THE IMPACT OF E-LEARNING ON ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN MALAYSIA DURING COVID-19 PANDEMIC

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Abbreviations

COVID-19	Coronavirus Disease 19
SARS	Severe Acute Respiratory Syndrome
MERS	Middle East Respiratory Syndrome
MRO	Movement Restrictions Order
MCO	Movement Control Order
SOP	Standard Operation Procedure
UNESCO	The United Nations Educational, Scientific and Cultural Organization
SPSS	Statistical Package of Social Science
S	Required Sample Size
N	Population Size
R	Correlation Coefficient
Sig.	Significant
p-value	p-value
H	Hypothesis
LM	Lack of Motivation
MH	Mental Health
PB	Procrastination Behaviour
AP	Academic Performance
SD	Strongly Disagree
D	Disagree
N	Neutral
A	Agree

SA	Strongly Agree
Std. Deviation	Standard Deviation

ABSTRACT

E-learning is widely used as an educational approach around the globe, specifically during the COVID-19 pandemic. Rapid technology advancements and widespread access to the Internet enabled the growth of this approach. This research aimed to determine the significant impacts of e-learning on the academic performance of university students in Malaysia during the COVID-19 pandemic. Thus, this study empirically measures the extent of a lack of motivation, mental health, and procrastination behaviour on the academic performance of university students. This study was structured through a self-administered survey with university students in Malaysia who were identified and chosen for data collection. With 384 respondents, the data were analysed by descriptive, frequency, and inferential analysis using SPSS. These findings show that e-learning has the greatest impact on the academic performance of university students in Malaysia during the COVID-19 pandemic.

Keywords: Lack of Motivation, Mental Health, Procrastination Behaviour, Academic Performance, E-learning

ABSTRAK

E-pembelajaran digunakan secara meluas sebagai pendekatan pendidikan di seluruh dunia, khususnya semasa pandemik COVID-19. Kemajuan teknologi yang pesat dan akses meluas ke Internet membolehkan perkembangan pendekatan ini. Penyelidikan ini bertujuan untuk menentukan kesan ketara e-pembelajaran terhadap prestasi akademik pelajar universiti di Malaysia semasa pandemik COVID-19. Justeru, kajian ini secara empirikal mengukur sejauh mana kekurangan motivasi, kesihatan mental, dan sikap suka bertangguh terhadap prestasi akademik pelajar universiti. Kajian ini telah distrukturkan melalui tinjauan *self-administered* dengan pelajar universiti di Malaysia yang dikenal pasti dan dipilih untuk pengumpulan data. Dengan 384 orang responden, data dianalisis secara deskriptif, kekerapan, dan analisis inferensi menggunakan SPSS. Dapatan ini menunjukkan bahawa e-pembelajaran mempunyai impak yang paling besar terhadap prestasi akademik pelajar universiti di Malaysia semasa pandemik COVID-19.

Kata kunci: Kekurangan Motivasi, Kesihatan Mental, Sikap Bertangguh, Prestasi Akademik, E-Pembelajaran

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Coronavirus infection 2019 (COVID-19) worldwide has prompted several public health interventions. The pandemic has drastically impacted social interaction, but not only than that, education is also affected. Closing universities is one of the most visible social (physical) distancing strategies used to restrict the spread of this severe disease. As a result of education has changed drastically; the development of e-learning helps university students to continue their studies on digital platforms. The objective of this research has been to explore the impact of e-learning on the academic performance of university students in Malaysia during the COVID-19 pandemic. The chapter will begin by explaining the study's background and followed by the problem statement. To present a clear summary of the study, research objectives, and the research questions are provided. The scope of the study, the significance of the study, the definition of the term, and the summary of the chapter are all included in this chapter.

1.2 BACKGROUND OF STUDY

COVID-19 is a newly discovered coronavirus that produces a contagious sickness. Previously, this illness was known as the '2019 novel coronavirus'. COVID-19 was initially detected in December 2019 in Wuhan, China. New infectious infections such as SARS (Severe Acute Respiratory Syndrome), MERS (Middle East Respiratory Syndrome), and COVID-19 (Coronavirus Disease 19) pose a severe pose serious health risk. COVID-19, a new coronavirus infection, is now a global pandemic. Malaysia proclaimed its first-ever verified case on January 25th, 2020, and confirmed the death on March 17, 2020, after being originally recorded in China in December 2019. This was just a day before the country became issued to strict Movement Restrictions Order (MRO). This pandemic has given an impact on many individuals and in most countries' economies (Muller, 2020). Malaysians underwent some changes during this period in response to COVID-19, including reforms to the education system.

By early March of 2020, most states had found cases in mid-March and several states in Malaysia had declared statewide university shutdown and stay-at-home orders. Within weeks of the viruses' arrival in Malaysia, the viruses fast spread and related mitigating attempts upended many lives. The majorities of university students were ordered to quit their dormitories and residence halls immediately, in many cases without their belongings, and were expected to finish their academic work on the digital platform. These immediate closures prevent students from interacting with one

another and thereby decrease the number of cases (Bayham & Fenichel, 2020). The unexpected school and universities closures as a consequence of the advent as COVID-19 has caused university officials to make the changes in utilizing alternatives to traditional learning practices in times of emergency to safeguard the safety of students still not abandoned without education as to limit the growth of the pandemic. The closure of university gives significant changes to an educational system where students who used face to face classes are forced to use the e-learning. This has a significant influence on the academic performance of students as well.

E-learning is a word that refers to the formalized learning method that uses digital resources. Although learning may occur in (or out of), the use of laptop technologies and online classrooms is a critical element of e-learning (Agbejule et al., 2021). E-learning has exploded in popularity over the past decade owing to its ease (Abe, 2020). E-Learning aims to give teachers and learners the ability to study from anywhere. Once the COVID-19 virus first popped up, traditional educational methods were abandoned in favor of e-learning since social gatherings at academic institutions were seen as a possible means for the disease to propagate. Before the pandemic, digital education was not a prevalent mode of instruction in universities, and hence the majority of instructors had no or little experience with e-learning (Dawadi & Simkhada, 2020). E-learning enables institutions to continue educating students during times of university shutdown. Additionally, the majority of these platforms are free, which may ensure continual learning during this COVID-19 pandemic.

Most people who apply e-learning systems recognize that virtual learning enables easy management of e-learning and easy access to instructors and instructional

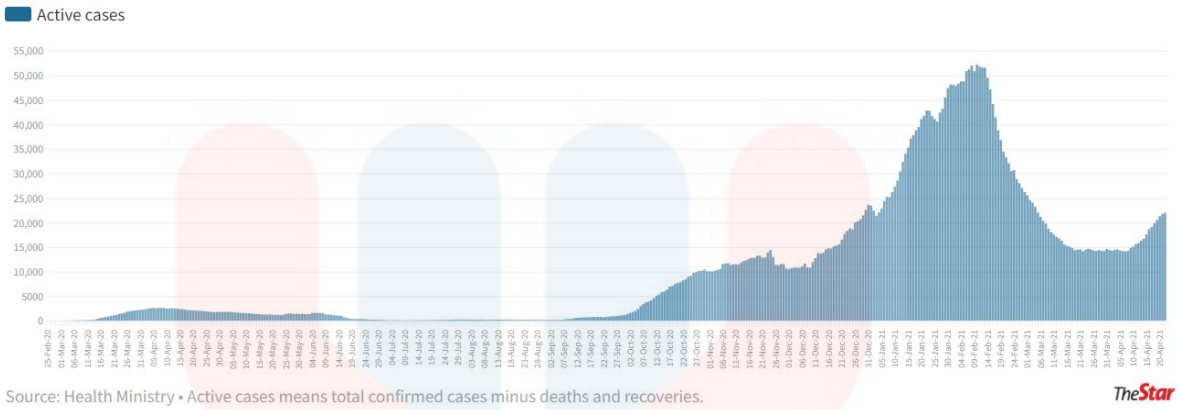
resources for the student (Gautam, 2020; Mukhtar et al., 2020). Additionally, this as well benefited in saving effort and transportation expenditures and other expenditures involved conventional education. E-learning significantly lowered operational effort, lecture preparation and recording, attendance, and class exit. The student develops into a personal self-learner capable of acquiring information continuously at any time. When it comes to scheduling, geography, and health issues, e-learning is a convenient alternative. This enhances the usefulness of wisdom and abilities by enabling exposure to massive volumes of info, improving teamwork, including fortifying learning-sustaining relationships. While e-learning can significantly strengthen educational quality, there is a debate about releasing e-learning content to the public, resulting in improved learning outcomes for just specific forms of collective assessment.

However, there are several disadvantages to e-learning that affect the student's academic performance. The majority of significant of which being acquiring information just in theory foundation that will help in applying what students have educated without applying professional abilities. A lack of face-to-face learning opportunities may curiosity many students and teachers. Nowadays, most students desire to learn virtually and obtain a degree from a university or institution worldwide. However, many students cannot do so because they live in rural areas without adequate connectivity capabilities.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) claimed that the lockdown affected approximately more than 160 countries account for 87 per cent out of the global population of students (Araújo, de Lima, Cidade, Nobre, & Neto, 2020). The exceptional situation in Malaysia has

offered an opportunity to improve e-learning for almost 5 million secondary school students and 1.2 million university students (Abdullah et al., 2020). Therefore, it is no longer practical for some university in Malaysia to provide e-learning classes. This study will help find out the impact that students experience while conducting e-learning that affect their academic performance.

As a result, the researchers need to explore how well this learning system is being received by students and the primary challenges they face when performing e-learning that impact their academic performance. This information will assist educational instructors and facilitators, college and university administrations in determining the modifications that can be made to improve the effectiveness of e-learning so that it can eventually be integrated alongside classroom instruction. This survey will be used to improve or enhance the online method of instruction to deliver a more positive learning experience for students. The study aims to investigate the impact of e-learning on the academic performance of university students in Malaysia during the COVID-19 pandemic.



Source: Health Ministry, the term "active cases" refers to all verified cases minus deaths and recoveries.

Figure 1.1: COVID-19 Outbreak year 2021 in Malaysia

The figure above illustrates the statistics for COVID-19 cases in Malaysia between 25 February 2020 and 20 April 2021. The researchers can observe from this figure that there are several COVID-19 instances between 11 December 2020 and 01 April 2021. From 01 April 2021, cases began to decline and then re-increase. With effect from March 18, 2020, Malaysia's government promptly established the Movement Control Order (MCO) to prevent the spread of the virus, which was later reduced in August 2020 and re-implemented in September 2020 as a precaution (and continues until further notice). During the MCO's control, all public meetings, including religious services and university gatherings, were outlawed in all locations. Almost all of Malaysia's institutions transitioned from traditional classrooms to an online learning environment during this time period. In response to the possibility of mortality produced by COVID-19, the rapid shift in the manner of instruction, as well as isolation and lockdown, have exacerbated the degree of worry and generated high tension among members of the general population and students alike.

1.3 PROBLEM STATEMENT

This is the first time in its history; public life was severely constrained due to the COVID-19 pandemic, including the total prohibition of face-to-face classes at schools and universities. The COVID-19 pandemic has led to many government restrictions including the private sector and the suspension of face-to-face teaching in Malaysian universities. Within a brief period, instructing and educating were forced to adapt to a large extent technological and internet modes. The long-term lockdown and pandemic exhaustion have had an unknown effect on university students and their academic performance.

E-learning encompasses website education, online education, virtual education, and multimedia teaching virtual education (Maatuk et. al., 2021). Therefore, this is also described as the instructional utilization of a variety of information and communication technologies and electronic gadgets. Mostly, a method of education delivered over the internet that uses technology to give students the knowledge. The use of browser technologies for academic reasons has proliferated in recent years as the cost of integrating these technologies has decreased dramatically. Although technology improves accessibility and convenience, that can be constraining; most students confront internet access impediments. Attendance and participation concerns during e-learning will adapt online learning to a struggle.

However, a face-to-face classroom environment enables staff members and students to offer fast quality feedback of teachings, implementation, and interaction.

In a classroom context, a teacher may observe students' body language, and these non-verbal indicators enable the instructor to rapidly alter their teaching style to meet the students' requirements. Extra questioning and customized attention in the classroom setting to ascertain a student's comprehension of the subjects significantly benefit online platforms. When students talk to one other in face-to-face classes, they are more likely to achieve success in their academic performance.

There are several challenges to e-learning, the most significant of which is obtaining information-theoretically and using what students have acquired without applying personal skills. There is a void in face-to-face educational interaction that might also be curious to more students and instructors. Another issue arises when online exams are confined to objective questions. Concerns about the safety of online educational programs and their users' trust are several of the obstacles of e-learning and the usual difficulties associated with technological abuse. Concerns about the safety of online education programs and user trust are a few of the obstacles in e-learning and the usual problems associated with technological abuse (Gautam, 2020; & Mukhtar et al., 2020). The use of e-learning can lead to a disproportionate amount of time spent on particular websites, which lead to poor academic performance. Additionally, it is incapable of supporting fields that need empirical research. The primary disadvantage of utilizing the loss of crucial personal ties between students and instructors is a consequence of e-learning and among peers (Somayeh et al., 2016).

Students identified a lack of motivation as the most significant barrier to their success in e-learning. Students have expressed a loss of motivation due to the move to online learning, which may have an impact on their academic performance throughout

the semester. According to some studies, students who lack motivation are greatly influenced by external factors as example the teaching atmosphere, the instructional period, and the instrument aids, all of which affect their achievement during ee-learning classes (Cahyani et al., 2020). This lack of motivation directly results from the many additional difficulties that online students encounter, such as a lack of engagement with classmates, difficulty studying in a virtual setting, distracting home situations, and a lack of access to proper study facilities. Students had financial difficulties; they had to purchase large amounts of credit for online quotas (Simamora, 2020).

However, these drawbacks that impacted students' motivation were strongly associated with students' desire for e-learning during the pandemic. Each educational environment has unique challenges, but the online setting is unique in that students are more accountable with their education than they were before in several conventional classrooms. According to the idea of cognitive effort, cognitive overload might impair students' willingness to learn by prohibiting them from paying attention to the instructional content. It strengthens the theory that when learners cannot cope with the mental work necessary to study, their motivation is harmed. Mental stress has been linked to increased dropout rates during the first weeks of an online course, especially of all first digital learners, and those who took their first online course are more likely to feel fear, dread, and enthusiasm.

E-learning affects the mental health of students. It may exacerbate existing mental health problems in students. Describe what does it might be comparable to a student to spend hours each day in front of Zoom or Google Meet, with no opportunity

for social contact or play with their friends. Parents are increasingly taking on the role of teachers and becoming involved in their children's coursework. Teachers and professors endure greater workloads and are under stress to provide high-quality education without face-to-face instruction. Academic and psychotherapeutic studies have highlighted discussions regarding students' mental health since many have been compelled to quickly transition to digital education platforms and attend classrooms with tight limitations. Increased levels of stress, anxiety, and despair have been documented among students on e-learning classes during COVID-19 pandemic (Aslan et al., 2020; Odriozola-González et al., 2020; Saravanan et al., 2020; & Son et al., 2020), as well as the intensification of specific negative emotions, for instance, worry, tension, and loneliness (Aristovnik et al., 2020; & Son et al., 2020).

Recent research indicates that academic community relationships may positively impact stress, anxiety, and depression. (Elmer et al., 2020; Magson et al., 2021; & Procentese et al., 2020). At the same time, psychological health has got significant focus in the educational activity in the aftermath of the COVID-19 pandemic. Research primarily focuses on a negative state of mind, such as tension, sadness, or anxiousness. The more comprehensive view of the emotional state of students, along with a larger spectrum of feelings and consideration of most pleasant feelings, such as peace or confidence, is deficient. The rapid increase of infected patients worldwide has created a feeling of foreboding and fear about what may happen next. Additionally, it has resulted in significant tension within the university community, especially students. Students' academic performance and psychological well-being may be harmed due to this stress (Sahu, 2020).

Frequently, procrastination may not have significant implications, but it nearly always does with e-learning. The most critical component in completing an online course is "self-regulation." This is the capacity to arrange and execute work alone and without external pressure. Procrastination manifests a breakdown in self-regulation and is a significant factor in the failure to finish an online course. Procrastination is defined as a habit, attitude, or behavioral feature that manifests as an indecisive condition devoid of energy and vitality to complete tasks during e-learning.

Students develop an inability to complete the necessary job promptly, and deferring postpones it till a later date, which may result in failure and plunge them into a state of mental distress in e-learning programs. It may affect students' personality characteristics and academic performance. Procrastination has been shown to affect students' self-efficacy and self-actualization, distractibility, impulsiveness, self-control, and organizational behavior. Procrastination behaviour is known as postponing academic tasks always or the majority of the time and worrying about delayed academic responsibilities due to poor internet in e-learning classes especially during the COVID-19 pandemic (Tezer et al., 2020). It makes students slothful and sluggish, cultivating a proclivity for procrastination, whether they are hesitant to take the initiative or fearful of beginning work or a project. Procrastination is a prevalent and potentially procrastination behavior for many university and college students that leads to psychological suffering.

Student procrastination was defined as the product of three behavioral appearances: tardiness, intention-behavior disparity, and a choice for carpeting activities. Personality factors include attitudes toward learning, attribution styles,

anxiety level, perfectionism, boredom proneness. When all academic procrastination research is considered, it is established that procrastination is a common problem among university students and has a significant influence on their personalities, psychological well-being, and academic accomplishment. Therefore this study investigate the impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic

1.4 RESEARCH OBJECTIVES

Objective 1: To identify the relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.

Objective 2: To examine the relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.

Objective 3: To determine the relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

1.5 RESEARCH QUESTIONS

RQ 1: What is the relationship between lack of motivation academic performance of university students in Malaysia during COVID-19 pandemic?

RQ 2: What is the relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic?

RQ 3: What is the relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic?

1.6 SIGNIFICANT OF STUDY

The significance of this study is about the impact of e-learning on the academic performance of university students in Malaysia during the COVID-19 pandemic. This study can help the reader understand more about the impact of e-learning students' appearance, which affects their academic performance in this country. The researchers also can know the perception and experience among students and lecturers. Besides that, this research can give information to the readers about the implications of e-learning that affect their student's academic performance. Based on this research, the readers do not efficiently judge students that say e-learning is more accessible than physical learning. Students lack social support from their friends in the online learning process because they are too busy to complete their assignment (Irawan, Dwisona & Lestari, 2020). This research would be more people to understand

the impact of e-learning. Last but not least, this research would be a reference to the readers in investigating the impact of e-learning on the academic performance of university students in Malaysia during the COVID-19 pandemic and explore more details because this topic is a perfect topic to learn.

1.7 SCOPE OF STUDY

The scope of the study is purposely concentrated on Malaysian university students. The survey will be evaluated using qualitative research and completed by undergraduate students in Malaysia only. This study is available for managerial and literature aspects to reference within a similar research topic. Lastly, the definition of a term such as e-learning, motivation, behavior, procrastination, academic performance, and mental health was explained.

1.8 DEFINITION OF TERM

1.8.1 E-LEARNING

According to Basak et al. (2018), learning supported by digital electronic tools and media is often described as the e-learning. E-learning is a phrase that is often used in educational contexts to refer to a variety of electronic technology applications, including television, radio, CD-ROM, DVD, mobile phone, and the Internet

(Duderstadt et al., 2020). AlHamad (2020) stated that e-learning refers to a virtual class in which various types of information can be obtained via the internet without the presence of teachers or students, as opposed to a traditional classroom environment. Students can learn whenever and wherever they wish using the Internet as a source of information. As e-learning becomes incredibly common in educational institutions, it is necessary to investigate student acceptance of the technology because it is a vital aspect of its application's success.

1.8.2 ACADEMIC PERFORMANCE

Academic performance is an important component of the constellation of elements that determine student success (Tus, 2020). According to (Saumya Kumar, 2021), the concept of academic performance is supposed to possess an amorphous nature since it approximately integrates various factors ranging from reaching a professional degree to the development of students in the moral sense. The subjective aspect of "academic performance" makes it even more difficult to provide a comprehensive description. For certain institutions, academic achievement may be defined as completing courses and acquiring knowledge and talents. Academic performance is a key attribute and one of the primary aims of education. It may be described as a student's knowledge acquired that is evaluated by a teacher via grades or educational goals established by students and instructors to be completed over a certain period of time. Furthermore, academic performance is extremely important for anyone concerned with education. Academic performance can be thought of as the core around which many important aspects of the educational system revolve.

1.8.3 MOTIVATION

Cherry (2021) stated motivation is the process of starting, leading, and sustaining goal-directed behavior. That is what pushes individuals to act. Motivation includes all of the biological, emotional, social, and cognitive factors that influence behavior. The word "motivation" is often used in ordinary discourse to describe why someone did something. It is the major driver of human behaviour.

1.8.4 BEHAVIOUR

The behaviour typically refers to what someone does. What a person does that is observable and measurable is called behaviour. It is common to categorize conduct by listing the behaviours that the individual has exhibited or that the teacher believes the individual should begin to demonstrate. The rationale behind the behaviour is rarely discussed when defining it. Identifying a person's reason, thoughts, or feelings for doing anything does not describe behaviour (Gilmore, 2020).

1.8.5 MENTAL HEALTH

According to Hassan & Boa (2018), a mental illness is a common disease it has an effect on a person's thinking, emotions, and behavior, as well as their ability to function. It has been stated that mental health does not discriminate and affects people of all ages and backgrounds. It might happen to anyone, at any moment, and from anywhere. Mental problems include depression, anxiety disorders, schizophrenia, eating problems, and addictive behaviors. Numerous nations have recorded poor

student mental health, especially mental illnesses such as depression, stress, and anxiety (Kotera et al., 2021).

1.8.6 PROCRASTINATION

Procrastination is connected with executive processes such as planning and self-control, which include beginning and terminating actions. Procrastination is associated with impaired executive function, (Hong, Lee & Ye, 2021). Earlier study has shown that academic procrastination is characterized as postponing academic tasks such as submitting an assignment or a term paper or preparing for tests at the last minute. Procrastination is caused by a complex mix of cognitive, behavioral, and emotional factors, in addition to a lack of study habits, (Ergene & Kurtça, 2020).

1.9 SUMMARY

This research is based on the impact of e-learning on university students' academic performance in Malaysia during the COVID-19 pandemic. The researchers briefly discuss the negative impact of e-learning among university students. This research aims to study the impact of e-learning on university students' academic performance in Malaysia during the COVID-19 pandemic, which are lack of motivation, procrastination behavior, and mental health among university students in

Malaysia, which affect academic performance. The positive and negative impacts of e-learning are essential to identify the need of this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will go through the study's independent and dependent variables. This discussion will start with the lack of motivation during the e-learning, mental health problem, and procrastination behavior. The relationship between the independent and dependent variables will be further clarified utilizing a conceptual framework and hypothesis. Data and findings from earlier and preceding studies were listed and discussed to demonstrate scenarios and incidents that had occurred and are currently ongoing. In conclusion, some literature reviews, conceptual frameworks, research hypotheses, and topic summaries were created to help readers and viewers comprehend the topic better.

2.2 E-LEARNING

Covid-19 has affected education all over the world. Universities and schools remained closed (Murphy, 2020). Consequently, the upsurge of e-learning is happening in the education system (Bozkurt et al., 2020). Though online learning

helps to teach or learn in the pandemic period, implementing the planned and structured online learning system is essential to have a successful e-learning system. Many universities already have a significant transition to e-learning in the pandemic period. E-learning has developed into a critical component in the process of reforming the traditional educational system. Teachers and students alike have had to change their habits, instructing or studying approaches, and evaluation methodologies, among other things.

E-learning or electronic learning delivers learning and training by utilizing online technologies. While e-learning is founded on formal education, it is delivered through electronic devices such as computers, tablets, and even mobile phones; as such the Internet became the primary tool used. E-learning enables users to study whenever and wherever they choose, with few, if any, constraints. E-learning is the delivery of training, education, or information online through a computer or other digital device. The popular virtual classroom applications are ZOOM, Google Classroom, Moodle and Blackboard. This application plays a vital role in transitioning from face-to-face classes to online and e-learning systems.

Since e-learning has become a topic of discussion, internet technologies and mobile applications have transformed the education system. Technological advancement has evolved the face of education in creating learning opportunities. Besides that, e-learning has crossed the classroom boundaries and ensures the learning available all the time. Online education also supports the student in attending the classes during their free time, even at other work. Several social supporting sites such as Facebook, Instagram, Twitter, and WhatsApp have been beneficial to the teacher

and students to have supportive, collaborative learning with knowledge sharing. The platform of e-learning is suitable for university students as it facilitates student engagement (Hussain et al., 2018). Nevertheless, there are some difficulties for the student because they may lacks understanding of the contents or lesson in the class.

2.3 LACK OF MOTIVATION DURING E-LEARNING ON ACADEMIC PERFORMANCE

Students all across the globe have found the transition to e-learning to be a challenging one, and this difficulty has presented itself in a variety of ways among university students in Malaysia as well especially during this COVID-19 pandemic. Because of the altered structure of their courses, they have suffered a lack of motivation, which may impact their academic performance throughout the semester. Students' nature of learning, learning techniques, and learning habits may change in the setting of the COVID-19 pandemic, which may impact their motivation to study (Rahiem, 2021). Teachers and students must transition from face-to-face instruction to online instruction (Ministry of Education and Culture, 2020). Motivation is defined as how humans initiate and maintain purposeful behavior. Motivation is often understood as the procedure through which an individual's wants and goals are triggered (Alexander & Murphy, 1998; Pintrich, Marx, & Boyle, 1993). Education motivation is shown in students' proficiency in perseverance, curiosity for the subject at hand, and effort on the part of the students (DiPerna & Elliot, 1999).

The first day of university is generally the day on which students find out their professors and classmates will be for the remainder of the academic year. Introducing one to one another and meeting new individuals was not unfamiliar territory for them. This is becoming more difficult with the concept of e-learning and the ability to participate in class through a computer screen. For most students, the first day of university was not about getting to know one another or interacting with other students. Instead, students were given assignments to do. Because of the large number of tasks they get each day, most students are suffering from a lack of motivation. Students' academic performance is impacted by a loss of desire because they lose their incentive to study via e-learning. Many students have difficulty studying via e-learning than learning in a traditional classroom setting. The research found that students who lack motivation during this pandemic are strongly impacted by external circumstances (Cahyani, Listiana, & Larasati (2020), Rachmat (2020), and Simamora (2020). While dealing with the pandemic, many people are suffering from a lack of motivation daily at any time of the day.

Students' inability to motivate themselves to finish online courses continues to be one of the most prevalent causes of their failure to finish university courses through e-learning successfully and affect their academic performance. The primary obstacles to e-learning include the loss of social interaction, administrative and teacher difficulties, time and support, and learner motivation during COVID-19 pandemic (Agbejule, Ndzibah, Lotchi, 2021). In conventional classrooms, several elements continuously encourage educators to work toward their educational goals. Face-to-face engagement with lecturers, mentoring activities, and condensed schedules

contribute to students remaining on route throughout their education. Moreover, there tend to be smaller resources in an e-learning system, variables that stimulate students to achieve high levels of performance. For the most part, students are left to fend for themselves when participating in educational tasks without someone pushing them to continue striving toward their educational goals.

In addition, among several students, among the main challenging parts of e-learning is the difficulty to sustain attention on a computer screen for a lengthy period. Internet usage for educational purposes raises the probability that students perhaps receive easily social networking or other sites divert attention. As a result, it is essential for professors to create their e-learning class briefing, fascinating and interactive in helping encourage students in maintaining their focus on the topic. Students enrolled in courses delivered via the Internet will discover that they are generally expected to master challenging subjects in such a comfy home environment, without the necessary strain that is often connected through conventional universities. Consequently, students who have poor self-motivation or planning skills may struggle to keep up with deadlines that are consistent while pursuing their virtual courses that give big impact on their academic performance.

Lecturers could provide quick input to students in regular classrooms face-to-face. Students who have difficulties with the course might get immediate assistance during their lectures. Personalized input benefits students by making learning processes simpler, deeper, and more significant, although it improves students' motivation. In contrast, e-learning is also a work in progress regarding student input.

When students cannot get personalized feedback after completing routine assessments, they become unhappy and unmotivated.

Additionally, the lack of intrinsic and extrinsic drive is referred to as "motivation". It occurs when learners are unable or lack of motivation to study. They have poor self-efficacy, and a sense of incapacity since learning will not result in the intended goal and doing activities will also have no worth (Harnet, 2016). Traditional teaching techniques may not operate well in an online learning environment. Consequently, online education providers must search for alternate means of providing input. This causes the students to lack motivation to learn the subject due to the lack of information they receive.

Motivation is vital to student success (Pintrich & Schunk, 2002). Students at all levels often struggle with a lack of motivation. All learning settings have difficulties, but the online environment brings particular difficulties. Students are expected to take more responsibility for their learning than in many conventional classrooms. Students' capacity to affect their motivation is critical in light of these difficulties (Wolters et al., 2005). The students have often reported that their workload has increased due to the shift to e-learning; students have also reported that their motivation has decreased as a result of the shift. Even though e-learning is somewhat challenging, it demands activities such as recording, reading, remembering, and accessing web-based learning information (Simamora, 2020). Additionally, they believe individuals need help from friends, family, and schools, as well as from the government as policymakers, during a COVID-19 pandemic. The need for all lecturers to offer sufficient work to their students in order for them to comprehend a subject has

led to a barrage of time-consuming assignments that some have considered unnecessary busywork. However, the primary reason students have failed to keep on top of their university work throughout this transition is the significant disconnect between their everyday lives and the confinement, as well as the psychological impact. Motivation is vital to their success to raise students' interest in understanding a topic rather than merely receiving excellent scores. Due to a significant lack of motivation, they are less likely to participate in e-learning sessions with lecturers and get worse scores on their examinations which impact the academic performance of the students.

2.4 MENTAL HEALTH DURING E-LEARNING ON ACADEMIC PERFORMANCE

COVID-19 has transformed everyone's life rapidly and significantly. Unfortunately, young people and kids are most impacted by the pandemic. The COVID-19 pandemic led numerous institutions to postpone courses and graduation ceremonies in the spring and summer of 2020. As it enters October, many schools and universities concentrate on interactive learning to secure the safety of students and instructors. The lockdown suddenly changed the population's routines and freedom of mobility. As a result, mental health issues such as worry, fear, depressive symptoms, loneliness, and insomnia have developed to some extent. The COVID-19 pandemic has come to light concerns over the mental health of university students, namely

elevated levels of stress and anxiety (Son, Hegde, Smith, Wang, & Sasangohar, 2020). This e-learning arrangement has a lousy influence on students' mental health. The speedy worldwide increase of infected cases has created a way of uncertainty and anxiety concerning what is about to happen. It has also caused a fantastic level of stress among the university, like mental health, including scholars. Stress is now a major cause of impact of academic performance of university students during this pandemic. This stress could cause unfavorable effects on scholars' educational and psychological health. Students staying away from home upset their health, safety, and education; however, they even have an enormous range of considerations for the prosperity of their families.

Mental health is defined as a subjective sensation of well-being, the potential to lead a productive and satisfying life, the capacity for overcome life's problems, a sense of control, and the capacity to accept responsibility (World Federation for Mental Health). Students' multiplicity of mental health issues presents a challenge within a university community and necessitates an appropriate response (Rana, Smith, & Wlaking, 1999; Stanley & Manthorpe, 2002). This fast growth on a massive scale has impacted students of all ages (Hasan and Bao 2020). Continued disease transmission, travel restrictions, and the closing of educational institutions throughout the country are all expected to have a significant effect on students' education, social life, and mental health (Odriozola-gonzalez et al. 2020). Consequently, 1.5 billion students worldwide today lack access to primary education (Lee 2020), resulting in a negative psychological influence on their health. Additionally, daily routine changes

such as a lack of outdoor exercise, different sleeping patterns, and social isolation have had an effect on students' mental health that impacts their academic performance.

E-learning affects everyone, from young children to young adults, especially university students. For most students, virtual classes may exacerbate their existing health mentally. For others, the effects of pandemics and e-learning could trigger new mental health and mood changes which cause the get low grade in the academic performance. Numerous studies have shown that social isolation may increase poor effects on an individual's mental and physical health. Additionally, some research has shown that face-to-face contact may aid in the reduction of sadness and anxiety. Reduced social engagement may exacerbate social anxiety and tensions. A word called "Zoom Fatigue" was developed during the COVID-19 period. Zoom Fatigue is a word that refers to sensations of tiredness after lengthy Zoom courses or video conference conversations. While Zoom fatigue is not a recognised condition, it does occur, especially in virtual learning. In an online class, there is information overload, and gazing at a screen for lengthy periods of time is mentally exhausting. Students had harder time absorbing new information, and despite the fact that they are seated in front of a computer, they report feeling physically weary. Virtual learning fatigue is a real phenomenon that may cause both students and lecturers anxiety and frustration.

Students in a traditional classroom setting follow a defined schedule throughout the school day. Since it's time to get up, when it's ready to go to class, when it's time for class, whenever it's time to finish homework, when it's lunch time, and when it's time to socialise and participate in extra-curricular activities. Online education is never the same. Maintaining concentration in e-learning classes is

challenging. Separating home and at school life, failing to adhere to a set schedule, and distractions at home all contributed to students' failure to concentrate well in class. As a consequence, students prefer to delay and postpone tasks, resulting in missed deadlines. This puts both students and parents under strain, worry, and anxiety. University are not only places where new knowledge is imparted via books; they are also places where friendships are formed, and enjoyable memories are made. Social interactions are the primary way of developing communication and social skills. Even teachers, children, and teenagers, need social engagement and connection with their peers. The high levels of mental health symptoms that were seen in students seemed to have been encouraged by the uncertainty and the possible adverse effect on academic achievement during e-learning classes (Giusti et al., 2021). However, since the COVID-19 pandemic, there has been a decline in contact, and students are experiencing social isolation. This has a significant influence on a student's mental health on the academic performance.

2.5 PROCRASTINATION BEHAVIOUR DURING E-LEARNING ON ACADEMIC PERFORMANCE

Procrastination is linked to executive processes such as planning and self-control such as initiating or stopping action. More excellent procrastination is correlated with poor executive function. Procrastination behaviour has been connected to ineffective learning practices and the student's academic performance. Several

studies have shown that procrastinating negatively impacts learning, course attitude, and academic performance (Hayat, Jahanian, Bazrafcan, & Shokrpour, 2020). Procrastination is characterized as a self-defeating behavioral pattern with short-term and long-term benefits. Academic procrastination is a severe barrier that inhibits students from succeeding in university since putting off studying the numerous subjects required to satisfy the academic requirements has a negative impact on mastering the various educational levels and the academic performance. Procrastination behaviour, in a nutshell, is the deliberate and unnecessary delay in completing academic duties.

Academic procrastination behaviour can influence learning outcomes and lead to psychological issues. Academic procrastination leads to uncomfortable sensations and poor learning outcomes. Furthermore, academic procrastination behaviour may impair homework completion and possibly affect the decision to drop out of online learning courses. For many students, academic procrastination is related with problematic learning outcomes such as poor academic performance, bad quality of academic work, lack of knowledge, time pressure, dropout and longer course of study. Procrastinators, for example, typically feel motivated to concentrate on their course at first when learning at a distance but then feel like dropping out after a while. Students' tendency to put off doing their work until the last minute is indicative of a negative impact on their academic achievement (Karatas, 2015). Due to the coronavirus pandemic, this research looked at procrastination in distant education. Teachers have needed to enhance their use of distant e-learning since the outbreak, but only a few research have looked into this correlation. As a result, a significant focus of this

research is on the role of academic procrastination during the lockdown (Yilmaz, 2017).

For an instant, students defer the start or completion of tasks such as exam preparation or assignments until the last minute. Furthermore, low or high self-esteem influences academic procrastination during e-learning. As a result, student's procrastination behaviour causes academic failure (Tezer et al., 2020). According to a recent study, students who started working on assignments hours before the deadline had poorer course grades than those who started working earlier. Other research has revealed that students who put off working on assignments are more likely to perform poorly. These findings support the negative effects of procrastination and the value of consistent learning habits (Park et al., 2018).

2.6 IMPACT OF E-LEARNING ON ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN MALAYSIA DURING COVID-19 PANDEMIC

The 2019 coronavirus outbreak (COVID-19) has had a significant impact on the community in the world. In this study, we will focus on the impact faced by students on e-learning during the pandemic. It gives them more impact to a student either in the positive or negative impact. Research suggests that academic performance, as measured by student performance, has declined among sure students following the outbreak of the COVID-19 pandemic, where the students were enrolled in e-learning. Academic performance is a measure of a student's accomplishment in a

variety of academic subjects. Teachers and school administrators often evaluate student performance in the classroom, graduation rates, and standardized test results. In general, e-learning results in worse student's academic performance than in-person learning. E-learning has a detrimental effect on students' academic performance since it makes it more difficult for them to understand what is being taught or delivered to them (Franklin & Nahari, 2018). The negative impacts of e-learning are most apparent for students who are less intellectually prepared and seek bachelor's degrees.

First, e-learning affects psychological students. This pandemic increased the risk of viral infection-related mortality and psychological distress for individuals worldwide (Xiao et al., 2020). The most psychological impact that cases stated for the student is anxiety. An anxiety attack is an intense episode of fear and anxiety that occurs suddenly. These anxiety episodes might strike without warning at times, but they can also be related to certain triggers. As a subgroup of psychological consequences, anxious well-being has received less attention, despite the fact that it is just as prevalent and perhaps as severe as depression (Sundaresen et al., 2020). COVID-19 and lockdowns of college students in China have been linked to severe negative consequences on students' psychological well-being and elevated levels of worry (Sundarasen et al., 2020). When a student experiences depression, stress, or anxiety, his or her academic performance suffers significantly. Because of the stress of participating in e-learning, they could not get sufficient information for the courses. They begin to lose good pointers for their semester.

Students in fields other than medical education have proven that motivation has a good impact on their study method, academic performance, adaptability, and

well-being, among other things (Vansteenkiste et al., 2005). The impacts of e-learning among students are also a lack of motivation. When in e-learning, the lecturers sometimes did not follow the scheduled time properly. For example, classes cancel in the morning and attend a session tonight. It can make students stressed and not have time for social interactions with their friends. Besides that, the impacts of e-learning are that many works and assignments are given to students and no flexible deadlines. This impact can affect the students' academic performance because the works need to be submitted simultaneously, and no excuses even have a technical issue, for example, slow internet connections.

According to the study about perspective (Nambiar, 2020), e-learning makes students lack the motivation to attend the class. Most of the students attend the class to attend, but they do not entirely focus on the class. The thing that shows students not interested in attending the class is that the student always made many excuses. Besides that, the network issue also can make students stressed, and they have no enthusiasm to learn through e-learning. The impact of e-learning has a more negative effect on student's academic performance because they lack motivation. The student is not too severe in learning, especially at home, because that has many challenges. For example, they need to handle siblings and the environment is not comfortable to focus on the class. In addition, during the pandemic, the student may be stressed and need to face many problems in terms of finance, such as they need to be concerned about educational and financial obligations as a result of family income loss and inability to self-finance for studies. Based on this problem, since they are also not interested in online study, many students decide to quit their studies and work to have their own

money. Students' inability to motivate themselves physically results in low academic performance. Students, for example, may lose interest in the students and hence fail to appear for the examinations. A broad variety of academic issues are linked to procrastination, including worse quality work, lower test scores, lower grades, greater academic misconduct, increased course failures, higher course withdrawals, and an increased probability of dropping out of university altogether.

The careless attitude of students is also the impact of e-learning on the academic performance during the pandemic. The researchers can say that because when e-learning, the student has so much work or assessments to do, they do not care about the lessons and do not do revision; even have an exams or quizzes. Much assessment makes the student become weak and procrastinate to do work. For example, they take a long time to complete any assessment. This may be due to them not doing social activities such as jogging to regain energy and refresh the mind and body. Sometimes, the student needs their time to release stress, have social interaction with their friends, family time, etc. It can help their performance because sometimes they have social activities and are not entirely focused on e-learning.

2.7 CONCEPTUAL FRAMEWORK

A research framework was proposed to investigate the relationship between the impacts and academic performance of university students in Malaysia. The proposed conceptual framework is shown in Figure 2.1. The independent variables

that have been proposed consist of three impacts which are lack of motivation (Agbejule, Ndzibah & Lotchi, 2021, Nambiar, 2020) & Rahiem, 2021), mental health (Son, Hegde, Smith, Wang, & Sasangohar, 2020 & Giusti et al., 2021) and procrastination behavior (Hayat, Jahanian, Bazrafcan, & Shokrpour, 2020 & Tezer et al., 2020). The dependent variable is academic performance of university students in Malaysia during the COVID-19 pandemic.

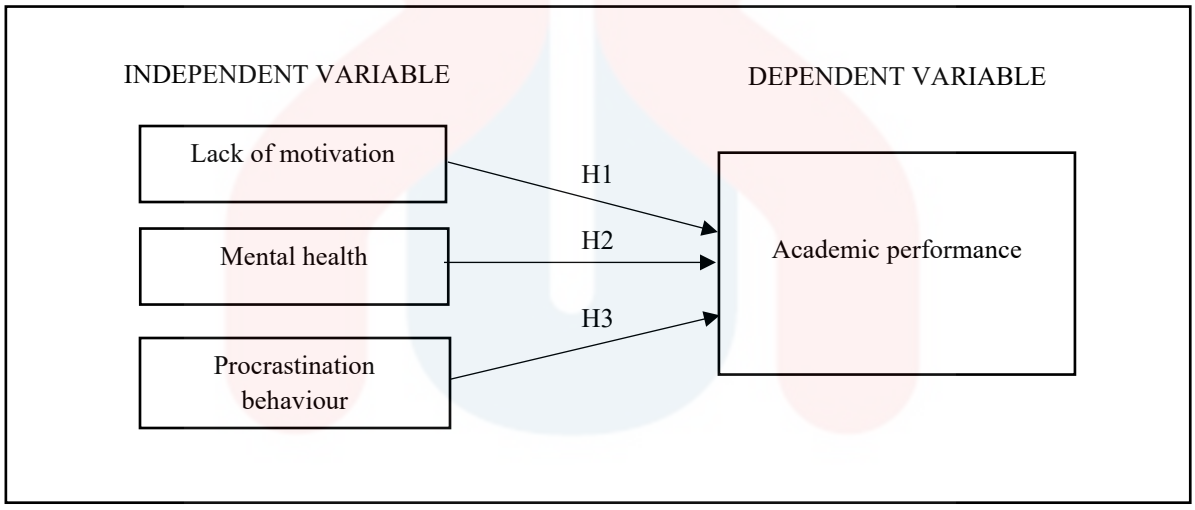


Figure 2.1: Conceptual Framework

2.8 RESEARCH HYPOTHESIS

The hypothesis in the study is to find out whether there are any correlations or relationship between dependent variables and independent variables:

H1: There is a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.

H2: There is a significant relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.

H3: There is a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

2.9 SUMMARY

This chapter discusses the relationship between independent and dependent variables in a sample of Malaysian university students. These evaluations must address topics pertinent to the study's subject matter. Next, the following chapter will discuss about the research methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The main purpose of this research is intended to analyze the impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic. This study used a quantitative methodology as a method to investigate the issues. When one starts with a theory and looks for confirmation or lack of proof of that hypothesis, the quantitative method was applied. Quantitative methodology emphasizes objectivity and the statistical, mathematical, or numerical examination of data collected via polls, surveys, and questionnaires. This approach was based on the collecting of statistical information and their generalization across groups of persons or for the purpose of describing a particular event. The analysis performed got the following result of the impact of e-learning on academic performance among university students in Malaysia during COVID-19 pandemic. Research is an intellectual endeavor, and as such the phrase must be employed in a commercial context (Kothari, 2004). Besides, this chapter explains research design, population, sample size, sampling method, data collection method, research instruments, and data analysis.

3.2 RESEARCH DESIGN

The term research design relates to overarching approaches used to connect the study's several components clearly and logically, so ensuring that the study issue is adequately handled; it provides the framework for data gathering, measurement, and analysis. The research design establishes the parameters within which the researchers will choose study methodologies and approaches. This design supported researchers in developing proper research methodologies for the topic matter and ensuring the study's success. Although the study method use technique which is a critical choice in the process of study design because it defines how relevant data for the data for the study will be obtained, and the research design process involve other interconnected considerations. Without these design concerns, the findings reach is shaky and questionable, and as a result, they fail to address the whole study topic (Kirshenblatt-Gimbakett, 2006).

This research applied a quantitative method. This research utilized a questionnaire to perform the survey. Quantitative research design was used when statistical findings require getting actionable insights. Every organization's development necessitates the use of quantitative analytical design methodologies. When it comes to making choices regarding the company's future, insight generated from concrete numerical data and analysis is quite valuable. The disparity between the two has significant ramifications on the nature of the findings that may be drawn and the sorts of conclusions that may be designed. The four primary forms of quantitative

design are descriptive, correlational, quasi-experimental, and experimental. The main difference between the four categories is the extent of researcher design control on the variable in the experiment. This study used a quantitative approach because the quantitative research approach entails the collection of numeric data that is both continuous and unique. The quantitative form is often referred to as the numerical form.

The survey sample conducted on university students aged 18 and above years old. Students that were chosen for this survey answer how their e-learning classes were during the pandemic. Quantitative and descriptive methodologies were used to conduct the study, with questionnaires serving as the study tool. The questionnaire was designed to elicit all information pertinent to the study's aims. The questionnaire includes a section on demographics with multiple-choice options. The questionnaire was divided into five sections. The student's survey has items assessing 5 sections, demographic background, questionnaire on lack of motivation during e-learning on academic performance, questionnaire mental health during e-learning on academic performance, questionnaire on procrastination behavior during e-learning on academic performance, and dependent variable on academic performance of university students in Malaysia during COVID-19 pandemic.

Respondents must make decisive choices. In the section, the Likert Scale was used to determine the impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic. The questions highlighted respondent's main impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic and calculated on a 5-point scale (1

being strongly disagreed to 5 being strongly agreed). The newest version of Statistical Package for Social Science was used to analyze the information (SPSS). SPSS stands for Statistical Package for Social Sciences, and it is a program used by a wide range of academics to do sophisticated statistical data analysis. SPSS used by marketing experts, medical doctors, survey businesses, government agencies, academic researchers, marketing organizations, and data analysts, among others, to manage and analyses survey data. SPSS software was used in this research to generate a result from the data obtained through questionnaires given to respondents.

3.3 POPULATION

The targeting population is the entire group of people for whom the research was been conducted or treated. It is difficult to recruit the whole population of interest, often impractical in clinical research investigations. Rather than that, investigators select a representative sample of the population of interest for research. The term "population" represents a set of individuals, situations, or objects of interest that researchers want to study. The list of items or individuals for whom a sample was obtained from a population refers to the sampling frame (Scherpenzeel et al., 2017). The population was studied first, and then observations were made on a sample selected from it.

In this study, the university students were select as prospective respondents. The locations to collect data were at Universiti Malaysia Kelantan, Universiti

Teknologi Malaysia, Universiti Putra Malaysia, Univeristi Kebangsaan Malaysia and Universiti Teknologi Mara. This study was focused on this university student in Malaysia to find out the main impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic. This demographic was chosen because the individuals include in this study are mostly adults who are studying at university and the struggles they faced during attending the e-learning classes. They were selected to find out the level of understanding toward their studies through e-learning. The major goal of the research was intended to acquire conflicting comments from university students' perspectives on their experiences concerning the e-learning form of instruction. The population of the study could help in achieving study objectives in finding out the main impact of e-learning on academic performance of university students in Malaysia during the COVID-19 pandemic. Understanding the settings of such multi-factorial reasons may aid parents, university administrators, and education ministry officials in their efforts to find a more effective way to study during the pandemic. The table below show that the categories of student education level.

Table 3.1: Categories of Students Education Level

Level of Education	Total Students
Diploma	47,445
Bachelor's	71,396

Master	11,685
PhD	5,046
Sum	135,572

Source: Ministry of Higher Education, 2020

3.4 SAMPLE SIZE

The term "sample size" refers to the number of participants involved in a market research study. The researchers chose respondents for samples based on demographic information including age, gender, race, year of education, education level, and student status. The population and the amount of students in these four categories were determined to receive the real figure of the population in this study.

In this study, the amount of students was used to determine the sample size. Due to the large amount of education level of students, the study sums up the categories of student education level which are 135,572 persons. Based on the table 3.1 shown, 135,572 persons determining the sample size are 384 respondents. . Based on Krejcie & Morgan's (1970), the appropriate number derived from 135,572 students is 384 respondents. Therefore, the study applied the largest sample size, 384 respondents. The study was distributed 384 questionnaires to the respondents. The questionnaire was given randomly to the student university that faces e-learning classes to get the information.

Table 3.2: Sample Size

Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Source: Sample size table from Krejcie & Morgan's (1970)

3.5 SAMPLING METHOD

There are two types of sampling methods that use in business research, which are non-probability and probability sampling methods (Sekaran & Bougie, 2009). The

researchers proposed in this study that the probability sampling approach needs the simplest method available that is simple random sampling. Using a simple random sampling, researchers gave each respondent in a population a number, and then used a table of random numbers to decide which respondent to include.

A non-probability sampling technique was chosen as a convenience sampling technique. Convenience sampling is perhaps the easiest method of sampling, because participants selected based on availability and willingness to take part. In this study, researchers were collected standardize information from respondents using questionnaires through online surveys that provide with Google Form. The respondent of the questionnaire were the students who were learning through online during pandemic COVID-19. During pandemic COVID-19, all universities in Malaysia have shifted to emergency remote teaching (ERT) via online platform, so the respondents selected randomly from the students who are studying in university as anyone could answer the questionnaire given. The data was collected based on their respond.

3.6 DATA COLLECTION METHOD

This research has one method of data collection which is a survey method. Research study was conducting primary data. A primary data source is an original source, one from which the researcher obtains data directly for the purpose of doing study. Primary data collection may take place in a number of ways. However, the most

often utilized approaches include self-administered surveys, interviews, field observation, and experiments.

The tools that used in this research were questionnaires. Questionnaire was designed to collect the information regarding the impact of e-learning on academic performance of students which is lack of motivation, mental health and procrastination behavior. Questionnaires used Google Form and were sent to the respondents through social media such as WhatsApp and Telegram. The survey for the respondents was conducted via online due to Standard Operation Procedure (SOP) and limited physical activity. The questionnaire designed to collect data about the lack of motivation, mental health, and procrastination behavior of students towards the impact of e-learning on academic performance among university student in Malaysia during COVID-19 pandemic.

3.7 RESEARCH INSTRUMENT

Instrumentation tools that used by researchers to analyze and obtain data from respondents were questionnaire. This research was conducted using the primary data source instrument which was a questionnaire completed by or with the purpose of providing information to a responder about their opinion. A questionnaire is a form collection of mimeographed or printed questions that are completed by or for a responder in order for them to express their view (Roopa & Rani, 2012).

The standardized questions in the closed-ended questionnaire were used for analysis. Quantitative research is concerns with the statistical analysis of numerical data obtained from large-scale survey research, such as questionnaires or organize interviews. One of the benefits of quantitative research is the ability to generalize research findings to the entire population using statistical analysis. A closed-ended question is one that gives customers a limited number of options to choose from, such as Yes or No, scores from 0 to 10, opinions ranging from Strongly Agree to Strongly Disagree, or a range of options, depending on the context of the question. Essentially, the respondent is not free to write his opinion in his own words and must choose from a list of options (Dawer, 2019).

Closed-ended inquiries are easy to answer and do not require much time since respondents merely have to pick one of the available response possibilities. Interval data can be gathered in a variety of ways. The interval scale helps researchers in performing numerical operations during data collection, such as determining the magnitude of individual preference changes (Sekaran & Bougie, 2009). Important aspects such as how the data will be utilized and the nature of the target population were considered when choosing a collection method. As previously stated, each instrument in the research was adapted and evolved into three portions, with the Likert-scale instrument used to assess agreement.

Likert scale was used in this study. Joshi, Kale, Chandel & Pal, 2015 stated the original Likert scale is a collection of statements (items) that may be used to evaluate a real or hypothetical situation. On the metric system, participants were asked to show their level of agreement (from strongly disagree to strongly agree) with the supplied

statement (items). The Likert Scale is a five-point scale that allows respondents to make their own decisions. To obtain the necessary data for this investigation, a self-completed questionnaire was created.

3.7.1 QUESTIONNAIRE DESIGN

The researchers used an online questionnaire that was created using Google Forms in this study. The most often used technique of gathering quantitative primary data was a questionnaire. A questionnaire was used to systematically collect quantitative data, resulting in data that is internally consistent and coherent for analysis (Roopa & Rani, 2012). The questionnaire was organised into five parts in this study: A, B, C, D, and E. The questionnaire was constructed using multiple- choice question techniques and rating scale techniques that is a 5-point Likert scale. Section A is the demographic part of the respondent. This section consists of several short questions namely gender, race, age, year of education, educational level and student status. Section B has 6 short questions about the lack of motivation during e- learning on academic performance. Section C consists of 6 questions about the mental health of university students during e-learning on academic performance. Section D has 6 questions about the procrastination behavior during e-learning on academic performance and Section E, the last section has 6 questions impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic. The questionnaire was designed to elicit all information pertinent to the study's aims.

The multiple-choice question technique was used in Section A. This method allows respondents to select the best option for them. Several answer options was presented for each question, and responders just need to mark the boxes that correspond to their answer choices. Respondents were given various answer options for each question, and they only have to tick the boxes that correspond to their answers. Meanwhile, for Sections B, C, D and E the researchers used the 5-point Likert scale technique. This method enables the researchers to determine the respondents' thoughts and tendencies toward the topics raised in each question. Sections B, C, D, and E use a five-point scale: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree was used to measure the impact of e-learning on academic performance of university students in Malaysia during COVID-19.

3.7.2 LIKERT SCALE

A Likert scale is a type of rating scale that is used to determine an individual's perceptions and views. Through its final form, a five- to seven-point scale is often used to enable individuals to indicate their level of agreement or disagreement with a given assertion. Additionally, the Likert scale can be used to quantify important variables such as lack of motivation, mental health, procrastination behavior and academic performance. The researchers used the agreement Likert scale to ascertain the respondents' agreement or disagreement with the statement. For illustrate, in this research, a five-point Likert scale ranging from 1 to 5 was applied to collect responses from respondents. Thus, the questionnaire's content was based on the Likert scale,

with 1 for Strongly Disagree, 2 for Disagree, 3 for Neutral, 4 for Agree, and 5 for Strongly Agree.

Table 3.3: Likert Scale

Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree
1	2	3	4	5

Sources: Likert – Type Scale Table (Brown, 2010)

3.7.3 STRUCTURE OF QUESTIONNAIRE SET

The questionnaire's format assisted the researchers in obtaining quantifiable data which was valuable in proving the hypotheses under investigation. There were 5 components to the study questionnaire. The first section was on demographics. Lack of motivation was covered in Section B, procrastination behavior was covered in Section C, mental health was covered in Section D and Section E the impact of e-learning on academic performance among university students in Malaysia during COVID-19 pandemic. The multiple-choice question format was used in Section A of this questionnaire. Sections B, C, D and E use closed-ended questions with a 5-point Likert scale. All of the question items in Sections B, C, D and E were adapted from earlier studies. The following is the structure table for the questionnaire used by the researcher in this study.

Table 3.4: Structure of Questionnaire Set

Sections	Measurement	Total Items	Sources
A	Demographic Background	6	-
B	Lack of Motivation	6	Agbejule, Ndzibah, Lotchi (2021) Nambiar (2020) Rahiem (2021),
C	Mental Health	6	Son, Hegde, Smith, Wang, & Sasangohar, (2020) Giusti et al., (2021)
D	Procrastination Behavior	6	Hayat, Jahanian, Bazrafcan, & Shokrpour (2020) Tezer et al., (2020)
E	Academic Performance	6	Nambiar (2020) Franklin & Nahari, 2018

3.7.4 DISTRIBUTION OF QUESTIONNAIRE

This study's data was collected using a questionnaire, which is a survey instrument. The researchers used social media platforms such as WhatsApp and Telegram to reach the intended responders. The respondent's personal information was

not required for this questionnaire, and all responses were kept private. This survey was divided into 5 sections, each with its own set of questions specific to the study's needs. Section A's objective was to gather demographic information about respondents, such as their gender, race, age, year of education, educational level and student status.

Meanwhile, Section B, C and D consisted of questions related to independent variables in this study. Section E related to dependent variables in this study. Section B, C, D and E consist of 6 questions. The following is the questions distribution table for the questionnaire used by the researchers in this study.

Table 3.5: Questions used in Section A of the Questionnaire on Demographic Background

Section A: Personal Information

Please tick only one answer on each of the following question

	Items
1.	Gender: • Male • Female
2.	Age: • 18–20 • 21–23 • 24 and above
3.	Race: • Malay • Chinese • Indian • Others

4.	Year of Education: • 1 • 2 • 3 • 4
5.	Education Level: • Diploma • Bachelor's • Master • PhD
6.	Student Status: • Full Time Student • Part Time Student • Other

Table 3.6: Questions used in Section B of the Questionnaire

Variables	Items	Descriptions	References	Measurements
Independent Variable 1: Lack of Motivation	LM1	I am interested in learning if e-learning becomes the new approach to learning.	Agbejule, Ndzibah, Lotchi (2021) Nambiar (2020) Rahiem (2021),	Five-point Likert Scale
	LM2	E-Learning increases my motivation to study.		
	LM3	E-Learning has the potential to boost my creativity.		
	LM4	E-learning enables me to complete tasks quickly.		
	LM5	My lack of motivation affects my academic performance.		
	LM6	I am able to attend all the e-		

learning classes.

Table 3.7: Questions used in Section C of the Questionnaire

Variables	Items	Descriptions	References	Measurements
Independent Variable 2: Mental Health	MH1	I'm always concerned about my health.	Son, Hegde, Smith, Wang, & Sasangohar, (2020) Giusti et al., (2021)	Five-point Likert Scale
	MH2	I'm having difficulty concentrating in my e-learning classes.		
	MH3	I'm having trouble with my sleeping patterns.		
	MH4	My mental health issues have a negative impact on my academic achievement.		
	MH5	I'm experiencing stress during e-learning.		
	MH6	My increasing class workload affects my mental health.		

Table 3.8: Questions used in Section D of the Questionnaire

Variables	Items	Descriptions	References	Measurements
Independent	PB1	Procrastination will occur when I am writing a term or research paper.	Hayat, Jahanian, Bazrafcan, &	Five-point Likert
	PB2	I'm usually procrastinating on		

Variable 3:		studying for an exam.	Shokrpour, 2020)	Scale
Procrastination Behavior	PB3	I can keep up with weekly reading assignments.	Tezer et al., (2020)	
	PB4	I can perform administrative tasks on time.		
	PB5	I'm capable of attending meetings without procrastinating.		
	PB6	I can perform academic tasks in general.		

Table 3.9: Questions used in Section E of the Questionnaire

Variables	**Items**	**Descriptions**	**References**	**Measurements**
Dependent Variable: Academic Performance	AP1	E-learning is more successful than traditional classroom instruction.	Nambiar (2020) Franklin & Nahari, 2018	Five-point Likert Scale
	AP2	E-learning is more convenient than face-to-face classes.		
	AP3	I feel that e-learning content enables me to work together with my peers.		
	AP4	It's challenging to keep students engaged in e-learning.		
	AP5	My lack of computer abilities makes it difficult for me to successfully use e-learning.		
	AP6	My poor academic performance is an outcome of the negative impact of e-learning.		

3.8 DATA ANALYSIS

Data analysis is the method of examining, cleaning, manipulating, and modeling data in order to extract key information, assist in decision-making, and provide recommendations (Pal, 2017). Data analysis enables the researchers to get final data from all of the information gathered through a questionnaire. It assists in the reduction and simplification of data while also creating results that can be quantified using quantitative methodologies. And at last, the researchers can determine approximately several numbers of respondents who agree or disagree with each question in each area of the survey. This can also help researchers avoid getting erroneous data, which could bias the study's conclusions.

In this study, the researchers applied the SPSS version to check the statistical data analysis. SPSS is a program-based window for data entry and analysis that allowed us to construct tables and pie charts. The researchers gathered data for this study's data analysis and conducts frequency analysis, descriptive analysis, reliability analysis and correlation analysis.

3.8.1 PILOT STUDY

A pilot test is a pre-test that is conducted on a small scale to determine the reliability and usefulness of questionnaires, including their structure, language, substance, and sequencing. Additionally, pilot tests allow for the correction and identification of possible problems with survey questions.

For pilot testing, the questionnaire was given to 30 respondents. The input that researchers obtained throughout the pilot test assisted them in identifying any issues with the questionnaire. Additionally, a reliability study was conducted. As a result, the questionnaire was examined before to being sent to the study population by the researchers.

All data collected in this research was analysed using the Statistical Package for the Social Sciences, or SPSS. SPSS is a statistical analysis programming language. Additionally, it is software that demonstrates the relationship between the dependent and independent variables using descriptive analysis and correlation analysis. Meanwhile, these were the simplest and most practical methods for researchers to monitor respondent replies and code them appropriately before transferring them to a data file for further analysis procedures.

3.8.2 DESCRIPTIVE ANALYSIS

The researchers used descriptive analysis to describe the level of agreement. Descriptive analysis allowed researchers to display data in a more efficient manner and provided for easier data clarification. Table 3.10 displays the percentage of respondents who agree or disagree with each of the three independent variables and the dependent variable.

Table 3.10: The Relationship between Mean and Level of Agree

Range of Mean	Level of Agree
4.51-5.00	Strongly Agree
3.51-4.50	Agree
2.51-2.50	Neutral
1.51-2.50	Disagree
1.0-1.50	Strongly Disagree

Source: Atef & Munir, 2009; Shams, 2008

The mean score ranges from 4.51 until 5.00 it shows the level of agree is strong. When the range lies between 3.51 until 4.5, it indicates the agree result while the range of mean from 2.51 until 3.50 is a neutral. When the values range from 1.5 until 2.50, it means the level of agree is disagree. It shows strongly disagree when the range of mean lies on 1.0 until 1.50.

3.8.3 RELIABILITY ANALYSIS

Cronbach Alpha is a reliability analysis that is used in SPSS to measure the internal consistency, or reliability, of a measuring instrument (Questionnaire). It is most often used when a questionnaire contains numerous Likert scale statements and is used to assess the scale's reliability.

Table 3.11: The Rules of Cronbach's Alpha

Cronbach's Alpha Coefficient	The Strength of Association
< 0.6	Poor
0.6 to < 0.7	Moderate
0.7 to < 0.8	Good
0.8 < 0.9	Very Good
0.9	Excellent

Source: Essential of Business Research Method (Hair et.al, 2003)

The rules of Cronbach's Alpha have shown in Table 3.11. If the coefficient is < 0.6 that means the strength of association is poor. Meanwhile, the degree of correlation is moderate; the readings are between 0.6 and < 0.7. When the readings are between 0.7 and <0.8 it is mean the strength of association is good. A value of 0.8 to less than 0.9 shows a very good strength of association, whereas a value of 0.9 indicates an excellent strength of association.

3.8.4 CORRELATION ANALYSIS

Correlation analysis is a statistical approach for determining the strength of an association between two quantitative variables. Correlation coefficients reflect how strongly two or more variables are related, while low correlation coefficients indicate how little the variables are related. In other words, it is a statistical technique for determining the strength of associations. Pearson Correlation is a statistical technique used to determine the strength of the link between independent and dependent

variables. Figure 3.12 illustrates the assessment of the strength of the association between independent factors and dependent variables.

Table 3.12: Rules of Thumb about Correlation Coefficient Size

Coefficient Range (r)	Strength of Association
±0.91 to ±1.00	Very Strong
±0.71 to ±0.90	High
±0.41 to ±0.70	Moderate
±0.21 to ±0.40	Weak
±0.01 to ±0.20	Very Weak

(Source: Hair (2015). *Essential of Business Research Method*)

The magnitude of the positive correlation coefficient is between 0 and 1.00. Figure 1 illustrates that if the coefficient of correlation size is 1.00, the strength of the relation between the variables is uniquely positive. A high association exists when the coefficient value is between 0.50 and 1.00. When the scale is at 0.50, it indicates a somewhat good outcome, whereas numbers between 0 and 1 indicate a negative outcome. The number 0 implies that there is no association. When the dimensions are between 0 and -0.50 in terms of the strength of the link, it means that there is a weakly indirect correlation. Absolute -0.50 might be rated a moderate correlational statistic. If the coefficient value is between -0.50 and -1.00, the connection between the variable's highly negative correlation and the -1.00 parametric statistic sizes indicates that it is perfectly correlated.

3.9 SUMMARY

As a conclusion, this chapter discussed the methodology of the study in further detail. The researchers gathered data quantitatively by constructing a questionnaire and submitting it over an internet portal using a Google form that includes the numerical data information that will be collected and analysed in Chapters 4 and 5.

CHAPTER 4

RESULT AND DISCUSSION

4.1 INTRODUCTION

The major purpose of this chapter is to discuss the study of the survey that was sent to respondents in order to collect data through an online survey. This chapter describes the findings of the data analysis conducted on the 384 respondents to the survey. The survey data distributed to respondents were compiled using the Statistical Package for Social Sciences (SPSS) software version 26.0. The finding was reached as a consequence on descriptive analysis, reliability test and Pearson's correlation analysis.

4.2 RESULTS OF DESCRIPTIVE ANALYSIS

A descriptive analysis was carried out on the data in Section A in order to summarise the respondents' demographic information who involved in this research.

4.2.1 RESPONDENT'S DEMOGRAPHIC PROFILE

This section explains the respondent's demographic data, including gender, age, race, education level, year of education, and student status.

4.2.1.1 NUMBER OF RESPONDENTS BASED ON GENDER

The gender distribution of the 384 respondents obtained during the data collection is shown in Table 4.1.

Table 4.1: Frequency Analysis on Respondent's Gender

Gender	Frequency (n)	Percent (%)
Male	171	44.5
Female	213	55.5
Total	384	100.0

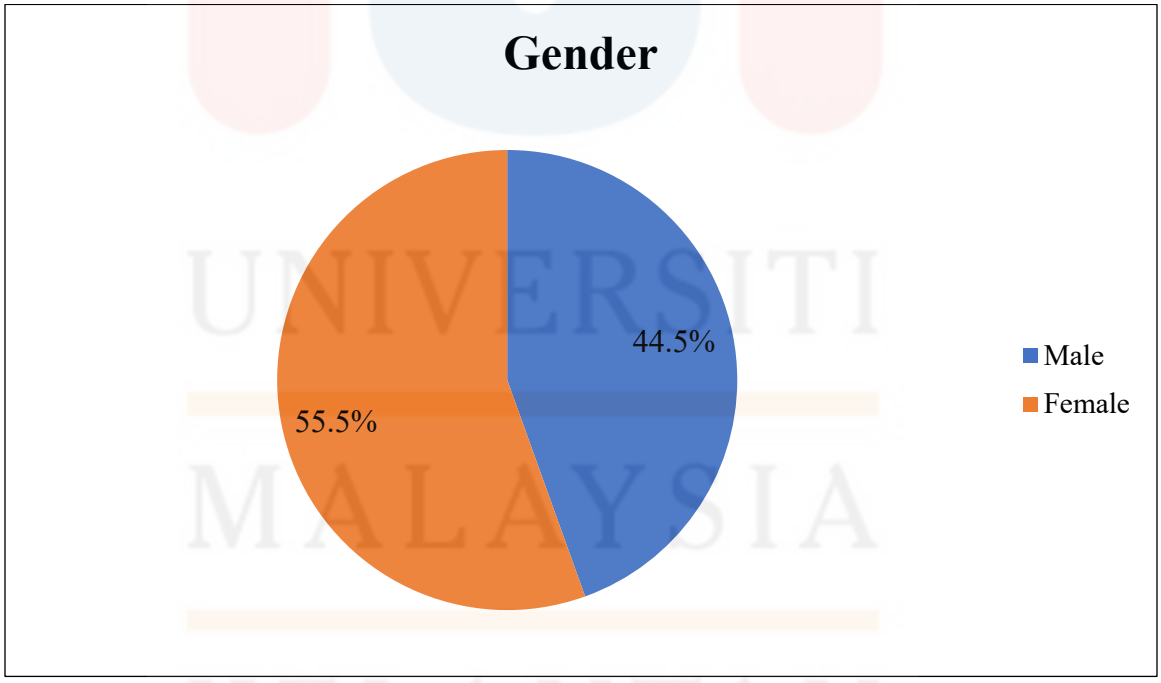


Figure 4.1: The Percentage of Gender

According to Figure 4.1, the pie chart demonstrates the gender distribution of 384 respondents. The pie chart above clearly indicates that female respondents were 55.5% (n=213) more than male respondents, at 44.5% (n=171). Female respondents outnumbered male respondents because females were more willing to respond to the questionnaire than males. In order to get the data, females were a lot easier to get in touch with and were willing to spend time filling out the questionnaire.

4.2.1.2 NUMBER OF RESPONDENTS BASED ON AGE

The age distribution of the 384 respondents obtained during the data collection is shown in Table 4.2.

Table 4.2: Frequency Analysis of Respondent's Age

Age	Frequency (n)	Percent (%)
18-20	85	22.1
21-23	171	44.5
24 and above	128	33.3
Total	384	100.0

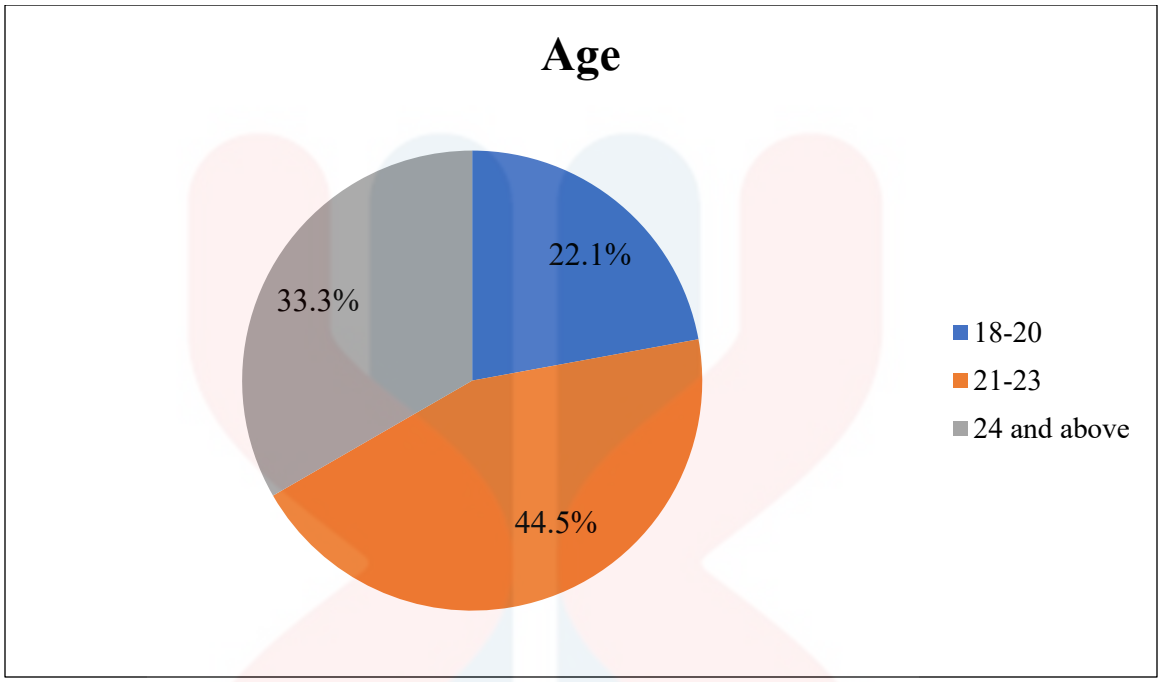


Figure 4.2: The Percentage of Age

Figure 4.2 shows the age distribution of the 384 respondents. Among these three age groups, the highest number of respondents was from the age of 21 to 23 years old, with a rate of 44.54% (n=171). The age group of 24–34 years old had the second highest number of respondents (n=128), with 33.3 percent (n=128).While the age group of 18 to 20 years old had the lowest number of respondents, which was 22.1% (n=85).

The greater percentage of responses was between the ages of 21 and 23 years old. This might be due to the fact that the majority of students were in the same age group as the researchers and were also still enrolled in an e-learning course at the time. Meanwhile, students between the ages of 18 and 20 had the lowest number of

responses, owing to the fact that students in this age group begin face-to-face classes at their respective institutions.

4.2.1.3 NUMBER OF RESPONDENTS BASED ON RACE

Table 4.3 presents the race distribution of a total 384 of respondents collected from the data collection.

Table 4.3: Frequency Analysis of Respondent's Race

Race	Frequency (n)	Percent (%)
Malay	189	49.2
Chinese	92	24.0
Indian	85	22.1
Others	18	4.7
Total	384	100.0

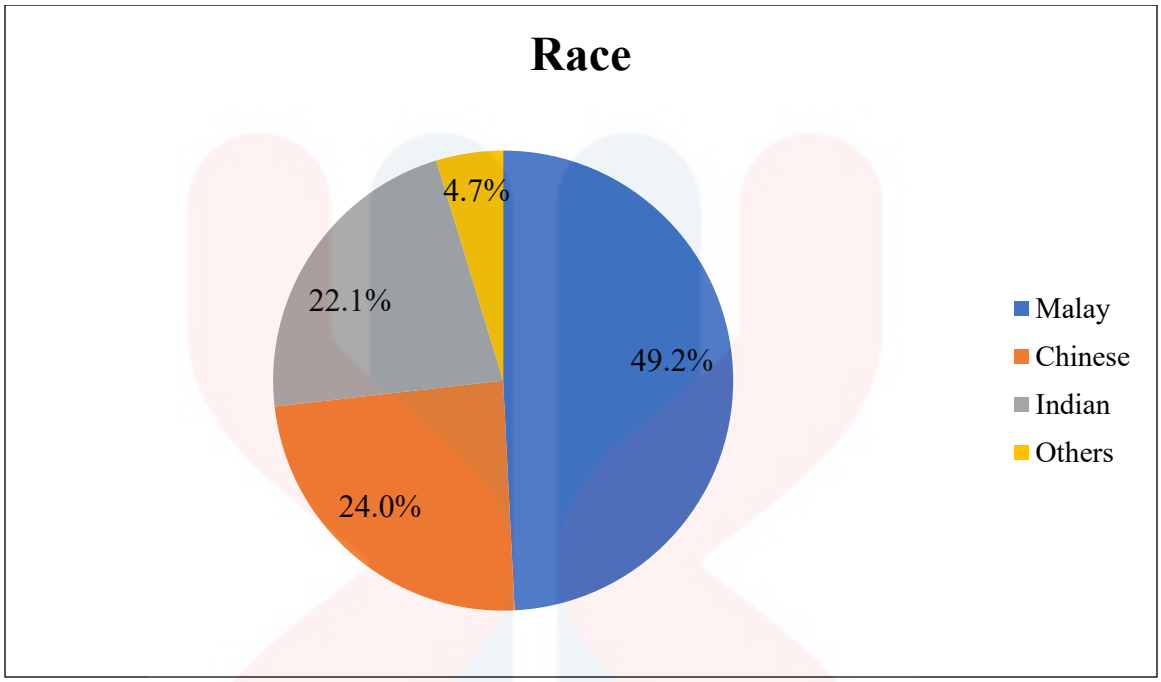


Figure 4.3: The Percentage of Race

The number and percentages of respondents for race are provided in Table 4.3 and Figure 4.3 below. The respondents by race were divided into 4 categories, which were Malay, Indian, Chinese, and Others. According to the survey, the majority of the respondents that were involved in this questionnaire were Malay, which consists of 49.2% (n=189). The second highest was Chinese, which made up 24.0% (n = 92).The remaining respondents were Indian and other races, which consists of 22.1% (n=85) and 4.7% (n=18) respectively. The majority of respondents are Malay, maybe because the majority of university students are Malay. Other races have the lowest response rates in this survey, which is due to the fact that they have the fewest major students enrolled in university.

4.2.1.4 NUMBER OF RESPONDENTS BASED ON EDUCATION LEVEL

Table 4.4 presents the education level distribution of a total 384 of respondents collected from the data collection.

Table 4.4: Frequency Analysis of Respondent's Education Level

Education Level	Frequency (n)	Percent (%)
Diploma	92	24.0
Bachelor	161	41.9
Master	73	19.0
PhD	58	15.1
Total	384	100.0

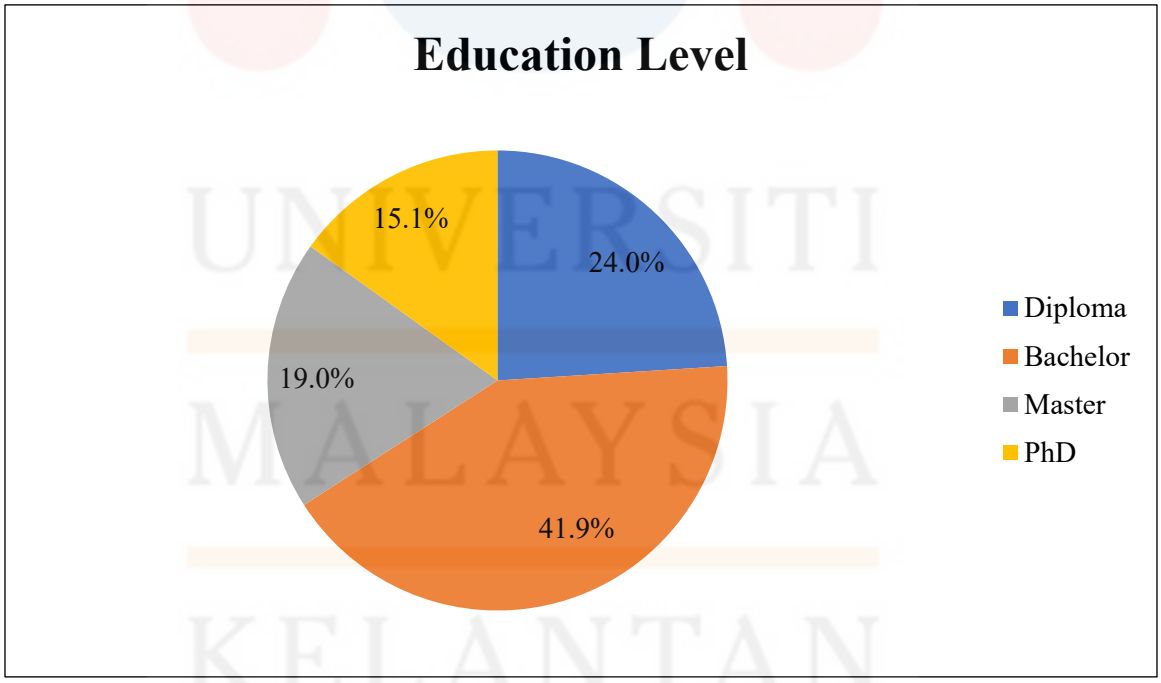


Figure 4.4: The Percentage of Education Level

Based on Table 4.4 and Figure 4.4, there were a total of four categories of education level. The result indicated that the majority of respondents were from bachelor's degree level, which consists of 41.9% (n=161) out of a total of 384 respondents. Followed by, the Diploma level of education which consist of 24% (n=92). While, there were 19.0% (n=73) fall under education level group Master. The lowest number of respondents were from education level group PhD with 15.1% (n=58). The reason why Bachelor's degree education level group had the greatest percentage, the PhD education level group possessed the lowest percentage, which may be explained by the fact that they possessed the least amount of experience with e-learning compared to any other education level group.

4.2.1.5 NUMBER OF RESPONDENTS BASED ON YEAR OF EDUCATION

Table 4.5 presents the year of education distribution of a total 384 of respondents collected from the data collection.

Table 4.5: Frequency Analysis of Respondent's Year of Education

Year of Education	Frequency (n)	Percent (%)
1	79	20.6
2	114	29.7
3	162	42.2
4	29	7.6
Total	384	100.0

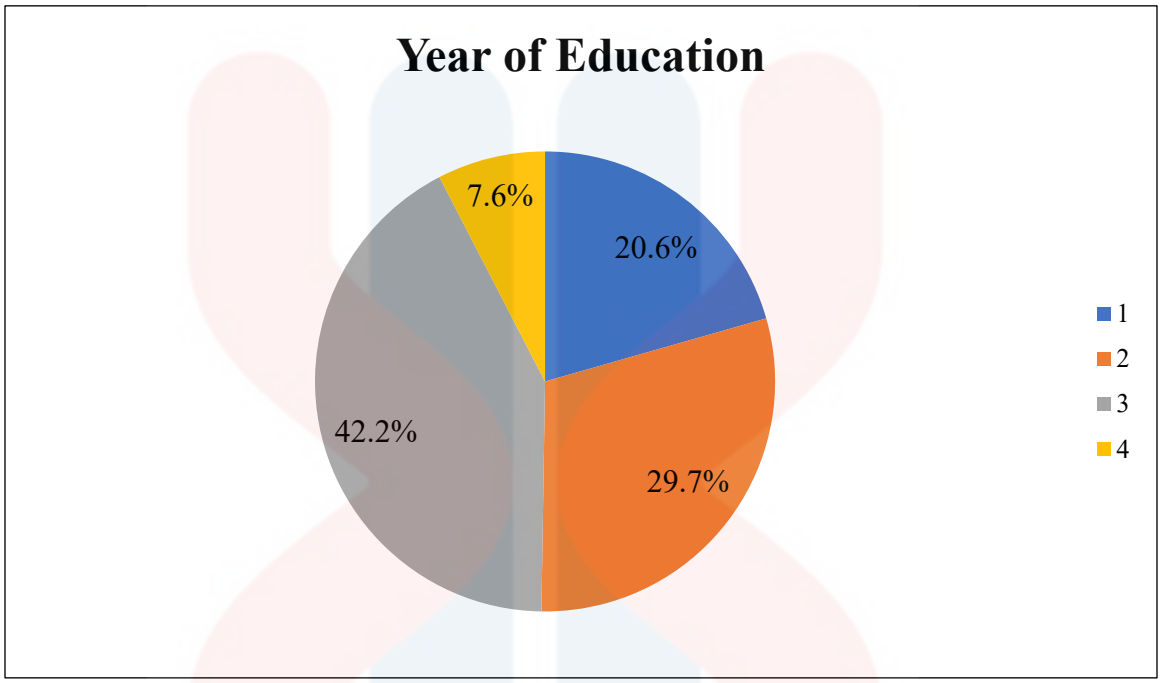


Figure 4.5: The Percentage of Year of Education

Figure 4.5 above shows the year of education that has been distributed to 384 respondents. The year of education in this questionnaire was divided into 4 categories, which were: 1st year, 2nd year, 3rd year, and 4th year. Referring to the chart and table above, it shows that 3rd year students have the largest percentage with 42.2% (n=162) as compared to 4th year students, which is the lowest with 7.6% (n=29). In between, 2nd year students at 29.7% (n = 114) and 1st year students at 20.6% (n = 79) Students in their 3rd year have the highest percentage of students who have been affected by the pandemic crisis, while students in their 4th year have the lowest percentage of students affected by the pandemic crisis.

4.2.1.6 NUMBER OF RESPONDENTS BASED ON STUDENT STATUS

Table 4.6 presents the student status distribution of a total 384 of respondents collected from the data collection.

Table 4.6: Frequency Analysis of Respondent's Student Status

Student Status	Frequency (n)	Percent (%)
Full Time Student	310	80.7
Part Time Student	62	16.1
Other	12	3.1
Total	384	100.0

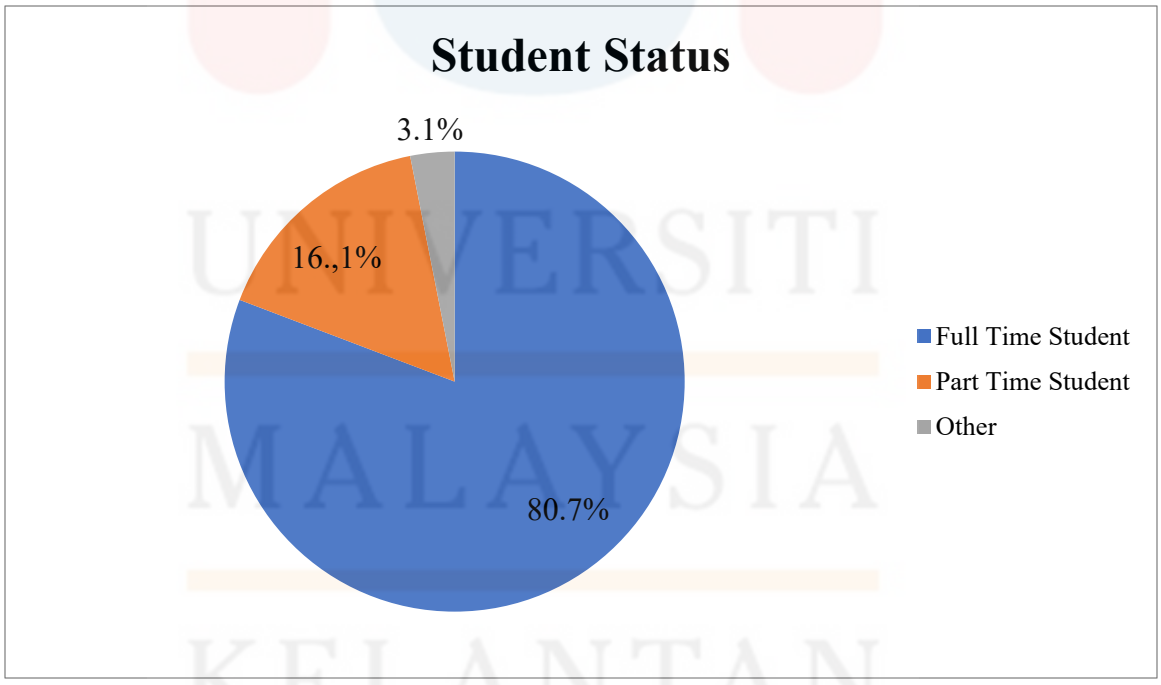


Figure 4.6: The Percentage of Students Status

The number and percentage of respondents by student status are shown in Table 4.6 and Figure 4.6 above. The student status from this questionnaire was divided into 3 categories, which were full-time students, part-time students, and others. Therefore, the majority of the respondents that were involved in this questionnaire were full time students, which consists of 80.7% (n=310). While, the second highest is part time student which was 16.1% (n=62). While, the lowest number of respondents for student status is other, which consists of 3.1% (n=12). The largest number of student responses was from full-time students, which might be due to the fact that they completed their e-learning studies during the COVID-19 pandemic, while the lowest number could be due to the fact that other students were unable to attend the e-learning sessions.

4.2.2 CENTRAL TENDENCIES MEASUREMENT OF CONSTRUCT

The measurements of variables are used to show the form of frequency distribution, mean and standard deviation in independent variables (Lack of Motivation, Mental Health, and Procrastination Behaviour) and dependent variable (Academic Performance). In the questionnaire, there are six questions for section B, C, D and E. The results are examined using the SPSS software and five-point Likert scale to measure all the questions at section B (independent variable), section C(independent variable), section D (independent variable) and section E (dependent variable). All the Independent Variable and Dependent Variable items were measured using a five (5) Likert scale which values: Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA).

4.2.2.1 LACK OF MOTIVATION

Table 4.7 presents the Central Tendencies Result of the Lack of Motivation collected from 384 respondents.

Table 4.7: Central Tendencies Result of the Lack of Motivation

	Item	Frequency					Mean	Std. Deviation
		SD	D	N	A	SA		
LM1	I am interested in learning if e-learning becomes the new approach to learning.	22 5.7%	185 48.2%	69 18.0%	92 24.0%	16 4.2%	2.73	1.022
LM2	E-Learning increases my motivation to study.	26 6.8%	179 46.6%	68 17.7%	81 21.1%	30 7.8%	2.77	1.099
LM3	E-Learning has the potential to boost my creativity.	25 6.5%	169 44.0%	65 16.9%	90 23.4%	35 9.1%	2.85	1.131
LM4	E-learning enables me to complete tasks quickly.	24 6.3%	220 57.3%	41 10.7%	74 19.3%	25 6.5%	2.63	1.067
LM5	My lack of motivation affects my academic performance.	9 2.3%	103 26.8%	62 16.1%	156 40.6%	54 14.1%	3.37	1.093
LM6	I am able to attend all the e-learning classes.	37 9.6%	132 34.4%	82 21.4%	95 24.7%	38 9.9%	2.91	1.169

Table 4.7 shows the frequency, mean and standard deviation for the items used to measure the Lack of Motivation (LM). There were six (6) questions measured and

item LM5 had the highest mean, 3.37 on the statement "My lack of motivation affects my academic performance". Out of 384 respondents, 210 respondents (54.7%) strongly agreed and agreed to item LM5. However, LM4 item were measured with the lowest mean which is 2.63. There was "E-learning enables me to complete tasks quickly" statement. There was a total of 220 respondents (57.3%) chose disagreed for item LM4. The mean values for other four (4) items for LM1, LM2, LM3 and LM6 were 2.73, 2.77, 2.85 and 2.91 respectively.

Therefore, most of the respondents agreed that "My lack of motivation affects my academic performance" is the most impactful statement in lack of motivation that gives impact on academic performance of university students in Malaysia during COVID-19 pandemic.

4.2.2.2 MENTAL HEALTH

Table 4.8 presents the Central Tendencies Result of the Mental Health collected from 384 respondents.

Table 4.8: Central Tendencies Result of Mental Health

	Item	Frequency					Mean	Std. Deviation
		SD	D	N	A	SA		
MH1	I'm always concerned about my health.	11 2.9%	32 8.3%	41 10.7%	260 67.7%	40 10.4%	3.74	0.860

MH2	I'm having difficulty concentrating in my e-learning classes.	7 1.8%	28 7.3%	161 41.9%	139 36.2%	49 12.8%	3.51	0.873
MH3	I'm having trouble with my sleeping patterns.	64 16.7%	159 41.4%	18 4.7%	130 33.9%	13 3.4%	2.66	1.201
MH4	My mental health issues have a negative impact on my academic achievement.	5 1.3%	15 3.9%	55 14.3%	245 63.8%	64 16.7%	3.91	0.759
MH5	I'm experiencing stress during e-learning.	6 1.6%	23 6.0%	49 12.8%	217 56.5%	89 23.2%	3.94	0.859
MH6	My increasing class workload affects my mental health.	17 4.4%	36 9.4%	34 8.9%	253 65.9%	44 11.5%	3.71	0.954

Table 4.8 shows the frequency, mean and standard deviation for the items used to measure the Mental Health (MH) of the students. There were six (6) questions measured and item MH5 had the highest mean, 3.94 on the statement "I'm experiencing stress during e-learning". Out of 384 respondents, 306 respondents (79.7%) strongly agreed and agreed to item MH5. However, MH3 item were measured with the lowest mean which is 2.66. There was "I'm having trouble with my sleeping patterns" statement. There was a total of 159 respondents (41.4%) chose disagreed for item MH3. The second highest mean value of statement is on item MH4 "My mental health issues have a negative impact on my academic achievement" with 3.91. Out of 384 respondents, 309 respondents (80.5%) strongly agreed and agreed to

item MH4. The mean values for other three (3) items for MH1, MH2 and MH6 were 3.74, 3.51 and 3.71 respectively.

Therefore, most of the respondents agreed that "I'm experiencing stress during e-learning" is the most impactful statement on mental health that gives impact on e-learning has on the academic performance of university students in Malaysia during the COVID-19 pandemic.

4.2.2.3 PROCRASTINATION BEHAVIOUR

Table 4.9 presents the Central Tendencies Result of Procrastination Behaviour collected from 384 respondents.

Table 4.9: Central Tendencies Result of Procrastination Behaviour

	Item	Frequency					Mean	Std. Deviation
		SD	D	N	A	SA		
PB1	Procrastination will occur when I am writing a term or research paper.	6 1.6%	23 6.0%	49 12.8%	217 56.5%	89 23.2%	3.94	0.859
PB2	I'm usually procrastinating on studying for an exam.	7 1.8%	38 9.9%	40 10.4%	216 56.3%	83 21.6%	3.86	0.929
PB3	I can keep up with weekly reading assignments.	64 16.7%	159 41.4%	18 4.7%	130 33.9%	13 3.4%	2.66	1.201
PB4	I can perform	38	171	52	99	24	2.74	1.133

	administrative tasks on time.	9.9%	44.5%	13.5%	25.8%	6.3%		
PB5	I'm capable of attending meetings without procrastinating.	22 5.7%	185 48.2%	69 18.0%	92 24.0%	16 4.2%	2.73	1.022
PB6	I can perform academic tasks in general.	64 16.7%	129 33.6%	59 15.4%	113 29.4%	19 4.9%	2.72	1.193

Table 4.9 shows the frequency, mean and standard deviation for the items used to measure the Procrastination Behaviour (PB). There were six (6) questions measured and item PB1 had the highest mean, 3.94 on the statement "Procrastination will occur when I am writing a term or research paper". Out of 384 respondents, 306 respondents (79.7%) agreed and strongly agreed to item PB1. Meanwhile, PB3 item were measured with the lowest mean which is 2.66. There was "I can keep up with weekly reading assignments" statement. There was a total of 159 respondents (41.4%) chose agree for item LM4. While, 130 respondents (33.9%) chose disagree for the statement. The mean values for other four (4) items for PB2, PB4, PB5 and PB6 were 3.86, 2.74, 2.73 and 2.72 respectively.

Therefore, most of the respondents agreed that "Procrastination will occur when I am writing a term or research paper" is the most influential statement in procrastination behaviour that gives impact on academic performance of university students in Malaysia during COVID-19 pandemic.

4.2.2.4 ACADEMIC PERFORMANCE

Table 4.10 presents the Central Tendencies Result of the academic performance collected from 384 respondents.

Table 4.10: Central Tendencies Result of Academic Performance

	Item	Frequency					Mean	Std. Deviation
		SD	D	N	A	SA		
AP1	E-learning is more successful than traditional classroom instruction.	38 9.9%	173 45.1%	29 7.6%	123 32.0%	21 5.5%	2.78	1.158
AP2	E-learning is more convenient than face-to-face classes.	23 6.0%	181 47.1%	50 13.0%	105 27.3%	25 6.5%	2.81	1.101
AP3	I feel that e-learning content enables me to work together with my peers.	24 6.3%	182 47.4%	46 12.0%	110 28.6	22 5.7%	2.80	1.097
AP4	It's challenging to keep students engaged in e-learning.	5 1.3%	15 3.9%	55 14.3%	245 63.8%	64 16.7%	3.91	0.759
AP5	My lack of computer abilities makes it difficult for me to successfully use e-learning.	17 4.4%	36 9.4%	34 8.9%	253 65.9%	44 11.5%	3.71	0.945
AP6	My poor academic performance is an outcome of the negative impact of e-learning.	11 2.9%	32 8.3%	41 10.7%	260 67.7%	40 10.4%	3.74	0.860

Table 4.10 shows the frequency, mean and standard deviation for the items used to measure the Academic Performance (AP). There were six (6) questions measured and item AP4 had the highest mean, 3.91 on the statement "It's challenging to keep students engaged in e-learning". Out of 384 respondents, 309 respondents (80.5%) agreed and strongly agreed to item AP4. Meanwhile, AP1 item were measured with the lowest mean which is 2.78. There was "I can keep up with weekly reading assignments" statement. There was a total of 173 respondents (45.1%) chose disagreed for item AP1. While, 123 respondents (32.0%) chose agree for the statement. The mean values for other four (4) items for AP2, AP3, AP5 and AP6 were 2.81, 2.80, 3.71 and 3.74 respectively.

Therefore, most of the respondents agreed that "It's challenging to keep students engaged in e-learning" is the most influential statement in academic performance that gives impact on academic performance of university students in Malaysia during COVID-19 pandemic.

4.3 RESULTS OF RELIABILITY TEST (PILOT TEST)

In this study, a reliability test was performed to check the reliability of the questionnaire that was sent out and the accuracy of a set of scale items. Cronbach's alpha was used to show the data, which ranges from 0 to 1. The alpha coefficient was

defined as the Alpha of Cronbach that is used to determine the reliability study of the independent and dependent variables. The tables below show the value of Cronbach's Alpha Coefficient for independent variables (lack of motivation, mental health, and procrastination behaviour) and dependent variables (academic performance) in this study. According to the tables, all the independent variables and dependent variable were above 0.7. Therefore, the questionnaire has been accepted and valid. The strength of association in this research is based on table 4.11 the rule of thumb about Cronbach's Alpha Coefficient.

Table 4.11: Rules of Thumb about Cronbach's Alpha

Cronbach's Alpha Coefficient	**The Strength of Association**
< 0.6	Poor
0.6 to < 0.7	Moderate
0.7 to < 0.8	Good
0.8 < 0.9	Very Good
0.9	Excellent

Source: Essential of Business Research Method (Hair et.al, 2003)

4.3.1 LACK OF MOTIVATION

Table 4.12: Reliability Test on Lack of Motivation

Variable	Items	Cronbach Alpha	Explanation
Lack of Motivation	6	0.774	Good

In this study, there are six questions were used to measure the Lack of Motivation variable that impact university student's academic performance. Table 4.12 shows that Cronbach's alpha coefficient of Lack of Motivation is 0.774 which resulted as good strength of association. Thus, the coefficient obtained for the questions of the Lack of Motivation variable is valid.

4.3.2 MENTAL HEALTH

Table 4.13: Reliability Test on Mental Health

Variable	Items	Cronbach Alpha	Explanation
Mental Health	6	0.880	Very Good

In this study, there are six questions were used to measure the Mental Health variable that impact university student's academic performance. Table 4.13 shows that Cronbach's alpha coefficient of Mental Health is 0.880 which resulted as very good

strength of association. Thus, the coefficient obtained for the questions of the Mental Health variable is valid.

4.3.3 PROCRASTINATION BEHAVIOUR

Table 4.14: Reliability Test on Procrastination Behaviour

Variable	Items	Cronbach Alpha	Explanation
Procrastination Behaviour	6	0.706	Good

In this study, there are six questions were used to measure the Procrastination Behaviour variable that impact university student's academic performance. Table 4.14 shows that Cronbach's alpha coefficient of Procrastination Behaviour is 0.706 which resulted as good strength of association. Thus, the coefficient obtained for the questions of the Procrastination Behaviour variable is valid.

4.3.4 ACADEMIC PERFORMANCE

Table 4.15: Reliability Test on Academic Performance

Variable	Items	Cronbach Alpha	Explanation
Academic Performance	6	0.709	Good

In this study, there are six questions were used to measure the Academic Performance variable. Table 4.15 shows that Cronbach's alpha coefficient of Academic Performance is 0.709 which resulted as good strength of association. Thus, the coefficient obtained for the questions of the Academic Performance variable is valid.

4.4 RESULTS OF INFERENTIAL ANALYSIS

Inferential analysis used to examine the relationship between independent variable and dependent variable. Independent variable consists of Lack of Motivation, Mental Health and Procrastination Behaviour, while dependent variable is Academic Performance. Pearson correlation used to measure the strength of relationship and direction of association between independent variable and dependent variable by

depending on its correlation size. Besides that, Pearson Correlation Analysis also used to determine whether the correlation coefficient is significant and identify the hypothesis which should be accept or reject. The table 4.16 has shown the rule of thumb about correlation coefficient size. It is represented by r and design in the range of $-1 \leq r \leq 1$. The higher value of r, the higher strength of association between the variables. Hence, the value of r is 0 refers as no correlation relationship among variables (Hair, 2015).

Table 4.16: Rules of Thumb about Correlation Coefficient Size

Coefficient Range (r)	Strength of Association
±0.91 to ±1.00	Very Strong
±0.71 to ±0.90	High
±0.41 to ±0.70	Moderate
±0.21 to ±0.40	Weak
±0.01 to ±0.20	Very Weak

(Source: Hair (2015). *Essential of Business Research Method*)

4.4.1 LACK OF MOTIVATION

Table 4.17: Pearson Correlation of Lack of Motivation and Academic Performance

		Lack of Motivation	Academic Performance
Lack of Motivation	Pearson	1	0.516**

	Correlation		
	Sig. (2-tailed)		.000
	N	384	384
Academic Performance	Pearson Correlation	0.516**	1
	Sig. (2-tailed)	.000	
	N	384	384

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

H1: There is a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 4.17 indicates the relationship between lack of motivation on academic performance of university students in Malaysia during COVID-19 pandemic is moderate positive with correlation coefficient of 0.516. This implies that relationship between impact of lack of motivation is positive and moderately related to academic performance of university students in Malaysia during COVID-19 pandemic. The p value of lifestyle is 0.000 which is less than the highly significant level 0.01. Therefore, there is a significant relationship between impact of lack of motivation is positive and moderately related to the academic performance of university students in Malaysia during COVID-19 pandemic.

4.4.2 MENTAL HEALTH

Table 4.18: Pearson Correlation of Mental Health and Academic Performance

		Mental Health	Academic Performance
Mental Health	Pearson Correlation	1	0.549**
	Sig. (2-tailed)		.000
	N	384	384
Academic Performance	Pearson Correlation	0.549**	1
	Sig. (2-tailed)	.000	
	N	384	384

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

H2: There is a significant relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 4.18 indicates the relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic is moderate positive with correlation coefficient of 0.549. This implies that relationship between impact of mental health is positive and moderately related to the academic performance of university students in Malaysia during COVID-19 pandemic. The p

value of lifestyle is 0.000 which is less than the highly significant level 0.01. Therefore, there is a significant relationship between impact of mental health is positive and moderately related to the academic performance of university students in Malaysia during COVID-19 pandemic.

4.4.3 PROCRASTINATION BEHAVIOUR

Table 4.19: Pearson Correlation of Procrastination Behaviour and Academic Performance

		Procrastination Behaviour	Academic Performance
Procrastination Behaviour	Pearson Correlation	1	0.517**
	Sig. (2-tailed)		.000
	N	384	384
Academic Performance	Pearson Correlation	0.517**	1
	Sig. (2-tailed)	.000	
	N	384	384

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

H3: There is a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 4.19 indicates the relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic is moderate positive with correlation coefficient of 0.549. This implies that relationship between impact of procrastination behaviour is positive and moderately related to academic performance of university students in Malaysia during COVID-19 pandemic. The p value of lifestyle is 0.000 which is less than the highly significant level 0.01. Therefore, there is a significant relationship between impact of procrastination behaviour is positive and moderately related to the academic performance of university students in Malaysia during COVID-19 pandemic.

4.5 DISCUSSION BASED ON RESEARCH OBJECTIVES

4.5.1 LACK OF MOTIVATION

Table 4.20: Relationship between Lack of Motivation and Academic Performance of University Students in Malaysia during COVID-19 Pandemic

Research Objective	Results	Interpretation
To identify the relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.	$r = 0.516$, $p < 0.01$	Accepted

Hypothesis 1: Lack of Motivation

H_1 – There is a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 4.20 showed the Pearson Correlation coefficient between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic is 0.516. The p-value is 0.000, which is less than the significant level of 0.01. The relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic is a moderate positive coefficient. Therefore, this study accepts the H_1 for Hypothesis 1.

4.5.2 MENTAL HEALTH

Table 4.21: Relationship between Mental Health and Academic Performance of University Students in Malaysia during COVID-19 Pandemic

Research Objective	Results	Interpretation
To examine the relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.	$r = 0.549$, $p < 0.01$	Accepted

Hypothesis 2: Mental Health

H_2 – There is a significant relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 4.21 showed the Pearson Correlation coefficient between mental health and academic performance of university students in Malaysia during COVID-19 pandemic is 0.549. The p-value is 0.000, which is less than the significant level of 0.01. The relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic is a moderate positive coefficient. Therefore, this study accepts the H_2 for Hypothesis 2.

4.5.3 PROCRASTINATION BEHAVIOUR

Table 4.22: Relationship between Procrastination Behaviour and Academic Performance of University Students in Malaysia during COVID-19 Pandemic

Research Objective	Results	Interpretation
To identify the relationship between Procrastination Behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.	$r = 0.517$, $p < 0.01$	Accepted

Hypothesis 3: Procrastination Behaviour

H_3 – There is a significant relationship between Procrastination Behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 4.22 showed the Pearson Correlation coefficient between Procrastination Behaviour and academic performance of university students in Malaysia during COVID-19 pandemic is 0.517. The p-value is 0.000, which is less than the significant level of 0.01. The relationship Procrastination Behaviour and academic performance of university students in Malaysia during COVID-19 pandemic is a moderate positive coefficient. Therefore, this study accepts the H_3 for Hypothesis 3.

4.6 SUMMARY

After analysed the relationship among the variables through SPSS version 26.0. The researchers can further conclude that a moderate positive correlation related to e-learning between the lack of motivation, mental health and procrastination behaviour on academic performance of university students in Malaysia during COVID-19 pandemic. The result has been proven by correlation coefficients – lack of motivation (0.516), mental health (0.549) and procrastination behaviour (0.517). All the independent variables (lack of motivation, mental health and procrastination behaviour) applied in this study were significant. This is due to the p value equal to

0.000 which is less than alpha value 0.01, ($p < 0.01$) and fall under the range of 0.51 to 0.70. The entire chapter discusses the data analysis used by researchers to analyse the data collected using reliability analysis, descriptive analysis, and Pearson correlation analysis.

CHAPTER 5

CONCLUSION

5.1 INTRODUCTION

This Chapter discuss the finding from the previous chapter. All the variables had been analyzed and the research finding has been clearly explained in this chapter to highlight the determination of the relationship between lack of motivation, mental health and procrastination behavior. The researchers have given relevant findings, suggestions, and recommendations for for future research and summary.

5.2 RECAPITULATION OF THE FINDINGS

Table 5.1: Result of Hypothesis about Research Objective

Research Objective	Hypothesis	Results	Supported
To identify the relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.	There is a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.	$r = 0.516$, $p < 0.01$	Yes
To examine the relationship between mental health and	There is a significant relationship between mental health and	$r = 0.549$,	Yes

academic performance of university students in Malaysia during COVID-19 pandemic.	academic performance of university students in Malaysia during COVID-19 pandemic.	$p < 0.01$	
To determine the relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.	There is a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.	$r = 0.517$, $p < 0.01$	Yes

5.2.1 LACK OF MOTIVATION

Table 5.2: Relationship between the Lack of Motivation and Academic Performance

Research Objective 1:	To identify the relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.
Research Question 1:	What is the relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic?
Hypothesis 1:	There is a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 5.2 shows research objective, research question and hypothesis (H_1) for lack of motivation on academic performance among university students. According to Pearson Correlation analysis (see Table 4.20), the result showed that lack of motivation is positively moderate correlates with academic performance among

university students. Based on the result, a moderate positive correlation relationship between independent variable 1 (lack of motivation) and dependent variable (academic performance) at $r = 0.516$, $p < 0.01$ are shown. Therefore, this shows a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic.

These findings have been supported by Rahiem (2021), this researcher's findings have shown a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic. It mean through e-learning, university student's academic performance affected by their lack of motivation. Motivation is the primary factor that motivates students to study. It is the need and desire to achieve academically. The student has experienced low motivation, which occurs when a student does not want to study because of challenges in certain courses that result in poor academic performance (Islahul et al., 2020). Students' motivation levels deteriorate when they encounter several difficulties throughout e-learning classes. Students are lack of motivation and do poorly academically as a result of boring lectures and complicated exercises that are not thoroughly explained by the lecturer (Dişlen, 2013).

Based on the study of Gumasing et al., (2021), the findings also show a significant relationship between lack of motivation and academic performance of university students in Malaysia during COVID-19 pandemic. Lack of confidence, disappointment with e-learning, and too much pressure all make students not want to study, which contribute to the lack of motivation that affects university students' academic performance. According to Gustiani (2020), students have a lack of

motivation due to poor self-efficacy and a sense of incapacity since learning will not result in the intended goal and completing assignments has no value in e-learning classes.

Thus, lack of motivation has been proved that impact on academic performance among university students. The objective to identify the relationship between lack of motivation and academic performance among university students has been achieved. On the other hand, the research question of "What is the relationship between lack of motivation and academic performance among university students?" also has been supported in this study.

5.2.2 MENTAL HEALTH

Table 5.3: Relationship between the Mental Health and Academic Performance

Research Objective 2	To examine the relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.
Research Question 2:	What is the relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic?
Hypothesis 2:	There is a significant relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 5.3 shows research objective, research question and hypothesis (H_2) for mental health on academic performance among university students. Based on the

Pearson Correlation analysis (see table 4.21), the result showed that mental health is positively moderate correlates with academic performance among university students. According to the Pearson Correlation result, a moderate positive correlation relationship between independent variable 2 (mental health) and dependent variable (academic performance) at $r = 0.549$, $p<0.01$ are shown. Therefore, this shows a significant relationship between mental health and academic performance of university students in Malaysia during COVID-19 pandemic.

Students' high levels of stress and anxiety seemed to be impacted by the uncertainty and the possibility of a negative effect on academic performance of university students in Malaysia during COVID-19 pandemic. These findings have been supported by Giusti et al., (2021). Students had difficulties when studying at home. The issue that students experience is the lack of online-teaching infrastructures, lecturers' inexperience with new technologies, the informational barrier, and the complicated environment at home. These issues cause students to be fearful, concerned, and depressed about their academic performance. It mean through e-learning, university student's academic performance affected by their mental health problem.

According to Karande & Kulkarni (2005), unstable emotions result in a drop in academic performance among students. Mood swings from initially calm to furious might occur in the classroom sometimes as a result of the bad emotions encountered throughout the learning process. Certain students may be more likely to suffer from stress, loneliness, and the development of mental health concerns during e-learning classes. This is particularly for students who live alone, have less direct contact with

close family and friends, have less social support, and are less well-integrated as students. According to studies, the pandemic is a disruptive occurrence that causes stress in students, impairing their academic performance and psychological well-being (Wilczewski et al., 2021). Students often feel dissatisfaction with e-learning classes because they miss contacts with classmates and lecturers.

Thus, mental health has been proved that impact on academic performance among university students. The objective to identify the relationship between mental health and academic performance among university students has been achieved. On the other hand, the research question of "What is the relationship between mental health and academic performance among university students?" also has been supported in this study.

5.2.3 PROCRASTINATION BEHAVIOUR

Table 5.4: Relationship between the Procrastination Behaviour and Academic Performance

Research Objective 3:	To determine the relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.
Research Question 3:	What is the relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic?
Hypothesis 3:	There is a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

Table 5.4 shows research objective, research question and hypothesis (H_3) for procrastination behaviour on academic performance among university students. Based on the Pearson Correlation analysis (see table 4.22), the result showed that procrastination behaviour is positively moderate correlates with academic performance among university students. According to the Pearson Correlation result, a moderate positive correlation relationship between independent variable 3 (procrastination behaviour) and dependent variable (academic performance) at $r = 0.517$, $p<0.01$ are shown. Therefore, this shows a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

Generally, procrastination behaviour does not have significant consequences, but it almost always does in the context of e-learning. The major factor of successful completion of effective e-learning classes is "self-regulation." This is the ability to self-organize and complete tasks independently of external pressure. Procrastination is a sign of a breakdown in self-control and is one of the most common reasons for failure to finish an online course. These findings have been supported by Tezer et al., (2020), this researcher's findings have shown a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic.

Procrastination is a psychology term that refers to the process of consciously or consistently postponing unpleasant duties; it is highlighted by both short- and long-term effects (Unda-López et al., 2022). Students' procrastinating behaviour may be impacted when they are confused or worried by the guidance and materials provided.

In traditional classroom, the lecturers always there and available to answer the student's doubt but in e-learning it is quite possible. Based on the study of Melgaard, Monir, Lasrado, & Fagerstrøm, (2022), the findings also show a significant relationship between procrastination behaviour and academic performance of university students in Malaysia during COVID-19 pandemic. Students will get poor marks if they continue to demonstrate their procrastinating behaviour on a regular basis (Moon & Illingworth, 2005).

Thus, procrastination behaviour has been proved that impact on academic performance among university students. The objective to identify the relationship between procrastination behaviour and academic performance among university students has been achieved. On the other hand, the research question of "What is the relationship between procrastination behaviour and academic performance among university students?" also has been supported in this study.

5.3 LIMITATIONS

This study helps to understand a study the impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic. This study had associated with several limitations. Therefore, it is important to learn from limitation of the study to enhance and improve the quality of research in near future. The researchers noticed that online learning poses a variety of difficulties for respondents, especially in courses involving practical skills, which is a limitation of

this study. The researchers observed that the majority of practice topics needed specialised equipment and direct instruction from lecturers, impairing the respondents' ability to concentrate. This research examined the relationship between lack of motivation, mental health, procrastination behaviour and academic performance among university students. Next limitation is this study used the quantitative research method, and the data was gathered through the use of questionnaires, which are better suited for communicating and interacting directly with university students. Face to face and observation will help the research to get more information.

Moreover, the researchers' restriction in doing this research was delivering the questionnaire using a Google form via an internet survey to the appropriate people at the appropriate time. The Google form only sent to the students through WhatsApp and Telegram. This is because respondents demonstrated a lower level of dedication, since they were often preoccupied with assignments, courses, tests, and also with their research. The researchers sent the Google form to respondents in each online group in order to gather data. This will lead them to lose attention and fill in the responses without thoroughly reading and comprehending the question. As a result, getting people to fill out the questionnaire and finish the study quantitatively is hard. As a result, the data gathering is conducted via a restricted number of social media platforms. Finally, selected population is limited where this study focus on some specific university which is respondents who from Universiti Malaysia Kelantan, Universiti Teknologi Malaysia, Universiti Putra Malaysia, Univeristi Kebangsaan Malaysia and Universiti Teknologi Mara. The focus of this research is limited to only five different types of public universities. Therefore, data collection is done under

limited resources and where this data only shows students' perceptions about the impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic.

5.4 RECOMMENDATIONS

5.4.1 THEORETICAL RECOMMENDATIONS FOR FUTURE RESEARCH

The research looks at how lacks of motivation, mental health, and procrastinating behaviour have a negative impact on academic performance of university students in Malaysia during COVID-19 pandemic. The effects of academic performance (dependent variable) and lack of motivation, mental health, and procrastination behaviour (independent variable) were found to be significantly correlated with the dependent variable and to have a moderate positive correlation in this study.

Future research should utilise other variables as independent variables, such as the students' attitude, because the findings revealed that students' attitudes about e-learning changed from the beginning to the end of the class. It may have an impact on their academic performance. Students stated the online course took longer than they anticipated and involved more reading than they anticipated. Because they are not required to sit in a classroom for a set amount of time, many students expect online courses to take less time. This could be due to the fact that they must read rather than simply listening to the instructor in class, or it could be due to the fact that more

documents and extra materials are readily available to them (Knowles & Kerkman, 2007).

Furthermore, according to (Hassan & Bao, 2020), many students are denied access to modern technology resources as a result of social and economic dividends. At the same time, non-technical instructors have been identified as having a considerable barrier due to a lack of IT knowledge. Furthermore, students are unsatisfied with e-learning as compared to traditional classroom approaches. In today's technological age, around 25% of students from low-income homes do not have access to a computer or the internet. Students are mentally frustrated as a result of these obstacles in completing their course. As a result, it's possible to conclude that a lack of technology has an impact on student academic performance.

5.4.2 METHODOLOGICAL RECOMMENDATION FOR FUTURE RESEARCH

In the future, the researchers suggests utilising a qualitative method for any research on this topic because it is able to obtain data and much faster than a quantitative method. The data collection toolkit of a qualitative researcher is quite diverse, ranging from completely unstructured to semi-structured techniques. Because the data is in a numeric form, statistical tests can be used to make statements about the data using the quantitative method. Besides, the researchers recommend that future studies utilise this strategy because the results are statistically significant. As a result, it's incredibly straightforward and simple to explain. Quantitative methods are also

more accurate, relevant, and trustworthy when applied to a bigger population. Aside from that, once the pandemic has over, the research can be conducted utilising qualitative analysis, which allows the researcher to dig deeper into the data and get more in-depth responses from the participants. In conclusion, the quantitative method is great for this research, but the qualitative method is highly recommended for future use in order to provide a more complicated and in-depth analysis. The mean, median, and standard deviation are examples of descriptive statistics (Demetrius Madrigal, 2013). However, the qualitative method is appropriate for this study because it may give the researchers with a detailed response to the question. Qualitative research studies can give researchers insights into human behaviour, emotion, and personality traits that quantitative studies cannot match (Demetrius Madrigal, 2013).

Furthermore, the target demographic, Malaysian university students (diploma, degree, master's, and PhD), comprises 135,572 persons, however only 384 people responded to the survey. The data was gathered by distributing a Google Forms questionnaire set to WhatsApp and Telegram. The researchers of the future may also collect data by utilising other social media platforms, such as Instagram, Facebook, and WeChat. Future study should use students with practical skills to discover more about their perceptions of the impact of e-learning on the academic performance of university students in Malaysia during the COVID-19 pandemic. They may also assist the researchers in discovering the problems they encountered during practical sessions. Future researchers also might concentrate this study on all public and private universities in Malaysia. This may help future researchers in gaining a fresh perspective of universities about this study.

5.4.3 PRACTICAL RECOMMENDATION FOR FUTURE RESEARCH

These findings lead to the following practical recommendations for future research, which could help university students improve their academic performance during e-learning. According to the study findings, lack of motivation (Agbejule, Ndzibah & Lotchi, 2021 & Rahiem, 2021), mental health (Son, Hegde, Smith, Wang, & Sasangohar, 2020 & Giusti et al., 2021) and procrastination behavior (Hayat, Jahanian, Bazrafcan, & Shokrpour, 2020 & Tezer et al., 2020) have the most significant impact on academic performance and could be the critical approach for future research.

Future studies can also develop independent variables in order to be more specific. Researchers can generate an impact that e-leaning has on student academic performance during e-learning that is greater than the researcher's initial study. As a result, researchers can consider both external and internal factors that can affect a student's academic performance. Despite the fact that these independent variables have varied impacts, the results may not represent all aspects of student academic performance. Future researchers must describe the study properly and in depth using all elements that influence student toward e-learning to improve the study's quality and feasibility, because the researchers only focuses on the limited variable sections in this study.

5.5 SUMMARY

The purpose of this study is to determine impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic. The purpose of this study is to ascertain the impacts of e-learning in terms of lack of motivation, mental health and procrastination behaviour. Additionally, the study discovered that the impacts of e-learning had an impact on academic performance of university students. Additionally, the research includes three independent variables: a lack of motivation, mental health, and procrastination behaviour.

Pearson Correlation analysis is used to determine the relationship between independent and dependent variables. This demonstrates how the independent variables affect the dependent variable. The researchers has seen the results of the three independent variables which are lack of motivation, mental health, and procrastinating behaviour have a significant relationship with academic performance of university students in Malaysia during COVID-19 pandemic. In conclusion, this study proves that the independent variables, namely Lack of Motivation, Mental Health and Procrastination Behaviour, have a moderate positive correlate with the academic performance of university students in Malaysia during COVID-19 pandemic. The results of the data indicate that lack of motivation, mental health, and procrastinating behaviour is significantly impact of e-learning on academic performance of university students in Malaysia during COVID-19 pandemic.

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APPENDICES

APPENDIX A: QUESTIONNAIRE

THE IMPACT OF E-LEARNING ON ACADEMIC PERFORMANCE OF UNIVERSITY STUDENTS IN MALAYSIA DURING COVID-19 PANDEMIC

Dear Respondents, we are undergraduate 3rd year students from University Malaysia Kelantan (UMK), Faculty of Wellness, Tourism and Hospitality conducting a research survey about "The Impact Of E-Learning On Academic Performance Of University Students In Malaysia During Covid-19 Pandemic". We would appreciate it if you can spend a few minutes of your time answering the questions in this survey. This survey will take 5 to 10 minutes. Your responses will be anonymous and the information provided here will only be used for education purposes only. Thank you for your participation and time.

SECTION A: Demographic Background

Gender:

Male	
Female	

Age:

18–20	
21–23	
24 and above	

Race:

Malay	
Chinese	
Indian	
Others	

Education level:

Diploma	
Bachelor's	
Master	
PhD	

Year of Education:

1	
2	
3	
4	

Student Status:

Full Time Student	
Part Time Student	
Other	

Instruction: Respondents are required to indicate the extent to which they agree or disagree with each statement by using 5 Likert Scale:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Please click **ONE** option for each question below.

INDEPENDENT VARIABLE:

SECTION B: Level of Motivation

No.	Items	Scales				
		1	2	3	4	5
1.	I am interested in learning if e-learning becomes the new approach to learning.					
2.	E-Learning increases my motivation to study.					
3.	E-Learning has the potential to boost my creativity.					
4.	E-learning enables me to complete tasks quickly.					
5.	My lack of motivation affects my academic performance.					

6.	I am able to attend all the e-learning classes.					

SECTION C: Mental Health

No.	Items	Scales				
		1	2	3	4	5
1.	I'm always concerned about my health.					
2.	I'm having difficulty concentrating in my e-learning classes.					
3.	I'm having trouble with my sleeping patterns.					
4.	My mental health issues have a negative impact on my academic achievement.					
5.	I'm experiencing stress during e-learning.					
6.	My increasing class workload affects my mental health.					

SECTION D: Procrastination Behaviour

Definition of Procrastination Behaviour: Procrastination is linked to executive processes such as planning and self-control such as initiating or stopping action.

Greater procrastination is correlated with poor executive function. Procrastination behaviour has been connected to ineffective learning practices. Procrastination is characterized as a self-defeating behavioral pattern with both short-term and long-term benefits. Academic procrastination is characterized as postponing academic tasks such as submitting an assignment or a term paper or preparing for tests at the last minute. Procrastination is caused by a complex mix of cognitive, behavioral, and emotional factors, in addition to a lack of study habits.

No.	**Items**	**Scales**				
		1	2	3	4	5
1.	Procrastination will occur when I am writing a term or research paper.					
2.	I'm usually procrastinating on studying for an exam.					
3.	I can keep up with weekly reading assignments.					
4.	I can perform administrative tasks on time.					
5.	I'm capable of attending meetings without procrastinating.					
6.	I can perform academic tasks in general.					

DEPENDENT VARIABLE:

SECTION E: Impact of E-Learning on Academic Performance

No.	Items	Scales				
		1	2	3	4	5
1.	E-learning is more successful than traditional classroom instruction.					
2.	E-learning is more convenient than face-to-face classes.					
3.	I feel that e-learning content enables me to work together with my peers.					
4.	It's challenging to keep students engaged in e-learning.					
5.	My lack of computer abilities makes it difficult for me to successfully use e-learning.					
6.	My poor academic performance is an outcome of the negative impact of e-learning.					