). Evidently, the results for the effect size f^2 of the variables revealed that technical and financial issues had an effect size of 0.37, which indicates a large effect; however, the effect size for burden of assignments was 0.28, which can be indicated as a medium effect, similar to that of non-conducive learning environment with 0.22. On the contrary, the effect size for students' attitudes was 0.11, which can be indicated as a small effect. Furthermore, the effect sizes for time management and instructors were 0.24 and 0.33, respectively, which can be classified as a medium effect. Lastly, the effect size for fatigue was 0.16, which can be considered a small effect.

Table 4.0 Structural Analysis

Construct	Effect Size (f^2)	T-Value
Psychological well-being	0.45	2.94
Technical and financial issues	0.37	1.89
Burden of assignments	0.28	2.21
Non-conducive learning environment	0.22	2.06
Students' attitudes	0.11	1.77
Time management	0.24	1.70
Instructors	0.33	2.85
Fatigue	0.16	1.69

Figure 1.0 shows that the inclusion of the technical and financial issues components in the analysis contributed to 54.9% of the variance in psychological well-being among students in higher learning institutions in Malaysia. Next, the hypothesis testing outcome showed that technical and financial issues were significantly correlated with psychological well-being (β = 0.484; t = 1.89) where t > 1.645; therefore, H1 is supported. This finding is in line with a study by Mabrouk et. al. (2022), which found that technical and financial issues were significantly correlated with the psychological well-being of university students during online learning.

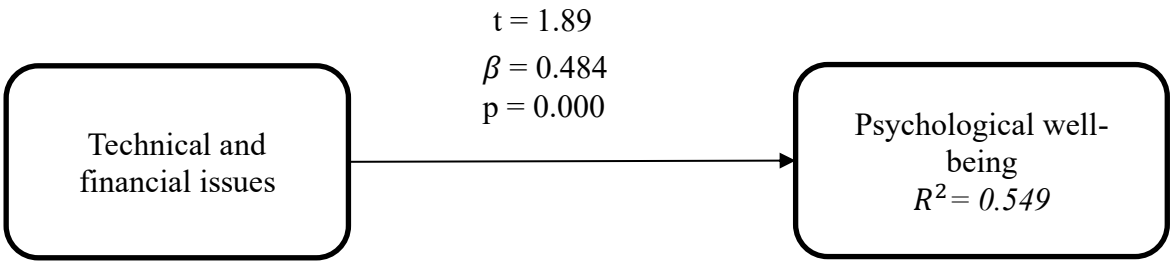

Figure 1.0: Relationship between technical and financial issues and psychological well-being

Figure 2.0 shows that the inclusion of the burden of assignment components in the analysis contributed to 54.9% of the variance in psychological well-being among students in higher education institutions in Malaysia. Subsequently, the hypothesis testing result showed that burden of assignments was significantly correlated with psychological well-being (= 0.520; t = 2.21) where t > 1.645, thus indicating that H2 is supported. This finding is also affirmed by a previous study by Maqabaleh and Alia (2021), which asserted that college students have numerous tough assignments to complete and this leads to an impact on their psychological well-being.

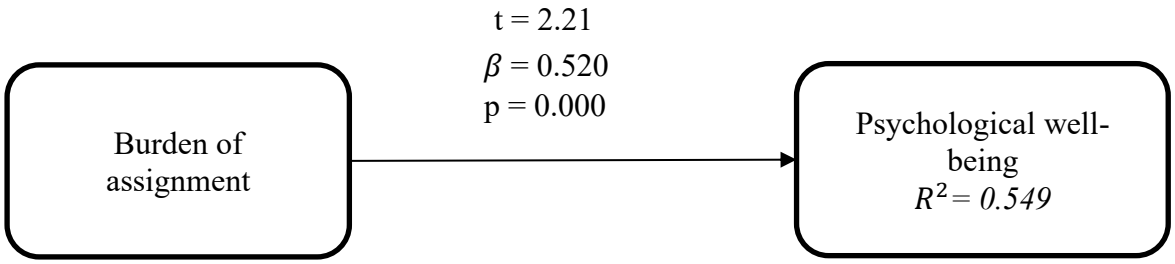

Figure 2.0: Relationship between burden of assignments and psychological well-being

Figure 3.0 shows that the inclusion of the non-conducive learning environment components in the analysis contributed to 54.9% of the variance in psychological well-being among students in higher learning institutions in Malaysia. In addition, the hypothesis testing outcome showed that the non-conducive learning environment was significantly correlated with psychological well-being (β = 0.603; t = 2.06) where t >1.645; therefore, H3 is supported. This finding is also corroborated by a study by Shahul Hamid, et al. (2022), which identified that students were unable to focus on their learning sessions at home during the COVID-19 pandemic where most of the students reported that the environment for studying at home was non-conducive for them.

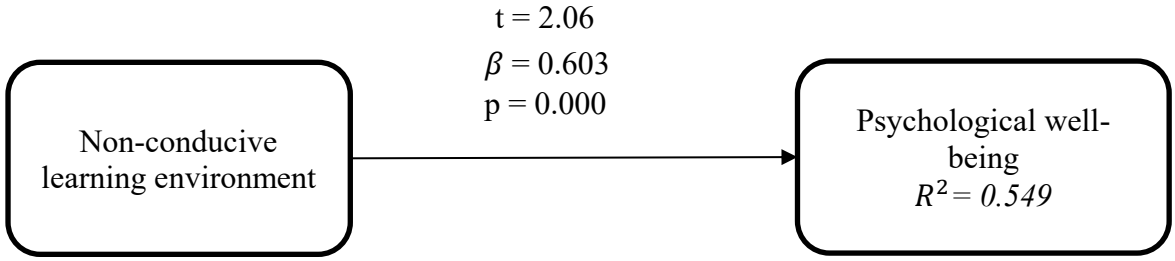

Figure 3.0: Relationship between non-conducive learning environment and psychological well-being

Based on Figure 4.0, the inclusion of the student attitude components in the analysis contributed to 54.9% of the variance in psychological well-being among students in Malaysian higher education institutions. Subsequently, the hypothesis testing results showed that students' attitudes were significantly correlated with psychological well-being (β= 0.447; t = 1.77) where t > 1.645, thus indicating that H4 is supported. This finding can be explained through the study by Santelli et al. (2020), where college students were found to be particularly prone to procrastinating when it comes to completing their homework and assignments.

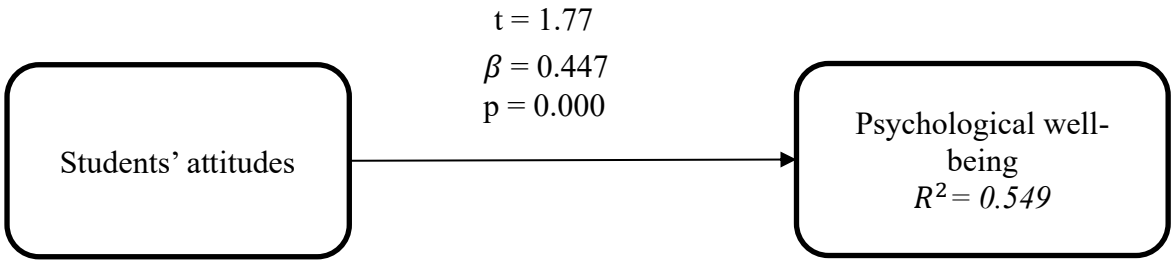

Figure 4.0: Relationship between students' attitudes and psychological well-being

Figure 5.0 shows that the inclusion of the time management components in the analysis contributed to 54.9% of the variance in psychological well-being among students in higher education institutions in Malaysia. Furthermore, the hypothesis testing result showed that time management was significantly correlated with psychological well-being (= 0.431; t = 1.70) where t > 1.645, hence indicating that H5 is supported. According to Ahmad et. al. (2019), good time management leads to positive psychological well-being among university students. Nonetheless, Suamuang et. al. (2020) stated that it is not necessarily about the amount of time spent to complete the assignments, but rather the effectiveness of the time spent to complete the assignments.

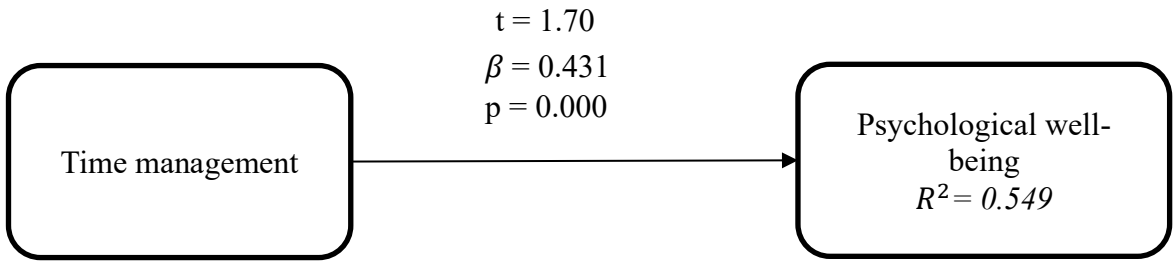

Figure 5.0: Relationship between time management and psychological well-being

Figure 6.0 shows that the inclusion of the instructor components in the analysis contributed to 54.9% of the variance in psychological well-being among students in higher education institutions in Malaysia. Subsequently, the hypothesis testing result showed that instructors were significantly correlated with psychological well-being (= 0.328; t = 2.85; t > 1.645), which implies that H6 is true. Indeed, according to Ilias et al. (2020), instructors play a major role in ensuring the psychological well-being of students in a university.

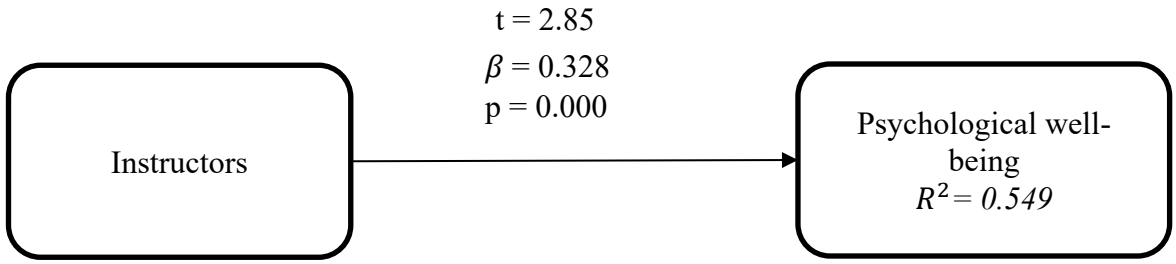

Figure 6.0: Relationship between instructors and psychological well-being

Figure 7.0 shows that the inclusion of the fatigue components in the analysis contributed to 54.9% of the variance in psychological well-being among students in higher education institutions in Malaysia. In addition, the hypothesis testing result showed that fatigue was significantly correlated with psychological well-being (= 0.417; t = 1.69) where t > 1.645, thus indicating that H7 is supported. This finding is consistent with Mosleh's (2022) discovery where fatigue is related to the psychological well-being of university students.

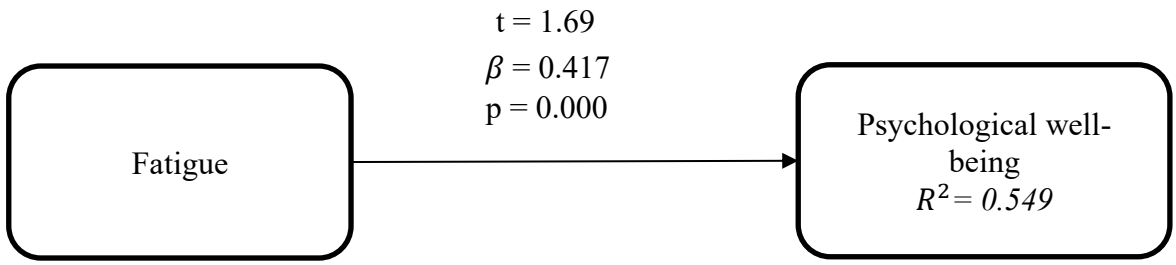

Figure 7.0: Relationship between fatigue and psychological well-being

6.0 DISCUSSIONS

The current study has identified the predictive factors of psychological well-being among university students in Malaysia. First, the results indicated that technical and financial issues were significantly correlated with psychological well-being. Indeed, to support the successful implementation of online learning, every student, faculty member, and university staff must have access to smartphones, notebooks, and computers, as well as a reliable internet connection (Shahul Hamid et al., 2022). This is consistent with the findings of a study by Mabrouk et al. (2022), which showed a significant correlation between technical and financial issues and the emotional well-being of college students participating in online learning. Furthermore, financial reasons can also make it challenging for students to meet such technical criteria. This is because not all students have access to smart device technology in their homes or towns (Hussiin, 2020). As a result, online learning during the COVID-19 pandemic contributed to a reduction in student performance due to a lack of concentration as well as difficulties gaining access to a reliable internet connection (Zaideen, 2021). This shows that students must have

financial stability so that they can afford to purchase technology devices for their online learning. Therefore, H1 is supported.

The second finding of this study has shown that the burden of assignments was significantly correlated with psychological well-being and, therefore, H2 is supported. This is in line with the findings of Maqabaleh and Alia (2021), which demonstrated that the mental health of college students was negatively impacted by the abundance of challenging assignments that they must complete. In addition, when some students in a paired or group assignment do not do their part, the rest of the group feels extra pressure to get it done (Songsirisak et al., 2019). Generally, students may feel stressed if they do not finish their assignments or meet the quality standards set by their professors. Moreover, students' mental health will also suffer if they are forced to engage in isolating activities such as online learning, which limits their mobility and makes it difficult for them to meet or discuss. Some students, despite having access to messaging apps such as WhatsApp that allow them to interact with one another, may choose to ignore and not respond to the messages. This further causes students to misunderstand the instructions; if important information is missed, then it could cause serious problems with their assignments.

Subsequently, the third finding of this study has evidenced that a non-conducive learning environment was significantly correlated with psychological well-being; therefore, H3 is supported. This finding is further confirmed by a study by Shahul Hamid et al. (2022), which discovered that students were unable to focus on their learning sessions at home during the COVID-19 pandemic, with most students classifying learning at home as a non-conducive learning environment. Furthermore, students may also find it difficult to concentrate on their studies due to disruptions in the home environment. Since students may have additional obligations such as helping parents with household duties, they may find it difficult to manage their study time (Aziz et al., 2020). This proves the stressful nature of online learning during a pandemic for students. Additionally, because of the new norms, most students also tend to be less prepared to engage in online learning. Students typically experienced a variety of stressors due to the pandemic (Aziz et al., 2020). Thus, Rashid and Yadav (2020) contended that if students are unable to adjust, then the deployment of new norms will have an impact on their psychology.

The fourth finding highlights the significant relationship between students' attitudes and psychological well-being, in which H4 is supported. According to Santelli et al. (2020), college students particularly tend to procrastinate when doing their homework and other assignments, which indicates a negative attitude among students. Besides, during online classes, there was also a lack of response from students because most of them turned off their webcams; thus, the instructors had no idea whether the students were sitting in front of their computers, and lecturers must repeatedly call the students' names if they had questions or comments about the subject matter covered in an online class. Moreover, in the new norm where every class is taught online, students' attitudes are deteriorating. Students develop a lazy attitude, sleep poorly, and wake up late (Mallillin et al., 2021).

The fifth finding on time management has shown that time management was significantly correlated with psychological well-being, which indicates that H5 is supported. Time management is often linked to psychological well-being, and good psychological well-being is ensured by effective time management. According to Ahmad et al. (2019), good time management leads to psychological well-being among university students; however, Suamuang et al. (2021) stated that it is not always the quantity of time spent on an assignment that is important, but rather the effectiveness of the time spent on the assignment. Therefore, it is important for university students to manage their time properly instead of finishing all work assigned by their lecturers at the last minute. Ultimately, this can improve the students' psychological well-being while at the university.

As discovered in this study, instructors were highly associated with psychological well-being; thus, H6 is supported. Evidently, this study has revealed a close relationship between instructors and psychological well-being; a good instructor will inculcate positive psychological well-being and vice versa. This finding is consistent with a study by Ilias et al. (2020), which found that instructors play a significant role in ensuring the psychological well-being of students at the university. Instructors can lead to a beneficial or adverse impact on the psychological well-being of their students. This coincides with prior research, which demonstrated that the quality level of the instructor, including the course design and system usability, have a positive influence on students' willingness to continue using online learning (Kara, 2021; Liu et al., 2020). Furthermore, communication is also a crucial factor that contributes to effective online learning to ensure that all information provided to students during online classes is completely understood. Moreover, since all nations have declared COVID-19 as an endemic, most universities have implemented hybrid learning in which lessons are delivered

through a combination of face-to-face instruction, online learning, and blended learning. For example, when students are required to stay on campus beginning in October 2022, they can enter classes during lecture hours and may also have online classes or blended learning for their tutorial sessions. This ensures that the learning session is conducted more successfully, besides encouraging greater involvement between lecturers and students in the classroom.

Finally, the last finding of this study has shown that fatigue was significantly correlated with psychological well-being, which supports H7. According to a prior study found, participating students were found to experience moderate fatigue levels when engaged in e-learning during the COVID-19 quarterly period. All subscales indicated modest fatigue levels associated with e-learning; however, a considerable proportion of students reported feeling fatigued more than five days each week (Mosleh et al., 2022). In this context, the quality of the course design in accommodating online learning as well as the willingness of course instructors to provide quality feedback have been found to boost student satisfaction and academic achievement during the epidemic (Gopal et al., 2021). Previous research has also shown that students who were happier with online assessments and performed better academically had lower fatigue levels. Therefore, future research should look into the causes influencing these burdens and ultimately look for ways to reduce or avoid fatigue (Mosleh et al., 2022).

7.0 CONCLUSIONS

Even though online learning has long been introduced, the COVID-19 pandemic has forced all higher education institutions to implement it more comprehensively. As a result, certain courses in universities encompass blended learning, which is a combination of physical, online classes, and other activities outside classrooms. When the pandemic struck the world, the learning method shifted completely to online learning. All lecturers and students had to accept the fact that they must adjust to the new learning norm; however, academics and students faced numerous challenges despite their increased efforts. Therefore, the findings of this study have several implications. First, the findings have increased our understanding of the various challenges that students may face when higher learning institutions abruptly transitioned to fully online learning, particularly impacting those from areas with limited resources, poor internet infrastructure, and a poor home learning environment. Based on the findings of this study, technical and financial issues were the most significant factor influencing students' psychological well-being. Thus, to address the technical and financial difficulties encountered by students in online learning, we recommend that financial assistance from the government and universities be made available to students from low-income families to assist them in purchasing technology devices such as laptops and internet quotas. Even though most students have returned to campus, not all of them can remain on campus and enjoy free Wi-Fi, and some students complain about internet connection issues during online classes. Furthermore, telecommunications companies could improve internet coverage in remote areas so that students can attend online classes and complete their assignments without interruption. Besides, university students and educators must accept the fact that online learning based on internet services is now widely accessible and helps facilitate the learning system. Software programmes used by colleges and institutions to continue their educational journeys should also be easily accessible through online resources (Rahim et al., 2023). Hence, technical and financial support serves as an important element for successful online learning among university students.

Other aspects of online learning that have an impact on university students' psychological well-being include instructors and the burden of assignments. In this regard, it is recommended that departments and faculties (1) use the same online platform—one that provides a dynamic, interactive, and multifunctional learning environment (intuitive user interface, video streaming, efficient online assessment tools, integrated collaborative tools, private and secure sessions, etc.) and (2) modify the teaching timetable to make it more flexible, such as through shorter live online sessions, longer breaks between live online sessions, and smaller groups (Curelaru et al., 2022). As for the assessments of each course taken by students, we are confident that most universities have revised this aspect in the sense that most subjects have been changed to be continuous assessment-based so that students will gain more soft skills than exam-oriented skills. Hence, it is critical that students manage their time wisely and not complete assignments at the last minute. Lecturers must also play a role in monitoring their students' assignment progress on a regular basis so that students are motivated to complete their assignments before the due date.

Subsequently, critical areas that require immediate attention include (but are not limited to) national and institutional policies, protocol and guidelines, technological infrastructure and resources, instructional delivery, staff development, potential inequalities, and collaboration among key stakeholders, including parents, students, lecturers, university leaders, industries, government education agencies, and communities (Barrot, 2021).

Therefore, to improve students' psychological well-being, all parties should work together to ensure the success of online learning among university students. Additionally, academic advisors and university counselling services should also increase supportive counselling for students with average academic performance to promote online learning and mental health. In essence, for online learning to succeed, institutions must first train students to take initiative such as communicating with lecturers and classmates or self-study (Rahim et al., 2023).

Some limitations in this study should be recognized and addressed in future research. One of the limitations is that the current study solely focuses on the perspectives of students; hence, future research can broaden the sample by including all other parties involved in the teaching-learning process. Researchers can also conduct an in-depth investigation of lecturers' perspectives and experiences to gain a comprehensive understanding of the situation as well as how different elements interact with or affect one another. Moreover, future research may discover some lecturer-related factors that influence students' online learning experiences. For example, in the case of students, other demographic factors such as students' age, gender, and degree programmes can be investigated to identify the challenges faced by students and the strategies they employ to overcome the challenges. Since this study only consists of business and management as well as accounting students, future studies can focus on other degree programmes at the university. Future studies can also expand the learning context to several higher education institutions from different geographical regions to increase the robustness of the findings (Barrot, 2021). In addition, researchers should consider how physical and psychological belonging to one's university is related to increased motivation to succeed academically in the future (Marler et al., 2021). Finally, given the influence of environmental factors on the higher education system, lecturers and students must quickly adapt to changes and learn how to use technology efficiently to ensure that the learning process is delivered effectively.

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