The Effects of the COVID-19 Pandemic on Undergraduate Students' Stress and Anxiety in a University in the UAE

تأثير جائحة COVID-19 على توتر وقلق الطلاب الجامعيين في إحدى جامعات الإمارات

by

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Abstract

Education has faced a significant transition in the 21st century, shifting from face-to-face classes to online classes due to the unprecedented COVID-19 pandemic. The pandemic's consequences have affected teaching and learning and negatively influenced students' psychological well-being. The following abstract will mention the aim and rationale of the study, the key theories involved, the method used, the study's key findings, implications, limitations, recommendations, and conclusion.

This study aims to explore the pandemic's impact on undergraduate students' academic stress, especially as related to their academic performance. Furthermore, the students' coping strategies during the pandemic, if any, are investigated. The rationale of the study is to help students who are stressed and anxious by understanding the causes of stress and choosing suitable methods for supporting them emotionally, psychologically, and academically.

The main theories used in the study includes demand-and-control theory, cognitive-mediational theory, the Ryff Scales of Psychological Well-Being, General Adaptation Syndrome (GAS), Hans Selye's theory of stress, academic self-efficacy, internal attribution of failure, self-determination theory (SDT), well-being theory, and Maslow's hierarchy of needs. The key theories explain how humans are influenced by their inner selves and their surroundings, specifically in terms of well-being, stress, anxiety, and motivation. They can be applied to students in education during a change in their environment, such as the COVID-19 pandemic.

Moreover, the researcher used a mixed-method approach consisting of quantitative and qualitative data. Quantitative data collection was done by surveying 191 participants from the College of Education (COE) and students from other colleges enrolled in elective courses in the COE. The qualitative data collection was achieved through a focus group discussion with seven COE undergraduate students doing their internship. To analyze the survey's responses, the researcher used statistical methods of descriptive analysis, t-test, analysis of variance (ANOVA), and correlation. The focus group qualitative data was analyzed using thematic analysis to fill the gaps in the quantitative data. The key findings showed that the xenophobia factor (the fear of strangers) causes the highest stress levels, and students reported that workload and time constraint factors were top stressors. Also, A-range students (students with a GPA of 3.7 and above) were generally significantly less stressed than B-range students (GPA of 2.7–3.3). First-year students were significantly more stressed than second-year, third-year, and fourth-year students. It was found that internship students expressed their stress and anxiety due to the change to online education caused by the pandemic.

The implications of the current study will allow educators and psychologists to better understand students' needs and apply effective techniques during the pandemic. The limitation of the study is that the number of participants could have been increased, especially in the focus group. Also, the focus group deals with the experience of internship students teaching online in public schools during the pandemic. It is not necessarily applicable to the 191 students surveyed in the questionnaire about their experience of studying online during the pandemic. The recommendation of this study is to increase the number of participants and improve the instruments.

In conclusion, the researcher expected that the COVID-19 pandemic would directly impact student academic stress, but the findings slightly contradict the researcher's assumption. This study argues and claims that the COVID-19 pandemic did not have a direct impact as an epidemic on student academic stress. However, the changes caused by the COVID-19 pandemic in online education might cause students stress and anxiety; the study needs further research to confirm the argument.

Arabic Abstract

ملخص البحث

شهد التعليم تغيراً كبيراً في القرن الحادي والعشرين، جراء تحول الفصول الدراسية القائمة على التدريس وجهًا لوجه إلى الاعتماد على الإنترنت بسبب جائحة COVID-19 التي تعرف بوباء كورونا. ولقد أثرت عواقب هذا الوباء في تعلم الطلاب، وأثرت أيضًا بشكل سلبي في الجانب النفسي عند الطلبة.

لذلك، فإن الغرض من هذه الدراسة هو اكتشاف تأثير الوباء في الإجهاد الأكاديمي للطلاب الجامعيين، لا سيما في أدائهم الأكاديمي. علاوة على ذلك، سيتم النظر في استراتيجيات تكيف الطلاب، إن وجدت، في أثناء الوباء. وسيحدد البحث الضغوطات الرئيسة وتأثيراتها في الأداء الأكاديمي، للحفاظ عليها وتحسينها خلال المواقف الصعبة.

تشمل النظريات الرئيسة المستخدمة في الدراسة نظرية الطلب والتحكم، ونظرية التوسط المعرفي، ومقاييس Ryff للرفاهية النفسية، ومتلازمة التكيف العامة (GAS) ، ونظرية Hans Selye للتوتر، والكفاءة الذاتية الأكاديمية، والإسناد الداخلي لـ الفشل ، ونظرية تقرير المصير (SDT) ، ونظرية الرفاهية ، وتسلسل ماسلو الهرمي للاحتياجات. تساعد هذه المفاهيم في تلبية هدف البحث في فهم الطبيعة البشرية ويمكن تطبيقها على الطلاب في التعليم أثناء حدوث تغيير في بيئتهم كما هو الحال في جائحة COVID-19.

استخدم الباحث المنهج المختلط "المزجي" حيث أجرى استبيانًا على 191 مشاركًا من الطلاب الذين يدرسون في كلية التربية، وطلاب آخرين من كليات أخرى يدرسون مواد فرعية تابعة لكلية التربية، بالإضافة الى مناقشة جماعية لسبعة طلاب جامعيين يدرسون في كلية التربية. ولتحليل إجابات الاستبيان، استخدم الباحث الإحصاء الوصفي، بالإضافة الى اختبار t، وتحليل التباين (ANOVA)، ومعاملات الارتباط. تم تحليل البيانات النوعية لمجموعة التركيز باستخدام التحليل الموضوعي "الثيماتي" لإضافة مزيد من المعلومات وإثراء البحث للوصول إلى الهدف الرئيس من هذا البحث وهو فهم وجهات نظر الطلاب في تأثير الوباء في قلقهم الأكاديمي. لقد أظهرت النتائج أن عامل الخوف من الغرباء كان الأعلى في مستويات التوتر، وأفاد الطلاب أن عوامل الضغط الدراسي خصوصاً الأعباء المتعلقة بالمناهج وقيود الوقت كانا الأعلى في مستويات التوتر. وأيضًا، كان طلاب النطاق A (ذوو المعدل التحصيلي GPA 3.7 وما فوق) بشكل عام أقل توتراً من طلاب النطاق B (ذوي المعدل التحصيلي GPA 2.7-3.3)، وهذا يدل على أنه كلما زاد المستوى التحصيلي للطلاب قل التوتر. ولقد أثبتت النتائج أن طلاب السنة الأولى واجهوا توتراً أكثر من طلاب السنوات الثانية والثالثة والرابعة. وفي المجمل، فإن هذه الدراسة أثبتت أن التغيرات في التعليم عن بعد والناجمة عن جائحة COVID-19 سببت، الى حد بعيد، توتراً وقلقاً عند طلاب التدريب.

من إيجابيات الدراسة الحالية أنها قد تنفع المعلمين وعلماء النفس لفهم احتياجات الطلاب وتطبيق تقنية فعالة لمساعدة الطلاب المتوترين والقلقين أثناء الوباء.

ومن سلبياتها أنها تقتصر على عدد محدود من المشاركين، ولو كان عددهم أكثر من ذلك لكانت النتائج أدق وأفضل. كذلك حلقة النقاش اقتصرت على طلاب التدريب الذين يقومون بالتدريس عن بعد في المدارس العامة أثناء الوباء، وقد لا تكون النتائج شاملة كل ال191 طالبًا الذين شاركوا في الاستبيان.

التوصيات في هذه الدراسة هي زيادة عدد المشاركين وتحسين الأدوات المستخدمة في البحث.

وختاماً، لقد توقع الباحث أن يكون لوباء COVID-19 تأثير مباشراً على الإجهاد الأكاديمي للطلاب، لكن النتائج تعارضت قليلاً مع توقعات الباحث. فوباء COVID-19 لم يكن له تأثير مباشر بل التغيرات المصاحبة للمرض هي التي أثرت على الإجهاد أكاديمي للطلاب. فهذه الدراسة ظهرت فيها ثغرات، وهي تحتاج إلى مزيد من البحث والتحقيق.

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Dedication

To all passionate learners and researchers who enjoy learning

To my colleagues who supported me

To my friends and loved ones who inspired me

To my supervisor, Dr. Solomon David

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List of Abbreviation

UAE	**United Arab Emirates**
OCD	**Obsessive-compulsive Disorder**
WHO	**World Health Organization**
LMS	**Learning Management System**
GAS	**General Adaptation Syndrome**
SDT	**Self-determination Theory**
CSS	**COVID-19 Stress Scale**
SPSS	**Statistical Package for the Social Sciences**
MOHAP	**Ministry of Health and Prevention**
ANOVA	**Analysis of Variance**
GPA	**Grade Point Average**
MOE	**Ministry of Education**
COE	**College of Education**

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1. Introduction

1.1. Overview of the Chapter

Crisis periods are identified as high-stress events due to the significant consequences they cause. These events can be unpredictable, and people react differently to them. Some people adapt highly or quickly to a specific situation, and others might adapt slowly. However, if the event is uncontrollable and uncertain, then adapting can be more difficult. Moreover, by the end of December 2019, an unpredictable virus had appeared, causing widespread fear and panic. The virus started in Wuhan City in China, was identified as COVID-19, and has spread worldwide since then. China followed high restrictions and succeeded in limiting cases and death rates by February 2020, but the virus started spreading worldwide, particularly in Iran, Europe, and the United States (Sahu 2020). The spread of the virus was out of control in some areas, as some hospitals could not handle such a massive number of cases. Some people were even left without treatment, and many lost their lives. Most countries had no choice but to force their citizens to be in quarantine, work from home, and limit their activities to daily needs. Museums, parks, beaches, and any other areas where crowds could gather were all closed down in many countries. In general, lifestyles changed as people started wearing masks when leaving their homes and gloves when grocery shopping. Everything had to be sanitized to prevent the virus from spreading. Some countries, including the United Arab Emirates (UAE), banned people from going out at specific times as the roads and public areas were sanitized during these slots (MOAWAD 2020).

The spread of COVID-19 has led to significant changes in people's lives, particularly in terms of education. Many countries, including the UAE, decided to shift from face-to-face classes to online lectures using different platforms (MOE 2020). Schools' activities, workshops, and conferences have were postponed. Furthermore, the sudden shift in education has caused panic and anxiety because schools and universities, and so the teachers and students, were not prepared. Following the UAE government's decision to limit physical contact to prevent the virus from spreading, universities and schools have shut down. The disease resulting from this virus has been categorized as a pandemic by the World Health Organization (WHO) because it has spread quickly and caused widespread death due to the absence of a cure (WHO 2021). As the cases of infection and death have kept increasing, the UAE has had no choice but to lock down everything to control the disease.

Amidst the chaos caused by the pandemic and limited in carrying out their everyday activities, schools closure caused pressure to students and educational institutions (Hussein et al. 2020). The stress level has increased the more they have felt helpless about avoiding getting sick but continuing with their education. An unhealthy environment and way of living can significantly influence a student's mental health and higher education at the undergraduate level. This period especially is a time of natural change for students toward adulthood and career life after university.

1.2. Background and Motivation to the Study

This chapter has mentioned an overview of the topic proposed of this dissertation, which is "The effect of COVID-19 pandemic on academic stress and anxiety: A study on undergraduate students." This chapter also mentions the following sections: motivation to the study, statement of the problem, purpose and objectives, research questions, relevance, and the dissertation's main sections. As mentioned previously, this study specifically was inspired by the current stressful crisis caused by the identified pandemic. It is essential to study the consequences of the virus, particularly anxiety and stress levels on students, to find solutions to support them and make their academic life less stressful. The topic of stress in crisis has been studied over decades, and it is very interesting how individuals differ in their reactions toward these challenging events. Stress can lead to severe issues, mainly when they affect a student's life negatively. Isolation, social distancing, depression, and anxiety can be significant consequences of stress that have to be looked at and studied (Li et al. 2020).

1.3. Statement of the Problem

The novel COVID-19 pandemic has caused death mostly for elders and people with a poor immune system, as reported by WHO (2021). Therefore, the virus is considered life-threatening for some people since there is no cure yet. Some people have been affected psychologically, and some have developed a high level of stress and anxiety. People's reactions toward the virus and their stress development can be justified and explained theoretically. When people think about how powerful their control over a situation or event is, they have the locus of control (Hill 2011). The locus of control theory defines people's perception of their control (Colman 2009). There are two types of locus of control: the internal locus of control and the external locus of control. It is

considered internal when people believe that they do have control over events. For example, students will justify their passing grade in a test because of their hard work.

In contrast, control is external when people perceive their lack of influence and control over certain situations. Taking the same example, the student will justify their passing grade due to fate, luck, and chance rather than their work. When relating the pandemic and people's reactions with the locus of control theory, one would find that depending on their beliefs, people would react differently. If they had internal control, they would perceive stress more as something controllable, but they would probably give up and suffer from high-stress levels in case of external control. Nevertheless, in understanding this theory specifically, finding someone who has only internal or only external control is difficult as most people fall in-between the spectrum of locus of control. In summary, people's stress levels can vary depending on their attitudes and perceptions of the virus (Hill 2011). An Evidence from the UAE showed that students reported having high psychological distressed levels due to stress and anxiety from the virus (Saravanan et al. 2020).

The different attitudes and perceptions can turn into a disorder when people think negatively about the virus. Harmful thoughts can form different types of phobia as a fearful response towards the pandemic. An excessive amount of fear and anxious thoughts that interfere with everyday life can be diagnosed as anxiety disorders. A specific phobia is a form of anxiety disorder that can be formed when one has fearful thoughts about an object, situation, or an event (Colman 2009). According to Hemmings (2018), when a person is exposed to a particular object or an event and excessively develops fearful reactions, that person probably has a specific phobia. Specific phobias have different categories, including blood injection injury, animals, situational, natural environment, and other phobia types. A blood injection injury phobia is the fear of the sight of blood or a needle and can lead to fainting. This type is unlike other phobias since it is common in both males and females. An animal phobia is the fear of animals that are seen as a threat, and common ones are snakes, spiders, rats, and insects. Situational phobias can be flying or driving on a bridge or through a tunnel, or a natural environment or phenomenon such as water, heights, or lightning. Other forms of specific phobias that a person can develop, and phobias in general, are developed mostly through childhood. An example of other types of specific phobias can be clowns or sudden loud noises. In the case of the pandemic, students reported having high tension levels, emotionally exhausted and have sleep disturbances due to the virus (Cheikh Ismail et al. 2020).

Moreover, due to the virus, many countries encouraged people to keep everything clean. Some people might have developed an obsession to survive, not getting the virus. An exaggerated obsession toward cleansing is called obsessive-compulsive disorder (OCD). The OCD has two parts: obsessive thoughts and repetitive behavior. When it comes to the virus and sanitization, people can have unclean hands, which might get them sick. These thoughts could increase their anxiety levels and encourage them to do something to prevent themselves from being sick. Therefore, they wash their hands as a behavioral response, which gives them temporary relief. However, after cleaning their hands, they might again think that it is not clean enough or might have touched something that could have the virus. The obsessive thoughts come again, leading to a repetitive cycle that can influence their everyday life because it is time-consuming and could prevent them from facing other vital issues in life (Hemmings 2018).

Anecdotal evidence in the UAE suggests that some students have reported anxiety since they were not sure about what will happen to them, especially at the beginning of the semester, while being in the quarantine. The university has informed them that everything will be online, but they were unsure about how to work on assessments and exams. The topic is worth searching in depth because different factors can cause high-stress levels and anxiety during the pandemic.

1.4. Purpose and Objectives

The main purpose of this study **is to understand if COVID-19 pandemic has an impact on academic stress, particularly their academic performance**. Thus, this study aims:

- To investigate the pandemic in how it influences students' academic stress and anxiety on their academic performance.

- To identify main students' stressors.

- To investigate the students' perceptions of the pandemic and their coping techniques during the epidemic.

This dissertation will highlight the areas of academic stress related to COVID-19's influence on academic performance. There are some possible areas of academic stress including exams, assignments, lecture time, teaching platforms, internet, interpersonal relationships (parents,

teachers, and friends), and uncertainty (Moawad 2020). The current study will mainly focus on the psychological aspect as in anxiety types, academic pressure, and academic performance in an online environment. The study will also investigate the factors in academic stress inventory used in the study, including academic self-perception, perceptions of workload, pressure to perform, and time restraints (Bedewy and Gabriel 2015). Moreover, the study will explore the COVID-19 stress inventory's factors used, including COVID danger and contamination, COVID's socioeconomic consequences, COVID-related xenophobia, COVID-related traumatic stress, and COVID-related compulsive checking (Taylor et al. 2020). Finally, the study will examine undergraduate students' experiences with and perceptions about dealing with these stressors.

1.5. Research Questions

The main question in the study in relation to the objectives is: **Does COVID-19 have an impact on academic stress?** There are four specific questions to meet the research objectives:

1. How do anxiety types and academic pressure in an online environment influence the student academic performance?

2. What areas of academic stress have highest stress levels, including academic self-perception, perceptions of workload, pressure to perform, and time restraints (Bedewy and Gabriel 2015)?

3. What areas of COVID-19 stress inventory have highest stress levels, including COVID danger and contamination, COVID's socioeconomic consequences, COVID-related xenophobia, COVID-related traumatic stress, and COVID-related compulsive checking (Taylor et al. 2020)?

4. How did participants overcome their challenges during the COVID-19 pandemic?

As mentioned above, the study's research questions are divided into two categories, including the main question and specific questions. The main question focuses on the purpose of the research, including investigating the impact of COVID-19 on academic stress and performance. The specific questions are related in-depth to the study purpose, and they are linked directly to the instruments used in the study, including the academic stress inventory and CSS (Bedewy and Gabriel 2015; Taylor et al. 2020). This research investigates if the COVID-19 pandemic has a direct influence on academic stress or if there is more than just a pandemic through the main question. The specific questions highlight other possibilities of stressors around the pandemic. For example, they target online education, workload, time restraints, assessments, xenophobia, and traumatic stress. The sub-questions combine both the academic and psychological aspects of students to answer the main question.

1.6. Rationale for the Study

It is essential to note that the introduced study is important to the field of psychology and to the context of the UAE. First, this study will add to the existing literature, as there are not enough studies on the relation between COVID-19 and academic stress. Psychologists and educators will benefit from the study in improving online education in case of future crises and be able to support students who might be suffering from psychological distress. Hussein et al. (2020) recommended in their study to focus on students' wellbeing and psychological concern, so the current study can support in understanding students' needs to achieve high academic performance. Moreover, Almuraqab (2020) noted that the pandemic had negative impact on students learning in the UAE although the majority preferred distance learning. Therefore, the current study can confirm this finding and add more since it uses mixed method with both quantitative and qualitative data. The country will also benefit from the study, especially in terms of education at the undergraduate level. The UAE had to shift the education to be online for schools and universities. The novel online platforms were an obstacle for many students during the pandemic (Adnan & Anwar 2020; Wangdi, Dema & Chogyel 2021). Therefore, to improve the online education, this research gives

the opportunity to get feedback from the students which can help in improving education in the country and support students and the educational system in general.

1.7. Structure of the Dissertation

This dissertation is divided into chapters covering the literature review, methodology, results, analysis and discussion, conclusion, references, and appendices. The literature review includes a theoretical framework about the introduced topic and a summary of previous studies on the topic. The methodology includes how the study will be measured, including sections of the data collection plan, instruments, data analysis plan, delimitation, ethical consideration, and data reliability. The results, analysis, and discussion chapter includes an analysis and summary of quantitative and qualitative data. The conclusion chapter contains the key findings, recommendations, implications, limitations, and scope for future studies. References includes the cited paper journals and books, whereas the appendices includes the instruments, the questionnaires, the student's discussion questions, some graphs and ethical approval letters.

2. Literature Review

2.1. Overview of the Chapter

The literature review chapter includes conceptual analysis, theoretical framework, review of previous studies related to the proposed topic, and main findings from the literature.

2.2. Conceptual Analysis

The current study investigates the impact of the COVID-19 pandemic on academic stress among undergraduate students. In order to understand more about the topic, some concepts will be defined in-depth, including the COVID-19 pandemic, stress, anxiety, academic stress, academic performance, and distance education.

The COVID-19 pandemic is also known as the coronavirus pandemic and has been considered an epidemic by the WHO (WHO 2021). This virus is novel, and as of this writing there is no cure. The more common symptoms have been identified as fever, dry cough, and tiredness. In comparison, less common symptoms include aches, diarrhea, skin irritation, headache, and loss of smell and taste. Prevention of the virus occurs by wearing masks, and physical distancing. Immediate treatment is not available, but it can usually be treated effectively through self-care. It was reported that most cases have mild to moderate symptoms, and people recover without hospitalization (WHO 2021). The WHO reported on April 22, 2021, that total worldwide cases were 143,184,614 confirmed cases of COVID-19, including 3,047,322 deaths (WHO 2021).

This pandemic has affected the lives of individuals psychologically due to stress and anxiety (Hussein et al. 2020). Stress is a word taken from the Latin *stringere,* which means "to draw tight." There are many views and perspectives about the definition of stress. Some view it as a subjective definition of understanding the inner condition and feelings of the self. Others view it objectively, and it is more related to physical health in the measurement of blood pressure, heart condition, or saliva. There is still another view of having a unified definition of stress globally, but others see it as multidimensional with different qualities (Furnham 2008). The word stress usually is followed by anxiety, but the two concepts are different. Stress is more complicated as it is a psychological and physical tension, but anxiety is a condition of feeling uneasy followed by some symptoms and signs of nervousness, strain, and pressure (Colman 2009). There are many different types of stress, but this study will only focus on academic stress on undergraduate students.

Academic stress is a physical response in students toward academic pressure above their capabilities (Alsulami et al. 2018). A study by the American College Health Association (2006) found that academic stress has a significant influence on students' academic performance. Many factors contribute to academic stress, and the ones that will be explored are exams, assignments, lecture time, teaching platform, Internet, interpersonal relationships (parents, teachers and friends), and uncertainty (Moawad 2020). It is essential to note that this study investigated academic stress during the pandemic, which means that education has been shifted online. Therefore, the stressors might be slightly different than if this was investigated in face-to-face lectures. The main differences are teaching platform, network connection, support, and uncertainty.

Distance education is a type of student education where teachers give online lessons, assessments, and exams to their students. Remote education allows practitioners and students to use different Learning management system (LMS) such as Zoom and Blackboard Collaborate. The UAE, and specifically the federal university, have implemented a specific LMS. The LMS used by the university is BlackBoard and in addition, in Spring 2020, the university purchased a license for Adobe Connect software to enable synchronous interactive online classes. The university switched to Zoom for interactive online classes in Fall 2020. When using Zoom platform, teachers initiate video calls to start the lecture with their students. Zoom has some features, such as chatting box, mic, forming online discussion groups, and hand raising for participation.

2.3. Theoretical Framework

The theoretical models informing this study are demand-and-control theory, cognitive-mediational theory, the Ryff Scales of Psychological Well-Being, General Adaptation Syndrome (GAS), Hans Selye's theory of stress, academic self-efficacy, internal attribution of failure, self-determination theory (SDT), well-being theory, and Maslow's hierarchy of needs. These theories explain stress and anxiety in terms of challenging periods, and they can be divided into external and internal factors. The external factor includes demand-and-control theory and cognitive-mediational theory whereas the rest of theories explain stress and anxiety psychologically and more internally.

External factors of Stress and Anxiety Causation

According to Karasek (1979), the demand-and-control theory is one of the simplest theories that explain stress as it focuses on challenges and support. When there are high demand and low control, a high level of stress occurs. For example, in the workplace, some employees have very challenging tasks, yet they do not receive much support, which causes them stress and burnout. On the opposite side, if there is high demand yet high control and support, employees will be more likely not to experience stress as much. Taking the same example at the workplace, if an employee has a challenging task yet high support from other colleagues and managers, they would be more motivated and comfortable in doing the task efficiently. The demands-and-control model has been developed to explain how work demands influence employees. However, this model can be used in the academic context as well. Employees feel pressure from work, and students also feel pressure from their university, especially at the undergraduate level. Many students do not have control over their study plans, for example. Also, the exams and assessments might be very stressful, depending on their courses and majors.

Additionally, some students receive support and seek it, but other students might not be in supportive environments. Thus, the demands-and-control model can be applied in the academic context (Cotton, Dollard & de Jonge 2002; Schmidt et al. 2013). Students reported a high level of stress anecdotally, and their reports showed that their perceived stress was related to the environmental conditions, study, and life satisfaction more than their personality (Schmidt et al. 2013). When relating this theory to the proposed topic, it can be found out that academic stress can be related to environmental conditions and life satisfaction. In this case, as in COVID-19, the crisis period can be a factor that could influence students. In this study, it is argued that difficult periods can be stressful for undergraduate students.

Humans' appraisal of certain stimuli can predict stress because emotions and cognitions influence individuals. The cognitive-motivational theory is all about the relationship between thoughts, feelings, and human interpretations of stimuli, an object, a situation, and an event. Richard Lazarus (1922–2002) an American psychologist who developed this model to explain stress. According to the theory, two appraisals could occur in the presence of a stressor. One of them is a challenging appraisal, and the other one is a threat. Moreover, when someone takes the stressor as a challenger, they can overcome the challenge and have personal growth, whereas if it

was appraised as a threat, it could lead to negative consequences. However, it is essential to understand that the threat can be low and high, depending on the second appraisal. If an individual feels a lack of control, it might lead to a high threat, and the opposite appraisal can lead to low threat (Lazarus 1991). Therefore, stress can also depend on how people interpret events and situations; in the case of the pandemic, it can lead to high, low, or no stress depending on the students' interpretations. The figure below gives more details about the theory.

Figure 1: Lazarus: Primary and Secondary Appraisal ("Theories of Emotion | Boundless Psychology" 2020)
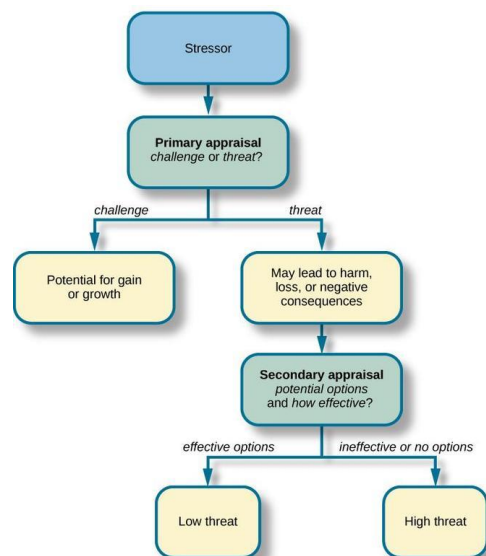
<u>Internal Factors of Stress and Anxiety Causation</u>

Stress can also develop because of internal factors depending on how a person views, attributes, and behaves in certain situations, particularly crisis events, such as the pandemic in this study. Different theories have been developed to explain the psychology of humans toward stress and resilience. The GAS explains the biological changes that occur in someone's body due to a stressor. According to Selye (1950), GAS explains that individuals go through three stages—alarm, resistance, and exhaustion—when they face something stressful. As shown in the figure below, resistance to stress can be very low, especially when suppressing it takes a long time. Therefore, early intervention in stressful situations is essential to prevent serious health and mental

issues in later stages (Selye 1950). The coronavirus pandemic has been influencing the world since December 2019. This prolonged period could have affected individuals and students with their academic lives. Therefore, before getting exhausted and mentally and physically influenced, early intervention has to occur from the schools and universities to protect the students.

Figure 2: General Adaption Syndrome, Consisting of Three Stages: (1) Alarm, (2) Resistance, and (3) Exhaustion (Caballero, Trugo & Finglas 2003)
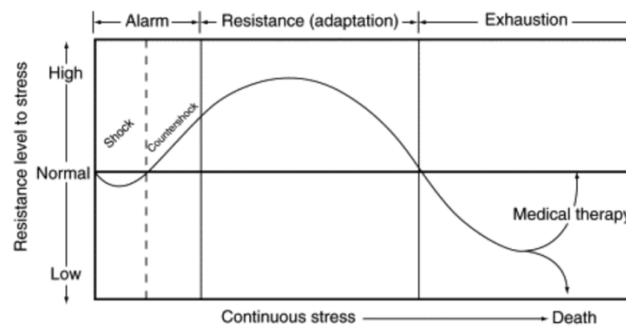
Academic stress especially is more related to students and educational context. Regarding that, some theories described how the inner self could have greater or fewer tendencies toward stress. Some students can adapt and resist academic stress better than others. A couple of theories interpreted and clarified the reasons behind that, including academic self-efficacy, the SDT, internal attribution of failure, well-being theory, and Maslow's hierarchy of needs. First, academic self-efficacy is a theory that describes the perceptions of students toward their ability. Self-efficacy means the belief of someone in their ability to do something.

Moreover, if a student believes in themselves that they can do a specific task successfully, then it means that they have a high self-efficacy (Bandura 1977). Another student who did not believe in themselves would have a low self-efficacy. Self-efficacy is fundamentally related to academic stress because the more students have higher self-efficacy, the less stressed they are. The academic self-efficacy theory was developed and grounded from the general self-efficacy theory by Bandura (1977). It is essential to note that there is a difference between self-efficacy and self-esteem because self-efficacy is about intended outcomes and task evaluation, whereas self-esteem is more self-evaluation (Colman 2009).

Self-determination Theory, Intrinsic Motivation, and Academic Stress

Motivation in education is highly essential, and it can lead to high academic performance especially when students are happy and enjoy learning. Moreover, there can be a connection between motivation and stress, as mentioned previously in the control-and-demand theory. When they are supported, individuals are more likely to be motivated and less stressed. Thus, theories of motivation can describe academic stress in crisis.

It is essential to understand that motivation can be both internal and external. Over the last 40 years, a theory of motivation was developed in which some people are motivated internally. Deci and Ryan (2012) developed the SDT, and this theory mainly focuses on suggesting that internal motivation drives human beings to meet their needs and goals. There are three crucial aspects of SDT that individuals require to be motivated and happy: autonomy, competence, and relatedness (Gagné 2014). When relating SDT to education, first, it is critical for students to be independent and autonomous and for their rights and needs to be met. When teachers trust them and listen to what they say, it gives them a sense of autonomy that their voices are heard and matter.

Moreover, the more motivated and happy students are, the less stress they experience. Second, there should also be a sense of competence for motivation, which means that students are aware that they are useful in doing something. Last, relatedness means that students enjoy the company of their classmates and teachers. Having these three elements will boost students' motivation in learning according to the theory. While SDT receives much support in that the theory can be useful and even generalized cross-culturally (Jang et al. 2009), it also receives some criticism.

SDT focuses primarily on intrinsic motivation and claims that extrinsic motivation, which depends on a materialistic rewarding system, makes people have a low SDT and interferes with people's decisions. The theory claims that human beings tend to develop their personal growth psychologically (Markland et al. 2005). Human beings are very complex, and the explanations for how one behaves cannot be generalized. Each individual can be motivated differently, and motivation can affect people internally, regardless of whether the motivation is internal or external. Motivation can be more than just intrinsic and extrinsic because praise can motivate a student, but

classifying it as only internal or external is quite ambiguous. Praise can be a direct motivation since words can directly motivate others and affect them, moving them to work harder. However, motivational praise happens when the word makes sense for the person. Based on the researcher's view, SDT claimed that extrinsic motivation makes someone be controlled and focused only on the material given. However, when that material makes sense to that person and makes him/her feel good about themselves, this type of motivation will also be influential. Teachers can motivate students extrinsically, and students will determine if the reward is worth the effort (Wilson & Corpus 2001). Thus, it is understandable that regardless of the motivational type, it is highly influential in the student's well-being and mental health when it makes sense to them. **Figure 4** demonstrates the SDT.

Figure 3: Self-Determination Theory (SDT) (Ackerman 2021)
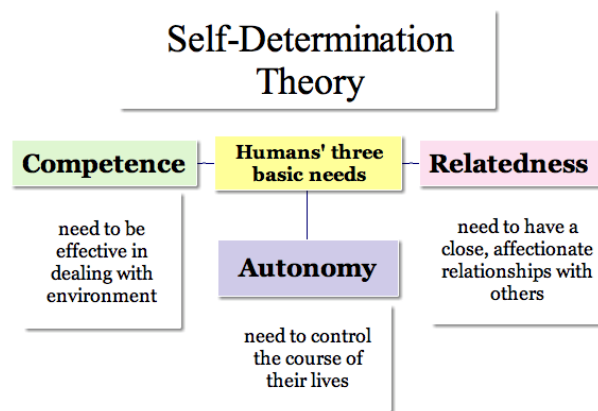
The Well-being Theory and Academic Stress

Positive psychology is a vast topic that has numerous theories that explain it. The well-being theory is grounded from positive psychology, and it shows how being positive and optimistic can improve an individual's life. Evidence from the literature shows that positive psychology influences college students' life adjustment (Umucu 2020).

Seligman (2018) is the founder of the well-being theory, which he named the PERMA model because it consists of five main elements of happiness. The five cores are positive emotion, engagement, relationships, meaning, and accomplishments. This happiness theory explains that positive emotion has a significant influence and improvement on human health, life, and relationships. Furthermore, there are many different types of positive emotions, including joy,

celebration, appreciation, kindness, and empathy. These emotions cause happiness, and humans feel them due to different events and situations. The second core of happiness is engagement; being engaged in some activity leads to enjoyment of it. Some people refer to hobbies such as drawing, reading, or cooking. These activities are practiced not to seek a particular outcome but to enjoy them and find pleasure. The third core of the theory is relationships. It has been stated that forming a positive connection with other people can result in healthy well-being. Humans are social beings, so spending time with loved ones can significantly impact individuals despite the other stressors in life. The fourth core is meaning. This core is fundamental because time is essential, and performing meaningful activities can lead to a life purpose for that person, leading to life satisfaction. The last core is accomplishing and achieving something that a person desires, leading that person to be content and happy (Seligman 2018). This theory can be applied to different parts of life; for example, students can have a less stressful academic life during crisis events by focusing on positive emotions, being engaged, having positive relationships, developing their life purpose, and feeling accomplished.

2.4. Review of Related Literature

After understanding theories of stress and academic stress, studies from the literature will be mentioned regarding academic stress and anxiety amongst students.

The first part is about different studies that investigated the different types of stressors among students. According to Bataineh (2013), academic pressure and high overloads, study time, exam, low motivation, and high family expectations lead to high stress levels among students. Also, the study found that fear of failure indicates high stress levels. Another study by Al-Sowygh (2013) found a similar stressor: academic pressure and overload. Other factors found in this study with perceived academic stress are self-efficacy factors, behavioral disengagement, denial, and positive reframing. Liu and Lu (2011) found that lack of achievement predicted academic stress and depressive symptoms. Arsenio and Loria (2014) found that higher academic stress is related to students' moods, negative academic affect, and disengaged coping. Reasons for academic stress and course grades were related to problem-focused coping and motivation (Ward, Raymond & Verena 2000).

Furthermore, humans' psychological being influences how stressed they become. A study by Por et al. (2011) found that there is a relationship between emotional intelligence, well-being, and perceived stress. Edwards et al. (2010) investigated stress and self-esteem in nursing students and found that they have the highest stress level in their third year, whereas their self-esteem levels get the lowest at the end of the training. Pulido-Martos, Augusto-Landa and Lopez-Zafra (2011) highlighted that the sources of stress in their study were reviews, workloads, and studying issues. Uncertainty and mistakes were other types of stress investigated in the study.

Academic stress influences students' academic performance (Mushtaq & Nawaz Khan 2012; Khan & Kausar 2013; Arsenio & Loria 2014; Beiter et al. 2015; Jose & Valsaraj 2015; Melaku, Mossie & Negash 2015). Other factors that can influence students' academic performance include communication, learning facilities, proper guidance, and family stress (Mushtaq & Nawaz Khan 2012). Besides stress, motivation and personality might also be related to academic performance (Park 2012), as are the pressure to succeed and post-graduate plans. The groups of students most identified with stress, anxiety, and depression were upper-class students, transfer students, and students living off-campus (Beiter et al. 2015).

However, academic stress might not have a significant correlation with academic achievement as there are different factors and stressors that might be more influential (Charkhabi, Azizi Abarghuei & Hayati 2013; Alyami et al. 2017). Charkhabi, Azizi Abarghuei, and Hayati (2013) found in their study that there was no correlation between professor-student relationship, psychological distress, and academic inefficacy. However, they found out that there is a statistically significant correlation between academic burnout and self-efficacy. Alyami et al. (2017) had similar results as they identified that insignificant academic performance was seen in cases of perceived stress levels. However, there was a low correlation between stress and self-efficacy.

Next, this review of the literature will focus on academic stress during the COVID-19 pandemic. It is important to note that there have not been many studies done on the proposed topic. However, almost all studies have emphasized the pandemic's significant influence on peoples' well-being (Elmer, Mepham & Stadtfeld 2020; Li et al. 2020; Moawad 2020; Pajarianto 2020; Sahu 2020). Also, Moawad (2020) investigated students' stressors during the pandemic and found

that uncertainty over the end-of-semester exams and assessments rated the highest. Besides uncertainty, the lack of student interaction resulted in students studying alone, which has caused high levels of stress, anxiety, and symptoms of depression among them. Also, there have been some studies that focused on student's perceptions of online learning during the COVID-19 pandemic. Almuraqab (2020) noted that although most of the participants preferred distance learning, it still had a psychological negative effect on them due to the absence of face-to-face learning. Hussein et al. (2020) founded that online learning has an advantage on time-effectiveness and participation. Online learning has also disadvantages including class management and technological issues (Hussein et al. 2020; Wangdi, Dema & Chogyel 2021). Adnan and Anwar (2020) also pointed out that students had technological issues and found it difficult to interact with their teachers virtually.

Previous studies investigated academic stress in general and provided some suggestions and solutions to ensure students' positive psychological well-being. Macgeorge, Samter, and Gillihan (2005) explored academic stress and found solutions to stress and depression, including informational support and emotional support. Raising awareness in the student counseling center of universities is essential, and there are regular seminars and workshops for students and teachers regarding psychological problems (Kumaraswamy 2013). Counselors have to be aware of cultural and individual differences between students in order to efficiently apply stress management techniques (Misra 2004). Also, counselors can consider mindfulness programs in helping students cope with academic stress. A study by Hjeltnes et al. (2015) identified five main findings in students who had the mindfulness session. Students reported that they started to find inner calmness and a shared human struggle, stayed focused, became curious, and felt more self-accepting. Kausar (2020) found out that there is a positive relationship between academic overloads and perceived stress. A better solution for stress was to have coping strategies rather than avoidance. Kausar (2020) highlights the importance of counseling for students to help them cope with stress and improve their academic performance. Moreover, religiosity, school support, teachers, and parents' academic stress can lower students' stress levels during the COVID-19 pandemic (Pajarianto 2020). According to Li et al. (2020), professional and family support is essential in reducing psychological distress. This study investigated the mental health of students during the COVID-19 pandemic, and it was found that it was positively related to mental distress and high symptoms of acute stress reaction; therefore, emotional support is vital to help the student

cope with stress (Li et al. 2020). The COVID-19 pandemic affects students' mental health because of the isolation and lack of interaction and emotional support; therefore, strategies to combine on-site teaching with online courses might be a good suggestion for improving education (Elmer, Mepham & Stadtfeld 2020).

2.5. Summary of Related Literature

The findings from the literature include some general trends, patterns and gaps. The general trends and patterns are within the factors of academic stress, the impact of COVID-19 on academic stress, the influence of academic stress on academic performance, and students' perceptions on online learning.

Some studies found out similar factors for academic stress such as academic overload, exams, self-esteem, and psychological distress (Edwards et al. 2010; Por et al. 2011; Pulido-Martos, Augusto-Landa & Lopez-Zafra 2011; Al-Sowygh 2013; Bataineh 2013). The current study focuses in-depth on the academic stress factors and COVID-19 stress factors. The academic stress factors of the current study are taken from Bedewy and Gabriel (2015) and they include Academic self-perception, Perceptions of workload, Pressure to perform, and Time restraints. The COVID-19 factors are COVID danger and contamination, COVID's socioeconomic consequences, COVID-related xenophobia, COVID-related traumatic stress, and COVID-related compulsive checking (Taylor et al. 2020). The current research adds to the gap in the literature as it is exposed to more factors to investigate to meet the research objectives. After exploring the different factors, the researcher compares the findings and approve or disapprove them with the results from the literature.

The purpose of the current study is to find out if there is an impact of COVID-19 on academic stress and few studies confirmed that (Elmer, Mepham & Stadtfeld 2020; Li et al. 2020; Moawad 2020; Pajarianto 2020; Sahu 2020). There is a need for further research to confirm the impact of COVID-19 on academic stress, so the current study aims for that. Moreover, the current study investigates the impact of academic stress on academic performance during COVID-19. Some studies were done previously before COVID-19 and found out that academic stress influences academic performance (Mushtaq & Nawaz Khan 2012; Khan & Kausar 2013; Arsenio & Loria 2014; Beiter et al. 2015; Jose & Valsaraj 2015; Melaku, Mossie & Negash 2015). The

current study adds to the literature with the factors of COVID-19 to find more about their influence on academic performance.

Latest studies on COVID-19 investigated students' perceptions on online learning (Adnan & Anwar 2020; Almuraqab 2020; Hussein et al. 2020; Wangdi, Dema & Chogyel 2021). Most of the studies were either quantitative or qualitative, but the current study uses mixed approach. Using both quantitative and qualitative data can explore more about the students' perceptions on COVID-19 and online learning.

The literature provides solutions to academic stress mainly by focusing on students' well-being by promoting counseling awareness and sessions (Misra 2004; Macgeorge, Samter, & Gillihan 2005; Kumaraswamy 2013; Hjeltnes et al. 2015; Kausar 2020). The current study focuses more on the impact of COVID-19 on academic stress to help in finding solutions. Some solutions from the students were included to support the literature.

3. Methodology

3.1. Overview of the Chapter

This methodology chapter includes the following: the philosophy of methodology, data collection plan, instruments, data analysis, delimitation, and ethical consideration. The methodology mainly describes the research approach, whether it is qualitative, quantitative, or mixed. The second part of this chapter discusses the data collection plan describing the method in depth as well as the context, the population, and the sample chosen. Instruments include the validation procedure, the type of instrument used, and the plan of implementing them. The data analysis plan mentions how data will be analyzed, interpreted, and discussed. The scope of the current paper explains what the study covers and explores, and the ethical consideration explains how participants were chosen for data collection.

3.2. Research Approach

The philosophy of methodology depends on the research topic and research objectives. The current research topic is "The effect of COVID-19 pandemic on academic stress and anxiety: A study on undergraduate students." There are two main objectives: to investigate the different stressors that could influence students academically and to identify students' experience on how they dealt with the stressors. Therefore, the research philosophy and paradigm chosen in this study is the pragmatic paradigm, and the research methodology uses a mixed methods approach. The mixed methods approach is mainly used to find solutions that work better rather than focusing on one reality as in the positivist view (Williams 2007). The mixed methods approach depends on both quantitative and qualitative data, in which it relies on numerical and interpretative data collection. The current study requires statistical data that reflect the study's statistical relationship between the variables. The independent variable is the COVID-19 pandemic, as it is an uncontrollable crisis that has arisen recently. The dependent variables in this study are the academic stress levels and anxiety between the students. Therefore, it is essential to test the relation between the variables through quantitative data. Moreover, this study requires qualitative data to determine the student's perceptions of the pandemic on their academic stress and anxiety levels and how they faced the challenge.

3.3. Data Collection Plan

Data collection is collecting data from different sources to solve a research problem or find answers to specific research questions. There are two types of data: primary data and secondary data. This dissertation will use primary data, which involves going into the field and collecting data, whereas secondary data is taking data from databases that have already been implemented in previous studies. The following paragraphs mentions data collection plan and procedure of the current study.

The data collection procedure requires a sample to test, and the process of choosing the participants is called sampling. The sample can be chosen from the population and can represent it as a whole when implemented accurately. The sampling process includes three major stages: identify the sampling frame, identify the sample size, and use sampling techniques.

Firstly, the sampling frame is defined as the frame that includes the population where the sample and participants are chosen (Singh 2007). The sampling frame for this study is undergraduate students from the College of Education (COE) and from different colleges studying COE elective courses in a federal university in the UAE. The students are females whose ages varies between 18 and 25.

Secondly, it is essential to consider the sample size, and since this is a mixed research approach, the aim is to have approximately 200 participants for the survey and the researcher conducted one group discussion with seven students. The approximate number of the whole targeted population is around 420 students studying at the COE. The survey received 210 responses, whereas the researcher analyzed 191 responses only after excluding non-received consent responses and participants under 18. The choice of a large number for the survey is to ensure the data's reliability and validity.

Thirdly, regarding the sampling techniques, non-probability sampling methods were chosen, and even though this type of sampling has high risks for sampling bias, it is more convenient to include a large number of participants. It is important to note that the four non-probability sampling approaches are convenience sampling, voluntary response sampling, purposive sampling, and snowball sampling. This research is specifically going to use the voluntary response sampling. The study's survey was sent as an email and was posted in

Blackboard, an online learning system used at the university for the students. Regarding the discussion, the researchers used convenience sampling and reached out to a group of seven students. They further discussed their perceptions of COVID-19 on academic stress and anxiety and their coping techniques.

3.4. Instruments

This section discusses the quantitative and qualitative data instruments, how they were developed, validated and used.

The instruments used in the current research for the quantitative data collection were previously developed tools and validated, but they were modified to suit the current sample. After the instruments were modified and finalized, they were sent for approval to the research committee to obtain the validation. This study identifies the stressors by using self-reported data from the survey. Moreover, the online survey was divided into three main categories: demographic information, COVID-19 stress scale (CSS), and academic stress inventory.

The demographic questions covered the group age, gender, marital status, undergraduate program, academic history, and Grade Point Average (GPA). CSS was developed by Taylor et al. (2020), and it consists of a 36-item questionnaire to measure the pandemic's stress levels. The questions' answers were measured on a Likert scale with 5 points ranging from "never" (1) to "always" (5). The answers to the questions in the CSS led to six categories, including COVID danger, contamination, COVID's socioeconomic consequences, COVID-related xenophobia, COVID-related traumatic stress, and COVID-related compulsive checking. Regarding the validation for the CSS, Taylor et al. (2020) measured convergent and discriminant validity to the instruments. The results showed significances in all the variables, which supported the effectiveness of the CSS (Taylor et al. 2020). When using the CSS in the current study, a word has been changed from "foreigner" to "stranger" in the questionnaire to avoid cultural sensitivity and follow the ethical committee's decision.

The study measured academic stress using another scale in addition to CSS, taken from Bedewy and Gabriel (2015), which includes a 18-question scale to examine the main sources of the stress and the students' opinions about it. The first 5-questions' answers are scored on a 5-

point Likert scale, from strongly disagree (1) to strongly agree (5). The other 13-questions' answers are also scored on a 5-point Likert scale, but from strongly agree (1) to strongly disagree (5). It is essential to note that the questions were divided into two parts, with a change in point numbers in the scale to ensure valid and unbiased answers. Some of the reparative questions in each inventory were taken out for two purposes, including the questionnaire's length and easiness. Regarding the academic stress inventory's validity, evidence showed significance when measuring content and convergent validity. Factor analysis also showed four correlated factors which explains the validity of the inventory. The four validated factors of the academic stress inventory are: Academic self-perception, Perceptions of workload, Pressure to perform, and Time restraints. The researcher has taken the approval from the program's supervisor and formed a 30-items survey with combining the two mentioned inventories and 6 demographic questions.

Furthermore, to understand the students' perceptions and experiences, the researcher developed a focused group interview questions. According to Kvale (1996, p. 1, 4), an interview is "an interchange of views between two or more people on a topic of mutual interest." The interview emphasizes human interaction to gain knowledge that could be used as research data. There are many types of interviews: the structured interview, the semi-structured interviews, the unstructured interview, the non-directive interview, and the focused interview (Fontana & Frey 2000). The proposed interview used was a group semi-structured interview, as the questions were prepared beforehand. The interviewer asked open-ended questions, which were open for a discussion. The questions were about the students' experiences and perceptions of academic stress during the COVID-19 pandemic. Moreover, the questions were mainly about how students have dealt with their stress during the epidemic. The researcher developed the discussion interview questions after gathering the quantitative data to add and fill the gaps, and the research supervisor and the ethical research committee reviewed the questions.

3.5. Data Analysis Plan

After collecting the data, an analysis will have to be implemented, but for this study, there will be two types of analysis because there are two types of data. The first data will be extracted from the questionnaire as quantitative data. This data will have to be analyzed according to the relation between COVID-19 and academic stress. The descriptive statistics, t-test, analysis of variance (ANOVA), and correlation have to be measured using a statistical analysis program to

obtain this relation. In this case, the Statistical Package for the Social Sciences (SPSS) will be used as a tool to help in analyzing the quantitative data. The statistical analysis will be very beneficial to find if there is a relation and how significant the variables are to measure if COVID-19 has a major or significant impact on academic stressors. Descriptive statistical analysis will also be measured, including the frequencies and means to determine a pattern within the data. The second type of data will be qualitative, taken from interviewing seven participants in a discussion focused group. Qualitative data has to be measured by creating categories and themes to find a thematic pattern between answers. Moreover, the thematic analysis will be used to divide the transcripts into categories, codes, and themes. Microsoft Excel will help organize the qualitative data taken from the interview in the current study.

3.6. Study Scope and Delimitation

Scope of the Study

Understanding the impact of COVID-19 will support the educational administrators to help students cope with difficult situations. It will also help in the current situation and develop a solid educational system and adapt effective techniques and methods to help the students have positive well-being. This research is also beneficial to add knowledge and evidence by understanding students' perceptions toward COVID-19 on academic stress and anxiety. During the COVID-19 pandemic, there has been a lack of direct communications with students, so this study will help raise more awareness in students to understand more about how they feel and how to know how to deal with academic stress.

The population used in the presented study is 191 undergraduate students in the COE and from other colleges studying COE elective courses in a federal university in the UAE. The actual respondents used for the survey are approximately 50% of the population since the total number is around 420 students, and about 210 students were surveyed, 16 participants were excluded because some reported not agreeing to participate, whereas others were under 18 years old. Therefore, the number of samples that were suitable and answered the survey was (N=191) participants. The focused group discussion included seven students, and the data collection was done at the end of January and the beginning of February 2021. The ethical research approval took

four months because the topic is sensitive, and the research has been conducted during the pandemic.

Delimitation

The delimitation section summarizes the study's limitations regarding its scope in its sample size and instruments, explaining the reasons for using them and overcoming the boundaries.

Firstly, as mentioned previously, around 50% of the population was surveyed. The researcher chose the participants from the COE and students from other colleges studying elective courses in the COE because anecdotally, several COE students expressed their stress and anxiety. Students reported that they were anxious, and they were not sure about the changes made in education because it got shifted to be online. The sampling technique was a non-probability technique, and respondents were chosen voluntarily. The non-probability sample might be biased, but this was decided because the research's topic is slightly sensitive, which might be stressful for the students.

Secondly, it was also mentioned that the researcher developed the online survey using two different inventories, including academic stress inventory and CSS (Bedewy and Gabriel 2015; Taylor et al. 2020). It was difficult to find one suitable instrument, so the researcher decided to combine two instruments. The purpose of using these two inventories is that both of them are recent and identifies the research's focus. The first inventory explores the stressors and anxiety levels from COVID-19, then the second inventory identified academic pressure.

3.7. Ethical Consideration

Every study has to consider ethical principles and procedures during the planning and implementation processes. Research ethics is a significant concept that caught the attention of researchers all around the world. When research started in psychology, there were no ethical considerations, but severe issues regarding human rights and ethics came to attention. Thus, the current research has ethical issues, including the ethics risks, reliability of data and samples, and bias consideration.

The researcher ensured to get approval from three entities, including two universities and the Ministry of Health and Prevention (MOHAP) in the UAE. Each entity required certain documents and training to ensure ethical consideration in the study. Firstly, since this study is a dissertation, the researcher received the first approval from the university running the Educational Psychology program. The university required brief information on the research and ensured the research risks are low. Secondly, the researcher sought approval from the federal university where the research was conducted. The ethical committee requested specific documents, including a summary of the study, the instruments, and a Collaborative Institutional Training Initiative Certificate. This training gives researchers knowledge in researching human participants and data to ensure human rights, protection, and safety. Finally, the researcher got approval from MOHAP because the current study requires the ministry's agreement for any research that includes COVID-19. The researcher filled out an ethical form and completed a six-hour course on "Good Clinical Practice."

After finalizing and confirming the instruments and all ethical matters, the research was ready to be implemented. It is essential to consider that the researcher reviewed all questions to be suitable and the study was voluntary to avoid any pressure on the sample. The study clearly stated its purpose and objectives and gave an overview of how the survey will be carried on. The first question was asking participants if they agree to participate voluntarily. The researcher excluded all results that did not agree to participate regardless of providing all the answers. Moreover, to avoid bias as much as possible in the survey, the researcher included answers in a Likert scale in the first part from "strongly agree (5)" to "strongly disagree (1)". Then the researcher flipped the answers from "strongly agree (1)" to "strongly disagree (5)", but the researcher unified all points in the responses when running the analysis. Regarding the discussion, the research received approval from the university, the Dean, and the students to discuss ideas about the topic and share feedback on limiting academic stress during COVID-19.

The current study does not include any potential harm or negative consequences. However, since the research topic is about COVID-19 and academic stress, some participants might be already facing academic pressure or are stressed from the virus. However, to avoid any anxiety, the consent form in the survey explains clearly what the study is about, so participants are aware

of the questionnaire. Also, it gives them the option to join the study and drop from it any time. In the qualitative data collection, the researcher explained the research topic with the targeted teacher's course and shared the questions before the discussion. Another essential part of research ethics is confidentiality; thus, to protect participants, ensure privacy, and prevent ethical risks, the study was anonymous and did not mention names.

3.8. Trustworthiness

The following section mentions the reliability of the quantitative data and the trustworthiness of qualitative data.

<u>Reliability of the Quantitative Data</u>

The quantitative data were reliable because the responses were consistent, which was shown when running the correlation between the variables (**see Table 8**). Regarding the validity of the data, the instruments measure what is meant to be measured, including the COVID-19 stress factors and academic stress factors. As mentioned previously, both instruments have content and convergent validity as both of them showed significance to ensure validity (Bedewy and Gabriel 2015; Taylor et al. 2020). Although collecting the data has all been done online, communication between faculty and students ensured reliability.

<u>Trustworthiness of Qualitative Data.</u>

The qualitative data were credible, dependable, and authentic. The data and the interpretations are credible because the researcher used convenient sampling as the respondents were comfortable being in the discussion. Regarding the interpretations, the researcher interpreted the data using thematic analysis, and it was reviewed by the researcher and another colleague (acknowledged in this study) to avoid bias. The qualitative data were dependable as they were stable because the responses were so clear that they could not be interpreted differently. Moreover, the data can be described as authentic because the researcher used some quotes from the transcript. The expressions were almost similar but might not be the same due to translating the Arabic language to the English language. The researcher recorded the discussion in Arabic and wrote the transcript in English. Although the data were credible, they probably cannot be generalized to the

whole sample of the quantitative data since the discussion was limited to seven students in their internship. However, understanding their perceptions of the research topic and having some suggestions from them enriched the study.

4. Results, Analysis and Discussion

4.1. Overview of the Chapter

The following chapter is divided into two sections, including the analysis and discussion of quantitative data, and qualitative date. Each section describes three main parts, including results, analysis, and discussion. The first result section includes all the findings of the methodology used. The second section is the analysis, and it consists of the main statistical analysis used and the purpose of using them. As mentioned in the methodology, the current statistical analysis includes descriptive, t-test, ANOVA, and correlation for the quantitative data. The qualitative data is analyzed into themes and categorized using the thematic analysis approach. The third section is the discussion, which includes in-depth interpretations of the findings. Also, it explains the relationships of the variables and why the relationship is either strong or weak. This section also provides some evidence from the literature review to support the findings and compare them with other studies conducted previously.

4.2. Analysis of Quantitative data

As discussed previously, the survey sent to the students includes three parts: the demographic information, academic stress inventory, and the COVID-19 stress inventory. The researcher analyzed the survey based on the research question, and it consisted of several types of analysis, including descriptive analysis, t-test, ANOVA, and correlation.

Descriptive Analysis, t-test, and ANOVA

The researcher chose different demographic information factors such as age, gender, class classifications, majors, and participants' grades. The respondents chosen were from the COE and other colleges but studying COE elective courses (N = 191), and most participants' ages ranged from 18-24 (p = 93%). They were all females (p = 99%) as two participants did not identify their gender (p = 1%).

Students varied in their year classification: First-year students (p = 6.8%), Second-year students (p = 21.1%), Third-year students (p = 46.1%), Senior/Fourth-year students (p = 25.1%) **(See Graph 1, Appendix H, p. 134).** Most of the participants were from the COE (p = 77.5%). Other participants were from other colleges studying COE elective courses, including College of Communication & Media Sciences (p = 14.1%), College of Natural and Health Sciences (p = 6.3%), College of Arts and Creative Enterprises, and College of Humanities and Social Sciences (p=1 %) each **(See Graph 2, Appendix H, p. 134).** Students reported their GPA as the following: A-range (p = 48.2%), B-range (p = 48.7%), C-range (p = 2.6%), D or Below (p=0.5%) **(See Graph 3, Appendix H, p. 135).**

Table 1 below shows the descriptive statistics of the items with the highest *Mean* only in the study. The table also shows the number of the participants (N), the minimum and maximum numbers of the Likert scale, the mean (M), and the standard deviation (SD).

Table 1: Descriptive Statistics in the Survey's Items Analysis

Items	N	Minimum	Maximum	Mean	Std. Deviation
The examination times are very stressful to me	191	1	5	3.83	1.136
The size of the curriculum (workload) is excessive	191	1	5	3.60	1.046
I am often worried that I can't keep my family safe from the virus	191	1	5	3.60	1.290
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	191	1	5	3.59	1.147
The examination questions are usually difficult	191	1	5	3.54	1.004

The examination time received the highest level of anxiety between students (M = 3.83). Workload and family safety are the second stressors which received (M = 3.60) each. Strangers in an elevator (M = 3.59) and examination questions were least stressed (M = 3.54). The results in **Table 1** show that the sample felt mostly stressed in the examination time although the average stress level was not severe.

Table 2 below explores all items' factor analysis specifically in their N, minimum and maximum numbers of the Likert scale, the M and the SD.

Table 2: Descriptive Statistics in the Survey's Factors Analysis

Factors	N	Minimum	Maximum	Mean	Std. Deviation
Academic self-perception	191	1.00	5.00	3.6736	1.03107
Perceptions of workload	191	1.00	5.00	3.5707	.82173
Pressure to perform	191	1.00	5.00	3.2712	.72137
Xenophobia	191	1.00	5.00	3.2705	1.03709
Contamination	191	1.00	5.00	3.2443	.96348
Time restraints	191	1.00	5.00	3.2356	.98381
Danger	191	1.00	5.00	3.2304	1.00081
Compulsive checking	191	1.00	5.00	2.8255	1.08570
Social Economic	191	1.00	5.00	2.2094	1.15080
Traumatic	191	1.00	5.00	2.1972	1.12290
Valid N (listwise)	191				

Table 2 shows that the academic self-perception factor was the highest in stress level among the participants (M = 3.67), and the perceptions of workload factor was the second highest in stress (M = 3.57). The least two stressors were social economic (M = 2.20) and then traumatic (M = 2.19). This table explains that the students were slightly more stressed academically than the COVID-19 pandemic.

Table 3.1 below demonstrates the descriptive statistics of the highest *Mean* in the survey's items by dividing the sample in A-range and B-range. A-range is for students who reported their GPA from 3.7 and above, and the B-range sample are students who reported their GPA from 2.7-3.3. The table also shows N, the M, the SD and the SD error mean.

Table 3.1: Descriptive Statistics in the Survey's Group Statistics by GPA Category (A-range and B-range)

Group Statistics					
Items	GPA Categ	N	Mean	Std. Deviation	Std. Error Mean
I think that my worry about examinations is weakness of character	B-range	93	3.37	1.071	.111
	A-range	92	2.87	1.160	.121
The examination questions are usually difficult	B-range	93	3.88	.792	.082
	A-range	92	3.13	1.029	.107
The examination time is short to complete the answers	B-range	93	3.63	1.130	.117
	A-range	92	3.23	1.149	.120
The examination times are very stressful to me	B-range	93	3.99	1.016	.105
	A-range	92	3.61	1.231	.128
I am often worried that strangers are spreading the virus because they're not as clean as we are	B-range	93	3.12	1.342	.139
	A-range	92	2.57	1.345	.140
Successful Career Recoded	B-range	93	1.7527	.94012	.09749
	A-range	92	2.1957	1.54236	.16080

Table 3.1 includes the highest mean of the items when dividing them in groups accordingly to the student's GPA, especially A-range and B-range. **Table 3.1** and **Table 3.2** (which is introduced below) discuss the *t-test* analysis, and it was used to examine the influence of student's performance on the different stressors presented in the survey especially their GPA. Levene's test was used to check out for equality of variances to assume that the variances are equal or assume that they are not equal. The purpose was to determine if there are differences between A-range and B-range students and the stress levels.

Table 3.2 shows Levene's Test for quality of Variances between the sample's GPA Category between A-range and B-range. The table shows the significance of the variance.

Table 3.2: Independent Samples Test - Levene's Test for Equality of Variances by GPA Category (A-range and B-range)

Independent Samples Test						
		Levene's Test for Equality of Variances				
Items		F	Sig.	t	df	Sig. (2-tailed)
I think that my worry about examinations is weakness of character	Equal variances assumed	.018	.892	3.022	183	.003
	Equal variances not assumed			3.021	181.522	.003
The examination questions are usually difficult	Equal variances assumed	12.034	.001	5.567	183	.000
	Equal variances not assumed			5.559	170.828	.000
The examination time is short to complete the answers	Equal variances assumed	.296	.587	2.423	183	.016
	Equal variances not assumed			2.423	182.863	.016
The examination times are very stressful to me	Equal variances assumed	13.144	.000	2.294	183	.023

	Equal variances not assumed			2.292	175.945	.023
I am often worried that strangers are spreading the virus because they're not as clean as we are	Equal variances assumed	.052	.820	2.800	183	.006
	Equal variances not assumed			2.800	182.969	.006
Successful Career Recoded	Equal variances assumed	26.109	.000	-2.362	183	.019
	Equal variances not assumed			-2.356	150.125	.020

Table 3.2 displays the t-test analysis, and it shows that Group 1, A-range (M = 2.87, SD = 1.16) differed from Group 2, B-range (M = 3.37, SD = 1.07) as assumed, t (181.522) = 3.021, p = .003 in the item, "*I think that my worry about examinations is weakness of character*". The statistical analysis means that the Mean score is significantly different in A-range students than in B-range, which explains that students who perform better have lower stress levels than students who perform slightly less.

The results also showed that Group 1, A-range (M = 3.13, SD = 1.029) differed than Group 2, B-range (M = 3.63, SD = .792) significantly in *"The examination questions are usually difficult"* item, t (170.828) = 5.559, p = .000. The analysis means that students who performed higher reported less stress than the other group on examination questions.

Regarding the examination time, there were two items which showed significant analysis, including *"The examination time is short to complete the answers"* in Group 1, A-range (M = 3.23, SD = 1.149), and Group 2, B-range (M = 3.63, SD = 1.130), t (182.863) = 2.423, p=.016.

The second item is *"The examination times are very stressful to me"* in Group 1, A-range (M = 3.23, SD = 1.149), and Group 2, B-range (M =3.99, SD = 1.016), t (175.945) = 2.292, p = .023, which also showed significance. This analysis explains that students who have higher grades are less stressed regarding time restraints, especially in exams, whether it is the examination time or the examination period as a whole. The item, *"I am often worried that strangers are spreading the virus because they're not as clean as we are,"* also showed significance in variances between the two groups: Group 1, A-range (M = 3.25, SD = 1.263) Group 2, B-range (M =3.51, SD = 1.221), t (182.969) = 2.80, p =.006. This result shows that A-range students are less stressed from strangers in terms of COVID-19 than B-range students. The item, *"Successful Career Recoded"* showed significant difference as well between the two presented groups, as in Group 1, A-range (M = 2.195, SD = 1.54), and Group 2, B-range (M=1.752, SD = 0.940), t (150.125) = -2.356, p = .020. This result clarifies that A-range students are stressed about their future careers than B-range students, as they reported higher stress levels.

Table 4.1 below shows the descriptive statistics of the highest *Mean* in the survey's factors by diving the sample accordingly to their GPA, especially in A-range and B-range.

Table 4.1: Descriptive Statistics and Significance of the Factors Sorted by GPA Category (A-range and B-range)

Item	GPA Categ	N	Mean	Std. Deviation	Std. Error Mean
Perceptions of workload	B-range	93	3.7473	.68613	.07115
	A-range	92	3.3370	.86478	.09016
Time restraints	B-range	93	3.3925	.89031	.09232
	A-range	92	3.0326	1.02925	.10731

Table 4.1 shows that only perception of workload and time restraints has the highest level of stress between A-range and B-range students. A t-test analysis was also used to examine the factors of stress levels on COVID-19 and academic stressors. The findings showed a significance in the variance between Group 1, A-range (M = 3.33, SD = 0.864) and Group 2, B-range (M = 3.74, SD = 0.686) in the *"perception of workload"* factor. Also, a significance shown also between

Group 1, A-range (M = 3.03, SD = 1.029) and Group 2, B-range (M = 3.39, SD = 0.890) in the *"time restraints"* factor. The significance can be shown clearly in **Table 4.2** (see below).

Table 4.2 below shows the t-test analysis of the significances of variance in perceptions and workload and time restraint factors when dividing the same accordingly to their GPA as in A-range and B-range.

Table 4.2: Independent Samples Test - Levene's Test for Equality of Variances of the Factors Sorted by GPA Category (A-range and B-range)

Independent Samples Test		Levene's Test for Equality of Variances				
		F	Sig.	t	df	Sig. (2-tailed)
Perceptions of workload	Equal variances assumed	4.001	0.047	3.577	183	0
	Equal variances not assumed			3.573	173.194	0
Time restraints	Equal variances assumed	2.426	0.121	2.544	183	0.012
	Equal variances not assumed			2.542	178.719	0.012

The t-test is t (173.194) = 3.57, p =.000 in the *"perception of workload"* factor, and these statistics explain that students whose grades are within the A-range are less stressed than students whose grades are in the B-range in academic workload as in assignments and curriculum. Also, a significance shown also between Group 1, A-range and Group 2, B-range, as the t-test is t (178.719) = 2.542, p = .012 in the *"time restraints"* factor. These findings explain that students within the A-range are less stressed in time restrains than B-range students.

Table 5 below shows ANOVA analysis to understand if there is a relationship between students' year classifications and stress levels on COVID-19 and academic stressors. The table includes the items from the survey that significances.

Table 5: ANOVA- Descriptive Statistics and Significance of the Items Sorted by Students' Years Classification Between and Within Groups

		Sum of Squares	df	Mean Square	F	Sig.
I think that my worry about examinations is weakness of character	Between Groups	11.199	3	3.733	2.855	.039
	Within Groups	243.243	186	1.308		
	Total	254.442	189			
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	Between Groups	12.058	3	4.019	3.142	.027
	Within Groups	237.921	186	1.279		
	Total	249.979	189			

The one-way ANOVA identified two significances in **Table 5** within the item *"I think that my worry about examinations is weakness of character"* $F(3, 186) = 2.85$, $P = .039$. Also, the item, *"If I was in an elevator with a group of strangers, I'd be often worried that they are infected with the virus"* $F(3, 186) = 3.14$, $P = .027$ showed significance. One-way ANOVA identified the significance of variance between the students' year classifications shown in **Table 5**, including the first year, second year, third year, and fourth year (senior), but it is still unclear which year has more variance with the items presented.

Therefore, Tukey's Test for Post-Hoc Analysis specified the years shown in **Table 6.1 and Table 6.2** (which is introduced below). **Table 6.1** below specifically shows the highest Mean of the survey's items when dividing the sample accordingly to their years classification. The table includes the Mean difference, the SD error and the significance.

Table 6.1: ANOVA- Descriptive Statistics and Significance of the Items Sorted by Students' Years Classification

Multiple Comparisons					
Tukey HSD					
Dependent Variable	(I) What is your current student classification?	(J) What is your current student classification?	Mean Difference (I-J)	Std. Error	Sig.
I think that my worry about examinations is weakness of character	First-year student	Second-year student	-.210	.364	.939
		Third-year student	-.694	.340	.176
		Senior	-.308	.358	.825
	Second-year student	First-year student	.210	.364	.939
		Third-year student	-.484	.216	.117
		Senior	-.098	.243	.978
	Third-year student	First-year student	.694	.340	.176
		Second-year student	.484	.216	.117
		Senior	.386	.205	.239
	Senior	First-year student	.308	.358	.825
		Second-year student	.098	.243	.978
		Third-year student	-.386	.205	.239
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	First-year student	Second-year student	1.071[*]	.360	.017
		Third-year student	.939[*]	.336	.029
		Senior	.816	.354	.100
	Second-year student	First-year student	-1.071[*]	.360	.017
		Third-year student	-.132	.214	.926
		Senior	-.256	.241	.713
	Third-year student	First-year student	-.939[*]	.336	.029
		Second-year student	.132	.214	.926

		Senior	-.123	.203	.930
	Senior	First-year student	-.816	.354	.100
		Second-year student	.256	.241	.713
		Third-year student	.123	.203	.930
*. The mean difference is significant at the 0.05 level.					

Table 6.1 shows there is significance especially in the second item, *"If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus"*. However, it is unclear how year's classifications are variant from each and Table 6.2 shows more the significance of the item mentioned.

Table 6.2 shows ANOVA using Tukey's test to identify which year classification is the one differs. The table below shows the two items mentioned in **Table 6.1**.

Table 6.2: ANOVA - Tukey's Honest Significance Test of the Items Sorted by Students' Years Classifications

I think that my worry about examinations is weakness of character			If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus			
Tukey HSD[a,b]			Tukey HSD[a,b]			
What is your current student classification?	N	Subset for alpha = 0.05	What is your current student classification?	N	Subset for alpha = 0.05	
		1			1	2
First-year student	13	2.69	Second-year student	41	3.39	
Second-year student	41	2.9	Third-year student	88	3.52	
Senior	48	3	Senior	48	3.65	
Third-year student	88	3.39	First-year student	13		4.46
Sig.		0.091	Sig.		0.818	1

Table 6.2 explains that the item, *"If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus"* has a high difference, as first-year students showed a higher level of stress than second, third- and fourth-year students. It was found out that first-year students reported a higher level of stress from strangers, especially in the elevator. There is a significant difference p = .027, and the mean was reported with the following: First-year (M= 4.46), Second-year (M = 3.39), Third-year (M = 3.52), and Fourth-year (M = 3.65). The other item, *"I think that my worry about examinations is weakness of character"* did not show a significance in variance according to the years classifications which means that years classification did not have an influence on the item.

Table 7.1 below shows one-way ANOVA on the survey items' factors and the table only shows xenophobia factor as it shoes the significance when diving the sample accordingly to their years classifications.

Table 7.1: ANOVA- Descriptive Statistics and Significance of Xenophobia Factor Sorted by Students' Years Classification Between and Within Groups

ANOVA					
Xenophobia					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.332	3	3.111	2.975	.033
Within Groups	194.491	186	1.046		
Total	203.822	189			

Table 7.1 only shows the significance of xenophobia which is P = 0.033, but it is still unclear which year differs the most, so **Table 7.2** shows more details.

Table 7.2 below displays ANOVA using Tukey's test to identify which year classification differ in the xenophobia factor.

Table 7.2: ANOVA - Tukey's Honest Significance Test of Xenophobia Factor Sorted by Students' Years Classifications

Xenophobia			
Tukey HSD[a,b]			
		Subset for alpha = 0.05	
What is your current student classification?	N	1	2
Second-year student	41	2.9350	
Third-year student	88	3.2841	3.2841
Senior	48	3.3611	3.3611
First-year student	13		3.8462
Sig.		.374	.148
Means for groups in homogeneous subsets are displayed.			
a. Uses Harmonic Mean Sample Size = 29.960.			
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.			

The researcher performed one-way ANOVA on the survey items' factors, and only the xenophobia factor had a significance shown **in Table 7.1 and Table 7.2,** $F(3, 186) = 2.97$, $P = .033$. After applying Tukey's Test for Post-Hoc Analysis shown in **Table 7.2**, it was shown that First-year students reported the highest level of stress level in xenophobia factor (M= 3.84). Second-year students reported the lowest level of stress (M = 2.93).

Correlation

Correlation was also used to find the statistical relationship between the factors presented in the survey. **Table 8** below shows the possibility of correlation in all of the survey's factors. The numbers in red shows higher positive correlation, whereas the numbers in green shows moderate positive correlation between the factors.

Table 8: Factors Correlation

Correlations

		Danger	Social Economic	Xenophobia	Contamination	Traumatic	Compulsive checking	Pressure to perform	Perceptions of workload	Academic self-perception	Time restraints
Danger	Pearson Correlation	1	.427**	.557**	.635**	.425**	.493**	.163*	.185*	-.040	.234**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.024	.010	.587	.001
	N	191	191	191	191	191	191	191	191	191	191
Social Economic	Pearson Correlation	.427**	1	.419**	.428**	.681**	.476**	.334**	.230**	-.130	.285**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.001	.072	.000
	N	191	191	191	191	191	191	191	191	191	191
Xenophobia	Pearson Correlation	.557**	.419**	1	.636**	.402**	.508**	.201**	.125	.117	.214**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.005	.086	.106	.003
	N	191	191	191	191	191	191	191	191	191	191
Contamination	Pearson Correlation	.635**	.428**	.636**	1	.538**	.642**	.137	.066	-.039	.037
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.058	.367	.594	.611
	N	191	191	191	191	191	191	191	191	191	191
Traumatic	Pearson Correlation	.425**	.681**	.402**	.538**	1	.674**	.390**	.270**	-.088	.254**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.228	.000
	N	191	191	191	191	191	191	191	191	191	191
Compulsive checking	Pearson Correlation	.493**	.476**	.508**	.642**	.674**	1	.251**	.116	-.098	.114
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.110	.179	.116
	N	191	191	191	191	191	191	191	191	191	191
Pressure to perform	Pearson Correlation	.163*	.334**	.201**	.137	.390**	.251**	1	.514**	-.250**	.578**
	Sig. (2-tailed)	.024	.000	.005	.058	.000	.000		.000	.000	.000
	N	191	191	191	191	191	191	191	191	191	191
Perceptions of workload	Pearson Correlation	.185*	.230**	.125	.066	.270**	.116	.514**	1	-.129	.508**
	Sig. (2-tailed)	.010	.001	.086	.367	.000	.110	.000		.075	.000
	N	191	191	191	191	191	191	191	191	191	191
Academic self-perception	Pearson Correlation	-.040	-.130	.117	-.039	-.088	-.098	-.250**	-.129	1	-.128
	Sig. (2-tailed)	.587	.072	.106	.594	.228	.179	.000	.075		.078
	N	191	191	191	191	191	191	191	191	191	191
Time restraints	Pearson Correlation	.234**	.285**	.214**	.037	.254**	.114	.578**	.508**	-.128	1
	Sig. (2-tailed)	.001	.000	.003	.611	.000	.116	.000	.000	.078	
	N	191	191	191	191	191	191	191	191	191	191

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

The findings shown in **Table 8**, showed positive correlation between academic stressors factors and COVID-19 stressors independently. There is a strong positive correlation when comparing Danger factor with the following factors: xenophobia and contamination $r(189) = .55$, $p = .00$, and $r(189) = .63$, $p = .00$. There is also a strong positive correlation between social economic factor and traumatic factor $r(189) = .68$, $p = .00$. A strong positive correlation was shown between xenophobia comparing it with contamination and compulsive checking, $r(189) = 63$, $p =$

.00, and $r(189) = .50$, $p = .00$. Contamination factor with traumatic and compulsive checking factors, showed strong positive correlations $r(189) = .53$, $p = .00$, and $r(189) = .64$, $p = .00$. The traumatic factor and compulsive checking factor showed a strong positive correlation, $r(189) = .67$, $p = .00$. There is a strong positive correlation when comparing pressure to perform factor with perception of workload and time restraints factors, $r(189) = .51$, $p = .00$, and $r(189) = .57$, $p = .00$. Finally, perception of workload and time restraints factors showed a strong positive correlation, $r(189) = .50$, $p = .00$.

Quantitative Data Discussion and Interpretation

The current study mentioned the research problem, objectives, and questions. The research problem is related to the stress and anxiety among undergraduate students during COVID-19. The students reported being stressed as the educational system moved online. This study has three research objectives: finding the effect of COVID-19 on academic stress, exploring the academic stressors that might cause stress and anxiety, and finding out about the students' perceptions and coping skills. The research questions are formed from the research problem and objectives. The research questions are: (a) "Does COVID-19 have an impact on academic stress?" (b) "How do anxiety types and academic pressure in an online environment influence the student academic performance?" (c) "How did participants overcome their challenges during the COVID-19 pandemic?" and (d) "What areas of academic stress and COVID-19 stress inventories have highest stress levels?" The research objectives and questions, except for question (c), can be investigated using quantitative data. The last objective and question (c) will be explored using qualitative data. The qualitative data analysis and discussion will be mentioned after this section.

This section will include four academic stress areas from the findings to fulfill the research objectives and answer the research questions. The four aspects are students' psychological well-being, academic pressure, academic performance, and students' year classifications. Moreover, each area will include the main findings, theoretical explanations, and evidence from the literature review. Firstly, the results indicated higher stress levels with the xenophobia items, *"If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus"* and *"I am often worried that strangers are spreading the virus because they're not as clean as we are"* **(see Table 1, Table 3.1, & Table 3.2)** in the CSS (Taylor et al. 2020). Xenophobia is a Greek

word; "xenos" means "foreigner" or "stranger," so the whole word means the fear of a stranger (Bordeau 2010). Also, the students reported high stress levels when it comes to being trapped in an elevator with a stranger. This result explains xenophobia and agoraphobia in anxiety disorders; "agoraphobia" means the fear of being in situations that one finds difficult to escape (Hemmings 2018). The findings of the mentioned anxiety categories were quite expected because the researcher assumed that COVID-19 affects students' well-being by creating an anxious environment. Anxiety has affected many people because it is common for people during the pandemic (Hyland et al. 2020). This finding answers the research question in exploring which COVID-19 stress inventory factor was the highest, and it was found out that xenophobia has the highest stress level. The objective was to understand if COVID-19 affected students, and the mentioned finding indicates an indirect influence of COVID-19 on students.

Moreover, when students experience anxiety and stress daily, they will have difficulties focusing on their studies. Hemmings (2018) stated that the main anxiety symptoms are having difficulties focusing, racing thoughts, and over-thinking. Therefore, when anxiety is severe, everyday life activities get harder, such as studying for the students.

Secondly, academic pressure played an essential role in the study as one of the objectives and research questions was about identifying the highest levels in academic stress inventory (Bedewy and Gabriel 2015). Thus, students reported that academic stress factors, including examination time and workload size **(see Table 2)**, were slightly stressful. Also, overall academic self-perception and perceptions of workload were the highest factors in stress between the students. Bataineh (2013) had a similar finding, stating that some factors, including high academic stress and overloads, study time, and exams, lead to high stress levels between the students. Al-Sowygh (2013) also found out that academic pressure and overload are critical stressors that influence students. Pulido-Martos, Augusto-Landa, and Lopez-Zafra (2011) explored workload, and their result indicated that it is one of the primary sources of stress between the students. The mentioned findings indicate that workload and exams are the main stressors for the student.

Thirdly, academic performance is one of the essential aspects of the current research. Academic performance can be explained by self-efficacy and self-determination theories. As mentioned in the literature, self-efficacy is someone's belief in their ability to perform something

(Bandura 1977). When relating the self-efficacy theory to education, it is expected that students who believe in their ability will have a higher self-efficacy, and this would lead them to perform better. Another theory is the SDT about the inner motivation of someone, and it can emphasize students' academic performance. It is assumed that when students motivate themselves more, they will perform better in education. Also, it is essential to note that students' academic performances are affected by academic stress (Mushtaq & Nawaz Khan 2012; Khan & Kausar 2013; Arsenio & Loria 2014; Beiter et al. 2015; Jose & Valsaraj 2015; Melaku, Mossie & Negash 2015). The results of the current study support the mentioned assumptions, as they show a significant difference between A-range and B-range students in the following items: worrying about the exam is a weakness of character; difficulty in examination questions cause stress; examination time is short; examination periods are stressful; successful career reloaded; fear from strangers spreading the virus **(See Table 3.1 & 3.2)**. Also, there are significate variances between the factors of perception of workload and time restraints between A-range and B-range students. A-range students performed better and showed more confidence in themselves than B-range students. Charkhabi, Azizi Abarghuei, and Hayati (2013) found a statistically significant correlation between academic burnout and self-efficacy. The current study found a strong positive correlation when comparing the pressure to perform factor with workload perception. When students have stress and pressure and start to have a lower self-efficacy, this will lead to burnout.

Finally, the student classification factors have also been influential in the study, as it points out the year differences between students and how they influence them academically **(see Table 5, Table 6.1 & Table 6.2)**. It is expected that first-year students might be more stressed because, as mentioned in the literature, the changes in their environment are stressful, especially for students transitioning from high school to university. Moreover, during the pandemic, the educational environment changed to online classes with limited directions to face difficulties and challenges. The findings showed that first-year students were more stressed than other students in terms of fearing strangers in the elevator. Also, there was a significant difference between classifications made by students in different years regarding the items *"examination is weak of character"* and *"fear of strangers in an elevator."*

Furthermore, the xenophobia factor showed significance in students' stress levels in terms of years **(See Table 7.1 & Table 7.2).** Edwards et al. (2010) had a different finding: Third-year

students experienced the highest level of stress. However, the study measured the stress levels of nursing students, so the program's later years might be more stressful due to the students' program. The current study measures the stress levels of students studying in the COE and from other colleges studying COE electives, so the program focuses on creating leaders and educators and targets the students' leadership and confidence development.

4.3. Summary of the Quantitative Results

The current research results were divided into four categories: students' psychological well-being, academic pressure, academic performance, and year classifications. The survey results indicated stress influences in each of the mentioned categories; thus, there were intense stress levels regarding COVID-19 and academic stress. However, there was not a direct correlation between COVID-19 and academic stress. The strong correlations were between most of the COVID-19 factors and academic stress factors independently. Also, results indicated that xenophobia was the COVID-19 factor causing the most stress, and first-year students showed stress levels higher than those of second-year, third-year, and fourth-year students. Also, it was found that students who earned A's were more confident and showed more concern for a future career than did students earning B's. The results did not wholly support the researcher's expectation that COVID-19 directly influences academic stress. Therefore, the following section will mention the qualitative data, which clarifies the impact of COVID-19 on academic stress.

4.4. Analysis of Qualitative data

Thematic Analysis

As mentioned previously, the qualitative data were collected by conducting a student-focused group of seven students to discuss the topic and investigate their perceptions of the effects of COVID-19 on academic stress and their coping techniques. The qualitative data was analyzed using three main steps: reading, comparing, and interpreting the data. The data analysis method used was thematic analysis, which is about breaking data into categories and finding themes, as shown below in **Figure 4**. This analytical method is divided into four steps: data collection, creating themes, comparing data, and interpreting data, which leads to a hypothesis (Aronson 1995).

Figure 4: Thematic Analysis

THEMATIC ANALYSIS
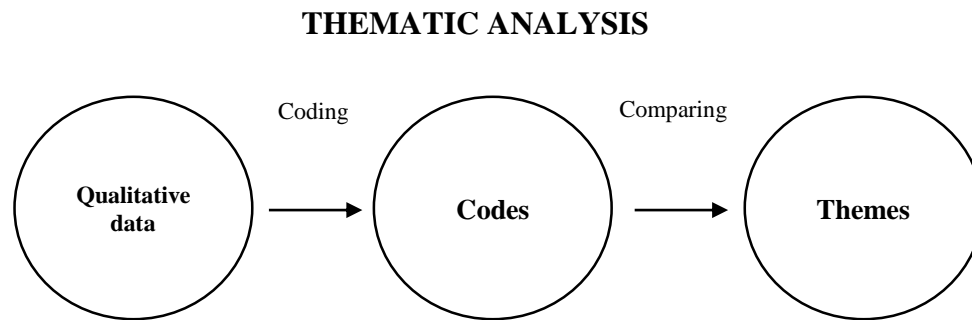
The researcher followed the steps, coded the data, and defined some categories and themes to answer the research questions. The codes were broken down using Microsoft Excel to create the table of themes shown in **Table 9**.

Table 9 below shows the thematic analysis of the discussion group of internship students from the COE, and it includes quotes of students, codes and themes.

Table 9: Thematic Analysis Coding Table

Samples of Qualitative data	Codes	Themes
"I faced difficulties using the online platform."	Online platform	Challenges
"…there was a language barrier. It was hard to teach in Arabic when we were prepared to teach in English."	The Classical Arabic Language	
"I tried my best, but I couldn't succeed in teaching math class."	Teaching math	
"The challenge was having enough knowledge to answer the students."	Subject content	
"…it gave me stress as I was worried, I took so much time and wasted it on activities rather than the content."	Time management	
"We had internet connection issues. The programs required strong connections."	Internet connection	

"…I wished to have the internship be in physical classroom rather than online. The teaching and interaction would be much better. It was very hard to teach behind the screen…"	Interaction	
"…a student opened the camera and was completely sleeping; I didn't know how to solve the issue."	Online classroom management	
"My mentor was very supportive and encouraged me to use my own teaching methods."	Teaching online/methods	Good experience
"…administrative staff were following up."	Admin support	
"…there was a language barrier."	The Classical Arabic Language	Stressors
"…we felt very pressured and stressed since we have lots of work to do, so it was hard to manage." "Meetings caused us so much stress that we couldn't manage our time."	Time management/ Workload	
"…the big issue was the well-being, stress and anxiety we faced."	Stress and Anxiety	
"My expectation was to have an online class management, and I met this expectation by following my rules to prevent students who misbehaved."	Online class management	Expectations
"…teaching online is a new experience and the curriculum previously did not fully prepare us for this change."	Online teaching	COVID-19 Impact

"I wished to have the internship be in physical classroom rather than online. The teaching and interaction would be much better."	Issues with interaction	
"When I was trying to differentiate between the students the mentor told me to forget about it."	Issues with differentiation	
"…parents answered the student's homework, so it was hard to follow up."	Students Accountability	
"…my mentor was very supportive."	Good mentor	Coping
"I had to increase the internet connection."	Increasing internet connection	
"I overcame with my issues by using two devices one device for teaching platform and the other for attendance and checking the chat box."	More devices	
"I had to do lesson plans for two different courses and taught classes daily. It was very hard to manage teaching, planning and attending meetings."	Less workload	Suggestions
"Meetings can be postponed after the internship because during it created lots of pressure."	Post recorded meeting online	
"…an agreement between teachers to supervise us on weekly bases."	More supervision	
"…if we can do mentoring between each other to share experience and feedback."	Sharing feedback and experience	

The table above shows qualitative data, codes, and themes. Different themes are built and developed from the codes, including challenges, good experiences, stressors, the impact of COVID-19, coping, and suggestions. Firstly, it is essential to note that the qualitative data's purpose was to obtain the research objectives and research questions specifically in understanding the student's perceptions and coping skills during COVID-19. The quantitative data showed the main stressors and could not give a clear answer if COVID-19 has an impact on academic stress. It also showed that stress existed academically and from COVID-19. However, the statistical analysis and correlation showed that COVID-19 did not directly influence academic stress, which could mean that students did not think much about COVID-19 during their studies. However, the researcher conducted a focused group between internship students from the COE to find out more about their ideas on the presented topic. The researcher conducted the discussion with seven students while allowing all of them to contribute to the discussion. The discussion was enriched with many different topics and concerns from the students. Since the research targets a majority of students studying in the COE, it is essential to note that these students are being prepared to be future teachers as mentioned previously. Therefore, their internship is based on teaching in schools.

Qualitative Data Discussion and Interpretation

The qualitative data analysis results show that there is a direct impact of COVID-19 on academic stress. However, the effect was not because of the pandemic itself but the changes caused by COVID-19. The main themes identified as mentioned are challenges, good experience, stressors, COVID-19 impact, coping, and suggestions.

Students have mentioned that the main obstacles were the online teaching and platform, language, subject content issues, and time management. Online teaching changes had created stress, especially when students and teachers were not ready to depend on online tools (Adnan & Anwar 2020). Learning novel online platforms in a short time caused stress and anxiety, as a student mentioned in **Table 9** *"I faced difficulties using the online platform.",* and *"…I wished to have the internship be in physical classroom rather than online. The teaching and interaction would be much better. It was very hard to teach behind the screen…"* Also, dealing with the obstacles and challenges caused by these online tools was a hassle. A student mentioned, as shown

in **Table 9**, *"We had internet connection issues. The programs required strong connections."* Therefore, using online tools required more effort and facilities like internet connection and device quality to support the changes. Despite the challenges, the students also reported that it was an excellent experience to learn something new. Online teaching allowed students to use new teaching techniques. It is essential to note that problem-focused coping and motivation highly help manage academic stress (Ward, Raymond & Verena 2000). Also, students reported that their language got better, especially in the classical Arabic language, and they were delighted with the administrative support given. The classical Arabic language is used primarily for education since people usually speak the Arabic dialect in everyday life, which is slightly different from the classical Arabic language. Therefore, the students reported that their mentors helped them practice it more with the students.

When highlighting the stressors and COVID-19 impact, it was found that the main stressors were language, time management, workload, stress, and anxiety. Students benefited from improving their classical Arabic language, but practicing it caused them stress. A student mentioned, as shown in **Table 9**, *"There was a language barrier. It was hard to teach in Arabic when we were prepared to teach in English."* Students reported in the discussion that time management and workload were their main stressors, and they were also the highest factors in the academic stress inventory (Bedewy & Gabriel 2015).

Moreover, students reported that stress and anxiety affected them, especially during their studies, with all changes, as a student mentioned in **Table 9**, *"...the big issue was the well-being, stress and anxiety we faced."* The COVID-19 pandemic affects peoples' well-being (Elmer, Mepham & Stadtfeld 2020; Hussien et al. 2020; Li et al. 2020; Moawad 2020; Pajarianto 2020; Sahu 2020). It is important to consider that a high academic stress level is related to students' moods and disengaged coping (Arsenio & Loria 2014). Moreover, students still used some skills to cope with the stressors and gave feedback to overcome academic stress during the COVID-19 pandemic. Some of the coping skills mentioned were increasing the internet connection and using more than one device. Students have had to use their laptops/computers at home during their internship since education has been from a distance. Therefore, a student was using her phone to check the early childhood students' chatbox and teach them from her laptop. A student reported that she got support from her mentor during the pandemic, especially with stress and anxiety.

Lastly, students gave feedback to adapt to the stress and pressure during COVID-19. Three suggestions were mentioned, including recording meetings and posting them online, having more supervision, and sharing feedback and experience between peers. The meetings conducted by the COE caused students to be stressed, especially since the meetings added to their workload, so recording them and posting them on Blackboard would ease the students. Also, having more supervision weekly from different supervisors would keep the students calm and on track because being distant creates uncertainty and anxiety. Finally, students suggested entering each other's online classes, if possible, to share experiences and feedback that would emphasize teamwork.

4.5. Summary of the Qualitative Results

In summary, the qualitative data were collected from internship students studying in the COE. Thematic analysis was used to interpret with the data, and students shared their perceptions of COVID-19 and gave some suggestions on how to improve their education. The analysis was coded then formed into themes, including challenges, good experience, stressors, expectations, COVID-19 impact, coping and suggestions. The qualitative data has some limitations as they were applied on internship students as mentioned, so it is a bit hard to generalize it to the quantitative sample. Also, only one discussion was conducted and analyzed, which might be hard to come to a certain conclusion. However, their ideas and suggestions enriched the study, and the data can be applied specifically for the COE internship programs.

4.6. Triangulation of the Two Data

The current study uses triangulation methods by incorporating mixed methods of quantitative and qualitative data collection. Triangulation in research uses more than one approach to meet the research objective and answer its questions (Heale & Forbes 2013). The purpose of using triangulation in research is to increase the credibility and validity of the data **(see Figure 5 below)**.

Figure 5 below shows how triangulation is informed. As mentioned previously, the researcher used an online survey and collected responses from 191 students, then analyzed the results using statistical analysis. Then the researcher conducted a group discussion for seven

internship students, and data were coded and thematically analyzed. Both sets of the data were analyzed separately then the results are compared together in this section.

Figure 5: Triangulation of Data
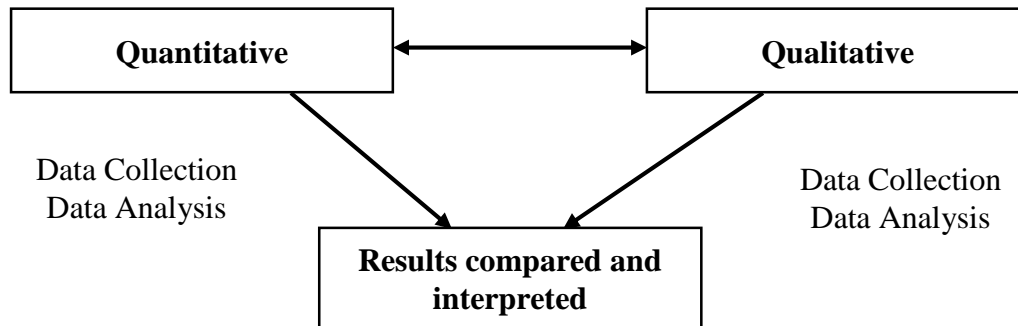
When looking at the findings, it can be shown that the qualitative data confirmed the research objective, which is the impact of COVID-19 on academic stress. However, the effect was not because of the pandemic itself but because of the changes caused by it. The qualitative data analysis showed that COVID-19 changes caused stress between the students. Although this finding cannot be generalized, it can be tested in future studies. Also, students reported academic-related stressors such as time management and workload, which were similar to stressors in the quantitative data analysis. Students also coped with their challenges by increasing the internet connection to improve the online platform's quality. Another student had to use two devices to manage the class. Finally, students suggested having less workload and more supervision between peers and their supervisors.

5. Conclusion

5.1. Overview of the Chapter

The following chapter discusses a summary of the study, key findings, recommendations, implications, limitations, scope for further study, and concluding remarks. The summary of the study briefly mentions the research topic, objectives, questions, and expectations. Then, key findings is mentioned, including the methodological approach of the mixed method of quantitative and qualitative data collection and their analysis and results. The recommendations, implications, and limitations is included as well. The current study has been implemented using a novel topic so that further research will be needed in the same field.

5.2. Summary of the Study and Key findings

This study is about the effect of COVID-19 on academic stress, and it investigates the main pandemic and academic stressors. The study also explores the student's perceptions and coping skills during the pandemic. The researcher expected a direct impact from COVID-19 on academic stress because it is a time of crisis and the research assumed that it is the primary influence on students. The researcher used a mixed-method approach in which it includes quantitative data in a developed survey and qualitative data in a focused group discussion. Firstly, the researcher conducted a survey and collected quantitative data. The main findings showed high significance in the following four categories: the psychological well-being of students, academic pressure, academic performance, and students' year classifications. Students reported in the survey that xenophobia was the highest factor in the CSS (Taylor et al. 2020).

In contrast, academic self-perception and workload perceptions were high in the academic inventory (Bedewy & Gabriel 2015). Academic performance was influenced by academic stress and COVID-19 factors. Also, first-year students showed more stress levels than the other years. Secondly, the researcher conducted a focused group discussion of seven students and obtained the

last main research question to understand their perceptions and coping skills. The main findings filled the quantitative analysis gap in confirming the direct effect of COVID-19 on academic stress, especially the changes caused by the pandemic. The students reported that they think time and workload were the main stressors in the focused group discussion. The physical changes to going online caused them anxiety and stress during their internship as they did in the learning and teaching process. The students suggested having a smaller workload and more supervision.

5.3. Implications

The main implication is that educators can improve the educational system using the current research and data. The study showed evidence from students suggesting some changes in the curriculum to support future education. COVID-19 has caused a massive change in education, and coping skills can be adopted during the pandemic to ensure education moves in a smooth process for the future. For example, using technology has created stress, yet it solved different concerns. It created a good experience, which can be the beginning of blended learning rather than depending on one type of teaching. Education can include both physical and online learning and teaching. However, to ensure that the process is successful, it is essential to study and investigate education's current situation. This research created an opportunity to investigate the current condition of education. Students suggested having less workload and more supervision. They reported that online education could be enhanced by improving the education platform and making it more suitable for students' interaction. The country can also continue supporting the citizens and students in controlling the impact of the COVID-19 pandemic. It has succeeded in not creating anxiety for the participants in the presented research.

5.4. Limitations

Despite the implications of the current study, it has several limitations, including the limited category of students surveyed and the few students selected for discussion. The study was done on students from the COE and other colleges but studying elective courses in the COE, so having more diversity in this area might increase the study's validity and reliability. Also, the number of students can be increased, especially within the focused group. Having more ideas will help determine more perceptions and solutions in overcoming the academic stress during the pandemic. The researcher could not conduct more focused groups due to the time limit in submitting the

current dissertation. The ethical approval took four months before the researcher could start since the study has a novel and sensitive topic. Therefore, future studies can fill this gap by increasing the number of participants, and this will be discussed in the following paragraph.

5.5. Recommendations and Scope for future studies

For future studies, the number of students can be increased in both data collection processes. The survey included 191 students for the quantitative data collection from the COE and other colleges, but the majority were from the COE, so having more students from different majors might lead to more accurate findings. The qualitative data collection included a focused group of seven students, and the researcher could not include more discussions. The researcher gathered all the students in one session and allowed them to contribute to the study. Also, instead of limiting the survey questions, it might be more valid to develop a survey with more questions about the changes of COVID-19 besides having the psychological influence or factors only of the pandemic. The CSS inventory focused only on six psychological factors of COVID-19 that cause stress, including COVID danger and contamination, COVID's socioeconomic consequences, COVID-related xenophobia, COVID-related traumatic stress, and COVID-related compulsive checking. Therefore, including questions about the changes created by COVID-19, such as shifting physical education to online, might be more valid. The researcher found out that the changes from COVID-19 created stress for students when conducting the focused group. Therefore, different types of instruments can test the new hypothesis of the current research about the impact of COVID-19 changes on academic stress.

Despite having a limited number of participants, the current study has several delimitations and scope for future studies. Firstly, the study mentions the importance of psychological well-being in the academic life of students. The topic mainly describes the pandemic crisis event and its impact on students, particularly in their well-being and academic stress. The study topic was initiated because students expressed anxiety at the beginning of the semester during the pandemic and lockdown. This topic is essential to helping students cope with the negative consequences of the pandemic. Importantly, stress and anxiety are common effects of crises. Thus, this study investigates the issue among the targeted sample and explores the topic in depth.

Lastly, it is significant to note that there are not enough studies in the literature on this topic. The literature has very little research done on academic stress during the COVID-19 pandemic, as the educational upheaval caused by a global pandemic has not been faced for many decades. Therefore, this study will add to the literature from which educators and psychologists or people interested in the same field can benefit. This study was done in the UAE, so the researchers in the country, such as the country's academic administrators, counselors, and advisors, can use the data and findings to improve the education and the learning environment for its students.

5.6. Concluding Remarks

This study concludes that there is no direct impact of COVID-19 as an illness on academic stress. The study confirms that many factors caused students to stress during the pandemic, including workload and time restraints. Also, students were a bit anxious about strangers regarding the pandemic. Moreover, internship students reported that they were stressed from the changes caused by COVID-19, especially those to online education. Although this finding cannot be generalized, this statement can be approved or disapproved when implementing similar studies in the future.

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Appendices

Appendix A: Instruments - Survey: Demographic Questions

What is your age?
- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- Above 54

What is your gender?
- Male
- Female
- Othe

What is your marital status?
- Single
- Married
- Divorced
- Separated
- Widowed
- Other

What is your current student classification?
- First-year student
- Second-year student
- Third-year student
- Senior
- Other

In which college/major are you?
- College of Arts and Creative Enterprises
- College of Business
- College of Communication & Media Sciences
- College of Education
- College of Technological Innovation
- College of Humanities and Social Sciences
- College of Natural and Health Sciences University College
  Other

Please indicate which letter best describes your average college grades.
- A or A+
- A-

- B+
- B
- B-
- C+
- C
- C-
- D or below

Appendix B: Questionnaire: Academic Stress Scale (Bedewy & Gabriel 2015)

The final version of the Perceptions of Academic Stress (PAS) scale.
Please rate your perception about the following statements in contributing to academic stresses

Item	Scale				
	Strongly disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
Am confident that I will be a successful student					
Am confident that I will be a successful in my future career					
I can make academic decisions easily					
The time allocated to classes and academic work is enough					
I have enough time to relax after work					

Please rate your perception about the following statements contributing to Academic Stresses

Item	Scale				
	Strongly Agree (1)	Agree (2)	Undecided (3)	Disagree (4)	Strongly Disagree (5)
My teachers are critical of my academic performance					
I fear failing courses this year					
I think that my worry about examinations is weakness of character					
Teachers have unrealistic expectations of me					
The size of the curriculum (workload) is excessive					
I believe that the amount of work assignment is too much					
Am unable to catch up if getting behind the work					
The unrealistic expectations of my parents stresses me out					
competition with my peers for grades is quite intense					

The examination questions are usually difficult					
Examination time is short to complete the answers					
Examination times are very stressful to me out					
Even if I pass my exams, am worried about getting a job					

Appendix C: Questionnaire: COVID-19 Stress Scale (Taylor et al. 2020)

Item	Scale				
	Never (0)	Rarely (1)	Sometimes (2)	Very Often (3)	Always (4)
I am worried about catching the virus					
I am worried that I can't keep my family safe from the virus					
I am worried that our healthcare system won't be able to protect my loved ones					
I am worried that our healthcare system is unable to keep me safe from the virus					
I am worried that basic hygiene (e.g., handwashing) is not enough to keep me safe from the virus					
I am worried that social distancing is not enough to keep me safe from the virus					
I am worried about grocery stores running out of food					
I am worried that grocery stores will close down					
I am worried about grocery stores running out of cleaning or disinfectant supplies					
I am worried about grocery stores running out of cold or flu remedies					
I am worried about grocery stores running out of water					
I am worried about pharmacies running out of prescription medicines					
I am worried that foreigners are spreading the virus in my country					
If I went to a restaurant that specialized in foreign foods, I'd be worried about catching the virus					
I am worried about coming into contact with foreigners because they might have the virus					

If I met a person from a foreign country, I'd be worried that they might have the virus					
If I was in an elevator with a group of foreigners, I'd be worried that they're infected with the virus					
I am worried that foreigners are spreading the virus because they're not as clean as we are					
I am worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus					
I am worried that if someone coughed or sneezed near me, I would catch the virus					
I am worried that people around me will infect me with the virus					
I am worried about taking change in cash transactions					
I am worried that I might catch the virus from handling money or using a debit machine					
I am worried that my mail has been contaminated by mail handlers					
I had trouble concentrating because I kept thinking about the virus					
Disturbing mental images about the virus popped into my mind against my will					
I had trouble sleeping because I worried about the virus					
I thought about the virus when I didn't mean to					
Reminders of the virus caused me to have physical reactions, such as sweating or a pounding heart					
I had bad dreams about the virus					
Searched the Internet for treatments for COVID-19					
Asking health professionals (e.g., doctors or pharmacists) for advice about COVID-19					
YouTube videos about COVID-19					

Checking your own body for signs of infection (e.g., taking your temperature)					
Seeking reassurance from friends or family about COVID-19					
Social media posts concerning COVID-19					
Bold = salient (> .30) loading. D = danger, SE = socio-economic consequences, X = xenophobia, C = contamination, T = traumatic					

Appendix D: Final Survey: Combination of Academic Stress Inventory and CSS (Bedewy and Gabriel 2015; Taylor et al. 2020)

Questionnaire Section 1.1

Academic Stress Scale

Please rate your perception about the following statements in contributing to academic stresses.

I am confident that I will be a successful in my future career.

- Strongly disagree
- Disagree
- Undecided
- Agree
- Strongly agree

I have enough time to relax after work.

- Strongly disagree
- Disagree
- Undecided
- Agree
- Strongly agree

Questionnaire Section 1.2

Academic Stress Scale

Please rate your perception about the following statements in contributing to academic stresses.

My teachers are critical of my academic performance.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

I think that my worry about examinations is weakness of character.

- Strongly agree
- Agree
- Undecided
- Disagree

- Strongly disagree

The size of the curriculum (workload) is excessive.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

I am unable to catch up if getting behind the work.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

The unrealistic expectations of my parents stresses me out.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Competition with my peers for grades is quite intense.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

The examination questions are usually difficult.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

The examination time is short to complete the answers.

- Strongly agree

- Agree
- Undecided
- Disagree Strongly disagree

The examination times are very stressful to me.

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Questionnaire Section 2

COVID-19 Stress Scale

I am often worried about catching the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried that I can't keep my family safe from the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried that our healthcare system won't be able to protect my loved ones.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried about grocery stores running out of food.

- Never
- Rarely
- Sometimes

- Very often
- Always

I am often worried about grocery stores running out of cleaning or disinfectant supplies.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried about pharmacies running out of prescription medicines.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried that strangers are spreading the virus in my country.

- Never
- Rarely
- Sometimes
- Very often
- Always

If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried that strangers are spreading the virus because they're not as clean as we are.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried that people around me will infect me with the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I am often worried about taking change in cash transactions physically from people, or from ATM.

- Never
- Rarely
- Sometimes
- Very often
- Always

I often have trouble concentrating because I keep thinking about the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I often have thoughts of the virus, which caused me to have physical reactions, such as sweating or a pounding heart.

- Never
- Rarely
- Sometimes
- Very often
- Always

I often have bad dreams about the virus.

- Never
- Rarely
- Sometimes
- Very often
- Always

I often have searched the Internet for treatments for COVID-19.

- Never
- Rarely
- Sometimes
- Very often
- Always

I often have checked my own body for signs of infection (e.g., taking your temperature).

- Never
- Rarely
- Sometimes
- Very often
- Always

I often have checked social medias' posts concerning COVID-19.

- Never
- Rarely
- Sometimes
- Very often
- Always

Appendix E: Discussion Group Questions

1. What do you think about COVID-19 in terms of causing stress and anxiety?

2. How do you feel about the changes caused by the COVID-19 pandemic on the educational system? (online course, group interaction, assessments…etc.)

3. Did the changes have a negative impact on your learning process and well-being causing you stress and anxiety? Did you feel that you do not have a control over the changes?

4. What were your expectations of education when the pandemic started?

5. What area(s) of academic stress influenced you the most? For example, areas of academic stress: Exams, Assignments, Lecture Time, Teaching Platform, Internet, Interpersonal Relationships (Parents, Teachers, and Friends) and being uncertain about what could happen.

6. How did you overcome the challenges you faced?

7. What do you think about the role of teachers and educational administrators in limiting the academic stress and anxiety?

8. How would you like the teachers and educational administrators help you with academic stress and anxiety caused from COVID-19?

9. Do you have any suggestion or feedback on how to prevent academic stress and anxiety during the pandemic?

Appendix F: Research Consent Form

Invitation to Participate
I am researching project participant competency and you are invited to participate. My name is Khulood Alfalasi and I am an Administrator Officer at Zayed University, College of Education. I would like to invite you to participate in a research project about the effect of COVID-19 pandemic on academic stress and anxiety.

Research Purpose
The purpose of this research is to explore the pandemic impact on undergraduate students' academic stress, particularly on their academic performance. Furthermore, the students' coping strategies, if any, during the pandemic, will be investigated.

Research Method
This survey will be distributed to approximately 250 students at Zayed University, College of Education. The researcher, Ms. Khulood Alfalasi will be the only person who will have access and control of the survey and data collection. If you decide to participate, you will need to click on "agree to participate", and this will take you directly to the questionnaire. The questionnaire is consisting of two sections and the first section is about academic stress whereas the second section is about COVID-19 stress scale. The answer scale ranges from Strongly Agree to Strongly Disagree, and Never to Always. The research will only take approximately 10-15 minutes of your time.

Confidentiality - Anonymity - Security
If you decide to participate, your identity as a participant in this study, and any other personal information gathered about you during the study will be kept strictly confidential and will never be made public. All data will be password protected. The published results of the study will contain only statistical or group data from which no individual participant can be identified.

Okay To Say No
You are being asked to make a voluntary decision whether or not to participate in this study. Please read and think about the information given above. If there is any part of the information you do not understand, please ask me to explain it. If you would like to consult with someone not associated with this study that will be all right, too. If you decide not to participate, or if you later decide to discontinue your participation, your decision will not affect your present or future relations with the Zayed University. Upon request, a copy of the information, data, and results will be made available to you. You will always be free to discontinue participation at any time, and all data collected up to that time as a result of your partial participation will be destroyed without being used in the study. If you decide to participate, please choose "agree to participate". Choosing "agree to participate" indicates that you have read, considered, and understood the information provided above, and that you have decided to participate.

What Does Clicking on "agree to participate" Mean
Choosing "agree to participate" on this Consent Form indicates that you have understood to your satisfaction the information regarding participation in this research project and agree to participate as a participant. In no way does this waive your legal rights nor release the

investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time. Your continued participation should be informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

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If you have any questions concerning your participation in this project you may also contact Dr. Anoud Bani-Hani, Chair of the ZU Research Ethics Committee
Zayed University, (+971 4 402 1735), email: Anoud.Bani-Hani@zu.ac.ae

You may contact Yusra Swaidat, MOHAP Research Ethics Committee Coordinator
 at 047078539, and email: yusra.swaidal@moha.gov.ae

Appendix G: Quantitative Data Analysis – SPSS Output

Frequencies

Statistics

		What is your age?	What is your gender?	What is your marital status?	What is your current student classification?	In which college/major are you?
N	Valid	191	191	191	190	191
	Missing	0	0	0	1	0

Frequency Table

What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	178	93.2	93.2	93.2
	25-34	10	5.2	5.2	98.4
	35-44	1	.5	.5	99.0
	45-54	2	1.0	1.0	100.0
	Total	191	100.0	100.0	

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	189	99.0	99.0	99.0
	Other	2	1.0	1.0	100.0
	Total	191	100.0	100.0	

What is your marital status?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	158	82.7	82.7	82.7
	Married	28	14.7	14.7	97.4
	Divorced	2	1.0	1.0	98.4
	Widowed	1	.5	.5	99.0
	Other	2	1.0	1.0	100.0
	Total	191	100.0	100.0	

What is your current student classification?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First-year student	13	6.8	6.8	6.8
	Second-year student	41	21.5	21.6	28.4
	Third-year student	88	46.1	46.3	74.7
	Senior	48	25.1	25.3	100.0
	Total	190	99.5	100.0	
Missing	999	1	.5		
	Total	191	100.0		

In which college/major are you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College of Arts and Creative Enterprises	2	1.0	1.0	1.0
	College of Communication & MediaSciences	27	14.1	14.1	15.2
	College of Education	148	77.5	77.5	92.7
	College of Humanities and Social Sciences	2	1.0	1.0	93.7
	College of Natural and Health Sciences	12	6.3	6.3	100.0
	Total	191	100.0	100.0	

Frequencies

Statistics

Please indicate which letter best
describes your average college
grades.

N	Valid	191
	Missing	0

Please indicate which letter best describes your average college grades.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D or below	1	.5	.5	.5
	C-	1	.5	.5	1.0
	C	3	1.6	1.6	2.6
	C+	1	.5	.5	3.1
	B-	14	7.3	7.3	10.5
	B	37	19.4	19.4	29.8
	B+	42	22.0	22.0	51.8
	A-	51	26.7	26.7	78.5
	A or A+	41	21.5	21.5	100.0
	Total	191	100.0	100.0	

Frequencies

Statistics

GPA Categ

N	Valid	191
	Missing	0

GPA Categ

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D or Below	1	.5	.5	.5
	C-range	5	2.6	2.6	3.1
	B-range	93	48.7	48.7	51.8
	A-range	92	48.2	48.2	100.0
	Total	191	100.0	100.0	

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The examination times are very stressful to me	191	1	5	3.83	1.136
The size of the curriculum (workload) is excessive	191	1	5	3.60	1.046
I am often worried that I can't keep my family safe from the virus	191	1	5	3.60	1.290
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	191	1	5	3.59	1.147
The examination questions are usually difficult	191	1	5	3.54	1.004
I am often worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus	191	1	5	3.47	1.173
My teachers are critical of my academic performance	191	1	5	3.45	1.212

The examination time is short to complete the answers	191	1	5	3.44	1.168
I am often worried that strangers are spreading the virus in my country	191	1	5	3.37	1.261
I am often worried that people around me will infect me with the virus	191	1	5	3.18	1.139
I often have checked social medias' posts concerning COVID-19	191	1	5	3.16	1.375
I think that my worry about examinations is weakness of character	191	1	5	3.14	1.157
I am often worried about catching the virus	191	1	5	3.13	1.185
I am often worried about taking change in cash transactions physically from people, or from ATM	191	1	5	3.08	1.185
I am unable to catch up if getting behind the work	191	1	5	3.03	1.165
Competition with my peers for grades is quite intense	191	1	5	3.03	1.098
Enough Relaxation Time Recoded	191	1.00	5.00	2.9791	1.27303
I am often worried that our healthcare system won't be able to protect my loved ones	191	1	5	2.97	1.388
The unrealistic expectations of my parents stresses me out	191	1	5	2.92	1.233
I am often worried that strangers are spreading the virus because they're not as clean as we are	191	1	5	2.85	1.380
I often have checked my own body for signs of infection (e.g., taking your temperature)	191	1	5	2.83	1.315

I often have searched the Internet for treatments for COVID-19	191	1	5	2.49	1.260
I often have trouble concentrating because I keep thinking about the virus	191	1	5	2.42	1.270
I often have thoughts of the virus, which caused me to have physical reactions, such as sweating or a pounding heart	191	1	5	2.32	1.272
I am often worried about grocery stores running out of cleaning or disinfectant supplies	191	1	5	2.28	1.298
I am often worried about pharmacies running out of prescription medicines	191	1	5	2.23	1.265
I am often worried about grocery stores running out of food	191	1	5	2.12	1.240
Successful Student Recoded	191	1.00	5.00	2.0209	1.24798
Successful Career Recoded	191	1.00	5.00	1.9791	1.28538
I often have bad dreams about the virus	191	1	5	1.85	1.232
Valid N (listwise)	191				

Descriptives

Notes

Output Created		16-FEB-2021 14:23:58
Comments		
Input	Data	/Users/z9371/Desktop/COVID 19-Feb10,2021.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	191
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=Danger SocialEconomic Xenophobia Contamination Traumatic Compulsivechecking Pressuretoperform Perceptionsofworkload Academicselfperception timerestraints /STATISTICS=MEAN STDDEV MIN MAX /SORT=MEAN (D).
Resources	Processor Time	00:00:00.01
	Elapsed Time	00:00:00.00

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Academicselfperception	191	1.00	5.00	3.6736	1.03107
Perceptionsofworkload	191	1.00	5.00	3.5707	.82173
Pressuretoperform	191	1.00	5.00	3.2712	.72137
Xenophobia	191	1.00	5.00	3.2705	1.03709
Contamination	191	1.00	5.00	3.2443	.96348
timerestraints	191	1.00	5.00	3.2356	.98381
Danger	191	1.00	5.00	3.2304	1.00081

		N				
Compulsivechecking		191	1.00	5.00	2.8255	1.08570
SocialEconomic		191	1.00	5.00	2.2094	1.15080
Traumatic		191	1.00	5.00	2.1972	1.12290
Valid N (listwise)		191				

T-Test

Group Statistics

	GPA Categ	N	Mean	Std. Deviation	Std. Error Mean
My teachers are critical of my academic performance	B-range	93	3.38	1.224	.127
	A-range	92	3.55	1.226	.128
I think that my worry about examinations is weakness of character	B-range	93	3.37	1.071	.111
	A-range	92	2.87	1.160	.121
The size of the curriculum (workload) is excessive	B-range	93	3.61	1.011	.105
	A-range	92	3.54	1.073	.112
I am unable to catch up if getting behind the work	B-range	93	3.15	1.032	.107
	A-range	92	2.84	1.243	.130
The unrealistic expectations of my parents stresses me out	B-range	93	2.91	1.090	.113
	A-range	92	2.85	1.342	.140
Competition with my peers for grades is quite intense	B-range	93	3.09	.996	.103
	A-range	92	2.91	1.155	.120
The examination questions are usually difficult	B-range	93	3.88	.792	.082
	A-range	92	3.13	1.029	.107
The examination time is short to complete the answers	B-range	93	3.63	1.130	.117
	A-range	92	3.23	1.149	.120
The examination times are very stressful to me	B-range	93	3.99	1.016	.105
	A-range	92	3.61	1.231	.128
I am often worried about catching the virus	B-range	93	3.16	1.218	.126
	A-range	92	3.05	1.152	.120
I am often worried that I can't keep my family safe from the virus	B-range	93	3.62	1.310	.136
	A-range	92	3.55	1.278	.133
	B-range	93	2.99	1.395	.145

I am often worried that our healthcare system won't be able to protect my loved ones	A-range	92	2.89	1.378	.144
I am often worried about grocery stores running out of food	B-range	93	2.18	1.268	.131
	A-range	92	2.03	1.199	.125
I am often worried about grocery stores running out of cleaning or disinfectant supplies	B-range	93	2.32	1.312	.136
	A-range	92	2.20	1.251	.130
I am often worried about pharmacies running out of prescription medicines	B-range	93	2.35	1.257	.130
	A-range	92	2.05	1.217	.127
I am often worried that strangers are spreading the virus in my country	B-range	93	3.51	1.221	.127
	A-range	92	3.25	1.263	.132
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	B-range	93	3.58	1.145	.119
	A-range	92	3.58	1.122	.117
I am often worried that strangers are spreading the virus because they're not as clean as we are	B-range	93	3.12	1.342	.139
	A-range	92	2.57	1.345	.140
I am often worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus	B-range	93	3.39	1.277	.132
	A-range	92	3.53	1.043	.109
I am often worried that people around me will infect me with the virus	B-range	93	3.13	1.115	.116
	A-range	92	3.21	1.134	.118
I am often worried about taking change in cash transactions physically from people, or from ATM	B-range	93	3.04	1.160	.120
	A-range	92	3.08	1.179	.123
I often have trouble concentrating because I keep thinking about the virus	B-range	93	2.54	1.230	.128
	A-range	92	2.27	1.276	.133

I often have thoughts of the virus, which caused me to have physical reactions, such as sweating or a pounding heart	B-range	93	2.39	1.216	.126
	A-range	92	2.26	1.317	.137
I often have bad dreams about the virus	B-range	93	1.90	1.269	.132
	A-range	92	1.78	1.175	.123
I often have searched the Internet for treatments for COVID-19	B-range	93	2.53	1.299	.135
	A-range	92	2.43	1.207	.126
I often have checked my own body for signs of infection (e.g., taking your temperature)	B-range	93	2.86	1.419	.147
	A-range	92	2.76	1.208	.126
I often have checked social medias' posts concerning COVID-19	B-range	93	3.14	1.419	.147
	A-range	92	3.17	1.314	.137
Successful Student Recoded	B-range	93	1.8817	1.00919	.10465
	A-range	92	2.0978	1.44542	.15069
Successful Career Recoded	B-range	93	1.7527	.94012	.09749
	A-range	92	2.1957	1.54236	.16080
Enough Relaxation Time Recoded	B-range	93	2.8495	1.17904	.12226
	A-range	92	3.0543	1.34544	.14027

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
My teachers are critical of	Equal variances assumed	.095	.759	-.988	183	.324	-.178	.180	-.533	.177

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
my academic performance	Equal variances not assumed			-.988	182.972	.324	-.178	.180	-.533	.177
I think that my worry about examinations is weakness of character	Equal variances assumed	.018	.892	3.022	183	.003	.496	.164	.172	.820
	Equal variances not assumed			3.021	181.522	.003	.496	.164	.172	.820
The size of the curriculum (workload) is excessive	Equal variances assumed	1.205	.274	.453	183	.651	.069	.153	-.233	.372
	Equal variances not assumed			.453	182.097	.651	.069	.153	-.233	.372
I am unable to catch up if getting behind the work	Equal variances assumed	4.564	.034	1.868	183	.063	.314	.168	-.018	.645
	Equal variances not assumed			1.866	176.304	.064	.314	.168	-.018	.645
The unrealistic expectations of my parents stresses me out	Equal variances assumed	10.820	.001	.368	183	.713	.066	.180	-.288	.421
	Equal variances not assumed			.368	174.872	.713	.066	.180	-.289	.421
Competition with my peers for grades is quite intense	Equal variances assumed	2.475	.117	1.091	183	.277	.173	.158	-.140	.486
	Equal variances not assumed			1.090	178.589	.277	.173	.159	-.140	.486
The examination questions are usually difficult	Equal variances assumed	12.034	.001	5.567	183	.000	.751	.135	.485	1.018
	Equal variances not assumed			5.559	170.828	.000	.751	.135	.485	1.018

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
The examination time is short to complete the answers	Equal variances assumed	.296	.587	2.423	183	.016	.406	.168	.075	.737
	Equal variances not assumed			2.423	182.863	.016	.406	.168	.075	.737
The examination times are very stressful to me	Equal variances assumed	13.144	.000	2.294	183	.023	.381	.166	.053	.708
	Equal variances not assumed			2.292	175.945	.023	.381	.166	.053	.708
I am often worried about catching the virus	Equal variances assumed	.859	.355	.613	183	.540	.107	.174	-.237	.451
	Equal variances not assumed			.614	182.625	.540	.107	.174	-.237	.451
I am often worried that I can't keep my family safe from the virus	Equal variances assumed	.650	.421	.364	183	.716	.069	.190	-.306	.445
	Equal variances not assumed			.364	182.967	.716	.069	.190	-.306	.445
I am often worried that our healthcare system won't be able to protect my loved ones	Equal variances assumed	.025	.874	.480	183	.632	.098	.204	-.304	.500
	Equal variances not assumed			.480	183.000	.632	.098	.204	-.304	.500
I am often worried about grocery stores running out of food	Equal variances assumed	1.064	.304	.827	183	.409	.150	.181	-.208	.508
	Equal variances not assumed			.828	182.636	.409	.150	.181	-.208	.508

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
I am often worried about grocery stores running out of cleaning or disinfectant supplies	Equal variances assumed	.031	.861	.673	183	.502	.127	.189	-.245	.499
	Equal variances not assumed			.673	182.758	.502	.127	.188	-.245	.499
I am often worried about pharmacies running out of prescription medicines	Equal variances assumed	.362	.548	1.652	183	.100	.300	.182	-.058	.659
	Equal variances not assumed			1.652	182.916	.100	.300	.182	-.058	.659
I am often worried that strangers are spreading the virus in my country	Equal variances assumed	.027	.871	1.398	183	.164	.255	.183	-.105	.616
	Equal variances not assumed			1.398	182.636	.164	.255	.183	-.105	.616
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	Equal variances assumed	.150	.699	.027	183	.978	.005	.167	-.324	.333
	Equal variances not assumed			.027	182.982	.978	.005	.167	-.324	.333
I am often worried that strangers are spreading the virus because they're not as clean as we are	Equal variances assumed	.052	.820	2.800	183	.006	.553	.198	.163	.943
	Equal variances not assumed			2.800	182.969	.006	.553	.198	.163	.943
I am often worried that if I touched	Equal variances assumed	6.231	.013	-.848	183	.397	-.146	.172	-.484	.193

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
something in a public space (e.g., handrail, door handle), I would catch the virus	Equal variances not assumed			-.849	176.650	.397	-.146	.171	-.484	.193
I am often worried that people around me will infect me with the virus	Equal variances assumed	.095	.758	-.469	183	.640	-.077	.165	-.404	.249
	Equal variances not assumed			-.468	182.860	.640	-.077	.165	-.404	.249
I am often worried about taking change in cash transactions physically from people, or from ATM	Equal variances assumed	.214	.644	-.192	183	.848	-.033	.172	-.372	.306
	Equal variances not assumed			-.192	182.868	.848	-.033	.172	-.372	.306
I often have trouble concentrating because I keep thinking about the virus	Equal variances assumed	.185	.667	1.443	183	.151	.266	.184	-.098	.629
	Equal variances not assumed			1.443	182.580	.151	.266	.184	-.098	.630
I often have thoughts of the virus, which caused me to have physical reactions, such as sweating or a pounding heart	Equal variances assumed	1.874	.173	.677	183	.499	.126	.186	-.241	.494
	Equal variances not assumed			.677	181.528	.499	.126	.186	-.242	.494
I often have bad dreams about the virus	Equal variances assumed	1.014	.315	.671	183	.503	.121	.180	-.234	.475

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
	Equal variances not assumed			.671	182.210	.503	.121	.180	-.234	.475
I often have searched the Internet for treatments for COVID-19	Equal variances assumed	1.002	.318	.499	183	.618	.092	.184	-.272	.456
	Equal variances not assumed			.500	182.296	.618	.092	.184	-.272	.456
I often have checked my own body for signs of infection (e.g., taking your temperature)	Equal variances assumed	4.438	.037	.513	183	.609	.099	.194	-.283	.482
	Equal variances not assumed			.513	179.031	.609	.099	.194	-.283	.481
I often have checked social medias' posts concerning COVID-19	Equal variances assumed	1.652	.200	-.170	183	.865	-.034	.201	-.431	.363
	Equal variances not assumed			-.170	182.221	.865	-.034	.201	-.431	.363
Successful Student Recoded	Equal variances assumed	10.976	.001	-1.180	183	.239	-.21611	.18312	-.57741	.14520
	Equal variances not assumed			-1.178	162.542	.241	-.21611	.18347	-.57839	.14618
Successful Career Recoded	Equal variances assumed	26.109	.000	-2.362	183	.019	-.44296	.18758	-.81306	-.07287
	Equal variances not assumed			-2.356	150.125	.020	-.44296	.18804	-.81452	-.07141
Enough Relaxation Time Recoded	Equal variances assumed	2.545	.112	-1.102	183	.272	-.20489	.18594	-.57175	.16198

| | | | - 1.101 | 179.3 81 | .272 | -.20489 | .18607 | -.57206 | .16229 |
| Equal variances not assumed | | | | | | | | | |

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval Lower	Upper
My teachers are critical of my academic performance	Cohen's d	1.225	-.145	-.434	.143
	Hedges' correction	1.230	-.145	-.432	.143
	Glass's delta	1.226	-.145	-.434	.144
I think that my worry about examinations is weakness of character	Cohen's d	1.116	.444	.152	.736
	Hedges' correction	1.121	.443	.151	.733
	Glass's delta	1.160	.428	.132	.721
The size of the curriculum (workload) is excessive	Cohen's d	1.043	.067	-.222	.355
	Hedges' correction	1.047	.066	-.221	.353
	Glass's delta	1.073	.065	-.224	.353
I am unable to catch up if getting behind the work	Cohen's d	1.141	.275	-.015	.564
	Hedges' correction	1.146	.274	-.015	.562
	Glass's delta	1.243	.252	-.039	.542
The unrealistic expectations of my parents stresses me out	Cohen's d	1.222	.054	-.234	.342
	Hedges' correction	1.227	.054	-.233	.341
	Glass's delta	1.342	.049	-.239	.337
Competition with my peers for grades is quite intense	Cohen's d	1.078	.160	-.128	.449
	Hedges' correction	1.082	.160	-.128	.447
	Glass's delta	1.155	.150	-.140	.438
The examination questions are usually difficult	Cohen's d	.918	.819	.517	1.118
	Hedges' correction	.922	.815	.515	1.113
	Glass's delta	1.029	.730	.421	1.035
The examination time is short to complete the answers	Cohen's d	1.140	.356	.065	.646
	Hedges' correction	1.145	.355	.065	.644
	Glass's delta	1.149	.353	.060	.645
The examination times are very stressful to me	Cohen's d	1.128	.337	.047	.627
	Hedges' correction	1.133	.336	.046	.625
	Glass's delta	1.231	.309	.017	.600
I am often worried about catching the virus	Cohen's d	1.186	.090	-.198	.378
	Hedges' correction	1.191	.090	-.197	.377

	Glass's delta	1.152	.093	-.196	.381
I am often worried that I can't keep my family safe from the virus	Cohen's d	1.294	.054	-.235	.342
	Hedges' correction	1.300	.053	-.234	.340
	Glass's delta	1.278	.054	-.234	.342
I am often worried that our healthcare system won't be able to protect my loved ones	Cohen's d	1.387	.071	-.218	.359
	Hedges' correction	1.392	.070	-.217	.357
	Glass's delta	1.378	.071	-.218	.359
I am often worried about grocery stores running out of food	Cohen's d	1.234	.122	-.167	.410
	Hedges' correction	1.239	.121	-.166	.408
	Glass's delta	1.199	.125	-.164	.414
I am often worried about grocery stores running out of cleaning or disinfectant supplies	Cohen's d	1.282	.099	-.190	.387
	Hedges' correction	1.287	.099	-.189	.386
	Glass's delta	1.251	.101	-.187	.390
I am often worried about pharmacies running out of prescription medicines	Cohen's d	1.237	.243	-.047	.532
	Hedges' correction	1.242	.242	-.046	.530
	Glass's delta	1.217	.247	-.044	.537
I am often worried that strangers are spreading the virus in my country	Cohen's d	1.242	.206	-.084	.494
	Hedges' correction	1.248	.205	-.083	.492
	Glass's delta	1.263	.202	-.088	.491
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	Cohen's d	1.133	.004	-.284	.292
	Hedges' correction	1.138	.004	-.283	.291
	Glass's delta	1.122	.004	-.284	.292
I am often worried that strangers are spreading the virus because they're not as clean as we are	Cohen's d	1.343	.412	.120	.702
	Hedges' correction	1.349	.410	.119	.699
	Glass's delta	1.345	.411	.116	.704
I am often worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus	Cohen's d	1.166	-.125	-.413	.164
	Hedges' correction	1.171	-.124	-.411	.163
	Glass's delta	1.043	-.140	-.428	.150
I am often worried that people around me will infect me with the virus	Cohen's d	1.125	-.069	-.357	.219
	Hedges' correction	1.129	-.069	-.356	.219
	Glass's delta	1.134	-.068	-.357	.220
I am often worried about taking change in cash	Cohen's d	1.170	-.028	-.316	.260
	Hedges' correction	1.174	-.028	-.315	.259

transactions physically from people, or from ATM	Glass's delta	1.179	-.028	-.316	.260
I often have trouble concentrating because I keep thinking about the virus	Cohen's d	1.253	.212	-.077	.501
	Hedges' correction	1.258	.211	-.077	.499
	Glass's delta	1.276	.208	-.082	.498
I often have thoughts of the virus, which caused me to have physical reactions, such as sweating or a pounding heart	Cohen's d	1.267	.100	-.189	.388
	Hedges' correction	1.272	.099	-.188	.386
	Glass's delta	1.317	.096	-.193	.384
I often have bad dreams about the virus	Cohen's d	1.223	.099	-.190	.387
	Hedges' correction	1.228	.098	-.189	.385
	Glass's delta	1.175	.103	-.186	.391
I often have searched the Internet for treatments for COVID-19	Cohen's d	1.254	.073	-.215	.362
	Hedges' correction	1.259	.073	-.214	.360
	Glass's delta	1.207	.076	-.212	.365
I often have checked my own body for signs of infection (e.g., taking your temperature)	Cohen's d	1.318	.075	-.213	.364
	Hedges' correction	1.323	.075	-.212	.362
	Glass's delta	1.208	.082	-.206	.370
I often have checked social medias' posts concerning COVID-19	Cohen's d	1.368	-.025	-.313	.263
	Hedges' correction	1.373	-.025	-.312	.262
	Glass's delta	1.314	-.026	-.314	.262
Successful Student Recoded	Cohen's d	1.24536	-.174	-.462	.115
	Hedges' correction	1.25049	-.173	-.460	.115
	Glass's delta	1.44542	-.150	-.438	.140
Successful Career Recoded	Cohen's d	1.27564	-.347	-.637	-.056
	Hedges' correction	1.28090	-.346	-.635	-.056
	Glass's delta	1.54236	-.287	-.578	.005
Enough Relaxation Time Recoded	Cohen's d	1.26452	-.162	-.450	.127
	Hedges' correction	1.26974	-.161	-.449	.126
	Glass's delta	1.34544	-.152	-.441	.137

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control group.

T-Test

Notes

Output Created		16-FEB-2021 14:30:07
Comments		
Input	Data	/Users/z9371/Desktop/COVID 19-Feb10,2021.sav
	Active Dataset	DataSet1
	Filter	GPACateg > 2 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	185
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.

	Syntax		T-TEST GROUPS=GPACateg(3 4) /MISSING=ANALYSIS /VARIABLES=Danger SocialEconomic Xenophobia Contamination Traumatic Compulsivechecking Pressuretoperform Perceptionsofworkload Academicselfperception timerestraints /ES DISPLAY(TRUE) /CRITERIA=CI(.95).
Resources	Processor Time		00:00:00.04
	Elapsed Time		00:00:00.00

Group Statistics

	GPA Categ	N	Mean	Std. Deviation	Std. Error Mean
Danger	B-range	93	3.2581	1.05424	.10932
	A-range	92	3.1667	.92911	.09687
SocialEconomic	B-range	93	2.2867	1.16883	.12120
	A-range	92	2.0942	1.09648	.11432
Xenophobia	B-range	93	3.4014	1.03508	.10733
	A-range	92	3.1304	.99566	.10381
Contamination	B-range	93	3.1864	.99814	.10350
	A-range	92	3.2717	.88251	.09201
Traumatic	B-range	93	2.2760	1.11925	.11606
	A-range	92	2.1051	1.10712	.11543
Compulsivechecking	B-range	93	2.8423	1.18423	.12280
	A-range	92	2.7899	.97178	.10132
Pressuretoperform	B-range	93	3.3462	.65947	.06838
	A-range	92	3.1587	.75798	.07903
Perceptionsofworkload	B-range	93	3.7473	.68613	.07115
	A-range	92	3.3370	.86478	.09016
Academicselfperception	B-range	93	3.8387	.81888	.08491
	A-range	92	3.5507	1.19873	.12498
timerestraints	B-range	93	3.3925	.89031	.09232

		A-range	92	3.0326	1.02925	.10731

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
Danger	Equal variances assumed	.802	.372	.625	183
	Equal variances not assumed			.626	180.616
SocialEconomic	Equal variances assumed	.249	.618	1.155	183
	Equal variances not assumed			1.156	182.488
Xenophobia	Equal variances assumed	.682	.410	1.815	183
	Equal variances not assumed			1.815	182.857
Contamination	Equal variances assumed	.725	.396	-.616	183
	Equal variances not assumed			-.616	180.744
Traumatic	Equal variances assumed	.011	.916	1.044	183
	Equal variances not assumed			1.044	183.000

		5.704	.018	.329	183
Compulsivechecking	Equal variances assumed	5.704	.018	.329	183
	Equal variances not assumed			.329	176.975
Pressuretoperform	Equal variances assumed	.215	.643	1.796	183
	Equal variances not assumed			1.795	179.021
Perceptionsof workload	Equal variances assumed	4.001	.047	3.577	183
	Equal variances not assumed			3.573	173.194
Academicself perception	Equal variances assumed	13.654	.000	1.910	183
	Equal variances not assumed			1.906	160.565
timerestraints	Equal variances assumed	2.426	.121	2.544	183
	Equal variances not assumed			2.542	178.719

Independent Samples Test

	t-test for Equality of Means		95% Confidence Interval of the Difference
	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower

Danger	Equal variances assumed	.533	.09140	.14616	-.19698
	Equal variances not assumed	.532	.09140	.14606	-.19681
SocialEconomic	Equal variances assumed	.250	.19254	.16667	-.13630
	Equal variances not assumed	.249	.19254	.16661	-.13619
Xenophobia	Equal variances assumed	.071	.27100	.14935	-.02367
	Equal variances not assumed	.071	.27100	.14932	-.02361
Contamination	Equal variances assumed	.539	-.08536	.13858	-.35877
	Equal variances not assumed	.538	-.08536	.13849	-.35862
Traumatic	Equal variances assumed	.298	.17091	.16370	-.15206
	Equal variances not assumed	.298	.17091	.16369	-.15204
Compulsivechecking	Equal variances assumed	.742	.05244	.15937	-.26200
	Equal variances not assumed	.742	.05244	.15920	-.26173
Pressuretoperform	Equal variances assumed	.074	.18754	.10443	-.01849
	Equal variances not assumed	.074	.18754	.10451	-.01868
Perceptionsofworkload	Equal variances assumed	.000	.41036	.11471	.18403
	Equal variances not assumed	.000	.41036	.11485	.18367
Academicselfperception	Equal variances assumed	.058	.28799	.15080	-.00954
	Equal variances not assumed	.058	.28799	.15109	-.01040
timerestraints	Equal variances assumed	.012	.35986	.14145	.08079

Equal variances not assumed	.012	.35986	.14156	.08053

Independent Samples Test

		t-test for Equality of Means 95% Confidence Interval of the Difference Upper
Danger	Equal variances assumed	.37978
	Equal variances not assumed	.37960
SocialEconomic	Equal variances assumed	.52137
	Equal variances not assumed	.52126
Xenophobia	Equal variances assumed	.56567
	Equal variances not assumed	.56561
Contamination	Equal variances assumed	.18806
	Equal variances not assumed	.18790
Traumatic	Equal variances assumed	.49389
	Equal variances not assumed	.49387
Compulsivechecking	Equal variances assumed	.36687
	Equal variances not assumed	.36661
Pressuretoperform	Equal variances assumed	.39358
	Equal variances not assumed	.39376
Perceptionsofworkload	Equal variances assumed	.63668
	Equal variances not assumed	.63704
Academicselfperception	Equal variances assumed	.58551
	Equal variances not assumed	.58637
timerestraints	Equal variances assumed	.63894
	Equal variances not assumed	.63920

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval Lower	Upper
Danger	Cohen's d	.99399	.092	-.197	.380
	Hedges' correction	.99809	.092	-.196	.379
	Glass's delta	.92911	.098	-.190	.387
SocialEconomic	Cohen's d	1.13343	.170	-.119	.458

		1.13810	.169	-.119	.456
	Hedges' correction				
	Glass's delta	1.09648	.176	-.114	.464
Xenophobia	Cohen's d	1.01567	.267	-.023	.556
	Hedges' correction	1.01986	.266	-.023	.554
	Glass's delta	.99566	.272	-.019	.562
Contamination	Cohen's d	.94242	-.091	-.379	.198
	Hedges' correction	.94630	-.090	-.377	.197
	Glass's delta	.88251	-.097	-.385	.192
Traumatic	Cohen's d	1.11323	.154	-.135	.442
	Hedges' correction	1.11782	.153	-.135	.440
	Glass's delta	1.10712	.154	-.135	.443
Compulsivechecking	Cohen's d	1.08380	.048	-.240	.337
	Hedges' correction	1.08827	.048	-.239	.335
	Glass's delta	.97178	.054	-.234	.342
Pressuretoperform	Cohen's d	.71017	.264	-.026	.553
	Hedges' correction	.71310	.263	-.026	.551
	Glass's delta	.75798	.247	-.044	.537
Perceptionsofworkload	Cohen's d	.78010	.526	.232	.819
	Hedges' correction	.78332	.524	.231	.815
	Glass's delta	.86478	.475	.177	.770
Academicselfperception	Cohen's d	1.02551	.281	-.009	.570
	Hedges' correction	1.02974	.280	-.009	.568
	Glass's delta	1.19873	.240	-.051	.530
timerestraints	Cohen's d	.96192	.374	.083	.664
	Hedges' correction	.96588	.373	.083	.662
	Glass's delta	1.02925	.350	.056	.641

Oneway

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
My teachers are critical of my academic performance	Between Groups	4.660	3	1.553	1.053	.370
	Within Groups	274.313	186	1.475		
	Total	278.974	189			
	Between Groups	11.199	3	3.733	2.855	.039
	Within Groups	243.243	186	1.308		

		Sum of Squares	df	Mean Square	F	Sig.
I think that my worry about examinations is weakness of character	Total	254.442	189			
The size of the curriculum (workload) is excessive	Between Groups	.799	3	.266	.240	.869
	Within Groups	206.801	186	1.112		
	Total	207.600	189			
I am unable to catch up if getting behind the work	Between Groups	2.795	3	.932	.679	.566
	Within Groups	255.016	186	1.371		
	Total	257.811	189			
The unrealistic expectations of my parents stresses me out	Between Groups	6.848	3	2.283	1.513	.213
	Within Groups	280.631	186	1.509		
	Total	287.479	189			
Competition with my peers for grades is quite intense	Between Groups	1.810	3	.603	.496	.685
	Within Groups	226.106	186	1.216		
	Total	227.916	189			
The examination questions are usually difficult	Between Groups	.950	3	.317	.313	.816
	Within Groups	188.024	186	1.011		
	Total	188.974	189			
The examination time is short to complete the answers	Between Groups	.987	3	.329	.237	.870
	Within Groups	257.876	186	1.386		
	Total	258.863	189			
The examination times are very stressful to me	Between Groups	8.415	3	2.805	2.203	.089
	Within Groups	236.854	186	1.273		
	Total	245.268	189			
I am often worried about catching the virus	Between Groups	3.563	3	1.188	.841	.473
	Within Groups	262.653	186	1.412		
	Total	266.216	189			
I am often worried that I can't keep my family safe from the virus	Between Groups	8.307	3	2.769	1.685	.172
	Within Groups	305.672	186	1.643		
	Total	313.979	189			
I am often worried that our healthcare system won't be able to protect my loved ones	Between Groups	1.467	3	.489	.252	.860
	Within Groups	360.448	186	1.938		
	Total	361.916	189			
I am often worried about grocery stores running out of food	Between Groups	5.176	3	1.725	1.123	.341
	Within Groups	285.793	186	1.537		
	Total	290.968	189			
	Between Groups	3.798	3	1.266	.748	.525

I am often worried about grocery stores running out of cleaning or disinfectant supplies	Within Groups	314.855	186	1.693		
	Total	318.653	189			
I am often worried about pharmacies running out of prescription medicines	Between Groups	3.496	3	1.165	.722	.540
	Within Groups	300.315	186	1.615		
	Total	303.811	189			
I am often worried that strangers are spreading the virus in my country	Between Groups	9.871	3	3.290	2.095	.102
	Within Groups	292.071	186	1.570		
	Total	301.942	189			
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	Between Groups	12.058	3	4.019	3.142	.027
	Within Groups	237.921	186	1.279		
	Total	249.979	189			
I am often worried that strangers are spreading the virus because they're not as clean as we are	Between Groups	10.089	3	3.363	1.785	.152
	Within Groups	350.485	186	1.884		
	Total	360.574	189			
I am often worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus	Between Groups	2.401	3	.800	.579	.629
	Within Groups	256.968	186	1.382		
	Total	259.368	189			
I am often worried that people around me will infect me with the virus	Between Groups	5.816	3	1.939	1.506	.214
	Within Groups	239.363	186	1.287		
	Total	245.179	189			
I am often worried about taking change in cash transactions physically from people, or from ATM	Between Groups	2.315	3	.772	.543	.653
	Within Groups	264.338	186	1.421		
	Total	266.653	189			
I often have trouble concentrating because I keep thinking about the virus	Between Groups	1.007	3	.336	.205	.893
	Within Groups	305.308	186	1.641		
	Total	306.316	189			
I often have thoughts of the virus, which caused	Between Groups	3.986	3	1.329	.815	.487
	Within Groups	303.066	186	1.629		

		Sum of Squares	df	Mean Square	F	Sig.
me to have physical reactions, such as sweating or a pounding heart	Total	307.053	189			
I often have bad dreams about the virus	Between Groups	6.664	3	2.221	1.472	.223
	Within Groups	280.599	186	1.509		
	Total	287.263	189			
I often have searched the Internet for treatments for COVID-19	Between Groups	.959	3	.320	.199	.897
	Within Groups	298.457	186	1.605		
	Total	299.416	189			
I often have checked my own body for signs of infection (e.g., taking your temperature)	Between Groups	11.773	3	3.924	2.314	.077
	Within Groups	315.496	186	1.696		
	Total	327.268	189			
I often have checked social medias' posts concerning COVID-19	Between Groups	2.034	3	.678	.354	.787
	Within Groups	356.540	186	1.917		
	Total	358.574	189			
Successful Student Recoded	Between Groups	7.080	3	2.360	1.525	.209
	Within Groups	287.788	186	1.547		
	Total	294.868	189			
Successful Career Recoded	Between Groups	11.315	3	3.772	2.326	.076
	Within Groups	301.638	186	1.622		
	Total	312.953	189			
Enough Relaxation Time Recoded	Between Groups	.592	3	.197	.119	.949
	Within Groups	307.324	186	1.652		
	Total	307.916	189			

Oneway

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
I think that my worry about examinations is weakness of character	Between Groups	11.199	3	3.733	2.855	.039
	Within Groups	243.243	186	1.308		
	Total	254.442	189			
	Between Groups	12.058	3	4.019	3.142	.027

If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	Within Groups	237.921	186	1.279	
	Total	249.979	189		

Post Hoc Tests

Multiple Comparisons
Tukey HSD

Dependent Variable	(I) What is your current student classification?	(J) What is your current student classification?	Mean Difference (I-J)	Std. Error	Sig.
I think that my worry about examinations is weakness of character	First-year student	Second-year student	-.210	.364	.939
		Third-year student	-.694	.340	.176
		Senior	-.308	.358	.825
	Second-year student	First-year student	.210	.364	.939
		Third-year student	-.484	.216	.117
		Senior	-.098	.243	.978
	Third-year student	First-year student	.694	.340	.176
		Second-year student	.484	.216	.117
		Senior	.386	.205	.239
	Senior	First-year student	.308	.358	.825
		Second-year student	.098	.243	.978
		Third-year student	-.386	.205	.239
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	First-year student	Second-year student	1.071[*]	.360	.017
		Third-year student	.939[*]	.336	.029
		Senior	.816	.354	.100
	Second-year student	First-year student	-1.071[*]	.360	.017
		Third-year student	-.132	.214	.926
		Senior	-.256	.241	.713
	Third-year student	First-year student	-.939[*]	.336	.029
		Second-year student	.132	.214	.926

		Senior	-.123	.203	.930
	Senior	First-year student	-.816	.354	.100
		Second-year student	.256	.241	.713
		Third-year student	.123	.203	.930

Multiple Comparisons
Tukey HSD

Dependent Variable	(I) What is your current student classification?	(J) What is your current student classification?	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
I think that my worry about examinations is weakness of character	First-year student	Second-year student	-1.15	.73
		Third-year student	-1.57	.19
		Senior	-1.23	.62
	Second-year student	First-year student	-.73	1.15
		Third-year student	-1.04	.08
		Senior	-.73	.53
	Third-year student	First-year student	-.19	1.57
		Second-year student	-.08	1.04
		Senior	-.15	.92
	Senior	First-year student	-.62	1.23
		Second-year student	-.53	.73
		Third-year student	-.92	.15
If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus	First-year student	Second-year student	.14	2.00
		Third-year student	.07	1.81
		Senior	-.10	1.73
	Second-year student	First-year student	-2.00	-.14
		Third-year student	-.69	.42
		Senior	-.88	.37
	Third-year student	First-year student	-1.81	-.07
		Second-year student	-.42	.69
		Senior	-.65	.40
	Senior	First-year student	-1.73	.10
		Second-year student	-.37	.88
		Third-year student	-.40	.65

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

I think that my worry about examinations is weakness of character

Tukey HSD[a,b]

What is your current student classification?	N	Subset for alpha = 0.05 — 1
First-year student	13	2.69
Second-year student	41	2.90
Senior	48	3.00
Third-year student	88	3.39
Sig.		.091

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 29.960.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus

Tukey HSD[a,b]

What is your current student classification?	N	Subset for alpha = 0.05 — 1	2
Second-year student	41	3.39	
Third-year student	88	3.52	
Senior	48	3.65	
First-year student	13		4.46
Sig.		.818	1.000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 29.960.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Oneway

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Danger	Between Groups	2.222	3	.741	.733	.534
	Within Groups	188.075	186	1.011		
	Total	190.298	189			
SocialEconomic	Between Groups	3.339	3	1.113	.836	.475
	Within Groups	247.513	186	1.331		
	Total	250.851	189			
Xenophobia	Between Groups	9.332	3	3.111	2.975	.033
	Within Groups	194.491	186	1.046		
	Total	203.822	189			
Contamination	Between Groups	2.718	3	.906	.975	.406
	Within Groups	172.824	186	.929		
	Total	175.542	189			
Traumatic	Between Groups	2.110	3	.703	.552	.647
	Within Groups	236.814	186	1.273		
	Total	238.924	189			
Compulsivechecking	Between Groups	1.600	3	.533	.449	.718
	Within Groups	220.974	186	1.188		
	Total	222.574	189			
Pressuretoperform	Between Groups	2.430	3	.810	1.567	.199
	Within Groups	96.161	186	.517		
	Total	98.591	189			
Perceptionsofworkload	Between Groups	.423	3	.141	.207	.891
	Within Groups	126.720	186	.681		
	Total	127.143	189			
Academicselfperception	Between Groups	4.202	3	1.401	1.320	.269
	Within Groups	197.351	186	1.061		
	Total	201.553	189			
timerestraints	Between Groups	.947	3	.316	.321	.810
	Within Groups	182.895	186	.983		
	Total	183.842	189			

Oneway

ANOVA
Xenophobia

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.332	3	3.111	2.975	.033
Within Groups	194.491	186	1.046		
Total	203.822	189			

Post Hoc Tests

Multiple Comparisons
Dependent Variable: Xenophobia
Tukey HSD

(I) What is your current student classification?	(J) What is your current student classification?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound
First-year student	Second-year student	.91119*	.32548	.029	.0674
	Third-year student	.56206	.30384	.254	-.2256
	Senior	.48504	.31972	.429	-.3438
Second-year student	First-year student	-.91119*	.32548	.029	-1.7550
	Third-year student	-.34913	.19335	.274	-.8504
	Senior	-.42615	.21746	.207	-.9899
Third-year student	First-year student	-.56206	.30384	.254	-1.3497
	Second-year student	.34913	.19335	.274	-.1521
	Senior	-.07702	.18348	.975	-.5527
Senior	First-year student	-.48504	.31972	.429	-1.3139
	Second-year student	.42615	.21746	.207	-.1376
	Third-year student	.07702	.18348	.975	-.3986

Multiple Comparisons
Dependent Variable: Xenophobia
Tukey HSD

95% Confidence Interval

(I) What is your current student classification?	(J) What is your current student classification?	Upper Bound
First-year student	Second-year student	1.7550
	Third-year student	1.3497
	Senior	1.3139
Second-year student	First-year student	-.0674
	Third-year student	.1521
	Senior	.1376
Third-year student	First-year student	.2256
	Second-year student	.8504
	Senior	.3986
Senior	First-year student	.3438
	Second-year student	.9899
	Third-year student	.5527

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

Xenophobia
Tukey HSD[a,b]

What is your current student classification?	N	Subset for alpha = 0.05	
		1	2
Second-year student	41	2.9350	
Third-year student	88	3.2841	3.2841
Senior	48	3.3611	3.3611
First-year student	13		3.8462
Sig.		.374	.148

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 29.960.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Correlations

Correlations

		Danger	SocialEconomic	Xenophobia	Contamination	Traumatic
Danger	Pearson Correlation	1	.427**	.557**	.635**	.425**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	191	191	191	191	191
SocialEconomic	Pearson Correlation	.427**	1	.419**	.428**	.681**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	191	191	191	191	191
Xenophobia	Pearson Correlation	.557**	.419**	1	.636**	.402**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	191	191	191	191	191
Contamination	Pearson Correlation	.635**	.428**	.636**	1	.538**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	191	191	191	191	191
Traumatic	Pearson Correlation	.425**	.681**	.402**	.538**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	191	191	191	191	191
Compulsivechecking	Pearson Correlation	.493**	.476**	.508**	.642**	.674**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	191	191	191	191	191
Pressuretoperform	Pearson Correlation	.163*	.334**	.201**	.137	.390**

	Sig. (2-tailed)	.024	.000	.005	.058	.000
	N	191	191	191	191	191
Perceptionsof workload	Pearson Correlation	.185*	.230**	.125	.066	.270**
	Sig. (2-tailed)	.010	.001	.086	.367	.000
	N	191	191	191	191	191
Academicself perception	Pearson Correlation	-.040	-.130	.117	-.039	-.088
	Sig. (2-tailed)	.587	.072	.106	.594	.228
	N	191	191	191	191	191
timerestraints	Pearson Correlation	.234**	.285**	.214**	.037	.254**
	Sig. (2-tailed)	.001	.000	.003	.611	.000
	N	191	191	191	191	191

Correlations

		Compulsivechecking	Pressuretoperform	Perceptionsofworkload	Academicselfperception
Danger	Pearson Correlation	**.493****	.163*	.185*	-.040
	Sig. (2-tailed)	.000	.024	.010	.587
	N	191	191	191	191
SocialEconomic	Pearson Correlation	**.476****	.334**	.230**	-.130
	Sig. (2-tailed)	.000	.000	.001	.072
	N	191	191	191	191
Xenophobia	Pearson Correlation	.508**	.201**	.125	.117
	Sig. (2-tailed)	.000	.005	.086	.106
	N	191	191	191	191
Contamination	Pearson Correlation	.642**	.137	.066	-.039
	Sig. (2-tailed)	.000	.058	.367	.594
	N	191	191	191	191

Traumatic	Pearson Correlation	.674**	.390**	.270**	-.088
	Sig. (2-tailed)	.000	.000	.000	.228
	N	191	191	191	191
Compulsivechecking	Pearson Correlation	1	.251**	.116	-.098
	Sig. (2-tailed)		.000	.110	.179
	N	191	191	191	191
Pressuretoperform	Pearson Correlation	.251**	1	.514**	-.250**
	Sig. (2-tailed)	.000		.000	.000
	N	191	191	191	191
Perceptionsofworkload	Pearson Correlation	.116	.514**	1	-.129
	Sig. (2-tailed)	.110	.000		.075
	N	191	191	191	191
Academicselfperception	Pearson Correlation	-.098	-.250**	-.129	1
	Sig. (2-tailed)	.179	.000	.075	
	N	191	191	191	191
timerestraints	Pearson Correlation	.114	.578**	.508**	-.128
	Sig. (2-tailed)	.116	.000	.000	.078
	N	191	191	191	191

Correlations

		timerestraints
Danger	Pearson Correlation	.234**
	Sig. (2-tailed)	.001
	N	191
SocialEconomic	Pearson Correlation	.285**
	Sig. (2-tailed)	.000
	N	191
Xenophobia	Pearson Correlation	.214**
	Sig. (2-tailed)	.003
	N	191
Contamination	Pearson Correlation	.037
	Sig. (2-tailed)	.611

	N	191
Traumatic	Pearson Correlation	.254**
	Sig. (2-tailed)	.000
	N	191
Compulsivechecking	Pearson Correlation	.114
	Sig. (2-tailed)	.116
	N	191
Pressuretoperform	Pearson Correlation	.578**
	Sig. (2-tailed)	.000
	N	191
Perceptionsofworkload	Pearson Correlation	.508**
	Sig. (2-tailed)	.000
	N	191
Academicselfperception	Pearson Correlation	-.128
	Sig. (2-tailed)	.078
	N	191
timerestraints	Pearson Correlation	1
	Sig. (2-tailed)	
	N	191

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

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

Appendix H: Samples of Survey's Generated Graphs

Graph 1: Percentage of Students per Year
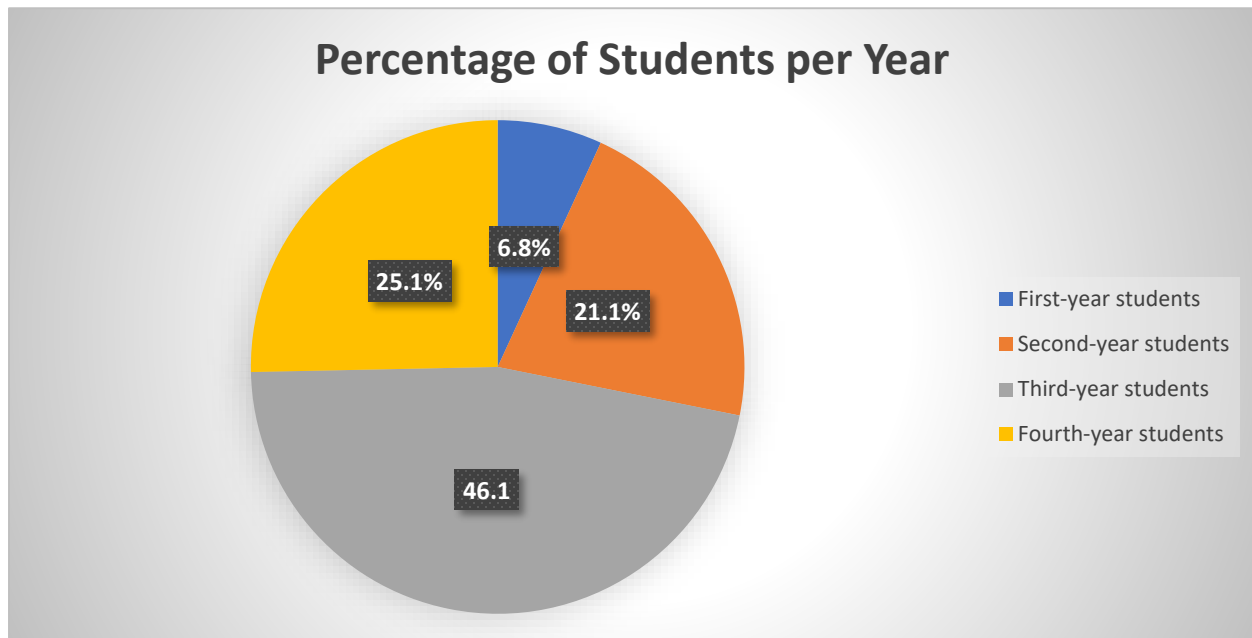
Graph 2: Percentage of Student's GPA
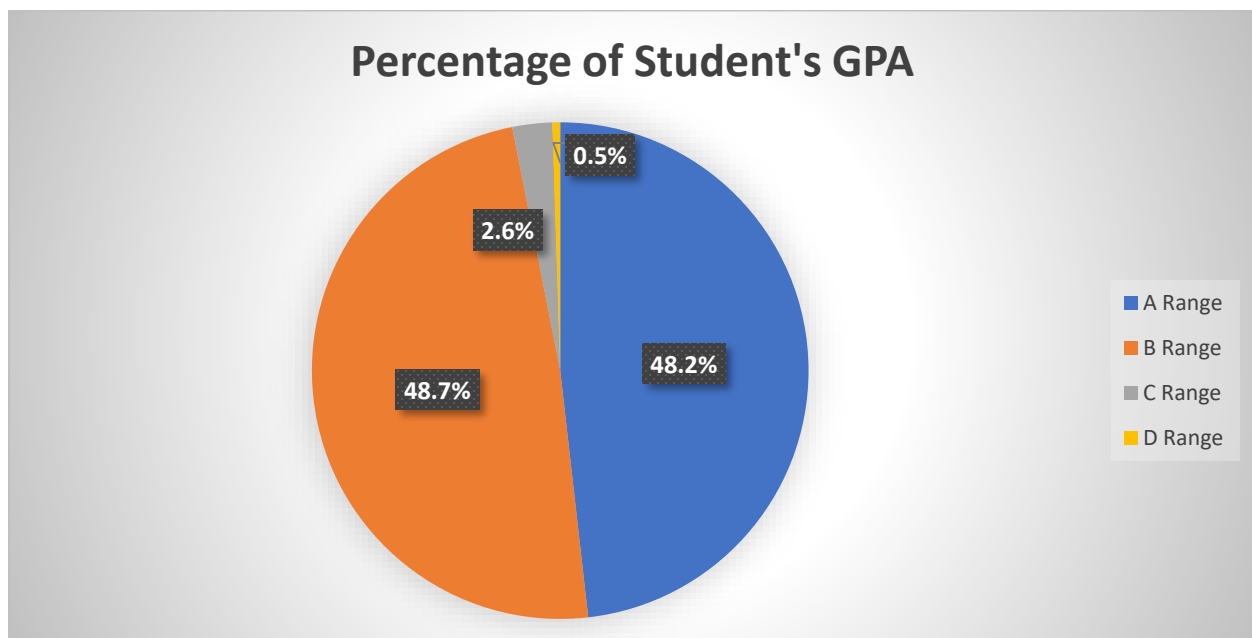
Graph 3: Percentage of Students' Majors

Percentage of Students' Majors

- College of Education — 77.5%
- College of Communication & Media Sciences — 14.1%
- College of Natural and Health Sciences — 6.3%
- College of Arts and Creative Enterprises — 1%
- College of Humanities and Social Sciences — 1%
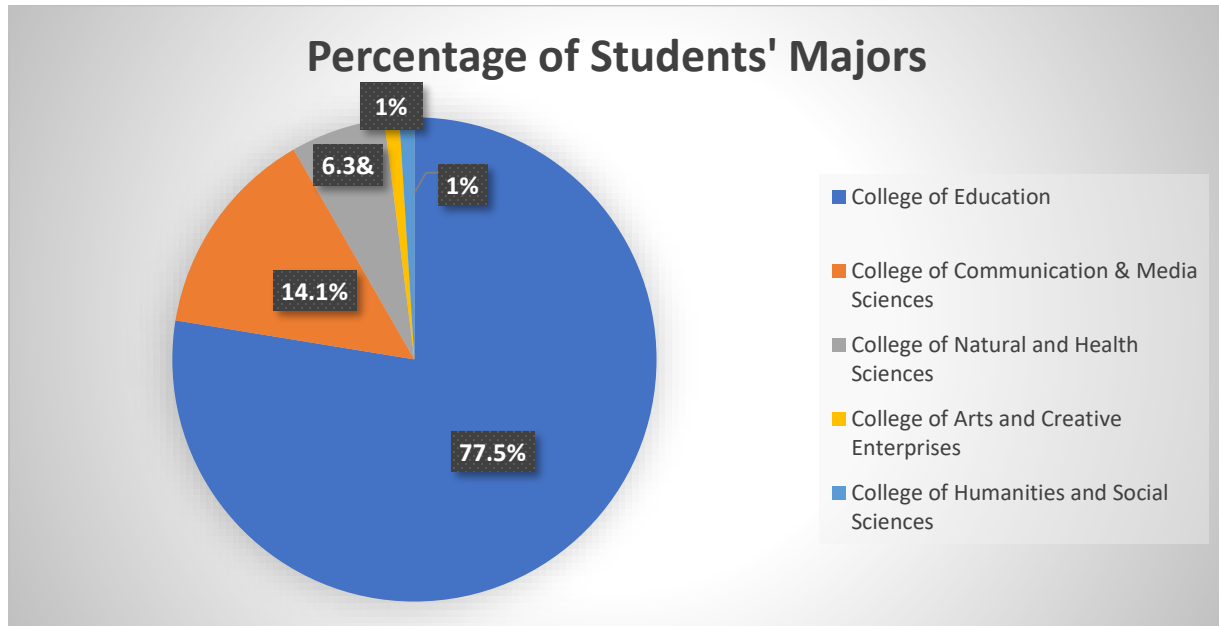
Appendix I: The Ethics Approval from BUiD

<table>
<tr><td>Godwin Francis <godwin.francis@buid.ac.ae>
to Prof, me, BUiD, Solomon</td><td>Sun, Nov 8, 2020,
1:59 PM</td></tr>
</table>

Dear Khulood

The feedback will be given as soon as the ethics reviewer's comments are received on the application.

<table>
<tr><td>Godwin Francis <godwin.francis@buid.ac.ae>
to me</td><td>Tue, Nov 10, 2020,
11:36 AM</td></tr>
</table>

Dear Khulood

Here is the reviewer's comment on your research ethics application, kindly amend and send it back:

"Most parts of the form are appropriately completed. However, the student should address the following:
1. The 'Methods of data Collection' section should clearly explain the methods to be used to collect research data and from whom the data will be collected from.
2. Complete the section titled 'Potential adverse effects on participants and steps to deal with them'. For example if the process of data collection is likely to affect the flow of lessons and what the researcher will do to reduce this effect. State clearly if there is no potential adverse effects."

Regards
Godwin

<table>
<tr><td>Khulood Alfalasi <20193328@student.buid.ac.ae>
to Godwin</td><td>Tue, Nov 10, 2020,
5:32 PM</td></tr>
</table>

Dear Godwin,

Thank you very much for your email. I will amend it and send it back to you.

Warmest regards,
Khulood Alfalasi

<u>Khulood Alfalasi</u> <20193328@student.buid.ac.ae>

to Godwin

Dear Godwin,

Good day and I hope that this email finds you well.
Kindly find the research ethics application amended and attached as requested.
Questionnaire link (attached is the pdf version): https://forms.gle/F4LKLNg3esSdnvqU6

Many thanks,
Khulood Alfalasi

<u>BUiD Letters</u> <letters@buid.ac.ae>

to me

Dear Kulood,

Kindly be informed that to receive the research letter you need to complete the ethics form first. Please contact **godwin.francis@buid.ac.ae** for details.

Regards,

Adelya Islamova

BUiD letters

<u>BUiD Letters</u> <letters@buid.ac.ae>

to me

Dear Khulood,

Kindly find the requested letter attached.

Regards,
Adelya Islamova
SA letters
www.buid.ac.ae
Block 10 & 11, 1st and 2nd floor
Dubai International Academic City
PO Box: 345015, Dubai, UAE

November 12, 2020

To whom it may concern

This is to certify that **Ms. Khulood Obaid Alfalasi** with student ID number **20193328** is a registered student on the **Master of Education In Psychology** programme at **The British University in Dubai** since **September 2019.**

Ms. Alfalasi is currently working on her dissertation titled **"The effect of COVID-19 pandemic on academic stress and anxiety: a study on undergraduate students".**

She needs your support in conducting surveys to complete the research.

This letter is issued on student`s request.

Yours sincerely,

Amer Alaya
Head of Student Administration

Appendix J: Permission Letters

MOHAP Approval Letter

Ministry of Health and Prevention
Research Ethics Committee

Study Title: The effect of COVID-19 pandemic on academic stress and anxiety: A study on undergraduate students.

Subject: Approval Reference No: **MOHAP/DXB-REC/ DD_J /No.181 /2020.**

Dear Dr Solomon David,
      Ms Kholoud AL Falasi,
In regards to the above-mentioned Study protocol, this is to confirm that on the meeting dated **(21 / 01 /2021)**, the Ministry of Health and Prevention Research Ethics Committee has reviewed the study protocol as well as all the documents submitted in the submission file from the ethical point of view and has approved the conduct of above-mentioned study.

Opinion: Approval.

Committee members:

Name	Designation	Role in committee
Dr. Suad Hannawi	Consultant Rheumatologist	Chairman
Dr. Haifa Hannawi	Consultant Dentist	Deputy chairman
Dr.Muna AL Mutawa	Specialist Ophthalmologist	Member
Yusra Swaidat	Senior charge technician	Coordinator
Samya Al Mulla	Pharmacist	Member

Please find below a list of approved documents:

Document	Version/date
Application Form	Ministry of Health and Prevention Application Form
Protocol	Study protocol
Information sheet and Informed Consent Form	Online information sheet/consent
Data Collection	Study questionnaire
Investigator/s CV	CV of Principal Investigator
GCP Certificate/s	GCP Certificate of investigator

United Arab Emirates
Ministry of Health & Prevention
الإمارات العربية المتحدة
وزارة الصــــحـــة ووقــايـة المــجتمـــع

The MOHAP Research Ethics Committee is organized and operated according to guidelines of the International Conference on Harmonization and constituted according to ICH-GCP requirements.

This Ethical approval applies for the following study sites only: Zayed University**.**

This approval is subject to the following conditions:

1. The MOHAP research ethics committee approval does not imply that the researcher is granted access to data, medical records or biological samples from the MOHAP health care facilities neither the Private MOHAP licenced health care facilities. Researchers must seek permission and follow the policy and procedure from the concerned directories after the approval from the Research Ethics Committee.

2. Please note that it is the Principal Investigator's responsibilities, to immediately inform the Committee of any changes in the research protocol and/or the research Methodologies, should the need for those changes arise prior to or during the conduct of this research study.

3. The approval is valid for up to **1year** from the date of approval. If the study extends beyond this date, a progress report must be sent to the research ethics committee to renew the approval 30 days prior the expiry date.

4. The research ethics committee must be informed when the research has been completed and a copy of the final research report must be submitted for our records.

Yours sincerely,

Dr Haifa Hannawi
Deputy Chairman
MOHAP - REC

Date: 21/01   /2021

Zayed University Approval Letter

	Research Ethics Committee (REC)
إدارة البـحـوث OFFICE OF RESEARCH جـامـعـة زايـد ZAYED UNIVERSITY	**Proof of Ethical Clearance**

Dr. Anoud Bani-Hani
Chair of the Research Ethics Committee

Khulood Alfalasi
Administrative Officer
College of Education
Zayed University

Date	20th Dec. 2020
Ethics Application Number	**ZU20_153_F**
Research Project	The effect of COVID-19 pandemic on academic stress and anxiety: A study on undergraduate students
Submitted Form	☐ Exemption from Full Application ☒ Full Application for Ethical Clearance
Valid until	19th Dec. 2022

Dear Khulood,

Thank you for submitting the above-mentioned research proposal to the Research Ethics Committee at Zayed University. The following documents were received:

- Full Application for Ethical Clearance Form
- Data collection tool
- Informed consent form
- CITI completion report of the PI
- CV of the PI

The proposed data collection tools of the study were reviewed by the committee, and I am pleased to advise you that the Committee has granted:

☐ Exemption from Full Ethical Clearance	☒ Full Ethical Clearance
Notes from the Committee	This letter is conditional. The project requires further approval from the Ministry of Health and Prevention prior to data collection.

Approval is given on the understanding that the Principal Investigator reports the following to the Office of Research at Zayed University:

- Any amendments or significant change that occur in connection to the study which may alter the ethical consideration, such as:

* any serious or unexpected adverse events, and

* any unforeseen events that might affect the continued ethical acceptability of the project

- Any proposed changes to the research protocol or the conduct of the research

- Premature suspension or termination of the study

- Arrangements for publication or dissemination the research including any feedback to participants

- Progress Report on annual basis

- Final Report within 3 months after termination or completion of the study

On behalf of the Committee, I am wishing you a productive and successful accomplishment of this research study.

Sincerely,

Dr. Anoud Bani-Hani, Ph.D.
Chair, Research Ethics Committee
Zayed University

Appendix K: Discussion Group Transcript and Noted

<u>Opening note:</u>

Good afternoon everyone, this is Khulood Alfalasi. I work in the College of Education as an Administrative Officer, and I am currently doing my Masters in the British University in Dubai. I am doing my dissertation on the topic of the impact of COVID-19 on academic stress and anxiety. Today I will ask you some questions about your internship experience during the pandemic and how you felt about it.

<u>Notes taken from the discussion</u>

Question 1: Can you tell us about your experience in general?

Answer 1: I am glad that education was online because I am a mother and faced difficulty initially because of technical issues. However, I finished everything by now. The beginning and ending were fine from different aspects, including the technological part, the teaching part, and the student's interaction. I gained many new ideas and new experiences, and I also formed my class. I let students feel that it was similar to the physical class, and it was a pleasant experience.

Answer 2: My mentor was very supportive and encouraged me to use my teaching methods. She used to send me the PowerPoint and gives me the option to use it or not. She was encouraging me so much when I used ideas during the class and motivate me. She was highly supportive of me using my techniques, and until now, I did not receive any negative feedback from her.

Question 2: Did you think that what you studied in your major helped you be ready for the teaching experience? Or did you feel that it was something different?

Answer: teaching online is a new experience, and the curriculum previously did not fully prepare us for this change. There was a language barrier. It was hard to teach in Arabic when we were prepared to teach in English. The lesson plan was even hard in Arabic because all that we were taught was in English.

Question 3: Did you face any stress and anxiety?

Yes, it was stressful, but now I am fine teaching in the Arabic language.

I benefit so much from the mentor, and I used her as a model

Question 4: What were the challenges you faced during this period?

Answer 1: The challenge that I faced during this period was when my mentor told me to teach math. I have a math issue, so I was worried. I did not know how to teach and almost gave up, but I pressured myself and did not give up. I tried my best, but I couldn't succeed in teaching a math class. However, she told me not to teach math but to teach since, and I felt so comfortable. The language was fine with me.

Answer 2: I benefitted from the language in the mentor, and she was supportive. The challenge had enough knowledge to answer the students. Therefore, the subject content was the challenge.

Answer 3: My mentor was helpful. I had a challenge in time management. It gave me stress as I was worried. I took so much time and wasted it on activities rather than the content.

Question 5: What was your expectation from the internship?

Answer: I expected to have online class management, and I met this expectation by following my rules to prevent students who misbehaved. The online classes used to be very chaotic, but I did challenges and activities for them, and I told them that the one who misbehaves would not be able to join, and then this helped me have control over the class

Question 6: What do you think about COVID-19 in terms of causing stress and anxiety?

Answer 1: Yes, COVID-19 has influenced us a lot. I wished to have the internship be in a physical classroom rather than online. The teaching and interaction would be much better. It was tough to teach behind the screen, which was on us, but I also noticed it on the mentor. When we worked on our capstone, and we were looking at the students who had learning difficulties. When I tried to differentiate between the students, the mentor told me to forget about it because most of the

students' parents answered their homework. Hence, it was hard to follow up and to specify who has learning difficulty. Therefore, if it were a physical classroom where we could see students doing their work, it would make things easier.

Answer 2: I agree with my colleague. I prefer a physical classroom rather than an online one because students in grade one face difficulty understanding information. Imagine us teaching them online without us seeing each other in person and without a whiteboard. Everything is from the PowerPoint. For grade one, it is better to have a physical classroom where we can see the students working. One time I asked a student a question, and the mother answered. I was listening to her voice. I told the mother politely if she can let the student answer himself/herself, give the student a chance. I am sure he/she knows the answer, and I faced many situations like that. The mothers respond instead of the students and even the exams. There is a lack of integrity. I feel the students will not benefit from learning like that, and I do not know if the students are learning when we are teaching them online.

Answer 3: Yes, I think it is unfair for the students not to learn the information like that. I could see that from the students' handwriting, for example. They cannot write correctly, and I ask them to speak out what they have written, which also affects the students themselves.

Answer 4: Please note that some students join the class before the time. Their course is at 8:30, and I ask them general questions. For example, did you eat your breakfast? One student said no, I did not eat breakfast, and the other student said the same. Some of them join the class half asleep without eating correctly. I felt that if I left them a bit, they would fall asleep. It is tough; they won't learn anything if they continue on that.

Answer 5: Yes, one time I was teaching, and a student opened the camera and was sleeping. I didn't know how to solve the issue. My mentor saw that, and the administrative staff was following up. They always come in, and they take notes of everything. I didn't know what to do, and I even spoke with my mentor.

Question 5: Did the mentor help you?

Answer 1: The mentor captured the screen to send it to the administration.

Answer 2: There are many meetings also for the mentors. For example, my mentor calls her for three sessions besides the one we are in, which is the lesson.

Question 7: I have a question regarding your online classes, the class is opened, and the mentor joins you there?

Answer 1: Yes, my mentor was very supportive. She always there, and they observe us when we need any support.

Answer 2: Yes, the mentors tell us to start, and they would observe us.

Answer 3: Yes, mentors have to be there because they give marks on the LMS, and they have access there whereas we don't, so their presence should be always there

Question 8: Alright, I was informed that the mentors have many meetings, so do you think that there is a disturbance within the classroom as it is online?

Answer 1: No, there is no disturbance at all. For example, when the mentor has meetings, my mentor informs me before recording the class and then sending it so that she observes it later and checks students' participation and attendance. Yet, she is always there. I start from A to Z, but she is always there.

Answer 2: I did not face this problem because my mentor leaves the meetings at the end of the day. After she finishes all of her classes, then she has her sessions. I liked that about her.

Question 9: What do you think about the role of teachers and educational administrators in limiting academic stress and anxiety?

Answer: The stress was caused by the meetings we had with the college. I felt some of the meetings were unnecessary. You can ask the other students, and we had so much work to do.

Question 10: What were the meetings that caused you to stress and felt they were not necessarily?

Answer 1: For example, for the capstone meetings, we need to submit it in May, so it is was alright to postpone the sessions later.

Answer 2: There were many meetings for the capstone, and it also included attendance as they were mandatory.

Answer 3: Yes, Meetings can be postponed after the internship because it created lots of pressure. For example, my mentor gave me the science curriculum and asked me to plan everything. I made three units by myself. I made two lesson plans for two different classes and two different lessons, so it was very stressful for me to develop lesson plans. As I had to submit them and then create the presentation, I would present and review everything with my mentor. Then attend all of the meetings from the college. It was highly stressful. I had to do lesson plans for two different courses and taught classes daily. It was tough to manage teaching, planning, and attending meetings.

Question 11: How would you like the teachers and educational administrators to help you with academic stress and anxiety caused by COVID-19?

Answer 1: Regardless of teaching and learning and regardless of the challenges we faced, we managed to teach students and let them learn. We saw them knowing whether it was a physical classroom or online. I think that we managed to obtain the main goal, which is teaching. However, the big issue was the well-being, stress, and anxiety we faced. For example, Meetings caused us so much stress that we couldn't manage our time. We did not know what we would do at this time or at that time. We had to check the telegram to talk with our mentor teachers, WhatsApp to communicate with the parents, and check our emails.

Also, one of our colleagues would say we need to submit another colleague says something else. It made us feel lost, so as a suggestion, the meetings that are not mandatory could have been recorded and posted in Blackboard to follow up later and check on the panels. For example, some of the teacher candidates are mothers, so that when they finish their house chores, they can check on the recorded meetings at night when they would be more focused.

Answer 2: Internet issues also made things very hard.

Question 12: Can you explain more how did the internet influence you?

Answer: I faced difficulties using the online platform. The internet was lagging and would kick us out of the meeting. I could not be in my room for the internet. I had to be in the living room for the internet connection because, as you know, the platforms used for teaching need a high internet connection. I felt that everyone in the house feel annoyed by this, but I did not have any other solution.

Question 13: What about the students? Did they also face difficulties with the internet connection?

Answer 1: The students faced many difficulties regarding the internet connection. For example, the students who did not have any guardian around them would not know how to charge their device. When they screenshot their activity, I could see that their device was 10%. When I ask the student to ask for help regarding charging their device, he said there is no one around me to help me.

Answer 2: Some students expect their mothers to open the website and everything for them. However, when I tell them, please open the website, tell me my mom is at work, and not open the website by ourselves. Fortunately, some students have their older siblings who help them, so it was great, but other students, unfortunately, do not have anyone who can help them. These students give them a chance to work with their mother in the evening when they get back from work, but they have to submit on the same day. I feel it is stressful even for the students, and they are so young. I think online learning was unfair to young students.

Question 14: Do you have any suggestions or feedback on preventing academic stress and anxiety during the pandemic?

Answer 1: I have something to add. I used two devices for my teaching as I overcame my issues using two devices, one device for the teaching platform and the other for attendance and checking the chatbox. We had internet connection issues. The programs required strong connections. Therefore, I had to increase the internet connection because you cannot use one device and one screen for attendance, checking the student's chatbox, and teaching them. We learned from our course the hands-on activities. Online teaching cannot help students in their early childhood because they need social interaction, so the lack of social interaction in online education prevents the students from effective interaction even if you do group. It is hard to know who does the activity, and it is hard to evaluate the students.

Answer 2: I have a suggestion for the following students in their internship. It would be great if there is an agreement between teachers to supervise us weekly within the college. All of the faculty members can take some of the students and direct them weekly only for 5-10 minutes and give the student feedback because it is tough for one instructor to supervise them. We had two visits from our instructor, but we could not implement the input because the time would pass, but if there were weekly feedback, we would implement it. I think that weekly base feedback would increase the quality of teaching, increase our knowledge, and enhance our vision in education. We can also do mentoring with each other to share experiences and feedback.

Appendix L: A Sample of Completed Survey Questionnaire

The effect of COVID-19 pandemic on academic stress and anxiety: A study on undergraduate students

* Required

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Research Consent Form
Invitation to Participate
I am researching project participant competency and you are invited to participate. My name is Khulood Alfalasi and I am an Administrator Officer at Zayed University, College of Education. I would like to invite you to participate in a research project about the effect of COVID-19 pandemic on academic stress and anxiety.

Research Purpose
The purpose of this research is to explore the pandemic impact on undergraduate students' academic stress, particularly on their academic performance. Furthermore, the students' coping strategies, if any, during the pandemic, will be investigated.

Research Method
This survey will be distributed to approximately 250 students at Zayed University, College of Education. The researcher, Ms. Khulood Alfalasi will be the only person who will have access and control of the survey and data collection. If you decide to participate, you will need to click on "agree to participate", and this will take you directly to the questionnaire. The questionnaire is consisting of two sections and the first section is about academic stress whereas the second section is about COVID-19 stress scale. The answer scale ranges from Strongly Agree to Strongly Disagree, and Never to Always. The research will only take approximately 10-15 minutes of your time.

Confidentiality - Anonymity - Security
If you decide to participate, your identity as a participant in this study, and any other personal information gathered about you during the study will be kept strictly confidential and will never be made public. All data will be password protected. The published results of the study will contain only statistical or group data from which no individual participant can be identified.

Okay To Say No
You are being asked to make a voluntary decision whether or not to participate in this study. Please read and think about the information given above. If there is any part of the information you do not understand, please ask me to explain it. If you would like to consult with someone not associated with this study that will be all right, too. If you decide not to participate, or if you later decide to discontinue your participation, your decision will not affect your present or future relations with the Zayed University. Upon request, a copy of the information, data, and results will be made available to you. You will always be free to discontinue participation at any time, and all data collected up to that time as a result of your partial participation will be destroyed without being used in the study. If you decide to participate, please choose "agree to participate". Choosing "agree to participate" indicates that you have read, considered, and understood the information provided above, and that you have decided to participate.

What Does Clicking on "agree to participate" Mean
Choosing "agree to participate" on this Consent Form indicates that you have understood to your satisfaction the information regarding participation in this research project and agree to participate as a participant. In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time. Your continued participation should be informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

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If you have any questions concerning your participation in this project you may also contact
Dr. Anoud Bani-Hani, Chair of the ZU Research Ethics Committee
Zayed University, (+971 4 402 1735), email: Anoud.Bani-Hani@zu.ac.ae

You may contact Yusra Swaidat, MOHAP Research Ethics Committee Coordinator
 at 047078539, and email: yusra.swaidal@moha.gov.ae

1.   Do you agree to participate in this research study? *

Mark only one oval.

◯ Yes

◯ No

Demographic Information

2.   What is your age? *

Mark only one oval.

◯ Under 18

◯ 18-24

◯ 25-34

◯ 35-44

◯ 45-54

◯ Above 54

3.   What is your gender? *

Mark only one oval.

◯ Male

◯ Female

◯ Other

4. What is your marital status? *

Mark only one oval.

◯ Single

◯ Married

◯ Divorced

◯ Separated

◯ Widowed

◯ Other

5. What is your current student classification? *

Mark only one oval.

◯ First-year student

◯ Second-year student

◯ Third-year student

◯ Senior

◯ Other: _____

6. In which college/major are you? *

Mark only one oval.

◯ College of Arts and Creative Enterprises

◯ College of Business

◯ College of Communication & Media Sciences

◯ College of Education

◯ College of Technological Innovation

◯ College of Humanities and Social Sciences

◯ College of Natural and Health Sciences

◯ University College

◯ Other

7. Please indicate which letter best describes your average college grades. *

Mark only one oval.

◯ A or A+

◯ A-

◯ B+

◯ B

◯ B-

◯ C+

◯ C

◯ C-

◯ D or below

Questionnaire Section 1.1

Academic Stress Scale

Please rate your perception about the following statements in contributing to academic stresses.

8. I am confident that I will be a successful student *

Mark only one oval.

◯ Strongly disagree

◯ Disagree

◯ Undecided

◯ Agree

◯ Strongly agree

9.   I am confident that I will be a successful in my future career *

Mark only one oval.

⬭ Strongly disagree

⬭ Disagree

⬭ Undecided

⬭ Agree

⬭ Strongly agree

10.   I have enough time to relax after work *

Mark only one oval.

⬭ Strongly disagree

⬭ Disagree

⬭ Undecided

⬭ Agree

⬭ Strongly agree

Questionnaire
Section 1.2

Academic Stress Scale

Please rate your perception about the following statements in contributing to academic stresses.

11.   My teachers are critical of my academic performance *

Mark only one oval.

⬭ Strongly agree

⬭ Agree

⬭ Undecided

⬭ Disagree

⬭ Strongly disagree

12.   I think that my worry about examinations is weakness of character *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

13.   The size of the curriculum (workload) is excessive *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

14.   I am unable to catch up if getting behind the work *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

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15. The unrealistic expectations of my parents stresses me out *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

16. Competition with my peers for grades is quite intense *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

17. The examination questions are usually difficult *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

18.   The examination time is short to complete the answers *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

19.   The examination times are very stressful to me *

Mark only one oval.

◯ Strongly agree

◯ Agree

◯ Undecided

◯ Disagree

◯ Strongly disagree

Questionnaire Section 2

COVID-19 Stress Scale

20.   I am often worried about catching the virus *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

21.   I am often worried that I can't keep my family safe from the virus *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

22.   I am often worried that our healthcare system won't be able to protect my loved ones *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

23.   I am often worried about grocery stores running out of food *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

24.   I am often worried about grocery stores running out of cleaning or disinfectant supplies *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

25.   I am often worried about pharmacies running out of prescription medicines *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

26.   I am often worried that strangers are spreading the virus in my country *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

27.   If I was in an elevator with a group of strangers, I'd be often worried that they're infected with the virus *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

28.   I am often worried that strangers are spreading the virus because they're not as clean as we are *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

29.   I am often worried that if I touched something in a public space (e.g., handrail, door handle), I would catch the virus *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

30.   I am often worried that people around me will infect me with the virus *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

31.   I am often worried about taking change in cash transactions physically from people, or from ATM *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

32.   I often have trouble concentrating because I keep thinking about the virus *

Mark only one oval.

◯ Never

◯ Rarely

◯ Sometimes

◯ Very often

◯ Always

33. I often have thoughts of the virus, which caused me to have physical reactions, such as sweating or a pounding heart *

Mark only one oval.

○ Never

○ Rarely

○ Sometimes

○ Very often

○ Always

34. I often have bad dreams about the virus *

Mark only one oval.

○ Never

○ Rarely

○ Sometimes

○ Very often

○ Always

35. I often have searched the Internet for treatments for COVID-19 *

Mark only one oval.

○ Never

○ Rarely

○ Sometimes

○ Very often

○ Always

36.   I often have checked my own body for signs of infection (e.g., taking your temperature) *

Mark only one oval.

     ⬭ Never

     ⬭ Rarely

     ⬭ Sometimes

     ⬭ Very often

     ⬭ Always

37.   I often have checked social medias' posts concerning COVID-19 *

Mark only one oval.

     ⬭ Never

     ⬭ Rarely

     ⬭ Sometimes

     ⬭ Very often

     ⬭ Always