MRYWAN MOHAMMED

ASSESSMENT OF MENTAL HEALTH PROBLEM SYMPTOMS OF UNIVERSITY STUDENTS DURING AND AFTER THE COVID-19 IN NORTHERN IRAQ

PHD THESIS

NICOSIA 2023

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Supervising by
Assoc. Prof. Dr. Könül MEMMEDOVA

Nicosia
June 2023

Approval

We certify that we have read the thesis submitted by **MRYWAN MOHAMMED** titled **"ASSESSMENT OF MENTAL HEALTH PROBLEM SYMPTOMS OF UNIVERSITY STUDENTS DURING AND AFTER COVID-19 IN NORTHERN IRAQ"** and that in our combined opinion, it is fully adequate, in scope and in quality, as a thesis for the degree of PhD of Educational Sciences in Guidance and Psychological Counselling.

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Declaration

I at this moment, declare that this study displays my work which has been achieved after registration for the PhD degree as appropriate and in agreement with the ethical rules of the Graduate School of Educational Sciences at Near East University. All the information in this study has not already been established for the award of any other degree or diploma in any university.

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19 / 06 / 2023

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MRYWAN ABDULMAJEED MOHAMMED
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Dedication

This thesis is dedicated to Near East university members, particularly my Supervisor, Assoc. Prof. Konul Memmedova, who helped and guided me in the completion of this project. Also, I would like to dedicate this project to my dear mother, who has been a wonderful support and to my beloved wife, who has encouraged me to pursue my dreams and finish my dissertation. My dear friend Mr. Kazim encouraged and supported me. Then there is my sweet daughter Ana, whom I can't force myself to stop loving. There are my beloved sisters who stand by me when things look bleak and from the depths of my soul, my thanks go to my deceased brother (Sirwan) who passed away recently. To all my friends, you are the symbol of love and giving.

Abstract

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The objective of this research was to examine the symptoms of mental health problems among university students during and after COVID-19 in northern Iraq in terms of age, gender, marital status, semester, university, socioeconomic status, and place of stay. Although in Iraqi society the symptoms of the five sub-dimensions of mental problems seemed to be higher during lockdown than after the disease, both stress and insomnia symptoms were more common than present within the literature review. The current study has hexamined whether young students were experiencing the symptoms of anxiety, depression, stress, OCD, and insomnia, thus affecting their mental health.

The researcher developed a pre-designed questionnaire (MHPQ-24) based on Freud's theory, the DSM-5, Beck's scale, Kessler, the Cleveland Clinic, the Mayo Clinic, and Sampson and Felman's symptoms to determine the relationships present among the five sub-dimensions of mental health symptoms. The study sample involved nearly 1968 undergraduate students from the universities of Charmo, Sulaimani, and Human Development in northern Iraq. In total, 2300 forms were distributed and 1968 forms were received. The data was analysed using SPSS version 26 to discover the findings of this thesis.

The results showed there to be positive and statistically significant correlations among anxiety, stress, and insomnia but negative and significant correlations among depression, OCD, and insomnia. Although there were significant differences among the five sub-dimensions of mental health according to gender, place of stay, socioeconomic status, university, and semester, there were no significant differences in the sub-dimensions of mental health problems regarding age and marital status. During COVID-19, the prevalence of mental health symptoms was higher than after the pandemic. This might be due to the lockdown impact on the social, economic, psychological, educational, and health sectors. Consequently, females, first-year students, those living in the city, and lower

socioeconomic-class married students were more influenced. The results after COVID-19 demonstrate that university students are still experiencing some of the symptoms of mental health problems. This might be related to the factors and variables that the Iraqi community were and are still facing before and after the pandemic including poverty, violence, financial, and political, and psychosocial issues.

Keywords: mental health problem symptoms, university students, COVID-19, counselling, KMHPQ-24, Northern Iraq.

Özet

Mohammed, Mrywan Abdulmajeed

Doktora, Rehberlik ve Psikolojik Danışmanlık
Tez Danışmanı: Doç. Dr. Könül MEMMEDOVA

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Bu araştırmanın amacı, Kuzey Irak'ta COVID-19 sırasında ve sonrasında üniversite öğrencilerinde ruh sağlığı sorunlarının belirtilerini yaş, cinsiyet, medeni durum, dönem, üniversite, sosyoekonomik durum ve kalınan yer açısından incelemektir. Irak toplumunda, zihinsel sorunların beş alt boyutunun semptomları, karantina sırasında hastalık sonrasına göre daha yüksek görünse de, hem stres hem de uykusuzluk semptomları literatür taramasına göre daha yaygındı. Mevcut çalışma, genç öğrencilerin zihinsel sağlıklarını etkileyen kaygı, depresyon, stres, OKB ve uykusuzluk semptomları yaşayıp yaşamadıklarını inceledi.

Bu araştırmacı, beş alt boyut arasındaki ilişkiyi bulmak için Freud'un teorisi, DSM-5, Beck'in ölçeği, Kessler, Cleveland Clinic, Mayo Clinic, Sampson ve Felman semptomlarına dayanan önceden tasarlanmış bir anket (MHPQ-24) geliştirdi. ruh sağlığı belirtileri. Çalışmanın örneklemi, Kuzey Irak'taki Charmo Üniversitesi, Süleymaniye ve İnsani Gelişme'den yaklaşık 1968 lisans öğrencisini kapsamaktadır ve 2300 form dağıtılmış, ancak 1968 form alınmıştır. Veriler, bu tezin bulgularını keşfetmek için SPSS sürüm 26 kullanılarak analiz edildi.

Sonuçlar anksiyete, stres ve uykusuzluk arasında pozitif ve istatistiksel olarak anlamlı korelasyonlar gösterdi ancak depresyon, OKB ve uykusuzluk arasında negatif ve anlamlı korelasyonlar bulundu. Ruh sağlığının beş alt boyutu arasında cinsiyete, kalınan yere, sosyoekonomik duruma, üniversiteye ve yarıyıla göre anlamlı farklılıklar bulunurken, yaş ve medeni duruma göre ruh sağlığı sorunlarının alt boyutlarında anlamlı bir fark bulunmamıştır. Ayrıca, COVID-19 sırasında akıl sağlığı semptomlarının yaygınlığı pandemi sonrasına göre daha yüksekti; bu, karantinanın sosyal, ekonomik, psikolojik, eğitim ve sağlık sektörleri üzerindeki etkisinden kaynaklanıyor olabilir. Sonuç olarak, kadınlar, birinci sınıf öğrencileri, şehir hayatı ve alt sosyoekonomik sınıftan evli öğrenciler

daha fazla etkilenmiştir. Öte yandan, COVID-19 sonrası sonuçlar, üniversite öğrencilerinin hala bazı zihinsel sorun belirtileri yaşadığını gösterdi; bu, Irak toplumunun pandemiden önce ve sonra karşı karşıya kaldığı diğer faktörler ve değişkenlerle ilgili olabilir; yoksulluk, şiddet, finansal, politik ve psikososyal konular.

Anahtar kelimeler: Zihinsel sağlık sorunları, Üniversite öğrencileri, COVID-19, danışmanlık, K-MHPQ 24, Kuzey Irak.

Table of Contents

CHAPTER III

CHAPTER IV

CHAPTER V

CHAPTER VI

LIST OF TABLES

LIST OF GRAPHS

LIST OF APPENDICES

List of Abbreviations

MHPQ	Mental Health Problem Questionnaire
COVID-19-19	Coronavirus disease 2019
WHO	Word Health Organization
ISIS	Islamic State In Iraq And Syria
SPSS	Statistical Program For Social Scientists
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
N:	Number
X	Mean
SD	Standard Deviation
MIN	Minimum
MAX	Maximum
F	F Value (Analysis of Variance - ANOVA).
P	The P-Value is labeled as “Sig.”
T	Independent-Samples T Test.
KMO	Kaiser-Meyer-Olkin
BTS	Bartlett's Test of Sphericity
RMSEA	Root Mean Square Error
NFI	Normed Fit Index
CFI	Comparative Fit Index
GFI	Goodness of Fit Index
RMSEA	Root Mean Square Errors of Approximate
SRMR	Standardised Root Mean Squared Residual

CHAPTER I

Introduction

This chapter provides information about mental health problems, the aim of this study, the significance of this study, and the limitations of the data. It also covers the objective of the study and outlines the limitations of the research as a whole, then provides the definitions of the terms used in this study.

Iraq consists of 19 provinces with a population of about 35 million people. Due to conflicts and internal and international problems since the 1990s, Iraq has been devastated by military wars and a lack of services (Bassil, 2012). The rate of psychological problems between southern and northern Iraq has increased. However, conflicts in the middle have also appeared in northern Iraq, the report shows that adults are suffering from psychological problems such as violence, destruction, and the phenomenon of emigration abroad due to the lack of essential services including electricity, water, health, food, and labour because Iraq has faced an increase in social issues since March 2003, these issues have consequently led to increased mental health problems (Sadik et al., 2010; World Bank Group., 2018).

According to Zaii, mental health manager in Iraq cited in Medicines Sans Frontier (2020), COVID-19 has increased mental problem symptoms because of the outcomes of the pandemic. The Iraqi government has also been aware of people suffering from many psychological and social problems, including psychological distress, as a result of economic loss, destruction, kidnapping, detention, imprisonment, and the disappearance of family members. The most apparent psychological problems are depression, family violence, stress, and psychological pain. The symptoms that patients have experienced, especially women, such as anxiety and insomnia have led to a rise in symptoms of mental problems such as depression, a lack of sleep, a lack of desire for life, and anxiety.

On February 2020, the Ministry of Health documented the first case of COVID-19 in Iraq. The country had previously faced both psychological and social tensions, requiring an emergency response from the Iraqi government in March 2020 to prevent it. The spread of the novel coronavirus called on Iraqi residents to stay in their homes. The government closed schools and universities, causing fear, anxiety, and psychological

instability, resulting in fear among some people (Iraq Ministry of Iraq, 2019; Hadi and Mohammed, 2022).

There are several reasons for student mental health problems such as difficulties with their learning and taking on more homework and tasks. This could be a consequence of the students' inability to do well in their educational studies (Zulkefly & Baharudin, 2010). Some students might experience stress due to challenging workloads such as exams and assignments. These problems subsequently lead to developing behavioural and psychological issues like depression, anxiety, stress, and eating disorders (Dahlin., 2005; Zaid et al., 2007).

In another research, Santos (2020) found that young adults, particularly females, were influenced during COVID-19 and experienced a major and significant increase in anxiety under evaluation. For instance, there were 76 million new cases of anxiety in their study period. While there might not be a clear danger of death for young adults due to coughing, temperature, fatigue, exhaustion, or a loss of the senses following COVID-19 infection, there is a lot of evidence showing that the immediate and long-term physical health of the students is at risk due to the pandemic (Callard & Perego, 2021).

The COVID-19 pandemic seems to have had several negative impacts on teaching methods because for young individuals, especially for the group comprised of college students, the pandemic has brought about an extreme change in the teaching methods used. The disease has influenced several aspects of the students' personal lives including anxiety, depression, stress, OCD, and insomnia, which has impacted the students' capabilities (Gomez-Garcia et al., 2022).

The COVID-19 pandemic may have worsened the students' lives, causing symptoms of stress, insomnia, and post-traumatic stress disorder. Psychological problems are often a significant public health concern. Researchers have found that college students have experienced moderate levels of anxiety. As a consequence, the researchers suggest that preventative measures be established and carried out with a focus on the mental health of college students (Wang et al., 2022).

Problem Statement

Prior to the widespread outbreak in 2019, ISIS recorded the most attacks in Iraq. The endogenous factors that drew the most international attention during the outbreak of COVID-19 were triggers for the recovery of the Islamic State in Iraq that was well under way by the end of 2019. Due to the loss of friends and social groups, people's mental health was already under stress, and this additional impact undermined the social cohesion across various ethnosectarian groupings. In Iraq, social isolation, social pressure, and geographic isolation have all contributed to an increase in stress and instability. For instance, the psychological impact of wearing masks and seeing people in masks following experiences with the Islamic State has been particularly challenging (Knights & Almeida, 2020; United Nations Developing Program in Iraq, 2020; Ibrahim et al., 2022; Hussein et al., 2020).

The first COVID-19 case was recorded and the Iraqi health sector was not able to deal with the problem in a healthy manner. The country was unable to manage the issue due to corruption and psychological and social and economic neglect (World Health Organization, 2021).

Several researchers, for instance Better, (2020); Kebede et al., (2020), and Knights and Almeida (2020), have represented the impact of COVID-19 on vulnerable people, especially its impact on females as seen by the significant rise in reported occurrences of gender-based violence. Over 92% and 61% of respondents to the UNDP survey noticed an increase in Habaniya and Qaim, respectively. Given how they dominate informal and public-sector jobs, many women were unable to learn about the pandemic independently, were under increasing pressure to care for their families and the sick, had less access to clean water or supplies to protect themselves from the virus, and experienced particularly severe losses in terms of both income and livelihood under lockdown. According to reports, women who lacked access to quarantine or medical facilities because of demanding social standards were prohibited from sleeping outside the home without their husbands or fathers and went on to suffer severe COVID-19 symptoms.

Concerning the effect of the COVID-19 pandemic on spousal violence against women in northern Iraq, several researchers, for instance, Mahmood et al. (2022) and the International Rescue Committee (2023), have examined how the occurrence of violence during the pandemic has increased in families. It was observed that the prevalence of lifetime violence against women by their husbands was approximately 58% and the percentage of emotional abuse was 52%, while 39% was physical violence. In comparison, the proportion of sexual abuse was 21%. The COVID-19 lockdown affected family income, where it was observed that about 94% married women were worried because of this. Consequently, they had negative experiences and a higher rate of mental health problems.

Millions of Iraqis are living in poverty because of the effect of the COVID-19 pandemic and the impact of oil prices on the increasing household poverty. These issues have consequently led to poverty. For instance, approximately five million Iraqis might drop into poverty (Word Bank, 2020). In addition to the impact of the COVID-19, Taha et al. (2021) demonstrated that half of the participants they sampled in Iraq during the COVID-19 pandemic were more concerned about their health. The outcomes of this study followed the examination of the cities in Iraq displaying higher levels of anxiety. These higher anxiety levels were linked to being female, being younger, having a higher education, and being a university student.

The Iraqi Ministry of Health (2017) presented that mental health problems have become the fourth mental illness factor in Iraq in five years. This can be seen in Mosul, Baghdad, and Duhok, where the Iraqi Ministry of Health reported that some Iraqi people have thought about suicide, up to 70%. This is because Iraqi society has faced various problems such as violence, political oppression, and conflict. These are among the reasons for the high rate of mental health issues among Iraqi individuals.

Furthermore, psychological problems are a significant concern. According to recent statistics, the expected age of each incomplete spread of a particular mental health problem was about 19%, and most diseases have responded to the significantly increased life expectancies among the generations. For instance, the spread of severe anxiety and

post-traffic stress were highest, with similar prevalence rates among young people (18-34 years) and the oldest (age 65+), at 5.4-5.3 times higher (Abbas et al., 2018).

According to several investigators, Iraq is one of the countries with a high rate of mental health problems. For example, major depression, known as MDD, showed at a rate of 7%, while mental instability was at 14%. There was a 13% rate for anxiety and within twelve months, the mental problems were as follows: 42% were low, 36% moderate, and 22% of participants recorded a high rate of problems. This survey shows that there is limited access to methods to solve psychological problems (Sadik et al., 2010; Alhasnawi et al., 2009).

COVID-19, which was common in Iraq during its peak periods, is the main reason for doing this study in northern Iraq. The healthcare structure needs to be improved. For example, there need to be more hospital beds, reliable tablets, and trained health workers to help the government response (Epic, 2020).

Ettman et al. (2020) demonstrated recently that psychological issues like stress, worry, and sadness have increased when linked to studies conducted before the COVID-19 virus; this is particularly true for college students. Many such individuals have raised their drink consumption as shown in this study, as they may believe it to help them cope with the disorder. Practically speaking, utilising these drugs results in a rise in depression and anxiety.

In another study, the United Nations Developing Program in Iraq (2020) illustrated the impact of COVID-19 on the economy in Iraq, as shown by the fact that prior to COVID-19, 4.1 million Iraqis demanded emergency aid due to severe poverty and inequality. Many people are in a crisis when it comes to their job, medical care, schooling, clean water, sanitation, or access to the legal system. The reduction in the cost of oil has had a significant impact on government spending and individual spending capacity, making the deficits worse. While food costs have remained largely steady, hundreds of jobs are at risk and the nation's need for imported food makes it vulnerable to shortages and significant price rises. The pandemic's economic effects have disproportionately harmed the populations at risk. Since 66% of workers work in the private sector, security measures and travel limitations have significantly impacted them.

Seidi (2020) studied the prevalence of mental problems in northern Iraq, especially at Garmian University, where the students faced psychological problems and symptoms such as physical discomfort, anxiety, insomnia, family problems, and depression (Auerbach et al., 2016).

Aim of the Study

The aim of this study is to assess the mental health problem symptoms among university students during and after COVID-19 in terms of gender, age, semester of study, university, socioeconomic level, and place of stay.

Research Questions:

This study covers the following research questions:

1. Is there a significant difference in the sub-dimensions of the MHPQ-24 in terms of age?
2. Is there a significant difference in the sub-dimensions of the MHPQ-24 in terms of gender?
3. Is there a significant difference in the sub-dimensions of the MHPQ-24 in terms of marital status?
4. Is there a significant difference in the sub-dimensions of the MHPQ-24 in terms of place of stay?
5. Is there a significant difference in the sub-dimensions of the MHPQ-24 in terms of socioeconomic status?
6. Is there a significant difference in the sub-dimensions of the MHPQ-24 in terms of university?
7. Is there a significant difference between the semesters according to the sub-dimensions of the MHPQ-24?

Significance of the study

There are some essential causes to investigate in this study.

First, this research has investigated how COVID-19 and its variables have affected university students. Even though little research has been done on the assessment of the mental problems of university students during COVID-19 in northern Iraq, it has also

been established that variables such as age, gender, marital status, semester of study, and place of stay have a significant impact on people's mental health at both the individual and societal levels. These influences may be more assertive in collective societies like Iraq, where social and family relationships have a significant influence on an individuals' mental health. Because of this, it is probable that assessing mental health symptoms among Iraqi people represents a specific experience during COVID-19 (Ibrahim et al., 2022; Hussein et al., 2020).

There is a need to investigate and compare mental health symptoms during and after the COVID-19 lockdown to see if there is a link between the variables and factors that significantly relate to increased mental problem symptoms.

This recent research indicates the psychological issues that could help us recognise student psychology better. It was discovered from the research that the psychological wellbeing of college students is a significant concern because they spend so much time studying and because higher education institutions are important for the development of the Iraqi economy in all sectors. This is in the interest of reestablishing Iraq's old annual system of education, which is currently weak, and raising educational quality and effectively integrating academics into the occupational requirements which are significant in northern Iraq (Harb, 2008). Increasing learning, innovation, and production, engaging in wider pro-social behaviour and positive social interactions, better physical health, and a longer life expectancy are all associated with mental wellbeing. To succeed mentally, studying takes a significant amount of time, effort, and a disciplined routine, all of which can be stressful for one’s mental health. The students should have a plan to protect their mental health during severe psychological problems (Farnsworth, 2013).

Furthermore, this study investigated the impact of COVID-19 on mental health problems as some groups of people might be more affected, for instance, university students. This study needs to know how to assess and examine the effects of the pandemic on this group and also to investigate both males and females. Due to this, this study might be helpful to researchers and counsellors as it is able to provide them with information about the impact of COVID-19 and other factors on mental health assessments. The researcher will provide suggestions and recommendations to researchers, parents,

university lecturers, and the Ministry of Higher Education in the north of Iraq to reduce the impact of stressors and improve student mental health.

Limitations of the Study

This study was limited to involving only one city in northern Iraq, therefore the outcomes cannot be generalised to other cities in the region. This research was limited to choosing other Iraqi ethnicities like Arabs and Turkmen students. The results cannot be generalised to other groups in Iraq. The demographic information and the MHPQ-24 were limited to investigating the history of anxiety, depression, stress, OCD, and insomnia because the participant's backgrounds have an essential role in increasing the risk of psychological issues. Another drawback of the present research was related to the age of the participants; the participants were between 18 to 25 years old, so the results cannot be generalised to others.

Because this study was conducted at a small number of universities, particularly in the Sulaymaniyah province, it could not be expanded to include a significant percentage of the population. The current research was limited to clinical diagnosis and interviews, particularly for OCD; the questionnaire was not prepared using the DSM-5 and the Yale-Brown obsessive-compulsive scale (Lopez-Pina et al., 2015). The research only investigated a few sub-dimensions of mental health problems, so for other mental disorders such as PTSD, eating disorders, and sexual disorders, we cannot predict other aspects of mental health. In relation to the participants, more than half of the respondents still needed to fill out the questionnaire after the COVID-19 pandemic had ended. The findings cannot be applied to all individuals in northern Iraq, making this research quantitative. The outcomes determined that the university students were subjected to extra homework, which included extra materials, tests, and deadlines.

Definition of terms

Here are described the mental health and mental health problem terms included:

Mental Health:

Mental health is described by Galderisi et al. (2015) as the ability to recognise, communicate and regulate human emotions.

Similarly, mental health is defined as a state of wellbeing in which every person recognises that he or she can manage the everyday stresses of life, work effectively, and participate in society in order to achieve his or her goals (WHO, 2005).

Mental health problem

A mental health problem is a disorder that significantly affects mood, conduct, and thoughts, influencing people from every nation and society. Examples of mental disorders include anxiety, depression, stress, obsessive-compulsive disorder, and insomnia (WHO, 2019).

Mental health problems are described as an individual's psychological problems, which are usually brought on by issues that affect their ability to learn and achieve their goals because of cultural, physiological, emotional, and family issues (Mathew, 2017).

COVID-19, Pandemic, Lockdown

COVID-19 is a widespread global coronavirus transported by the SARS-CoV-2 germ, a transferrable virus that is increased in transportability through bodily liquids (McArthur et al., 2020).

According to Skegg and Hill (2021), the newest variant of coronavirus was COVID-19, a modern virus whose spread is referred to as a pandemic.

A pandemic is the worldwide spreading of a severe disease that affects many individuals (Ciotti et al., 2020).

According to the Oxford Learners' Dictionary (2020), a *lockdown* is defined as preventing large-scale movement as in the event of the COVID-19 virus to aid in slowing the spread of the disease.

Furthermore, *a lockdown* is described as a regulation that demands individuals, a group, or a state remain under lock and key, usually to protect the community's wellbeing (Atalan, 2020).

CHAPTER II

Literature Review

According to the Ministry of Health in Iraq (2019), mental problems affect 16% of the Iraqi population over 15 years old. The proportions for both depression and anxiety are 9%, and 10%, respectively. While about 11% of people between the ages of 18 and 25 have increased symptoms of these disorders, this rate has spread among university students in particular, including symptoms of depression. The outcomes highlighted common signs of depression, including a lack of sleep, eating problems, restlessness, and a lack of focus on daily tasks. According to this view, it was predicted that mental health problems are prevalent, mainly depression, which is highly related to age and the adolescent period in the Iraqi community.

Concerning the effect of the COVID-19 pandemic, Lafta et al. (2021) and Saddik et al. (2021) investigated the causes of mental health problems related to the COVID-19 lockdown due to the social burden that impacted university students. This can be seen during lockdown due to the stopping of educational activities. Closing all social spaces as a preventative measure for containing COVID-19 affected college students in terms of making them less active physically and giving them the feeling that there wasn't a lot of space for movement. As the students felt lonely and far away from others, it had a detrimental effect on their mental health. For instance, these researchers indicate that during the COVID-19 pandemic, adolescents who have high levels of anxiety are more likely to experience mental health issues like worrying about getting the illness and having a fear of dying. They might additionally experience shifts in their mood and become more aggressive.

Another study by Rasheed and Hussein (2019) showed that medical college students, particularly male students, have more symptoms of mental health problems than females. This is due to the need to study hard to complete their tasks which could relate badly to their physical health and cause tension. The findings demonstrate a significant relationship between gender and the symptoms of insomnia because the male students were worrying more than female students. Female students with a difficult course to study were more likely to experience symptoms of mental health problems than males (Rasheed & Hussein, 2019). According to the World Mental Health Research findings in Iraq (with

a 95% total response rate for mental problems), there is a 16% lifelong mental health prevalence and 11% likelihood of overall 12-month occurrence. Specific patterns in the report were emphasised. Lifetime generalised anxiety disorder, with a specific phobia being the most prevalent, and depression were the main problems. This survey illustrates that females are more likely to suffer from mental issues than males, particularly younger girls between 18 to 34 years old. At the same time, older women (50–65) were the most affected. Men over 65 have greater mental problems than those under that age. Despite this study investigating how the suicide level in Iraq is lower than the global rate, it should be well-known that the prevalence of anxiety and depression has increased (Abbas et al., 2018).

Regarding the occurrence of psychological problems in college students from Iraq, Ibrahim and Wayyes (2016) discovered a meaningful negative connection between insomnia and depression. It was suggested that students who get too little sleep might have some symptoms of depression. For instance, the participants slept an average of 5.5 hours (SD 1.5) each night, and the majority (69.4%) said that they did not sleep more than seven hours. Additionally, it was discovered that approximately 40% of them sleep in the morning. Students who must get up early to go to college have fewer hours of sleep every night. Therefore, the lack of sleep may be caused by demanding coursework that lasts for the five years of their attendance. Similar to this, a previous study found a link between insomnia and the prevalence of depression.

Moreover, mental health problems are linked to several factors including sociocultural isolation, rapid societal changes, an unhealthy lifestyle, and physical illness (Gewalt, 2022). Psychosocial stressors may happen when a person's capacity for adaptation is poor. The fact that social, psychological, and biological factors all impact someone's mental health. For instance, some investigators conducted research to look into the mental health issues that university students experience. The analysis of various mental health issues was taken at two different times, showing that around 50% of them experienced at least one psychological issue, both in the period of standard examination and when reporting back. It was discovered that among the college students experiencing at least one psychological issue as standard, 60% had bad experiences of mental health problems. Nordin et al. (2009) noted an association between the college students' feelings

of isolation, personality characteristics, and mental issues. The findings of this study show that 34% of undergraduates in Malaysia suffer from mental problems (Zivin et al., 2009). Besides this, 84% of therapy institutions reported that students with severe mental problems also experience significant anxiety.

Karim et al. (2020) conducted research on about 1,600 participants who were living at home at the time of COVID-19. Nearly half of the sample were at home, and the results of this study showed that 49% of them have anxiety problems, which was higher among young people compared to other ages (44%). This study exposed that gender differences cause mental health disorders. For example, females have more mental problems than males as can be seen in the percentages of (58%) for females and (42%) for males. The results illustrated the proportion of anxiety from three parts of Iraq, as can be seen in the anxiety rates rising further to (59%) in southern Iraq, while the percentages of anxiety in the northern and central parts of Iraq were between (45% and 44%) respectively (Karim et al., 2020).

Although previous researchers have investigated and found that psychological problems are common among adolescents, another study found that older Iraqi people face different psychological issues. For instance, it was found that severe depression was prevalent for those over the age of 60 years old, which was 13% and 15% for men and women. The results of this study show that the mental problems among Iraqi residents were linked to social factors due to the war, violence, and economic crises that have affected mental wellbeing and increased mental health problem symptoms (Ibrahim et al., 2019).

According to a study conducted at Zanjan University of Medical Sciences, 4.6% of undergraduates have problems such as symptoms of depression and anxiety. In line with the findings, around 6% of people have severe anxiety, 36% experience mild anxiety, and 34.9% have medium physical problems. Also, the results of this study show that mental problems are not related to gender. The results indicate that psychological health issues are generally associated with family status and educational status (Karami & Pirasteh, 2001).

Another study by Lobanov-Rostovsky and Kiss (2022) found that the Yezidi people in northern Iraq have suffered from recurring distress related to genocide and

national abuse, as ISIS had carried out a genocide of their people and forced the residents of the targeted areas to leave their homes and emigrate. Among Yezidis, suicide and post-traumatic psychological disorder (PTSD) are the most common types of mental problem. In addition, this study pointed out an increase in depression, suicide, and flashbacks at the beginning of COVID-19. Female Yazidis had (11% and 10%) prevalences of anxiety and depression, respectively. In light of this point, mental health problems are more common among females because most of the Yazidi victims in Iraq were female, regarding gender differences. This indicates that females are more likely to have psychological problems than males. Although this study showed that the symptoms of PTSD increased at the beginning of COVID-19, it is possible to consider that the case of the Yezidis is more related to previous pandemics and other factors such as genocide and immigration as having led to an increase in the symptoms of mental health problems. In another interesting piece of literature, Mohammad et al. (2023) illustrated the symptoms of mental disorders that increased after the COVID-19 pandemic. Some Iraqi people have experienced traumatic stress symptoms following COVID-19 infection, indicating that mental health problems, particularly PTSD, can be related to the length of their COVID-19 infection. The outcomes of the study discovered that females and males both had some symptoms of mental health problems.

In addition, Bayram and Bilgel (2008) illustrated that the sampled girls and boys presented different mental health problems. They demonstrated the prevalence of psychological problems among university students as being related to gender differences. The findings indicate the severity of the mental problems. According to this survey, about 1600 participants suffered from mental health problems. The results showed that 27% of them had depression symptoms, whereas the proportions for anxiety were 41% and 27%, respectively. These researchers established that men and women experienced anxiety at differing levels. For instance, compared to males, females experience more anxiety and stress. According to Bayrm and Bilgel's study, recent Iraqi investigators such as Lafta and Mawlood (2023) indicate that the symptoms of anxiety and depression are more associated with COVID-19 lockdown because of the psychological effects of COVID-19, including depression, anxiety, fear, and insomnia, mainly being caused by the disease in quarantine. The students faced a significant social challenge in society which was the suspension of

educational activities. Economic and financial difficulties were increased in terms of the price of food and a lack of jobs.

Some studies in Iraq illustrate that insomnia is associated with university students. For instance, more than 75% of students go to bed after midnight and 69% sleep less than seven hours because of social media, which means that insomnia affects the students' mental health. Although this research shows how to reduce insomnia symptoms, the students still need more social and psychological support. For instance, they need more time for activities to engage in their social networks, and these researchers also suggest that universities need more counselling in place to provide psychological guidance to students. Understanding the relationship between insomnia and social factors among Iraqi university students is essential for analysing the symptoms of mental problems (Kathem et al., 2021).

Another report by Karim et al. (2020) established that approximately half of the Iraqi people have faced the spread of COVID-19 and displayed high anxiety levels linked to age, gender, and academic level. For example, young girls with certificates suffered from the symptoms of mental issues more than the other classes, and the results showed that about 70% of participants were afraid of the possibility of COVID-19, presenting that the spread of the disease caused symptoms of mental problems.

Additionally, Zivin et al. (2009) found that a lack of counselling was another cause of mental health problems. These investigators believe that counselling plays a crucial role in supporting students, even though they also claim that increasing the offering of counselling services will become more significant over time. It is thought that if these things happen, then college students could experience fewer mental health problems (Cranford et al., 2009; Hunt et al., 2010). In relation to counselling and its role in treating student's mental health, Alemu (2014) established that the role of counselling is more significant when dealing with the college student's issues. This study outlined that the students suffered from the symptoms of insomnia during their study, considering therefore that it is probably correct to consider that counsellors have a role in decreasing the symptoms of insomnia.

Concerning insomnia, another fascinating study in Iraq conducted by Kathem et al. (2021) showed that the cause of insomnia is related to workload because some

departments, particularly medicine, have lots of deadlines, quizzes, and assignments. This study recommended reducing the symptoms of insomnia and how the students should be provided with social support and attention paid to psychological counselling services in order to try to help them participate in daily activities such as sports and social activities.

Lafta and Mawlood (2023) investigated nearly 1,000 participants, 95% of whom responded to the study, which included groups for age, gender, employment level, and housing. Specifically, 50% of the participants were between the ages of 30 to 49, and 59% were female, while 22% of them worked in the public sector and had sleep problems. They also experienced social isolation and poor social relationships. The outcomes display all of the above factors as being connected to mental health problems. Zaman (1996) investigated the psychological issues among university students. According to his research, about 36% of medical graduates show symptoms of anxiety and mood disorders, and 25% have experienced depression. As a result, mental health problems are associated with lower academic achievement. Furthermore, the research by Harrar et al. (2010) and Seim and Spates (2010) demonstrated the mental health problems of college students. They showed the differentiation between mental problems and mental disorders. As a consequence of this study, young people face mental problems.

Wang (2022) examined other dimensions of mental problems, including anxiety, learning difficulties, and alcoholism. These conditions are closely tied to living on a sustainable university campus, as evident from the 1,500 students enrolled. The findings of this study indicate that one-third of the respondents suffered from depression and anxiety disorders, 750 individuals suffered from severe symptoms, and nearly 500 of them had eating disorders.

Another study conducted by Karim et al. (2020) exposed the effect of COVID-19 on the chosen demographic of participants. The purpose of this study was to investigate the relationship between coronavirus and a selection of variables. As a result, adolescents and girls suffer more depression than boys and more than males and older people, while the outcomes of this study illustrate that there was no significant difference in mental health problems according to marital status, place of stay, and family. Here we come to the view that COVID-19 has more influence on the teenage group among females.

The influence of the COVID-19 pandemic on university students in northern Iraq.

The effect of COVID-19 on Iraqi students includes the following:

Impacts on student mental health and social wellbeing: The lockdown impacted Iraqi participants, particularly college students. This study shows that about 43% of the participants had anxiety symptoms during the pandemic. Consequently, the pandemic affected the students' mental health and academic performance (Karim et al., 2020). Similarly, a recent study by Othman (2020) investigated the association between COVID-19 and anxiety and insomnia and found a high level of mental problems among adolescents in northern Iraq during the COVID-19 pandemic due to the participants fearing COVID-19. This study shows that psychological guidance is essential to help students reduce the effects of the pandemic on their mental health.

A recent report by the Iraqi Ministry of Health showed that psychological problems affect Iraqi medical students. Approximately 10% of adolescents aged between 20 and 24 years old suffer from depression (Kathem et al., 2021). Concerning stress, Saeed et al. (2021) investigated approximately 370 physicians during COVID-19 in northern Iraq. Most of the participants reported experiencing moderate to severe stress due to the stress brought on COVID-19, and were worried about the high death rate. This caused psychological changes correlated with behavioural changes. As a result, 15% of them experienced lower stress, and 67 % reported moderate stress, while 17% suffered from high stress. One month before the research, 44% of participants reported feeling upset due to unforeseen events reasonably frequently, and 34% reported feeling powerless to influence significant aspects of their lives. Nearly 36% reported being unable to manage all the things they do. Also, 50% became enraged due to circumstances beyond their control, and 34% reported feeling that the challenges were mounting to a point they could not overcome. Although stress cannot be prevented entirely, it can be reduced using several diversionary strategies. Iraqi dental educators may need to sign up for stress management classes to increase their awareness (Saeed et al., 2021)

Effects due to the COVID-19 pandemic on higher education in Iraq: Serin (2022) investigated the effect of the pandemic on Iraqi higher education. He showed how online

learning and other relevant technologies were affected by the lockdown period. The higher education sector encountered several challenges during the outbreak in Iraq due to the fact that the pandemic had a significant impact on Iraqi education, which was changed by using e-learning to lessen the chance that the students would become depressed. This form of learning in Iraq has met numerous difficulties and these should be solved. Another reason why university students became stressed during online study during the lockdown was related to COVID-19. Iraq is facing several problems, and it is thought that college students still cannot use the necessary technology ideally. This might be because the country's current educational and communications networks need to be improved. The Ministry of Higher Education and Colleges needs to build on its educational structures and improve the offered programs to prepare educators across all sectors. When it came to using e-learning technology during the Covid-19 pandemic, Iraq has dropped behind other Arab nations (Ameen et al., 2019; Ghareb & Mohammed, 2017).

Effects on the students' physical health: Some Iraqi investigators have showed that the COVID-19 lockdown has harmed physical health. This issue was examined in Basra city, which is one of the largest cities in Iraq. There was poor physical health and wellbeing found that reduced the rate of daily activity due to staying at home during the quarantine. The research demonstrated that during the quarantine, physical activity decreased concerning age, gender, education level, marital status, occupational/educational status. The health condition of Iraqi citizens during the quarantine negatively affected physical activity, and the results of this study present that the quarantine led to decreased physical activity (Ahmed et al., 2022).

Alatrany et al. (2022) stated that COVID-19 has impacted Iraqi physical health; this can be observed in the physical symptoms. These researchers reported a high rate of blood pressure, back or neck pain, and severe headaches. However, the pandemic not only put the students' physical health at risk but the recommended preventative measures sought to lessen the risk indirectly. Intermittent shutdowns and social isolation limited access to physical activity, so at-home exercises such as body weight training and dancing could have helped reduce the negative impacts of the COVID-19 pandemic on physical and psychological health (Hammami et al., 2022).

Gender-related differences: Another effect of COVID-19 was to do with gender. For instance, female students seemed to experience severe academic failure, and this difference can be observed in Iraq where the medical students' concentration and academic ability was negatively influenced at the end of their exam, as a result of the COVID-19 pandemic. As a consequence, the sampled female education level and training was more interrupted than that of males during the pandemic (Al-Shawi et al,2022). Likewise, it was investigated that the people in southern Iraq were more worried about their wellbeing than in the northern and middle zones; these researchers examined how COVID-19 affects student psychological health. Another study by Al-Rabiaah et al. (2020) demonstrated that COVID-19 impacted gender, as females in the field of medical department felt more anxiety and stress than males.

Impacts on studying and student grades: COVID-19 affects the three sub-dimensions of mental problems, specifically anxiety, depression, and stress. The researchers looked at the new research available on student achievements and health, arguing that the continued pandemic-related stress may have affected their academic performance and mental wellbeing. This could result from the universities being obligated to study online during the pandemic, negatively impacting the students' grades and psychological wellbeing (Quintiliani et al., 2022). Another interesting study by Al-Ghurairi and Khaffaf (2020) points out that depression, anxiety, and stress were increased and linked to the student's academic studies, especially in the nursing department at the Mosul University of Iraq. There were about 800 nursing students between the ages of 22 and 25. The outcomes of this study demonstrate that 84% of those in the third semester were female, 25% had moderate stress, and 35% were in the second stage and had some symptoms of depression. Although some researchers consider future anxiety about studying and work as increasing the psychological problems and decreasing student outcomes, this begins when the students enter university to face a new academic environment and pass exams. Many classes influence the students' mental problems according to age, and this might consequently lead to a decrease in student scores. Although this study points out that the lack of time to study at university creates some anxiety, on the other hand, the students may also have symptoms of depression in the future. This might be because they are anxious about the pressure of studying and thinking

about their future, such as unemployment and job opportunities, which may have a negative influence on their mental health and success (Shanshal et al., 2022).

Theoretical Framework

Several models and schools of mental health have attempted to describe mental problems, including the following:

Behaviourism

From a behaviourist perspective, internal unconscious conflicts do not affect human behaviour. According to behaviourism, a behavioural psychologist explains human behaviour using concepts from learning theory. Behavioural psychologists seem to believe that depression is both learned and taught. On one side of this point, mental health problems, specifically depression, are not innate but can be learned from the environment (Lonczak, 2020). Besides this, behavioural counselling theorists believe that life experiences determine actions due to the behaviour being learned and changed in response to the environment (Woollard, 2010).

Behavioural psychology (BP) is the standard form of counselling and psychotherapy incorporating behavioural theory. To recognize and change negative habits and extinguish anxiety, BP requires the use of classical conditioning. It is focused on events and the present to change behaviour. BP emphasizes the aspects of human action that are observable and measurable (Clark, 2018). The main methods of behavioural psychology are classical and operant conditioning. These indicate that using positive reinforcement, negative reinforcement, or punishment to achieve behavioural improvement significantly contributes to operant conditioning. This might be because a desired behaviour is associated with a reward which increases the probability that the behaviour can be repeated. Removing unpleasant motivations for action is negative reinforcement, while punishment being applied to something hateful prevents repeating an action (Lonchak, 2020).

Furthermore, systematic desensitization (SD) is an example of behavioural psychology, or anxiety, developed by classical conditioning, like when anxiety occurs in a public place. The conditioned stimulus is the store. The individual quickly gains anxiety symptoms within the store and experiences defensive anxiety, which can spread to other

markets and even to getting in the car and finally, leaving the building. When the individual escapes or withdraws, their anxiety symptoms subside, which is the process of negative reinforcement. Systematic desensitization reverses this process. Through the control of breathing, distraction, and increased muscle relaxation, the individual learns a new relationship with relaxation, one of indifference to the market through gradual exposure to fearful stimuli. This is a measurable and time-tested method of extinguishing evidence-based anxiety (McLeod, 2015).

Regarding behavioural theory, the research proposes a type of psychological counselling therapy called Cognitive Behavioural Therapy (CBT) that was developed by the psychotherapist Beck (Beck, 2011). This therapy can be effective, especially for treating mental problems; it is an active form of therapy that aims to help individuals to challenge their fears and anxieties (Craske et al., 2014). CBT works on the understanding that how people feel and behave depends on their thoughts, trying to guide learners to think differently about their experiences and develop new meanings. CBT works over a relatively short period, approximately 12 sessions over one month.

The role of behaviourism is significant in mental health treatment. (Goedderz, 2019) demonstrated that observing behaviour makes it easier to analyse human emotions. This is due to behavioural principles being helpful in educational and therapeutic settings. Many providers of psychological services use behaviourist-inspired techniques. For example, cognitive behavioural therapy (CBT) focuses on negative beliefs to change behaviour. Clients use CBT to discover problem-thinking patterns to better understand the relationship between thoughts and behaviours, then complete activities intended to change their negative feelings and beliefs instead of constantly talking about the past or their examining feelings. The role of the behavioural counsellor is important and includes family therapy, community therapy, and different types of support group. Also, a behavioural consultant needs to interview their clients and gather more information about who they are dealing with, including their perceptions and questions. The counsellor plays a significant role in creating a counselling schedule that encourages students to develop techniques to control frustration. The goal may be to teach and practice deep breathing exercises for children and adolescents to train them in a healthy way to understand their mental health problems in order to support future clients in controlling their stress,

identify their coping processes, and teach safer and more appropriate coping strategies (Cherry, 2020).

Furthermore, behavioural counsellors work with clients to identify negative behaviours, meaning that counsellors in this profession assess their clients, record details about their actions, and use the data to help organize an effective treatment plan for exact behaviour problems. Behavioural therapies also focus on the client's problems in his or her natural environment. Behaviourists have focused on adolescents dealing with their mental issues by observing how they react to certain environmental stimuli (Health Line, 2021; Terry, 2020).

Biological Theory:

In contrast to the behavioural approach, biological studies indicate that biological factors may significantly influence mental health, including genetics, infection, prenatal damage, brain injury, and substance abuse. Genetic factors such as traumatic brain injury and seizures affect mental health, and these factors increase the symptoms of mental health problems (Cherry & Steven-Gans, 2012).

The symptoms of depression are related to biochemical and neurophysiological disturbances. This is due to the influence of biological elements that seem to be more pronounced at increasing the symptoms of depression including weight loss, libido changes, menstrual irregularities, and insomnia. The biochemical factors that are linked to depression include the central neurotransmitters, such as GABA and glutamic acid, as well as neuropeptides including somatostatin and cortisol-releasing factor. Studies on monoamine disorders (noradrenaline, serotonin or 5-HT, dopamine) have assumed a significant role in this research. It is becoming clear that abnormalities in the metabolism and function of presynaptic and postsynaptic neurotransmitters are associated with susceptibility to depression (Szczepanska-Sadowska, 2013).

Gatchel and Haggard (2013) conducted an examination of the interaction between biological (genetic, physiological, etc.), psychology (mood, personality, behaviour, etc.), and social elements to see what reflects the development of mental health problems. In bio-psychosocial models (cultural, family, socioeconomic, medical, etc.), for example, even if a person has a genetic predisposition to depression, social influences such as high

levels of stress at work and family life as well as other psychological variables such as obsessive impulses have an impact. They must be prepared for the genetic code for depression to be revealed, indicating that an individual may be genetically predisposed to a mental problem, while both social and psychological factors must also be involved for the disorder to manifest.

In addition to biological factors, there are many characteristics, including heredity factors, prenatal damage, disease, infection, chemicals, head injury and abnormalities, and neuromodulators involved in the development of mental health problems. For instance, the first factor is heredity; family relationships and genetic twin studies proved there to be an increase in psychiatric problems (Bearden et al., 2004; Insel & Collins, 2003). The next is prenatal damage. According to research, prenatal damage occurs during pregnancy and has an impact on foetal development, as can be observed in the most common mental disorder after birth, autism. Concerning this view, this study searched related to the other sub-dimensions of mental health.

Some researchers, such as Thomas et al. (2004), have outlined that mental problems are associated with inflammation and chemicals. Although researchers have established a link between psychological problems and inflammation, particularly schizophrenia, the relationship between them is unclear. However, bacterial infection and diet increased the rate of mental health symptoms (Phelan et al., 2001).

McDonald et al. (2006) and Velakoulis et al. (2006) have pointed out the link between brain injury and mental health problems; they had different outcomes for abnormal geometric risk or whether or not these only occur with the development of mental health problems, possibly reflecting psychological or psychological stress events, medication use, or drug abuse. Other researchers like Bembnowska and Jośko-Ochojska (2015) believe that neurotransmitters cause mental health problems. These researchers examined the negative impact of neurotransmitters on the increase in symptoms of depression. They outlined that depression is the result of an imbalance of brain chemicals, that when people get depressed, this is due to more neurotransmitters such as acetylcholine, glutamate, and gamma-aminobutyric acid (GABA). This indicates that these neurotransmitters play a significant role in depression. Furthermore, a recent study indicated that some significant physical functions such as aggression, sleep disturbances,

mood disorder, eating disorder, and sexual behaviour are controlled by neurotransmitters. Serotonin controls these physical functions. Therefore, depression symptoms are associated with low serotonin and as a result, some people may experience mental health problems (Nutt, 2008).

Freud's Psychodynamic Theory

Psychodynamic theories emphasize the importance of the unconscious and believe that due to the conflicts related to mental health problems, individuals are affected by anxiety. Sigmund Freud's psychological theory is considered to be one of the most common psychoanalytic theories. He believed that mental health is impacted by a factional mental disorder called neurotic anxiety, which affects people and make them anxious. Freud also developed the concept of neurotic anxiety, which is a main cause of mental health problems (Russon, 2003).

Concerning neurotic anxiety, Jones (2018) presented the cause of neurotic anxiety as related to the conflict between the id and the superego, while the role of the ego is generally being in contact with reality. Although the reality principle determines each person's personality, they have control over their level of consciousness and unawareness during intellectual actions, indicating that the ego is related to identity. The superego relates to the values and actions of the individual's external communities and, as a result, the ego becomes concerned and uses defence mechanisms to protect themselves from anxiety. According to psychoanalytic theory, mental health problems are caused by the conflict between the id and the superego because of high self-esteem. Psychoanalytic theory has also described some of the factors that cause individual anxiety.

For instance, Kets de Vries and Cheak (2014), proposed that a counsellor treats anxiety by working on the client's unconscious and past experiences to benefit from psychoanalytic theory.

Freud also developed another dimension of mental health problems, depression; he was the first person to recognise the concept of melancholy, which means that the individual feels depressed. In Freud's view, depression harms individual lives, and the common symptoms of depression that Freud highlighted include feeling guilty, complaining about self-sorrow, feeling sad, destructive emotions, and isolation or

separation. In Freud's main idea, the main causes of depression symptoms are significantly related to childhood experiences and the five years-old period. Like Freud, Lertzman (2015) pointed out the relationship between depression and past experiences. In Lertzman's view, the client has terrible experiences because depression is affected by a horrible childhood experience in the unconscious part of the mind.

Another sub-dimension of this theory is stress. In Freud's theory, this concept was highlighted. Panda (2022) pointed out that individual symptoms of stress include extreme confusion, work pressures, and drinking too much, leading to mental health problems. Concerning Freud's theory, free association is one of the treatments used to treat mental problems highly related to the unconscious mind. This theory uses the technique of free association to solve psychological problems to decrease the symptoms of the individuals' stress, fear and anxiety (Jones, 2018). In psychoanalytic theory, the role of the counsellor is significant, as they care about the clients' expressions in order to treat stress, for example, the voicing of any repressed events and experiences that the clients may have and will not talk about. This phenomenon shows that the therapist cannot ignore the client's problems. The therapist's role is to listen to the problem-owning person and to measure the client's past feelings (Panda, 2021).

Freud also explained another significant dimension of mental health problems known as OCD, which is one of the significant sub-dimensions of the current research. In Freud's main idea, the causes of OCD are highly related to the conflict between the id and superego due to aggression and sexual desires being punished by the superego. In Freud's view, someone who has OCD appears to be uncontrollable (Kempke & Luyten, 2007). In another study, Plante (2011) showed that the causes and treatment of OCD relate to past events and dreams, as well as early childhood experiences, personality structure, and the effects of the unconscious mind. A favourable treatment for OCD is to analyse previous unpleasant experiences, which means learning about problems, recognizing them, and adapting to situations that determine behaviours to help the clients find a suitable way to deal with OCD.

Psychoanalytic theory believes that the moral self, known as the superego, includes the values and concepts learned from parents and educators, and is significantly related to mental health. The ego can work as a bridge between the id and the superego

because the ego is a rational decision-maker based on the truth that assists an individual's mental problems. Freud theorised that personality development takes place over five phases between infancy and the age of 20, with the oral, anal, phallic, latency, and genital periods being the most popular. A lack of achievement during the primary three stages in early life could result in mental health issues (Guntrip, 2018). Like Freud, other researchers such as Carver and Scheier (2012) think that the cause of human anxiety is highly associated with conflicts between the id and superego.

Ego defence mechanisms are a significant way to protect the self from anxiety, meaning that ego mechanisms can be helpful for individuals dealing with their psychological problems. The role of the ego is needed to establish a balance between the id and superego, leading to a healthy personality. A lack of balance might lead to an increase in the symptoms of mental problems. This might happen when the person's id controls their personality, acting on their desires without caring for the ethics, rules and morals in society. Sometimes conflict between the desires of the id and superego occurs, which consequently leads to an increase in the symptoms of anxiety, disturbed sleep, difficulty caring, negative thinking, pressure, and negative feelings which can seriously affect people's lives (Cramer, 2012). Similar to the above study, it has been claimed that the ego's mechanism is related to unconscious and conscious human behaviour. The ego's defence mechanisms can be used for solving the mental problems that have a negative impact on human behaviour. Freud believes that analysing psychological problems shows the multi-purpose relationship between the therapist and patient as a combination of awareness and working on establishing encouragement to improve the individuals' mental problems (Plante, 2011). In light of this point, Freud's theory not only exposes the causes of anxiety and depression but also talks about suitable treatments, such as defence mechanisms and looking at the ego's role in solving problems.

Since Freud used various techniques to find ideas and unpleasant and repressed thinking to help clients understand their unresolved problems, he used another type of treatment technique known as hypnosis for treating Anna. At that time, she was a 21-year-old with neurotic symptoms, including anxiety. Freud solved this problem through treatment after Anna's memory was repressed, and her anxiety stopped. Although Freud pointed out that hypnosis is a suitable way to solve mental issues, he claims that this

treatment is sometimes complex for hypnotised people. This is because Freud has proven that some hypnotic people are compassionate enough not to benefit from the technique (Young-Bruehl, 2008).

Although Freud used more than one type of treatment technique for clients in his theory, he clarified that free association could be used as a way to solve personality problems, especially for those who have any repressed and neglected ideas, feelings, and images that come to his or her mind. Freud indicated that the client should express his or her previously repressed feelings freely. This technique should be done with their counsellor and without any control. As a result, the counsellor can uncover previous undetermined compressed events that have caused an individual's mental health problems (Salvatore & Freda, 2011). Free association shows that psychological problems are related to the pressing and ignored ideas inside an individual's mind that are used, through free association, as a way for counsellors to discover and treat mental problems. In contrast, some researchers indicate that Freud's psychoanalytic theory analysed mental health in a non-scientific way. This might be because he investigated mental problems that only internal factors can cause, while ignoring that social and cultural circumstances could be a reason (Ellmann, 2014). It is essential to say that although internal factors can affect mental health problems, sociocultural factors should not be ignored.

Adlerian's Theory

Another effective form of psychotherapy to help treat mental health problems is Adlerian psychotherapy, which focuses on the client's present time, rather than their past experiences. This indicates that the approach is more likely to analyse an individual's present issues and thinking and how it impacts their behaviours. Unlike Freud, the role of the client is significant as they seek to recognize his or her strengths and disadvantages. However, this approach highlights that people have weaknesses. They can use their strengths to encounter their failures, and it is possible to consider this approach as significantly helping clients achieve their goals and satisfaction. This can help the clients deal with their stress and healthily build their relationships, as this therapy can help them change their lives positively. If this happens, the client can improve their self-esteem and

develop relationships to better solve their mental problems (Gladding, 2015; Sweeney, 2009).

Interestingly, Adler mentioned that these therapists could help both children and adults. The theory does not only focus on five years old as Freud's did. It is significant to point out that most of the applicants in this investigation were eighteen and over. This approach can help this study better understand the students' psychology (Carlson & Englar-Carlson, 2017). Even though Adler's approach can treat mental problems such as depression and anxiety, this theory is less likely to investigate other aspects of mental health such as insomnia. Adler's theory encourages anxious individuals to trust more in themselves and to succeed in achieving their goals. He explained the essential steps to measuring a healthy personality: evaluation, intervention, sitting, and achieving goals. The first step is the assessment. In this step, the counsellors provided information about the client's background. This assessment aimed to evaluate an individuals' security and weaknesses in social circumstances. Although Adler's theory is well-known as an individual psychological theory, he also developed a way to solve group and family issues. All of Adler's steps can be beneficial when it comes to helping individuals deal with their mental problems (Adler, 2013).

The role of counsellors in Adler's theory is to provide mental health services to students. Counsellors can use this model as a way of guiding and solving individual issues; one of the examples mentioned in Adler's theory is where researchers can improve and change people's lives. This will take place when the students have a study problem, as the counsellors can help the students participate in the class again. This might lead to the students succeeding and achieving their goals (Barlow et al., 2009).

Adler's theory encourages individuals to have a safe and secure environment in which to be mentally well, improving their abilities. Unlike Freud, Adler claims that the role of social factors is essential in encouraging individuals to attain their goals and solve psychological issues (Watts, 2015). Adler stated that everyone with problems is looking for a psychological counsellor because those with mental problems have little confidence. They need a motivator, so it is essential to encourage their motivation in order for them to achieve their goals.

Another study by Coles et al. (2015) looked at the psychological problems common among students. This study suggested that school counsellors should be ready to help students who are weak and suffering from mental problems. Adler's theory can benefit counsellors by giving the students the necessary guidance to solve their mental problems as much as possible to achieve their goals. Psychological counsellors can create positive thinking for the students by using Adler's theory to manage their psychological problems. According to Adler's social interest theory, students who are more successful at university have a healthy mental mind and study well to achieve heightened academic performance (McLean & Stringer, 2016).

On the other hand, Ericsson believes that consciousness is at the centre of psychological theory, while Freud emphasized that psychological problems relate to anxiety between the id and the superego. In contrast, Ericsson shows that there are other factors related to anxiety, for instance, mistrust in society. When a child loses trust in parental care, as well as in parents and teachers, nurses, and educators, other people around the child ignore and do not love them. As a consequence, the children become separated and isolated from the community. Erickson believes that when a person sees his life as unproductive, he or she feels guilty about his or her past because he or she has not been able to achieve his or her goals, leading to anger and depression (Scheck, 2014). On the other hand, Erickson points out that mental health problems occur often during the adolescent period, which is highly associated with the identity stage and the fifth stage of the ego between the ages of 12 and 18 years old. When teenagers are seeking independence, but are not allowed to participate and explore their role in society, their independence is prohibited and as a result of this, they become confused and distrustful. They think that there is no place for them in society, the identity stage will change to role confusion, and this will lead to mental health problems (AlAli, 2015).

Humanistic Theory

Both Abraham Maslow and Carl Rogers established the humanistic perspective. Maslow created the need's structure hierarchy, which is considered to be his best-known piece of writing. This idea arose in a 1943 study titled "A theory of human motivation." Maslow believed that to achieve satisfaction, a person must fulfil their physical

requirements for food, housing, safety, air, water, and safety. However, he also believed that if a person's physiological requirements are not fulfilled, they are in danger of failing and might suffer a mental problem (Elkins, 2009). Another study indicated that satisfying biological needs followed by the need for safety, belonging, and self-esteem, and then moving up the pyramid to the need for self-actualization is the complete success of having one's needs met at different stages of the hierarchy, leading to good mental health (Henwood et al., 2015)

Carl Rogers continued by reflecting on Maslow's need's pyramid and how the conception of one's ego motivates people to desire self-actualization. Regardless of the topic addressed during the sessions, the psychological part of this approach includes offering the client personal respect and encouragement, developing the person's ability to feel self-actualized about themselves. Three different therapies could assist people in attaining their full potential. For example, in Rodgers' client-centred therapy, the therapist assists the clients in identifying themselves, indicating the psychologist's capacity to create a supportive, honest, and compassionate relationship. Clients can gain more self-awareness as an outcome (Rogers et al., 2013).

Unlike Adler and Freud, this theory pays more attention to the client. Roger believes that the counsellor should not control the individual's life. Rather, the clients should be at the centre of solving their mental problems; they should not be forced to deal with the issues, meaning that the role of the counsellor here will be to be sympathetic and to listen without judging. Rogers' treatment focuses more on the individual's ability to solve his/her mental health problems. In short, this theory supposes that every person can solve their own problems to achieve their goals (Rogers, 2012).

However, Levin developed a field theory that shows mental problems as being related to social factors. This theory reflects that human behaviour is linked to the environment, and that when these characteristics and the environment are affected, it can cause either positive or harmful behaviour. This theory has affected society and how people care about their unique environment. The main issue with Levin's theory is that it casts doubt on an individual's mind and requires time to practice (Wang, 2005).

Sub-dimensions of Mental Health problems

Mental problems as categorized by the American Psychiatric Association (2013) as containing the following elements.

Anxiety:

Anxiety is recognised in human behaviour and is a normal emotion. The body typically reacts this way to prepare for potential harm. Anxiety can significantly affect a person's life, including symptoms like restlessness and a racing heartbeat that may occur before a test or when facing a challenging situation at work (APA, 2013; Perrotta, 2019). In addition, anxiety is a psychological disorder associated with severe distress, excessive worry, and fear around daily life. There are consequences related to one's health, education, career, social activities, and daily circumstances.

According to the American Psychological Association (2021), anxiety is a state of mind indicated by tense feelings, worried thoughts, and physical changes, including increased blood pressure. People with anxiety frequently overthink things or worry excessively. They steer clear of specific situations out of worry. Physical symptoms include shaking, trembling, and irregular heart-beating. Due to additional work, people have difficulty relaxing, lack leisure time, feel awkward in social situations, and are sleepless.

Concerning anxiety symptoms, another study in Iraq by Al-Zaidy (2008) illustrated the common symptoms of anxiety, including irritation, instability, muscle tension, low mood, insomnia, feeling frozen, and laziness, as a part of behaviour. A previous survey by Stein and Stein (2008) found that the sample felt social anxiety in social positions, which means that individuals with it experience nervousness and fear when they speak to others and worry that they may receive judgment or criticism. Additionally, one research demonstrates that around 13% of teenagers have anxiety problems; this study also shows that 50% of those classified were 11 years old and that 80% of them were 20 years old.

There are several symptoms of anxiety:

· Worrying about a task.

· Excessive nervousness and anxiety,

· Challenging to focus on and complete tasks.

· Fear is a reaction to social and ordinary situations.

· Do not feel confident presenting a "speech" in front of others,

· Have trouble staying asleep (Kessler et al., 2002, pp, 959-976).

Interestingly, in the DSM-5, anxiety contains the following diagnostic criteria: excessive worry and anxiety for at least six months, where controlling the fear is hard and how you need help managing the worry. The symptoms include restlessness, tiredness, irritability, muscle tension, disturbed sleep, and concentration difficulties, which significantly interfere with people's lives (Legg, 2017). When the researcher completed a self-assessment questionnaire, doctors may also demand a clinical assessment or an interview session if the self-assessment illustrates that the clients may suffer from anxiety symptoms. Concerning anxiety treatment, another researcher showed that cognitive behavioural therapy (CBT), which involves the sharing of a client's experiences with a psychologist or psychiatrist, is one of the most treatment methods for anxiety and can be managed by modifying their way of life. These improvements include increasing the client's physical activity level, trying to cut down on coffee, consuming a healthy diet, getting enough sleep, using time management to lessen stress, and discussing anxiety with encouraging people (Chan, 2022).

Depression

Depression is another prevalent mental health issue; this mental problem affects nearly 121 million people globally; this may be because fatigue, despair, despair, and helplessness are all indicators of depressive symptoms (Reddy, 2010). Transient emotions of sadness, pain, and hopelessness are also recognized as symptoms of depression. As the symptoms continue, it is related to these feelings and followed by worries such as experiencing lower pleasure, pessimism, shame, and disrupted resting and eating patterns. The American Psychiatric Association (2013) categorizes depressive disorders as the following:

Major depressive disorder is a prevalent and dangerous mood disease described in the DSM-5. Major depression, usually called a depressed mood, is defined by sadness, hopelessness, or worthlessness that occurs on most days for at least two weeks. The

symptoms include difficulty sleeping, a lack of interest in previously enjoyed activities, or a change in appetite. This is both the most severe and most prevalent type of depression. Those who have experienced trauma, periods of stressful situations such as losing a job or a relationship, or losing and passing a loved one are at risk. However, the actual cause of this disorder is still undetermined. Though depression affects more than 7% of adults, the highest prevalence occurs among those between 12 years of age and 25 (Mayo Clinic, 2022). Individuals may exhibit physical symptoms, such as continuous aches or stomach issues if depressed, as well as it being characterized by persistent emotions of sadness and helplessness and a lack of engagement in once-enjoyed social events (American Psychiatric Association, 2015).

The second type is persistent depressive disorder (PDD), with a minimum two-year duration. Compared to major depressive disorder, the symptoms are less severe. PDD was once referred to as depression by health professionals. A range of instruments can be used to identify this disorder. Healthcare professionals may do a medical examination and ask detailed questions about the client's personality.

Lab tests can determine whether the person’s thyroid does not produce enough thyroid hormone. A psychological assessment includes discussing the client's feelings, thoughts, and behaviours, and can involve completing a questionnaire. If they have depression, this evaluation can assist in identifying it. However, it should be well-known that several factors are behind this problem, including traumatic events, particularly the loss of a loved one and financial issues (APA, 2013).

A recent report by the Iraqi Ministry of Health emphasized that mental illness affects 16% of people among those over 15 years old, thus including a significant group of the country's population. University students reflected in the report that suicide in Iraq is considered to be the second most common cause of young people's deaths, especially between the ages of 15 and 29. The leading cause of suicide is due to psychological problems. Moreover, it is a phenomenon of depression. This study shows that the causes and symptoms of depression relate to university in that because of the long periods of study, university students may be more at risk of depression. The most important common symptoms of depression are exhaustion due to mental and physical problems, lack of enthusiasm, boredom, negligence, feelings of guilt and distrust, sadness, loss of interest,

or finding a lack of enjoyment in social activities (Kathem et al., 2021), while also relating to the symptoms of anxiety as put forward by a study in Iraq by Al-Zaidy (2008). This illustrated the common symptoms of anxiety as including irritation, instability, muscle tension, low mood insomnia, feeling frozen, and laziness.

An Iraqi researcher pointed out that depression has reached a high rate of 57%; analysing the data, more than half of the students have anxiety symptoms, while about 46% are suffering from depression and the symptoms of depression. The high rate of anxiety is related to the social factors, including war and crime, that have happened in Iraq over the past 30 years. These factors have harmed the country's citizens (Aljuboori, 2019). A study by Kuyken et al. (2005) illustrates a possible treatment for the symptoms of depression, using psychotherapy. There are various treatment methods and some methods to relieve the symptoms include the most commonly used evidence-based therapies, such as cognitive-behavioural therapy (CBT), interpersonal psychotherapy (IPT), psychoanalytic therapy, and problem-solving therapy. Similar to how the patient's counsellor focuses primarily on their current feelings and the behavioural patterns which harm the student's life, the student should also benefit from Cognitive Behavioural Therapy (CBT). This may be because CBT can effectively reduce negative thoughts, which can reduce the effects of depression.

On the other hand, the role of counselling is very significant when dealing with depression. The length and intensity of the depression symptoms determine the course of therapy. Individuals will want to speak with a therapist or psychologist if they have been depressed for a long time and the symptoms are severe. This is because their current emotions are likely to be influenced mainly by past issues that may be deeply embedded. Working with a counsellor in a therapeutic partnership may also be beneficial if the depression symptoms are more recent or less severe (Gilbert, 2000).

Stress

Stress is the brain's automatic response to a threat that affects both body and mind. Stress is a typical reaction to not wanting to handle a specific situation. However, if people do not take steps to manage their pressure, it could turn into a psychological problem. This is the fight-or-flight response (Sampson & Felman, 2020). However, some investigators

suggest that stress is a part of human life that significantly impacts mental health (Palmer & Cooper, 2013).

To develop the questionnaire, the current study used several of the symptoms and questions on stress as postulated by Sampson and Felman (2020), including the following:

1. Difficulty concentrating and their memory is impaired.
2. Experienced being upset due to a sudden event.
3. Feeling powerless.
4. Need help handling everything they have to do.
5. Unable to control the discomfort in their lives.
6. Become upset over events beyond human control.
7. (Saeed et al., 2021)

Another review investigated young students between the ages of 21 and 40 who were discovered to have been more stressed and impacted by the COVID-19-19 pandemic than elderly individuals. The students expressed fears about the cost of student housing and the withdrawal of scheduled events like graduation ceremonies. Consequently, COVID-19 later led to social separation and worldwide lockdowns, both of which were recognized as sources of stress that might harm the students' mental health and cause post-traumatic stress symptoms like anxiety (Brooks et al., 2020; Lee et al., 2020).

According to several investigators, external variables contributing to stress include schoolwork, complex associations, life events, and being overly preoccupied with financial concerns. In contrast, internal influences include rigidity, feelings of low self-esteem, and a depressed mood. This is true even though people have different perspectives on their life and its circumstances. Something may be more difficult for some people than others, who may feel distressed and stressed about it (Alabd et al., 2018).

To manage and control stress, according to Waghachavare et al. (2013), there are many techniques that counsellors can use to help students cope with stress while they are studying. The most effective way to increase the memory and relax the body and mind is to exercise daily. The topic then at hand is how often students need to exercise. Students should spend two hours engaging in pressure-free activities like walking, running, swimming, and other activities. If college students take on these activities, they might feel happy about themselves.

· They should first relax in a quiet place, for instance, in a seat with their feet lying flat on the floor and their hands on their chest.

· The next step is to close their eyes.

· They need to imagine themselves in a comfortable setting, such as the sea, the countryside, or a magnificent grass field. The area should be peaceful and help them relax.

· Take a few calms breaths in, and then breathe out deeply.

· Performing the activity numerous times for between five and ten minutes to reduce stress (Weinberg et al., 2015; Ratini, 2021).

Other techniques to manage stress include eating healthy food. This can improve a person's mental health, so they should make sure that their meals are full of vegetables, protein, and fruit. This can improve their energy levels, reducing anxiety. Although it is common knowledge that almost all individuals enjoy achieving their goals, everyone needs a break now and again to allow their minds relief from stress. Meditation, prayers, and other relaxation techniques are all solutions. Time spent in the countryside, viewing movies and TV series, and playing music decreases stress symptoms (Van den Bergh, 2021).

Obsessive-compulsive disorder (OCD)

OCD is characterized as a mental issue caused by repeated and unwanted emotions and ideas (obsessions), which cause individuals to concentrate on performing actions repeatedly (compulsions). This includes repeated tasks such as cleaning, checking, and washing their hands, which can considerably disrupt daily tasks and interpersonal interactions (APA, 2013). People with OCD are aware of the strange feelings and actions they exhibit. This is the result of the compulsion being unstoppable. As they do not enjoy the feeling if they stop, they feel terrible and do the action repeatedly (Purdon & Clark, 2005). The DSM-5 states that the obsessions or compulsions are time-consuming (for example, OCD symptoms last for over an hour each day) and this leads to distress in academia, in their social activities, and in their relationships (National Library of Medicine, 2016).

Obsessive thoughts can contain the following:

· People worry and fear for themselves or fret that they are dirty.

· Fear of losing or removing something important.

· The worry that handling something that other people touched would make them dirty.

· Avoidance of circumstances, for instance, handshaking.

· Terrible thoughts, fear of losing control, and injuring themselves.

(American Psychiatric Association, 2013; McGrath, 2007).

Moreover, compulsive behaviours include:

· Completing tasks regularly in an exact order.

· Repeatedly counting things such as steps and numbers.

· Fear of touching handles when using public toilets.

· Repeated checking of switches, cleaning the household, and changing clothes

(Purdon & Clark, 2005).

In another exciting study in Iraq, Taher et al. (2021) investigated the prevalence of the symptoms of obsessive-compulsive disorder (OCD) among a sample of medical students in universities during the COVID-19 pandemic. They assessed the association of the probability of OCD with related sociodemographic features and other psychological symptoms. In this study, approximately 1644 students completed a questionnaire. Specifically, 43% showed possible OCD symptoms. In 52% of cases, unpleasant thoughts were the most common symptom. Interestingly, the scales for washing and contamination were low (14% and 19.4%, respectively). Consequently, significant links were found between OCD symptoms and being of a younger age and earlier study years. This study clarified that due to the students engaging in heavy coursework, they had no enjoyable time; they were ordered, prepared, and required to be slightly more exact and obsessive.

Sleep disorders (Insomnia)

According to Chokroverty (2009), the majority of people occasionally suffer from sleep issues, which are classified as problems that impact people's capacity to relax or that keep them from enjoying restful sleep. According to this study, insomnia is a common type of sleep disorder, and this is a sub-dimension of the current study. People

who have experience with insomnia have symptoms including that when they go to bed it is difficult to fall and stay asleep. This consequently causes individuals to get up very early while also being unable to fall asleep when they feel tired.

Furthermore, insomnia not only influences people's energy; it also affects their health, mood, work performance, and quality of life. Concerning age, it has been investigated that adults experience insomnia more than other age groups. Interestingly, the problem can last for days or weeks due to life stress and traumatic situations. Nevertheless, this issue for others might last for more than a month (Mayo Clinic, 2022). A recent study described insomnia as when individuals have difficulty getting to sleep or staying asleep; both of these are recognized as insomnia.

Symptoms of Insomnia

People with insomnia may find it challenging to focus on their work or academic studies. The main symptoms of insomnia include the following:

· Having trouble falling asleep and rising earlier each morning.
· Generally, waking up occasionally during the night.
· Moody and sleepy after having less sleep at night.
· Person struggles to focus at either school or work.
· When students are in class, they fall asleep.

People no longer enjoy doing non-work activities. (Cleveland Clinic, 2022; Robinson, 2021).

There are two leading causes of insomnia. The primary causes of insomnia include stress-related negative life experiences like losing a job, losing a loved one, getting divorced, or moving, stimulations such as light, noise and temperature, and genetic factors. The second causes are secondary factors, including the individuals suffering from depression and anxiety. According to a search, insomnia may run in families. They may take drugs and drink too much caffeine, smoke tobacco, and have too much alcohol before sleeping, leading to sleep apnoea or restless leg syndrome (Roth, 2007; Robinson, 2021).

A recent study by Mohammed and Mustafa (2021) was conducted on college students at the Department of Dentistry in Iraq, with 270 participants who were 24 years old. The study examined the demographic data on age, gender, class, and marital status

regarding insomnia. The survey also asked about the students' grades in their previous years of study. This study observed that about 30% of them could not sleep and did not get high scores last year, meaning that the students with lower grades slept less than the other groups with higher grades. As a result, some of the students had less than the average hours of sleep on regular days and exam days due to using sleeping pills to relax. They also drank too much tea and coffee and as a consequence, they suffered from a sleep disorder (insomnia). According to this study, sleep disturbances hurt the academic study of students. The further outcomes of this study are opposed to many others because this study shows that gender differences are not related to mental health disorders, as it can be observed that both male and female genders are equally likely to get insomnia.

Several Iraqi studies have established the occurrence of sleep disorders among university students; a recent study in Iraq by Zidane (2022) found the insomnia among college students. This study shows that poor sleep quality consequently leads to them failing in exams, attention deficit, lack of concentration as well as influencing the students when they are doing routine and social activities. This study suggested using more social support educators and counsellors to decrease the student's mental problems; it should be mentioned that the role of counselling is to help the students by them using the counselling services to ensure that the students engage in everyday social and sports activities (Ibrahim & way yes, 2016). According to this view, it is possible to consider that the students need more support in a secure environment that includes social activities and mental health services.

Barber (2020) proposed an excellent night's sleep for individuals aged between 18 and 54. The literature has mentioned that some people have insomnia, which leads to increased mental health symptoms in university, while also impacting on their achievements and social connections. These researchers found that having enough sleep is the key to preventing mental problems. For example, it is advised that seven hours per day for proper rest is significant.

Causes of mental problems

There are several reasons behind the mental health problems among students, as follows:

The transition from high school to university: Despite the students' similarities to the general population, university students are more vulnerable to poor mental health outcomes because they are presented with two different sources of transitional stress, specifically they are associated with moving from high school to university and the transition from childhood to adulthood (Morrow et al., 2002). Nevertheless, there is evidence that universities are harming student mental health. Increased difficult situations, such as test failure and financial issues, can lead to increased psychological problems for first-year students (Roberts et al., 2006).

Similar to Morrow et al. (2002), some investigators, such as Verger et al. (2009), have established that the stress and anxiety experienced by first-year students also appears to affect the segregating home, possibly due to the students moving away from family and friends. These researchers show that first-year students are more vulnerable to increased levels of stress, and that they may have symptoms due to being unable to handle the stress and anxiety associated with academic demands, especially the workload. This undoubtedly causes the students to develop mental health issues. Most reports indicated that the outcome of mental problems is significantly related to life difficulties, timelines, classes, exams, and financial problems. To support this statement, it was recently observed that 1,455 American university students had symptoms of depression accompanied by academic problems being the most mentioned reason for their depression (Kruisselbrink Flatt, 2013).

The stress of exams. When students expect to take exams throughout the academic year, as assessments are essential for achieving the learning objectives, when the students prepare themselves very well, they do not experience mental and psychological problems. However, it should be well-known that some students feel anxious and depressed when they feel they are not well-prepared. One of the most critical issues, especially for routine and average students, is the stress of exams. Students asking counsellors to help them solve their mental problems indicates that if they get advice and recommendations from therapists and counsellors, they can benefit from the consultants' input (Kapur, 2019).

In addition, the student should remain calm and participate in social leisure activities during exams, schedule them appropriately, and get adequate sleep and nutrition. Typically, as they experience learning difficulties, students suffer from exam stress to a large extent and fail to achieve high grades. Consequently, other students do not feel tense during exams. This may be due to their routine and focus on their studies over the academic year (Garcia-Mateos & Fernandez-Aleman, 2009). Furthermore, test anxiety is associated with increased psychological problems, including anxiety, depression, and low self-esteem. As exams are more stressful for students who cannot manage their stress very well, this tends to increase the level of school tension when they are 'judged' by their parents. The latest figures show that in 2019, more students took exams for more than nine hours than in 2016. This increased stress causes the students to take dramatic measures to distract themselves from their anxiety, including self-harm and eating disorders in dangerous situations (William Farr School, 2018).

Campus Services: The resources that universities offer to help deal with their students' psychological and personal issues depends on the perception of the university, the available resources, and the needs of the campus. College counselling and mental health and women's centres, spiritual and religious organizations, and other associations affect the students. Higher education institutions are better able to ensure that their services meet many of the students' personal and psychological needs when they implement comprehensive programs that include the areas of psychotherapy, treatment, and prevention (D'Amico et al., 2016). Determining the impact of private on-campus facilities is challenging because most other estimates of usage rates among university students include on-campus and off-campus services. This broader use of services for mental health issues appears to vary by disorder, gender, and race/ethnicity (Caldeira et al., 2009).

Academic pressure: Iraqi university students who are under academic pressure while studying is one of the causes of increased mental health problems. Kathem et al. (2021) explore how studying for long periods is highly associated with anxiety and depression, leading to feelings of social isolation. Similarly, challenging coursework was associated with social isolation, suggesting that longer school hours may affect sleep patterns, contributing to depression and anxiety. As a result, the students achieve

undesirable academic outcomes, despite hard work and concentration. While they try to prepare well for tests or exams, they cannot succeed and this may be due to them suffering from mental health problems, so the immediate solution is for them to pay attention in class. This may happen when the teachers impart information, are regularly engaged in practice exercises, provide solutions to any problems that may arise, and regularly revise the lesson plans and concepts (Kumaraswamy, 2013).

Kapoor (2019) points out that students engage with multiple responsibilities simultaneously. They cannot take time off for other purposes and are busy performing tasks and activities, mostly related to their studies and career. As a result, they suffer from psychological problems due to work stress. Recently, Ficheroux (2020) illustrated that psychological problems and stress together significantly impact university students and staff, with these challenges becoming more common during the pandemic, as the university said. A recent study of nearly 5,000 students and 1,300 staff members revealed that many faced depression, sadness, isolation or fear, fatigue, career difficulties, and emotions during COVID-19-19. The students feel that they have mental health problems, anxiety, depression, and loneliness.

In addition, other Iraqi investigators (Ibrahim & Wayyes, 2016) have shown that university students are anxious; some students feel anxious due to a lack of social support and poor sleep at night. This study suggests that when addressing sleep problems, especially insomnia, more social support should be used. Educators and counsellors can manage this to reduce the student's psychological problems; if this happens and is not treated, the students may be less likely to study at university. Helping students use counselling services ensures that the students participate in regular social and sports activities (Ibrahim & Wayyes, 2016). According to this view, students need more support in a secure environment that includes social activists and mental health services.

Financial problems: Concerning the effect of COVID-19, young people have been affected hard by the pandemic, with 36% of those between 18 and 24 stating that they had been permanently laid off, and that 57% of businesses were profitable before lockdown (Kebede et al., 2020). Another point might be that individuals spend money on various things while studying in college; student needs include books, fixtures, bags, travel, technology, and other study materials. Therefore, financial resources are considered to be

the most important when pursuing academic goals. When students belong to the depressed, disadvantaged, and socially poor levels of society and face financial difficulty, they face problems in the process of seeking education as they cannot achieve their goals (Roberts et al., 2012).

Richardson et al. (2013) highlighted the relationship between financial problems and mental health concerns. The results of this study represent a statistically significant association between financial issues and depression, suicide, alcohol problems, and psychological health problems. In a recent study, Kapur (2020) believed that financial issues could lead to mental health problems. In Kapur's research, people considering leaving their research course for financial reasons had worse mental health.

Similarly, a study by the University of Southampton (2016) investigated over 400 first-year undergraduates who had financial problems (for instance, not being able to pay bills or having to borrow). Their attitudes toward their finances increased the consequences of the symptoms of mental health problems. In contrast, regarding the University of Southampton study, McCloud and Bann (2019) contradicted this as they found that there is no relationship between financial problems and mental health problems, but in other works, increasing levels of debt and poor mental health problems are significantly correlated. While the results of this study show no evidence for this among UK university students, one reason may be that finances are not associated with psychological problems. Another interesting study by McLafferty (2017) indicated that females aged 25 to 34 with a low monthly income have high levels of health problems. This study indicates the degree of mental health between genders as can be observed in the Australian Current University. Furthermore, the findings of this study investigated and found that females are more prone to mental health problems than males.

*Need for help understanding academic concepts***:** Knowledge of academic concepts is essential for students to achieve their objectives and successfully understand academic concepts. Currently, university students find it challenging to complete exercises and assignments, rank low in tests and exams, and suffer setbacks in relation to improving their academic outcomes when they need help accessing academic subjects. When students find it difficult to understand academic concepts, they experience stress and anxiety (VanderLind, 2017).

However, some researchers have suggested that students compulsively demand success. Watkins et al. (2012) believed that students are very compelled to succeed, whereas they are never educated and taught how to deal with their psychological problems when they arrive at university. Counsellors should look at the consequences of a student's psychological problems to understand better what can be characterized as a highly supportive student life. Their problems are due to an inability to deal with university crises and social problems resulting in increased mental health problems.

Rural and urban lifestyles

A recent study has shown that a risk of mental problems is related to urbanization, as the rate is higher in cities and towns than in the countryside. This is probably because 50% of people live in cities, and this proportion rises to about 70%. Cities face more risk factors such as traffic noise and poverty. As a consequence, this leads to increased stress, anxiety, and depression, which are detrimentally related to mental health problems (United Nations, 2015). Further researchers have studied how anxiety rates are higher in an urban location than rural, and this phenomenon can be observed in both Asian and European countries such as China and Germany. This is where people who spent their first 15 years in a big city have more than twice the rate of mental problems than those who grew up in rural areas (Pedersen et al., 2001; Prina et al., 2011). Furthermore, several scientists have shown that urban air, accidents, violence, traffic noise, and living near airports and significant streets can significantly affect the mental health of urban people. Consequently, this is associated with high stress levels (Lederbogen et al., 2011). Although researchers have noted that mental problems are generally more common in urban than rural areas, more researchers have proven that cities have more opportunities, such as giving the best access to the local health care system, education, and employment (Gruebner et al., 2017).

Other factors that influence mental health problems

Undesirable academic consequences: Another interesting part is how the undesirable academic consequences affect students; the value of schooling is recognized by people belonging to all groups and cultures in the present life. People try to enrol in schools and universities to get a university degree. The primary duties of students when pursuing their studies are to attend classes daily, complete their assignments on time, and train themselves well before taking exams and attending classes. Students show unfavourable academic outcomes in certain situations even while putting in hard work and concentration (Kapur, 2019). Additionally, Eisenberg et al. (2009) predicted that negative signs of depression in social activities and feelings of hopelessness, as well as co-occurring anxiety and depression, result in lower scores. These researchers have shown that mental health problems increase depression, leading significantly to lower grade point averages (GPS) at universities.

Poor working conditions: One study found that when students feel sad and anxious, they cannot concentrate and may experience anxiety problems when one or more of these factors are not addressed. For example, the lack of services and resources mentioned for some families in rural areas as well as in developed societies. Because the students cannot successfully concentrate on their studies, they face psychological problems and obstacles in the process of achieving the desired academic results (Kapur, 2019). Another interesting study has shown a significant link between poverty and mental disorders. This can be seen in Raphael's study; poverty can be a risk factor for poor physical and mental health. Raphael (2007) and Toits (1999) suggested that several challenging life circumstances, such as divorce, family death, and job loss indicate that people have experience with economic issues as well as other essential services, especially shelter, education, and job loss, which can contribute to poverty due to resulting in a low income. The study demonstrates that poverty is a significant cause of psychological problems among Canadians. In light of this, it is reasonable to expect that poor quality of life will harm psychological wellbeing, leading to increased anxiety and depression. To address poverty and enhance mental health, it is essential to understand this.

Criminal acts: Because some individuals engage in criminal behaviour in educational settings, this harms the mental health of both students. These are also the different types of crime that students witness (Hines & Saudino, 2003). In addition, studies have examined how the rate of criminal activity among girls is higher than among boys, which shows that girls commit more violence than boys. As a result of these criminal activities, the students have psychological problems, especially aggressive behaviour (Schwartz et al., 2015). Further results show that aggressive behaviour is less common among college students (Pfefferbaum & Wood, 1994). According to MHCC (2015), the mental and emotional health of Canadian adolescents is a severe health issue with many consequences for criminal behaviour. This occurs during puberty and adolescence; up to 70% of people with mental health problems have a criminal record. In light of this, it could be considered that adolescents are more likely to commit criminal behaviour and develop mental health problems than other age groups.

Like the MHCC report, Boyce (2015) cites an intern report represented by the Canadian Community Health Survey. The results show that mental health problems were more prevalent among adolescents, particularly among 15-24 years olds than those aged 45 years old (Boyce 2015). On the side of these two points, mental health problems seem to be highly relevant and occur a lot in adolescents. It is estimated that about 7.5 million people in Canada are expected to suffer from one of the most prevalent mental health issues according to the latest MHCC (2017), showing several types of mental disorder such as severe depression, bipolar disorder, substance use disorder, social phobia, and depression (Knaak et al., 2017). In addition, the same study noted the number of mental health problems.

The fourth factor is the technology that negatively impacts students, for example, the Internet and mobile phones (Bray & Bourne, 2004; Oman et al., 2008). Despite the above, there were some factors behind these psychological problems. Some researchers note that school counsellors guide students to focus on the problems surrounding their psychological issues, academic wellbeing, and social and emotional needs (Bowers & Hatch, 2005). Moreover, researchers in the field of mental problems, such as Gorczynski (2018), have found that a great deal of attention should be paid on university campuses to allocating the budget and focus to mental health topics in recent few years. Poor mental

health has been reported overwhelmingly worldwide, mainly examined from the student perspective. University students seem to be not doing well mentally. This may be because they suffer from mental problems. Regarding psychological issues, it was noted that a significant proportion of British students reported high levels of depressive symptoms. For example, 33% of students suffered from mental disorders, especially suicidal thoughts, in the last academic year (Gorczynski, 2018).

Related research

An additional study demonstrated that physical illness, social change, poverty, an unhealthy lifestyle, and other social and psychological factors can harm mental health. The detrimental effects of COVID-19 on college students was examined by Quintiliani et al. (2022). They discovered that about 50% of students suffer from depression; the common symptoms were being worried, a lack of sleep and being under a lot of pressure.

Concerning gender, some Iraqi researchers, for instance, Hadi and Mohammed (2022), have indicated the effect of the COVID-19 pandemic on female mental health in Iraq. There was a statistical relationship between gender and depression. The findings compared male and female nurses and, as a result of that, a high percentage of depression among female nurses was found. They had some of the symptoms of insomnia and a fear of the unknown future. Another reason that might consequently lead to an increase in the symptoms of anxiety and stress among girls might be related to the slow rate of the disease spread. In Iraq, the government requested that everyone stay in their homes in March 2020 in order to save the resources for those who had an emergency. Because of their fear, anxiety, and doubt about the spread of the disease, at that time, individuals faced more difficulties that may have an impact on their psychological and mental health and wellbeing, restricting them at home, disrupting their way of life, living situation, and employment, and closing down schools and universities.

Ibrahim et al. (2013) looked into anxiety disorders among medical students, and their findings show the status of anxiety among those students. Compared to other students, medical students had higher than average rates of anxiety and depression. Major life experiences and academic issues were significant predictors. The study advised improving the faculty's preventive and mental health treatment services. From the

beginning of medical school, stress management courses are required and academic counselling services must be improved. One of the common types of mental problem among college students is anxiety, so counselling is essential to reduce the anxiety among college students to guide them through their personal development and academic research (Segrin & Flora, 2000). Further studies, such as the one by Price et al. (2006), have proven how common depression is among first-year female students. These researchers noted that the rates of mental problems among first-year females were twice that of their male colleagues at 14% and 7% respectively. It is therefore considered that girls are more likely to be depressed than boys.

According to an additional study in Iraq, psychological problems were found to be associated with gender and age differences. The researchers found that female students were twice as likely to be anxious than male students (Aldibat et al., 2014). In another interesting study, Miller and Chung (2009) claimed that about 43% of college students experienced depression due to university campus challenges, for example, they reported that various university students experienced depression, so it is mentioned that 39.2% of students were diagnosed when they were sick. Similarly, 24.2% were receiving treatment for depression, and 35.8% were taking antidepressants. The National Coalition for Mental Illness also reported that 27% of students suffer from depression. For instance, isolation is thought to be faced by 60% of students because it can be said that depression is a result of feelings of loneliness (Vuleta, 2020).

Vuleta (2020) showed that feelings of depression lead to isolation, but he did not show the main reasons behind depression. Therefore, this study searched to find more factors that lead to an increase in the symptoms of depression. It represents that the causes of mental health problems among the Iraqi people are related to the socioeconomic effect of COVID-19 on individuals, such as social isolation or a loss of family income. This leads to a fear of interacting with others when they are shopping and a fear of getting sick and dying. The findings of this research indicate the types of mental symptoms identified by participants during the pandemic. As can be observed, approximately 40% of participants had anxiety, 34% fear, and 27% reported depression (Lafta & Mawlood, 2023).

Although stress is not recognized as a psychological condition, it is one of the mental problems affecting people (Seedat et al., 2009). Other scholars argue that stress is highly related to environmental factors. Cohen et al. (2007) stated that regarding the environmental factors among university students, it should be remembered that long study working hours, exams, excessive time schedules, and severe psychological and relationship problems are all variables that contribute to stress, and there is also the lack of recreation on campus that results in the development of stress (Cohen et al., 2007). Similarly, stress is widely acknowledged to be one of the lifestyle factors for personality disorders among college students, as students have to manage a wide range of challenges, including academic, interpersonal and personal issues (Bray & Bourne, 2004). Sani et al. (2012) investigated how the prevalence of stress differs between girls and boys. This can be observed in Saudi Arabia, where the prevalence of stress among college students was about 71%; in particular, females were more stressed by 77% than males at 64%. Consequently, girls are more likely to face stress than boys.

On the other hand, the stress levels differed significantly between graduate and undergraduate students. For example, graduate students did not report the same levels of stress and actions associated with low mental health and the negative consequences on academic achievement as experienced by undergraduates. It can be argued that there are differences in stress and mental health between undergraduates and graduate students based on the data such that 74% of graduate students reporting significantly higher stress levels than about 65% of undergraduates. They are more likely in the future to seek psychiatric care services. Recognizing these differences is critical for colleges to offer successful health education programs (Wyatt & Oswalt, 2013).

Obsessive-compulsive disorder (OCD) is described as repetitive feelings, images, and impulses that cause a high degree of emotional distress. These feelings mainly include nervous excitement, guilt, and frustration; the client is aware of that. Unlike illusions in nature, they have obsessive feelings, desires, or images due to their imagination (Lyon, 2021). The DSM-5 defines compulsions as "repetitive actions or psychological activities that an individual believes he or she is compelled to perform in response to a compulsion or according to instructions that must be performed regularly" (American Psychiatric Association, 2013). Obsessive-compulsive behaviour, which includes self-concept,

intellectual maturity, and academic success, is related to various inter-student problems. Findley and Galliher (2007) examined 147 undergraduates, and the present study found there to be a significant negative relationship between self-concept and the three facets of obsessive-compulsive disorder, including dirty, checking, sophistication, and repetition and fear.

Additionally, Lister-Landman and Domoff (2015) found that compulsive symptoms among female adolescents are detrimental to academic functioning. In addition, Malakar and Basu (2016) and Woolcock and Campbell (2005) found that college students have increased degrees of compulsion by constantly rechecking, cutting and rewriting their assignment answers which can lead to reduced work productivity and low grades. The investigators noted that OCD symptoms were common among adolescent students whose subclinical obsessive-compulsive behaviours showed reduced cognitive processes, reduced academic performance, and worse intellectual achievement.

Iraq's mental health report recently discovered that many OCD had been found in the Iraqi city of Karbala. It showed that the OCD rate, particularly among females, was at 63% and that it is most widespread between the ages of 21 and 30. Married people were more affected, and the prevalence of OCD was less than 47%. Other rates have been found in cities, which were higher than in rural areas, as the rate of mental disorders is more common in city life (Al-Shawi et al., 2011). This means that Iraqi adolescents who live in the city experience OCD symptoms more than those who live in the countryside (Al-Hemiary, 2014; Al-Shawi et al., 2011; Mohammadi et al., 2004).

To better understand the causes of OCD in Iraq, this study investigated the effect of the COVID-19 pandemic on OCD people. The research shows that during the pandemic, OCD was very common among medical students, particularly girls. OCD is more prevalent in adolescents. The quarantine during the pandemic might make the patients feel better about protecting themselves from harm or their worries about cleanliness and preventing injury might comfort them (Kizilhan & Noll-Hussong, 2020).

Another interesting study by Mrdjenovich and Bischof (2003) showed that college students with increased symptoms of obsessive-compulsive disorder symptoms had much lower course grades. This finding indicates that obsessive-compulsive disorder OCD and academic success are often linked; this point can be considered related to the learning

challenges that compulsive students face (Hameed, 2017). OCD is more prevalent in terms of age as about 50% of cases first manifest in childhood and adolescence as well as early adulthood (Perez-Vigil et al.,2018). These researchers indicate that students with untreated OCD will struggle with attention in class and have difficulty concentrating due to their intense fears and desires that could become debilitating. They are typically students.

Several studies have established that poor sleep quality means that university students are more likely to have psychological problems (Alalageri & Sobagaih, 2017). Nevertheless, it should be well-known that most researchers claim a significant relationship between insomnia and academic success. BaHammam et al. (2012) studied 491 university students from the first to third year, and the results show that poor sleep harms student success. Concerning insomnia, the current study suggests that a lack of sleep during the day and night negatively impacts academic achievement among students.

Jahrami et al. (2022) believed that sleep disorders are highly related to the COVID-19 pandemic. The symptoms of insomnia during the lockdown compared to no lockdown due to the people infected with the disease can be looked at. The results of this study demonstrate that sleep disturbances were higher during lockdown compared to no lockdown at 42% and 37% respectively, as can be observed. Four in every ten people had insomnia during the COVID-19 pandemic. The patients infected with the disease, children, and adolescents appeared to be the most affected groups.

Researchers present a positive correlation between good sleep quality and academic performance, suggesting that the high academic achievement of university students is predicted by their ability to sleep well. Although the results were predictable, most studies have shown an association between higher academic performance and optimal sleep duration, suggesting that good sleep influences academic success. The optimal sleep time is recommended at 7 to 8 hours per night (Lemma et al., 2014).

The role of counselling in dealing with mental health problems

The role of counselling is significant when it comes to helping students to identify their emotional, social, psychological, and interpersonal problems. Using different types of counselling; the role of counselling includes the following:

Helping clients to manage their stress: This indicates that mental health counsellors can be a valuable support. When students cannot deal with stress, mental health counsellors can provide them with resources to deal with stress by having an outlet where the stressors can be identified and treated before they begin to affect them in this way (Kassymova et al., 2019). Mental health counsellors offer a secure and trusted opportunity where individuals can discuss coping strategies in depth and improve them by reflectively adapting to the concepts and resulting behaviours. The facilitation provided by mental health counsellors is significant, given the number of adults currently experiencing some form of mental health problem. They provide healthcare with an emotional complement and allow the patient to consider the underlying causes of their problems to deal with them effectively (Nicolas et al., 2012).

Counselling for mental health at university: Counselling is not similar to providing advice or psychological issues. In counselling, the counsellor can support the students by helping them look at the problems. Although the counsellor tries to understand the problems, the client should not be forced, indicating that counselling is about analysing problems in a helpful and kind session. This technique requires responsibility, especially regarding the various courses of action that might help address the psychological and personal issues. Regarding this point, counsellors can help individuals manage and change their thought patterns, emotions, and distressing behaviours (Matliwala, 2017).

In addition, counsellors play a significant role as first responders in psychotherapy. At the same time, counsellors guide individuals in choosing an appropriate treatment to help them recover from psychological problems. Counsellors also use one or more theories in psychotherapy to guide their clients once a diagnosis has been made (Glicken, 2009). So it should be noted that counselling is crucial to help clients

and students develop a positive image of themselves and their role in this life (Dhal, 2019).

Psychological counselling is effective for university students: The psychological problems at university include stress and exam anxiety because of homesickness, and because of family and relationship problems. As a result, the students need counselling to improve their mental issues and cope with them (Matliwala, 2017).

Counselling is very significant for university students because counsellors guide them and, as a result, they are very relaxed. More outcomes of counselling include helping the students find themselves better and helping them be more confident, as well as helping them deal with their emotions. It is possible to consider that counsellor can help students manage their psychological problems, especially by guiding them to trust themselves and manage their negative emotions during their academic studies. As counselling has a significant impact on the education system, this shows that counsellors should be better at counselling than university students, especially for those seeking help. This may lead to the increased academic success of students and sectoral improvement in higher education (Schwitzer, 2018).

Counselling is a technique used to support students in solving their personal and interpersonal problems but it should be noted that counselling is not just advising. Counselling guides people to look at their problems first and then presents them with a changed dimension to recognize them and suggest strategies to help the student manage and solve their problems (Prosek, 2013).

However, some researchers, for example Goodman et al. (2018), have demonstrated that at university, counsellors face many challenges. Some researchers have pointed out that counsellors can make a big difference in terms of student academic achievements, so the importance of counselling is to improve the student-teacher relationships, to address behavioural and emotional problems, to increase attention, and to improve academic success.

Types of counselling:

There are many types of counselling, including the following:

Individual Counselling: Also known as psychotherapy or talking therapy. During counselling, people can analyze their thoughts, feelings, and actions, and decide what they would like to improve in their lives. Individual psychotherapy sessions range from 45 to 50 minutes, lasting for months or years (Schmidt, 2003).

Group counselling: This is a form of counselling that can help individuals who are facing similar problems. People facing a variety of problems collaborate with a professional counsellor. The goals are to discuss problems and share information to suggest solutions together (Jacobs et al., 2011).

Family counselling is focused on problem-solving, meaning that this form involves helping a family improve their relationships (Minuchin, 2018). Furthermore, school counsellors have a significant role in dealing with student learning issues and the psychological problems that occur when counsellors work with parents and teachers to develop strategies to guide their students (American School Counselling Association, 2018).

Counselling helps psychological problems by helping students:

Understand the situation: A psychotherapist can help understand mental health problems; this may happen when a client speaks up, so then the counsellor can help the clients realize the reasons behind their problems. They are facing obstacles, for example. Counsellors can assist their clients in identifying the reasons behind their personality problems and solve them healthily.

Change current behaviour. A counsellor can identify the current behaviours that contribute to mental problems and help to develop strategies to change the everyday habits causing the client's mental health problems.

Give room for healing: This path is about the past to make room for the present and the future, indicating that counselling can show the best ways to let go of what has triggered the condition and help the clients solve their issues to improve.

Reduce stress: Counsellors try to understand people, which may help to improve their stress. As a result, they feel better and can understand how to cope with what they are going through (Counselling & Counselling, 2021). In another study, Pakan (2015)

pointed out that counselling support is very important for reducing mental health problems. One study states that many people experiencing psychological and emotional stress recommended seeking counselling services on their own and hope that their condition improves. A person may try counselling for various reasons, including depression, anxiety, relationship problems, family concerns, crises, trauma, physical and emotional abuse, and grief. The role of counsellors seems to be very important for the education sector, especially in universities. This may be because counsellors have a lot of influence on student life, especially when it comes to advising them on their personal and academic development and the promotion of professionalism.

CHAPTER III

Methodology

This part contains information about the study design, participants, procedures, assessments, and data processing. In order to achieve the goal of this study, the validity, reliability, and ethical considerations are also given.

Study design

A self-report survey using KMHPQ-24 questions was developed for the quantitative research. The study used the KMHPQ-24 to assess mental health symptoms among university students in northern Iraq. Using a pre-designed questionnaire improved the data collection for this investigation. SPSS version 26 was used for gathering the data. In the present study, five sub-dimensions of mental health issues, depression, anxiety, stress, OCD, and insomnia, were included in the item development for the questionnaire established in the research. The respondents were primarily attracted using either their individual or university email, and the questionnaire was shared online via a Google account form survey. Throughout the COVID-19 lockdown, the researcher presented the questionnaire to every faculty and in every semester. The participants gave their informed consent. The recruitment period for the first assessment was from 20 March 2021 to 10 June 2021, while the second assessment was between 1 February 2023 to 12 March 2023.

Participants

In total, 1600 college respondents were invited to participate in this research during the COVID-19 lockdown but only 1504 students filled in the questionnaire. The students were chosen in terms of age, gender, marital status, place of stay, socioeconomic status, university, and semester. For the first sample, the undergraduates were students at three public and private universities in northern Iraq, including Charmo University, Sulamaini University, and Human Development University. For the second sample, the questionnaire was

divided among 700 participants but the researcher received approximately 464 forms filled out by the students.

Similarly, the students were selected from the same universities regarding age, gender, marital status, university, semesters, place of stay, and socioeconomic status in order to answer the research questions and reach the goal of the study. The researcher made random choices. The goal of this was to make the findings more generally relevant.

Table 1 A.

Demography of the Participants During COVID-19

Variables	Number	Percent
Age		
18	569	37.83
19	250	16.62
20	525	34.91
21	160	10.64
Gender		
Male	612	40.69
Female	892	59.31
Marital status		
Single	1447	96.21
Married	57	3.79
Place of birth		
Village	249	16.56
Town	667	39.33
City	588	44.11
Socioeconomic status		
Lower class	114	7.58
Middle class	1375	91.42
Upper class	15	1.00
University		
Charmo University	192	12.77
Sulaimani University	961	63.90
Human Development University	351	23.34
Semester		
Second	1252	83.24
Fourth	252	16.76

This study discovered that 83.24% of the total undergraduate students were enrolled in their first academic year (second semester) and that 12.77% of them attended Charmo University, 63.90% were enrolled in Sulaimani University, and 23.34% attended Human Development University. Table 1A provides an overview of the students' sociodemographic traits. Specifically 37.83% of the students were 18 years of age, followed by 16.62% who were 19, 34.91 % 20, and 10.64% who were 21. Also, 40.69 % were male, 59.31 % were female, 96.21% were single, and 3.79% were married. Additionally, 91.42% of the participants had a moderate socioeconomic level, whereas 7.58% belonged to a lower middle class, 16.56% grew up in the countryside, and 44.11% in a city.

Table 1 B

Demography of the Participants After COVID-19

Variables	Number	Percent
Age		
18	50	10.8
19	45	9.7
20	153	33.0
21	187	40.3
22	25	5.4
23	2	0.4
24	2	0.4
Gender		
Male	143	30.8
Female	317	68.3
Prefer not to say	4	0.9
Marital status		
Single	435	93.8
Married	28	6.0
Divorced	1	0.2
Place of Stay		
City	398	85.8
Town	57	12.3
Village	9	1.9
Socioeconomic status		

Lower class	68	14.7
Middle class	389	83.8
Upper class	7	1.5
University		
Charmo University	93	20.0
Sulaimani University	204	44.0
Human Development University	167	36.0
Academic Year		
First	20	4.3
second	2	0.4
Third	170	36.6
Fourth	272	58.7

Table 1 b provides an overview of the students' sociodemographic traits. It showed that 58.7% of the undergraduates were enrolled in their fourth academic year and that 20.0% attended Charmo University, 44.0% were registered at Sulaimani University, and 36.0% attended Human Development University. Additionally, 10.8% of the students were 18 years of age, followed by 9.7% who were 19s, 33.0% 20, 40.3% 21, 5.4% 22, 0.4% 23, and 0.4% who were 24. Furthermore, 30.8% were male, and 68.3% were female, while 0.9 preferred not to say. Moreover, 93.8% were single, and 6.0 were married. Following on from this, 83.8% of the participants had a moderate socioeconomic level, whereas 14.7% belonged to the lower middle class, 85.8% grew up in a city, 12.3% in a town, and 1.9% in the countryside.

KMHPQ -24 Scale

The Kurdish Mental Health Problem Questions (KMHPQ-24) were developed and improved using the work of the DSM-5, Beck's scale, Kessler, Cleveland Clinic, Mayo Clinic, and Sampson and Felman. The current scale is a set of five sub-dimensions that has 24 items (American Psychiatric Association, 2013; Beck et al., 1993; Cleveland Clinic, 2022; Kessler et al., 2002; Legg, 2017; Mayo Clinic, 2022; Roth, 2007; Robinson, 2021; Sampson & Felman (2020). In addition, the Google Form survey had six stages, the first of which was collecting the demographic profile of the respondents (Gender, Age, University, College, Semester, Marital and Socioeconomic status). Part two of the mental health

sections included the following elements related to anxiety: stress (items 12–15), OCD (items 16–19), depression (items 6–11), and insomnia (items 20-24). A 1–5 Likert scale was used for rating. The researcher gathered a 24-item questionnaire on mental symptoms in Kurdish. Every symptom item on the checklist self-report had five different responses: Always = 5, Often = 4, Sometimes = 3, Rarely = 2, and Never = 1.

This study began by completing the survey and explaining it on the participation information sheet. Those who were over the age of 18 and those who were continuing their education in northern Iraqi universities were able to complete the questionnaire.

The importance of developing the questionnaire:

The Kurdish mental health problem questionnaire developed in this study includes five sub-dimensions; there are some reasons behind this which include the following:

- The researcher is familiar with the Iraqi environment and the common mental health issues of people whom the developing questionnaire investigated. Understanding the study region is vital to the success of receiving a good answer from the survey.
- To examine the different sub-dimensions of mental problems, such as anxiety, depression, stress, OCD, and insomnia. This survey helped the researcher simultaneously measure several mental health symptoms using one form.
- Academic researchers claim that COVID-19 is a new disease and in Iraq, mental problems have increased during COVID-19. As a result, people are experiencing different types of these issues, which is why the researcher is interested in knowing how northern Iraq's prevalence of the symptoms of these problems during and after the novel coronavirus (Al-Ghurairi & Khaffaf, 2020; Karim et al., 2020; Othman, 2020).
- Another cause was the discovery of questionnaire measures or issues that future researchers could utilize and benefit from.
- To ensure the conception of the construct by using the mother language to make theoretical sense to the researchers in the field.

- To ensure that the survey's items and symptoms are well-written and understandable and to confirm the most current quality standards, the researcher shared the new questionnaire with several experts and pretested with participants at two different times to evaluate the item's clarity and applicability to ensure that the participants understood the survey items that the researcher had developed.
- The constructed questionnaire displays the relationships with variables such as age, gender, family status, education levels, economic situation, etc. This can assist the study's analysis and comprehension of any additional elements related to the symptoms of mental issues.
- The last reason was to determine whether the item variation, reliability, and validity are suitable for investigation. The current study established the new questionnaire using pretested and quantitative data and expert comments.

Pre-test

This study conducted pretesting in circumstances where it was possible for actual data collection using 1504 population members. The researcher used a quantitative questionnaire with 1504 university students. Each participant tested twice, and the two tests were in two weeks. This helped the research assess the questionnaire and practice the required techniques for this project. It gave the researcher an indication of whether the research would work. The outcomes of examining the reliability using the test-retest (0.74), split-half (0.76), and Cronbach's alpha (0.72) indicate that the K-MHPQ has good reliability.

Procedure:

The Near East University's Ethics Committee gave their approval and the northern Iraqi University's Presidents and Deans of the colleges accepted beginning the practice of enrolling participants to the research project. The researcher used the first version of the developed questionnaire for the first time with a small number of university students, 1504 in total, including, Sulaimani, Charmo, and Human Development. Each participant was tested twice. The two tests took place over two weeks. The correlation coefficient between the two sets

of mental health problem scores was a sensible measure of the test-retest reliability of the questionnaire. The questionnaire was submitted to 700 students; 526 participants answered the questionnaire, and approximately 464 forms were collected and analysed, in addition to clarifying the questionnaire form and response selection techniques to the participants. The participants were invited and participated through Google Meetings and Zoom; Each participant received information on the survey, stating that it was voluntary and would hide their identity before responding. The data files had no names for this reason.

The researcher translated the questionnaire into the mother language, and the participants listened and filled in the Google form during the first session. Every group spent nearly 50 to 60 minutes completing the questionnaire. The first evaluation period occurred between 20 March to 10 June 2021. The final assessment was between 28 January to 10 March 2023. According to this study, the survey was translated into Kurdish by academics.

The outcomes of the examination of the reliability using the test-retest (0.74), split-half (0.76), and Cronbach's alpha (0.72) present that the K-MHPQ has good reliability.

Reliability and Validity

Reliability indicates a measure's consistency in terms of whether it consistently produces the same result under the same variables. For example, repeated tests should provide accurate results the first time and the second time, or the findings should be similar. This is demonstrated by the survey's reliability (Cohen & Morrison, 2017). The researcher used a test to determine the reliability of the research instrument. The test's internal validity ensures that the outcomes of one test procedure are relevant and reliable when done twice. As a result, the researcher indicated that there was a good correlation between the values. Using the Cronbach's Alpha Coefficient approach, the SPSS program was used to assess the reliability of the data collection procedures utilized in the research. Cranach established the method around 1951 to assess the internal consistency of an instrument. Its representation is a value that ranges from 0 and 1 (Tavakol & Dennick, 2011).

The researcher gave the measurement scale to three linguistics and psychiatrists to create the Kurdish version of the Mental Health Problem Questionnaire (KMHPQ). The first linguist translated the original English version into Kurdish, then it was translated back into English by the second linguist, who did not know the wording of the original English version. The third linguist compared all items of the two different versions to see whether they were similar or not. Later, the questionnaires were evaluated to fix any small errors (for instance, replacing the first item of the original version with the first item of the second English version, the second item of the original version with the second item of the second English version, etc.). Six experts with doctorates in psychiatry, psychology, and mental health were given the Kurdish version by the researcher in order to determine the content validity of the scales and their suitability for obtaining data. There were 12 reversal items on the Mental Health Scale (2, 5, 12, 16, 17, 20, 24, 26, 28, 29, and 32). A changing and amending reference number was also available (7). To confirm the validity, the investigator also distributed the questionnaire to five specialists. Two experts who had PhDs were given the questionnaire by the researcher. The survey was approved and later utilized to gather the data.

Table 2.

Expert and psychiatrist's names who assessed the mental health problems (KMHPQ 24).

Full Name	Academic Background
Associate Prof. Dr John Synnott	Huddersfield University- Psychology- UK
Professor. Dr Maria Ioannou	Huddersfield University- Psychology- UK
Dr Salah Ahmed. Assistant Professor.	The University of Human Development. Health Sciences School. Iraq
Dr Nashmil Rasool	MBChB, FIBMS- Psychiatry, – Shaid Hemin Mental Health Hospital
Dr Zamdar Hamarasul Karim	MBChB, FIBMS, Psychiatry, Lecture at College of Medicine – Sulaimani University.

Exploratory Factor Analysis

Firstly, the exploratory factor analysis identified the total dimensions and item factor loads for the 35-item draft version of the factor structure of the Mental Health Issue Scale. Before the exploratory factor analysis application, normality tests were used to examine the assumptions of the exploratory factor analysis. They evaluated the outcomes of Bartlett's Test of Sphericity (BTS) and the Kaiser-Meyer-Olkin (KMO) test (confirmatory coefficient). Before starting the confirmation factor analysis, normalcy tests were used to evaluate the hypotheses of the exploratory factor analysis. It also examined whether the data set conformed to multivariate normal distribution, and it was determined that the skewness and kurtosis coefficients of the distribution were in the range of ±3. The Mental Health Problem Scale's Bartlett's Sphericity test revealed a Kaiser-Meyer-Olkin (KMO) score of 0.810; the findings were significant and acceptable for this experiment.

This study used an exploratory factor for the Mental Health Issue Score, the principle component method, and the variance translations of the elements. The set of variables identified the scale's factor structure. Factors with singular greater values than one were taken into account, while items with factor loads less than 0.30 were removed from the scale. The factor analysis was repeated to ensure a statistically significant difference between the variables; 12 items in the drafts scale had low factor loads, and they were removed from the scale since they could not be listed under any factor.

Table 3.

Exploratory Factor Analysis of the Mental Health Problem Scale

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Var.	Cum. %	Total	% of Var.	Cum.e %
1	5.18	22.54	22.54	3.42	14.88	14.88
2	2.52	10.95	33.49	3.06	13.29	28.17
3	2.30	10.02	43.51	2.57	11.16	39.34

4	1.99	8.66	52.17	2.55	11.10	50.43
5	1.73	7.53	59.69	2.13	9.26	59.69
6	0.97	4.45	64.15			
7	0.95	4.13	68.28			
8	0.87	3.77	72.05			
9	0.80	3.48	75.53			
10	0.77	3.35	78.87			
11	0.71	3.09	81.97			
12	0.67	2.89	84.86			
13	0.64	2.79	87.65			
14	0.61	2.67	90.32			
15	0.58	2.54	92.86			
16	0.55	2.39	95.25			
17	0.47	2.05	97.29			
18	0.35	1.53	98.83			
19	0.13	0.55	99.38			
20	0.06	0.26	99.63			
21	0.05	0.20	99.83			
22	0.04	0.17	100.00			
23	0.00	0.00	100.00			
24	0.00	0.00	100.00			

When the final exploratory factor analysis results of the Mental Health Problem Scale shown in Table 3 were examined, it was determined that there were five factors with an eigenvalue more significant than one in the scale. The five-factor structure of the Mental Health Problem Scale can explain 59.69% of the total variance in ranking. The eigenvalues of the factors in the scale varied between 2.13 and 3.42.

Table 4.

Rotated Factor Matrix for the Mental Health Problem Scale Factor Loads

	Anxiety	Depression	Stress	OCD	Insomnia
Anxiety 1	0.496				
Anxiety 3	0.562				
Anxiety 4	0.556				
Anxiety 6	0.432				
Anxiety 7	0.402				
Depression 1		0.631			
Depression 2		0.922			
Depression 3		0.567			
Depression 4		0.652			
Depression 6		0.452			
Depression 7		0.655			
Stress 1			0.710		
Stress 4			0.835		
Stress 5			0.835		
Stress 7			0.695		
OCD 1				0.594	
OCD 2				0.536	
OCD 4				0.498	
OCD 6				0.759	
Insomnia 2					0.500
Insomnia 3					0.517
Insomnia 5					0.706
Insomnia 6					0.498
Insomnia 7					0.556

It was determined that the four items in the Mental Health Problem Scale belonged to the anxiety subscale, and the factor loads of these items were between 0.402 and 0.562. The depression subscale consisted of 6 items, and the factor loads of the items were between 0.452 and 0.922. The stress subscale consisted

of 4 items with factor loadings between 0.695 and 0.710. There were four items in the obsessive-compulsive disorder (OCD) subscale, the fourth subscale of the Mental Health Problem Scale. The factor loads of the items in the OCD subscale were between 0.498 and 0.759.

Confirmatory Factor Analysis

After the factor structure of the Mental Health Problem Scale shown by the exploratory factor analysis and the factor loads of the items belonging to the sleep disorder (Insomnia) subscale were examined, the last subscale of the Mental Health Problem Scale varied between 0.498 and 0.706, with five things in the subscale.

Graph 1.

Confirmatory Factor Analysis Model of the Mental Health Problem Scale

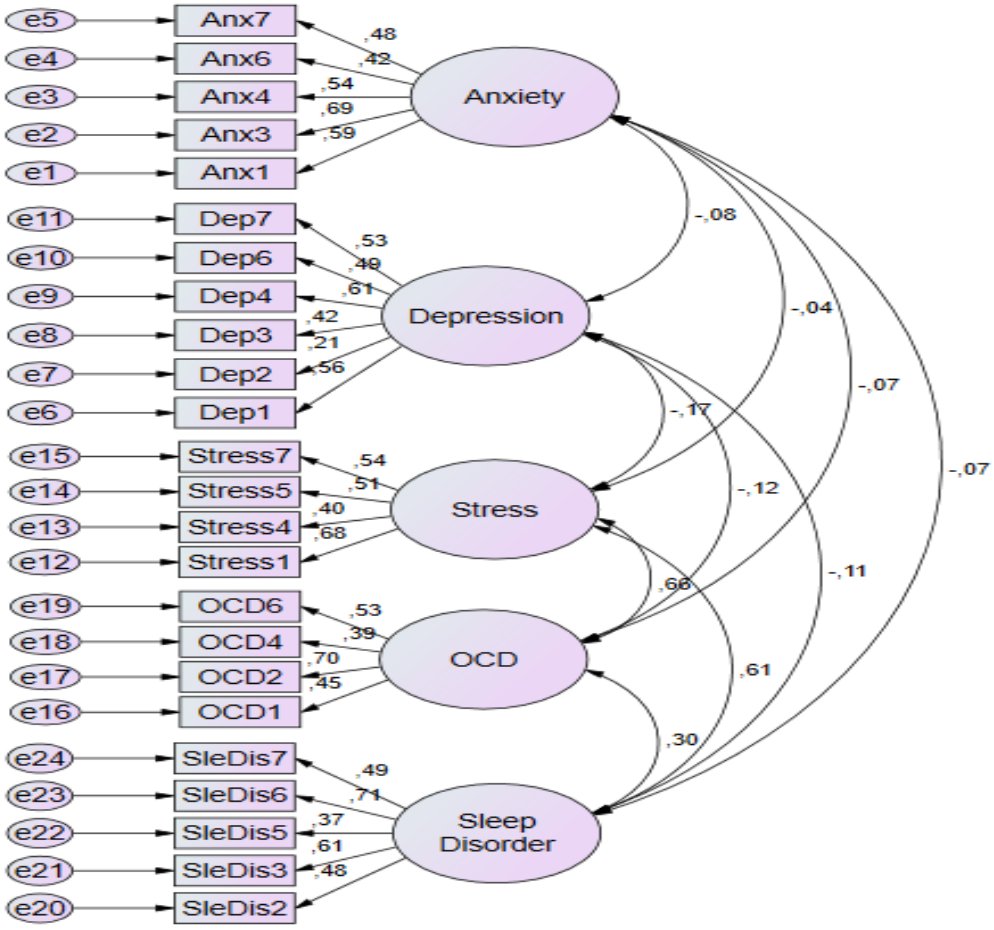

Table 5.

The Goodness of Fit Indexes of the Mental Health Problem Scale

Goodness of Fit Indexes	Index	Result
χ^2/sd (chi square / degrees of freedom)	1.756	Good
Normed Fit Index (NFI)	0.941	Good
Comparative Fit Index (CFI)	0.966	Good
Goodness of Fit Index (GFI)	0.935	Good
Root Mean Square Errors of Approximate (RMSEA)	0.044	Good
Standardised Root Mean Squared Residual (SRMR)	0.073	Good

When the path diagram of the confirmatory factor analysis of the scale shown in Figure 1 was examined, all 24 item factor loads were found to be significant, and that the standardised regression coefficients ranged between 0.21 and 0.71. The goodness of adjustment indexes of the Mental Health Problem Scale shown in Table 5 represents the χ^2/sd (chi-square/degree of freedom) value for the scale of 1.756, and since this value was between 3.0 and 5.0, the Mental Health Problem Scale was not accepted. The Mental Health Problem Scale results were as follows: Normed Fit Index (NFI=0.941), Comparative Fit Index (CFI=0.966), Goodness of Fit Index (GFI=0.935), Root Mean Square Errors of Approximate (RMSEA =0.04), and Standardised Root Mean Squared Residual (SRMR = 0.073). In this case, since the NFI, CFI, and GFI values of the Mental Health Problem Scale were above 0.90, it illustrates that the fit indices of the scale were acceptable.

Finally, this illustrates that the Mental Health Problem Scale has an approximate Root Mean Square Error of (RMSEA=0.078). Since the index is below 0.80, it determines that the model is compatible with the Root Mean Square Errors of Approximate. Accordingly, as a consequence of the exploratory and confirmatory factor analyses, the Mental Health Problem questionnaire has been found to be a valid scale.

Table 6.

Cronbach's Alpha Test Results

Scale	Alfa
Anxiety	0.735
Depression	0.700
Stress	0.731
OCD	0.707
Sleep Disorder (Insomnia)	0.731
Mental Health Problem Questionnaire	0.733

When the Cronbach's Alpha test results were applied to determine the internal consistency of the Mental Health Problem Scale, the alpha coefficient obtained for the overall scale was 0.733. A high calculated alpha value indicates the internal consistency of the Mental Health Problem Scale. When the alpha coefficients of the Mental Health Problem Scale subscales were examined, it was 0.735 for anxiety, 0.700 for depression, 0.731 for stress, 0.707 for OCD, and 0.731 for insomnia. The item-total correlations of the scale items determined that the correlations of all items in the scale with the total were significant ($p<0.05$).

Ethical considerations

The participants received written consent forms from the researcher indicating all pertinent details of the research. After carefully reviewing the documents, they delivered the signed copies to the researcher. The researcher consciously stated the study's goals and objectives. The study's participants were neither forced into participating nor continuing to be a part of it. The participants in the study were free to leave the research whenever they decided, without providing a reason. The researcher did not collect the names of the participants, nor any other personal information. The study's participants were kept unknown. The researcher was the only person accessing the data in a computer safe. The data was stored with the researcher to support other researchers in using it. Likewise, when gathering and analysing data, the researcher kept the ethical considerations in mind to lessen the risk of misunderstandings. The collected data was assessed as it was collected.

CHAPTER IV

Results

The results from the KMHPQ- 24 scales were analysed using Software SPSS 26. The results were compiled using descriptive statistics, correlation, ANOVA, and t-tests. The results from the KMHPQ- 24 scales were analysed using Software SPSS 26. This section details the study results and presents the findings based on the collected data.

Findings and comments on the first research question in terms of age

Table 7 below illustrates that statistically significance was not found among the anxiety, stress, and insomnia sub-dimensions according to the age categories and points (p>0,05). The results show there to be a statistically significant difference between depression and OCD symptoms (p 0.05) according to student age. The anxiety and depression sub-scale scores of the 19-year-old students were higher than the others. The symptoms of stress among 20-year-old students were more elevated than the other students.

Table 7 A.

ANOVA for depression and OCD during Covid-19 according to age

	Age	N	$\bar{x}$	s	Min	Max	F	p
Anxiety	18	569	2.92	0.79	1.00	5.00	0.715	0.543
	19	250	3.02	0.82	1.00	5.00		
	20	525	2.96	0.86	1.00	5.00		
	21	160	2.94	0.82	1.00	5.00		
Depression	18	569	2.90	0.72	1.00	5.00	4.028	0.007*
	19	250	2.98	0.81	1.00	5.00		
	20	525	2.95	0.71	1.00	5.00		
	21	160	2.77	0.79	1.00	5.00		
Stress	18	569	3.06	0.83	1.00	5.00	1.574	0.194
	19	250	3.03	0.76	1.00	5.00		
	20	525	3.14	0.88	1.00	5.00		
	21	160	3.02	0.88	1.00	5.00		
OCD	18	569	2.91	0.81	1.00	5.00	4.530	0.004*
	19	250	2.83	0.88	1.00	5.00		

	20	525	2.73	0.87	1.00	5.00		
	21	160	2.73	0.92	1.00	5.00		
Insomnia	18	569	2.86	0.84	1.00	5.00	1.477	0.219
	19	250	2.95	0.78	1.00	5.00		
	20	525	2.95	0.82	1.00	5.00		
	21	160	2.88	0.77	1.00	5.00		
MHP	18	569	2.93	0.49	1.00	5.00	0.418	0.740
	19	250	2.96	0.48	1.00	5.00		
	20	525	2.94	0.50	1.00	5.00		
	21	160	2.86	0.50	1.00	5.00		

**p<0,0*

Table 7 b below illustrates that the mean score for stress for students aged 22 was higher than the other ages but the symptoms of the five sub-dimensions were higher among 19-year-old students than the other students, at 2.96.

Table 7 B.

The comparison of students' points during the COVID-19 taken from MHPQ by age

Age	Age	N	**Mean**	SD	Min	Max	F	p
Anxiety	18	50	2.13	0.74	1.00	5.00	1.317	0.240
	19	45	2.01	0.75	1.00	5.00		
	20	153	2.07	0.78	1.00	5.00		
	21	187	2.90	0.00	1.00	5.00		
	22	25	2.74	0.01	1.00	5.00		
	23	2	2.89	0.80	1.00	5.00		
	24	2	2.53	0.61	1.00	5.00		
Depression	18	50	2.38	0.84	1.00	5.00	1.251	0.273
	19	45	2.27	0.99	1.00	5.00		
	20	153	2.44	0.83	1.00	5.00		
	21	187	2.53	0.99	1.00	5.00		
	22	25	2.86	0.52	1.00	5.00		
	23	2	2.40	0.00	1.00	5.00		
	24	2	2.32	0.50	1.00	5.00		
Stress	18	50	2.50	0.00	1.00	5.00		
	19	45	2.98	0.81	1.00	5.00		
	20	153	2.98	0.84	1.00	5.00		
	21	187	3.00	0.80	1.00	5.00	0.63	0.731
	22	25	3.02	0.81	1.00	5.00		
	23	2	2.36	0.62	1.00	5.00		
	24	2	2.25	0.00	1.00	5.00		
OCD	18	50	2.00	0.00	1.00	5.00		
	19	45	1.82	0.37	1.00	5.00		
	20	153	1.90	0.38	1.00	5.00		
	21	187	1.84	0.36	1.00	5.00	1.095	0.365
	22	25	1.73	0.37	1.00	5.00		
	23	2	1.71	0.36	1.00	5.00		
	24	2	1.75	0.00	1.00	5.00		
Insomnia	18	50	2.00	0.00	1.00	5.00		
	19	45	2.86	0.77	1.00	5.00		
	20	153	2.75	0.80	1.00	5.00		
	21	187	2.91	0.79	1.00	5.00	1.032	0.408
	22	25	2.92	0.77	1.00	5.00		
	23	2	2.94	0.58	1.00	5.00		
	24	2	2.40	0.00	1.00	5.00		
MHP	18	50	2.20	0.90	1.00	5.00		
	19	45	2.38	0.80	1.00	5.00		
	20	150	2.42	0.79	1.00	5.00	1.032	0.408
	21	153	2.63	0.77	1.00	5.00		
	22	187	2.65	0.58	1.00	5.00		
	23	2	2.46	0.00	1.00	5.00		
	24	2	2.25	0.00	1.00	5.00		

*$p<0.05$

Findings on the second research question in terms of gender

Table 8 a displays that there is a statistically significant difference between gender and OCD score (p 0.05); the female students had higher OCD scores than male students during lockdown at 2.87 and 2.92 respectively. Females also have higher symptoms of stress than males, which was higher than the other sub-dimensions of mental health problem symptoms.

Table 8 A.

ANOVA for depression and OCD during Covid-19 according to gender

	Gender	N	$\bar{x}$	S	T	P
Anxiety	Male	892	2.92	0.82	-1.822	0.069
	Female	612	3.00	0.82		
Depression	Male	892	2.89	0.73	0.920	0.358
	Female	612	2.92	0.75		
Stress	Male	892	3.06	0.84	-1.100	0.271
	Female	612	3.11	0.84		
OCD	Male	892	2.87	0.87	-2.155	0.031*
	Female	612	2.92	0.84		
Insomnia	Male	892	2.84	0.85	0.640	0.522
	Female	612	2.89	0.76		
MHP	Male	892	2.92	0.51	-1.245	
	Female	612	2.96	0.46		0.213

According to the results of the independent sample t-test (Table 8 b), there were no gender differences in the participant's scores for anxiety, depression, stress, and insomnia across the sub-scales overall ($p>0.05$).

Table 8 B.

The comparison of the students' points taken from MHPQ by gender after COVID-

	Gender	N	**Mean**	SD	Min	Max	T	p
Anxiety	Male	143	2.60	0.78	1.00	5.00	-1.647	0.983
	Female	317	2.13	0.76	1.00	5.00		
	Prefer not to say	4	2.01	0.56	1.00	5.00		
Depression	Male	143	2.07	0.87	1.00	5.00	0.694	0.342
	Female	317	2.89	0.88	1.00	5.00		
	Prefer not to say	4	2.74	0.19	1.00	5.00		
Stress	Male	143	2.20	0.84	1.00	5.00	0.135	0.704
	Female	317	2.73	0.80	1.00	5.00		
	Prefer not to say	4	2.06	0.00	1.00	5.00		
OCD	Male	143	1.44	0.34	1.00	5.00	-1.061	0.603
	Female	317	1.3	0.38	1.00	5.00		
	Prefer not to say	4	1.27	0.23	1.00	5.00		
Insomnia	Male	143	2.80	0.88	1.00	5.00	-1.096	0.763
	Female	317	3.53	0.73	1.00	5.00		
	Prefer not to say	4	2.86	0.23	1.00	5.00		
MHPQ	Male	143	2.22	0.742	1.00	5.00	0.595	0.763
	Female	317	2.62	0.710	1.00	5.00		
	Prefer not to say	4	2.19	0.242	1.00	5.00		

Findings on the third research question in terms of marital status:

The third research question is about the significant difference in the sub-dimensions of the MHPQ-24 in terms of marital status, although the below table shows no statistically significant difference in the student results on Mental Health Problems during COVID-19. The mean score of married students during the pandemic was higher than single students, which were 2.86 and 2.93, correspondingly.

Table 9 A.

Independent sample T-Test for MHP during lockdown with marriage status

	Marital status	n	$\bar{x}$	s	t	p
Anxiety	Single	1447	2.89	0.82	0.509	0.611
	Married	57	2.95	0.82		
Depression	Single	1447	2.91	0.74	0.093	0.926
	Married	57	2.96	0.74		
Stress	Single	1447	3.08	0.85	-0.360	0.719
	Married	57	3.15	0.66		
OCD	Single	1447	2.75	0.86	0.563	0.574
	Married	57	2.82	0.74		
Insomnia	Single	1447	2.77	0.82	1.924	0.055
	Married	57	2.71	0.74		
Mental Health Problem	Single	1447	2.86	0.50	0.905	0.365
	Married	57	2.93	0.31		

Based on the results of the independent sample t-test presented in Table 9 b ($p>0.05$), the mean score of the married participants was higher than single students, which were 2.55 and 2.42, respectively. This establishes that there was no statistically significant difference in student outcome using the Mental Health Problems Questionnaire after COVID-19 ($p>0.05$).

Table 9 B.

Independent sample T-Test for MHP after lockdown according to marital status.

	Gender	N	**Mean**	SD	T	p
Anxiety	Single	435	2.08	0.77	0.036	0.194
	Married	28	2.84	0.77		
	Divorced	1	2.50	0.74		
Depression	Single	435	2.42	0.87	0.041	0.500
	Married	28	2.39	0.92		
	Divorced	1	2.40	0.78		
Stress	Single	435	3.00	0.82	0.038	0.874
	Married	28	3.06	0.65		
	Divorced	1	2.40	0.76		
OCD	Single	435	1.73	0.01	0.017	0.347
	Married	28	1.83	0.07		
	Divorced	1	2.00	0.74		
insomnia	Single	435	2.88	0.78	0.036	0.335
	Married	28	2.66	0.76		
	Divorced	1	2.60	0.75		
MHPQ		143	2.42	0.65	0.033	0.450
		317	2.55	0.63	0.033	
		1	2.38	0.78		

Findings on the fourth research question in terms of place of stay

The fourth research question showed a significant difference in the sub-dimensions of the MHP-24 in relation to place of stay. As Table 10 illustrates, based on the participant's place of stay, there were statistically significant differences in the Mental Health Problem Questionnaire scores for the depression, stress, and insomnia sub-dimensions (p 0.05). In addition, the students who lived in cities tended to score higher for symptoms of depression and OCD tests than their classmates during the COVID-19 lockdown.

Table 10 A.

ANOVA for place of stay and the sub-dimensions of MHPQ-24 after COVIF-19

	Place	n	$\bar{x}$	s	Min	Max	F	p
Anxiety	Village	249	2.93	0.81	1.00	5.00	0.534	0.586
	Town	667	2.95	0.77	1.00	5.00		
	City	588	2.99	0.86	1.00	5.00		
Depression	Village	249	2.70	0.75	1.00	5.00	11.780	0.000*
	Town	667	2.94	0.77	1.00	5.00		
	City	588	2.95	0.71	1.00	5.00		
Stress	Village	249	3.04	0.86	1.00	5.00	5.960	0.003*
	Town	667	3.05	0.84	1.00	5.00		
	City	588	3.25	0.82	1.00	5.00		
OCD	Village	249	2.80	0.85	1.00	5.00	1.171	0.310
	Town	667	2.80	0.78	1.00	5.00		
	City	588	2.89	0.90	1.00	5.00		
Insomnia	Village	249	2.86	0.82	1.00	5.00	3.088	0.046*
	Town	667	2.91	0.86	1.00	5.00		
	City	588	3.02	0.79	1.00	5.00		
Mental Health Problem Questionnaire	Village	249	2.86	0.53	1.00	5.00	0.888	0.412
	Town	667	2.93	0.42	1.00	5.00		
	City	588	3.02	0.47	1.00	5.00		

*$p<0.05$

Table 10 b determined the results using an ANOVA; the mean for city students was higher than it was for town and village students. For example, the anxiety symptoms scores was higher than the other sub-dimensions. and the OCD score was the lowest among the mean scores.

Table 10 B.

The comparison of Students' points taken from MHPQ according to the place of stay.

	Place	N	$\bar{x}$	S	Min	Max	F	p
Anxiety	Village	9	2.33	0.81	1.00	5.00	1.05	0.30
	Town	57	2.17	0.77	1.00	5.00		
	City	398	2.20	0.86	1.00	5.00		
Depression	Village	9	1.77	0.75	1.00	5.00	3.10	0.07
	Town	57	2.57	0.77	1.00	5.00		
	City	398	2.60	0.71	1.00	5.00		
Stress	Village	9	1.77	0.86	1.00	5.00	0.56	0.45
	Town	57	2.33	0.84	1.00	5.00		
	City	398	2.44	0.82	1.00	5.00		
OCD	Village	9	1.33	0.85	1.00	5.00	5.06	0.02
	Town	57	1.94	0.78	1.00	5.00		
	City	398	2.07	0.90	1.00	5.00		
Insomnia	Village	9	2.22	0.82	1.00	5.00	5.02	0.02
	Town	57	2.56	0.86	1.00	5.00		
	City	398	3.08	0.79	1.00	5.00		
Mental	Village	9	1.88	0.81	1.00	5.00	0.35	0.23
Health	Town	57	2.31	0.80	1.00	5.00		
Problem	City	398	2.47	0.81	1.00	5.00		
Questionnaire								

Findings on the fifth research question in terms of socioeconomic status

According to the student's socioeconomic status, the results indicate a statistically significant difference between stress levels and insomnia (p 0.05). Students with a lower socioeconomic background have higher symptoms of depression, anxiety, stress, OCD and insomnia scores than the other classes as shown in Table 11 a.

Table 11 A.

ANOVA for socioeconomic status during COVID-19

	Status	N	$\bar{x}$	S	Min	Max	F	P
Anxiety	Lower class	114	2.99	0.84	1.00	5.00	0.164	0.849
	Middle class	1375	2.95	0.82	1.00	5.00		
	Upper class	15	2.95	0.87	1.00	5.00		
Depression	Lower class	114	2.92	0.77	1.00	5.00	0.614	0.542
	Middle class	1375	2.91	0.74	1.00	5.00		
	Upper class	15	2.70	0.70	1.00	5.00		
Stress	Lower class	114	3.30	0.79	1.00	5.00	3.765	0.023*
	Middle class	1375	3.06	0.85	1.00	5.00		
	Upper class	15	3.27	0.30	1.00	5.00		
OCD	Lower class	114	2.84	0.91	1.00	5.00	0.311	0.733
	Middle class	1375	2.81	0.86	1.00	5.00		
	Upper class	15	2.65	0.39	1.00	5.00		
Insomnia	Lower class	114	3.16	0.86	1.00	5.00	6.452	0.002*
	Middle class	1375	2.89	0.80	1.00	5.00		
	Upper class	15	3.15	1.02	1.00	5.00		
Mental Health Problem Questionnaire	Lower class	114	3.04	0.46	1.00	5.00	2.762	0.064
	Middle class	1375	2.92	0.50	1.00	5.00		
	Upper class	15	2.94	0.31	1.00	5.00		

*$p<0,05$

Whereas there was no significant difference found between OCD, anxiety, or depression, it was determined that there was a statistically significant difference between stress and insomnia in terms of socioeconomic class, as observed in Table 11b. Also, the results of this study demonstrate that the mean score for OCD was the lowest after the COVID-19 pandemic.

Table 11 B.

The comparison in MHPQ after COVID-19 with socioeconomic status

	Gender	N	**Mean**	SD	Min	Max	F	p
Anxiety	Lower Class	435	2.74	0.79	1.00	5.00	1.886	0.153
	Middle Class	28	2.08	0.77	2.00	4.00		
	Upper Class	1	2.75	0.71	2.00	2.00		
Depression	Lower Class	435	2.52	0.82	1.00	5.00	0.398	0.672
	Middle Class	28	2.96	0.71	1.00	5.00		
	Upper Class	1	2.04	0.44	2.00	5.00		
Stress	Lower Class	435	2.99	0.89	2.00	5.00	3.881	0.021
	Middle Class	28	2.41	0.88	1.00	5.00		
	Upper Class	1	2.17	0.76	3.00	4.00		
OCD	Lower Class	435	1.81	0.40	1.00	4.00	0.161	0.851
	Middle Class	28	1.83	0.37	1.00	4.00		
	Upper Class	1	1.89	0.32	2.00	3.00		
Insomnia	Lower Class	435	2.95	3.14	1.00	5.00	5.393	0.005
	Middle Class	28	2.39	2.81	1.00	5.00		
	Upper Class	1	2.23	3.09	2.00	5.00		
MHPQ		135	2.60	1.69	1.00	5.00	2.343	0.340
		28	2.33	1.56	1.00	5.00		
		1	2.21	1.58	1.00	4.00		

Findings on the sixth research question in terms of University

The sixth research question illustrated a significant difference among the five sub-dimensions according to university (p 0.05); for instance, Charmo University has higher mental health problem symptoms scores than students at the University of Sulaimani and human development as of 12a. And also. Human Development College students' scores were higher than others regarding stress and insomnia.

Table 12 A.

The comparison of the sub-dimensions during COVID-19 by university.

	University	N	$\bar{x}$	S	Min	Max	F	P
Anxiety	Charmo Uni.	192	3.05	0.80	1.00	5.00	3.146	0.043*
	Sulaimani Uni	961	3.01	0.74	1.00	5.00		
	Human Dev. Uni	351	2.45	0.91	1.00	5.00		
Depression	Charmo Uni	192	3.04	0.75	1.00	5.00	5.893	0.003*
	Sulaimani Uni	961	3.02	0.78	1.00	5.00		
	Human Dev. Uni	351	2.57	0.69	1.00	5.00		
Stress	Charmo Uni.	192	3.27	0.83	1.00	5.00	20.212	0.000*
	Sulaimani Uni.	961	2.91	0.71	1.00	5.00		
	Human Dev. Uni	351	3.38	0.89	1.00	5.00		
OCD	Charmo Uni	192	2.28	0.84	1.00	5.00	15.858	0.000*
	Sulaimani Uni.	961	2.07	0.79	1.00	5.00		
	Human Dev. Uni	351	2.04	0.91	1.00	5.00		
Insomnia	Charmo Uni	192	3.15	0.78	1.00	5.00	38.293	0.000*
	Sulaimani Uni.	961	3.04	0.77	1.00	5.00		
	Human Dev. Uni	351	3.21	0.84	1.00	5.00		
MHP Questionnaire	Charmo Uni	192	2.95	0.49	1.00	5.00	24.397	0.000*
	Sulaimani Uni	961	2.81	0.44	1.00	5.00		
	Human Dev. Uni	2.81	2.73	0.50	1.00	5.00		

$p<0.05$

The results of Table 12 b illustrate that students at the University of Charmo scored higher for depression and anxiety than those at the University of Sulaimani. In comparison to

the other colleges, the Human Development University students scored higher for overall stress and insomnia.

Table 12 B.

The comparison of the sub-dimensions by university after COVID-19

	University	N	**Mean**	SD	Min	Max	F	P
Anxiety	Sulaimani Un	204	2.55	0.74	1.00	5.00	0.670	0.041
	Charmo Uni	93	2.91	0.85	1.00	5.00		
	Human Dev	167	2.02	0.76	1.00	5.00		
Depression	Sulaimani Uni	204	2.75	0.89	1.00	5.00	2.156	0.117
	Charmo Uni	93	2.87	0.88	1.00	5.00		
	UHD	167	2.17	0.76	1.00	5.00		
Stress	Sulaimani Uni	204	2.62	0.72	1.00	5.00	7.969	0.000
	Charmo Uni	93	2.79	0.44	1.00	5.00		
	UHD	167	2.95	0.82	1.00	5.00		
OCD	Sulaimani Uni	204	1.81	0.40	1.00	5.00	7.699	0.001
	Charmo Uni	93	1.89	0.37	1.00	5.00		
	UHD	167	1.83	0.32	1.00	5.00		
Insomnia	Sulaimani Uni	204	2.09	3.14	1.00	5.00	15.707	0.000
	Charmo Uni	93	2.82	2.81	1.00	5.00		
	UHD	167	3.04	3.09	1.00	5.00		
MHPQ		204	2.36	1.68	1.00	5.00	6.840	0.000
		93	2.65	1.57	1.00	5.00		
		167	2.40	1.60	1.00	5.00		

Findings on the seventh research question in terms of semester

The seventh research question of the study shows that there is a significant difference in the sub-dimensions of the MHPQ in terms of semester. Table 13 a below shows the statistically significant difference between the semester and the points for anxiety, depression, and insomnia (P 0,05). Students in their first academic year (second semester) have fewer symptoms of mental problems but those in the fourth year (eighth semester) display substantial rates of stress, anxiety, and insomnia together with low rates of OCD.

Table 13 A:

The comparison in MHPQ during COVID-19 based on semester

	Semester	N	$\bar{x}$	S	T	P
Anxiety	Second	1252	2.97	0.79	2.101	0.036
	Fourth	252	2.85	0.93		*
Depression	Second	1252	2.87	0.75	-3.964	0.000
	Fourth	252	2.07	0.66		*
Stress	Second	1252	3.09	0.84	0.892	0.373
	Fourth	252	3.04	0.84		
OCD	Second	1252	2.13	0.87	2.485	0.013
	Fourth	252	2.15	0.81		*
Insomnia	Second	1252	2.97	0.80	3.090	0.002
	Fourth	252	2.99	0.87		*
Mental Health Problem Questionnaire	Second	1252	2.80	0.49	1.700	0.089
	Fourth	252	2.62	0.50		

**p<0.05*

Table 13 b indicates significant differences between the semester and points of anxiety, depression, and insomnia (p 0.05). For example, second-semester students had more symptoms of anxiety, depression, stress, and insomnia but lower levels of OCD than in the fourth, sixth and eighth semesters.

Table 13 B.

Correlation analysis after COVID-19 in terms of semester

	Semester	N	**Mean**	SD	Min	Max	T	P
Anxiety	Second	20	2.67	1.31	1.00	5.00	1.35	0.024*
	Fourth	170	2.65	1.21	1.00	5.00		
	Sixth	2	2.81	1.41	1.00	5.00		
	Eighth	272	2.61	1.19	1.00	5.00		
Depression	Second	20	2.97	1.20	1.00	5.00	0.78	0.000*
	Fourth	170	2.69	1.25	1.00	5.00		
	Sixth	2	2.65	1.70	1.00	5.00		
	Eighth	272	2.62	1.21	1.00	5.00		
Stress	Second	20	2.99	1.35	1.00	5.00	0.31	0.584
	Fourth	170	2.97	1.19	1.00	5.00		
	Sixth	2	2.42	2.82	1.00	5.00		
	Eighth	272	2.45	1.27	1.00	5.00		
OCD	Second	20	1.89	1.39	1.00	5.00	1.60	0.432
	Fourth	170	1.81	1.20	1.00	5.00		
	Sixth	2	1.04	1.00	1.00	5.00		
	Eighth	272	1.37	1.24	1.00	5.00		
Insomnia	Second	20	2.85	1.13	1.00	5.00	0.22	0. 001*
	Fourth	170	2.61	1.26	1.00	5.00		
	Sixth	2	2.65	0.00	1.00	5.00		
	Eighth	272	2.02	1.22	1.00	5.00		
MHPQ	Second	20	2.67	1.210	1.00	5.00	0.22	0.65
	Fourth	170	2.54	1.27	1.00	5.00		
	Sixth	2	2.31	0.70	1.00	5.00		
	Eighth	272	2.21	1.21	1.00	5.00		

Findings on the eighth research question; the descriptive statistics of the five sub-dimensions of MHPQ during COVID-19

The eighth research question presented the results of the descriptive statistics of the university students. The mean score for the participants was 2.95, 0.82 for anxiety, 2.91, 0.74 for depression, 3.08, 0.84 for stress, 2.81,0.86 for obsessive-compulsive disorder, 2.91, 0.81 for insomnia, and 2.93, 0.49 for the mental health problem questionnaire.

Table 14 A**.**

The descriptive statistics on MHPQ during COVID-19

	N	Mean	Std. Deviation	Min.	Max
Anxiety	1504	2.95	0.82	1.00	5.00
Depression	1504	2.91	0.74	1.00	5.00
Stress	1504	3.08	0.84	1.00	5.00
OCD	1504	2.81	0.86	1.00	5.00
Insomnia	1504	2.91	0.81	1.00	5.00
Mental Health Problem Questionnaire	1504	2.93	0.49	1.00	5.00

The descriptive statistics below illustrate the participants' five sub-dimension scores in answer to the mental health problem questionnaire after COVID-19, represented in Table 14 b. The student's average was 2.06±0.77 points for anxiety, 2.42±0.88 points for depression, 2.00±0.80 points for stress, 1.83±0.37 points for OCD, 2.86±0.78 points for insomnia and 2.23±0.72 points for mental health problems.

Table 14 b:

The descriptive statistics on MHPQ after COVID-19

	N	Mean	Std. Deviation	Min.	Max
Anxiety	464	2.06	0.77	1.00	5.00
Depression	464	2.42	0.88	1.00	5.00
Stress	464	2.00	0.80	1.00	5.00
OCD	464	1.83	0.37	1.00	5.00
Insomnia	464	2.86	0.78	1.00	5.00
Mental Health Problem Questionnaire	464	2.23	0.72	1.00	5.00

Findings on the correlations among the five sub-dimensions of MHPQ during COVID-19

Table 15 demonstrates that there is a significant and positive relationship between the students' anxiety assessments and their stress, OCD, and insomnia scores (p 0.05). The student depression scores showed a negative and statistically significant relationship with the OCD and insomnia scores (p 0.05). In contrast, a statistically significant relationship occurred between the student's stress levels and their ratings for OCD and insomnia (p 0.05).

Table 15 A.

Correlation analysis during COVID-19

		Anxiety	Depression	Stress	OCD	Insomnia	MHPQ
Anxiety	R	1					
	P						
	N	1504					
Depression	R	-0.045	1				
	P	0.078					
	N	1504	1504				
Stress	R	0.341	-0.036	1			
	P	0.000*	0.161				
	N	1504	1504	1504			
OCD	R	0.316	-0.055	0.448	1		
	P	0.000*	0.032*	0.000*			
	N	1504	1504	1504	1504		
Sleep Disorder (Insomnia)	R	0.317	-0.074	0.450	0.272	1	
	P	0.000*	0.004*	0.000*	0.000*		
	N	1504	1504	1504	1504	1504	
	R	0.652	0.230	0.750	0.680	0.663	1

Mental Health	P	0.000*	0.000*	0.000*	0.000*	0.000*	
Problem Questionnaire	N	1504	1504	1504	1504	1504	1504

The results after COVID-19 displayed in the below table show that the correlation between the students' stress, OCD, and insomnia scores and their anxiety level was positive and statistically significant (p 0.05). In contrast, there was a negative and significant correlation between the students' depression levels and their OCD and insomnia scores (p 0.05). A statistically significant link between the student's stress levels and their levels of OCD and insomnia was discovered (p 0.05).

Table 15 B.

Correlation analysis after COVID-19

Correlations						
		anxiety	depression	Stress	OCD	insomnia
anxiety	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	464				
depression	Pearson Correlation	-0.026	1			
	Sig. (2-tailed)	0.573				
	N	464	464			
Stress	Pearson Correlation	-0.017	-0.065	1		
	Sig. (2-tailed)	0.000*	0.165			
	N	464	464	464		
OCD	Pearson Correlation	0.052	0.157**	0.103*	1	
	Sig. (2-tailed)	0.262	0.001	0.000*		
	N	464	464	464	464	
	Pearson Correlation	-0.036	-0.090	0.432**	0.129**	1
(Insomnia)	Sig. (2-tailed)	0.439	0.052	0.000*	0.005	
	N	464	464	464	464	464

CHAPTER V

Discussion

The objective of this study was to assess the sub-dimensions of mental health problem symptoms among university students during and after COVID-19 in terms of gender, age, semester of study, university, socioeconomic level, and place of stay.

Concerning age differences, it is thought that mental health problem symptoms come with age, for instance, the outcomes illustrated a statistically significant difference between depression and obsessive-compulsive disorder (OCD) symptoms on the sub-scales ($p<0.05$). The significant point of the current research was to differentiate from the influence of age and to focus on the sub-dimensions of anxiety, depression, stress, OCD and insomnia among the participants, due to the fact that younger students might have more symptoms of mental health problems than older people. The results of the current study illustrate similar outcomes to the existing studies. The findings of the study demonstrate similar results to the existing studies in related fields. The Ministry of Health of Iraq (2019), Othman (2020), and Kaiser and Ozer (1997) examined the relationship between mental health problem in terms of age. They summarized that mental health problem symptoms and adolescents were closely correlated.

Besides that, most participants during and after the pandemic were between 18 and 24 years old. Although the first intake data illustrated the higher occurrence of mental problem symptoms during COVID-19 and for as long as two years after, the researcher found that the same participants had a high prevalence of stress and a low rate of OCD. For instance, the mean scores of OCD in the two different assessments were lower than the other sub-dimensions; the mean scores of 20 and 22-year-olds were 2.73 and 1.71, respectively. The scores of the 20 and 22-year-old students on the stress subscale were higher than the other sub-dimensions. Among the 20 and 22-year-old students, the mean scores were 3.14 and 3.02 correspondingly. This might be because their age meant that they grew up after two years of the pandemic. Besides that, the first assessment demonstrated that the symptoms of stress were higher than the other sub-dimensions of mental health.

The findings show that anxiety and depression symptoms during COVID-19 were higher than after the pandemic. The mean scores for 19-year-olds were 3.02, 2.98 respectively. Likewise, previous researchers have demonstrated similar outcomes to the present research. Lafta and Mawlud (2023), Ibrahim et al. (2019), Kathem et al. (2021), and Othman (2020) explored and highlighted the relationship between mental health problems and age, while considering the further factors in Iraqi people, especially those between 18-25 years old. The most common mental problems like anxiety and depression symptoms were usual and could occur in any adolescent stage. It might be true to say that these symptoms are common even after the pandemic, so the adolescent period can be a possible cause correlated to an increase in the symptoms of mental problems. Interestingly, the current study participants were between 18-24 years old. However, a few studies in Iraq suggest that the symptoms of depression and insomnia were more common among old people. This is due to different causes such as loneliness and economic issues, which consequently lead to an increase in mental problem symptoms (Abbas et al., 2018).

Regarding this vision, most of the previous researchers discovered that mental problems started at the age of 22; for instance, several Iraqi investigators proved that anxiety, depression, and insomnia symptoms were observed among adolescents during the COVID-19 pandemic because northern younger Iraqi people were afraid of the disease (Karim et al., 2020; Kathem et al., 2021; Othman, 2020). The stress rate was higher than the other symptoms of mental problems during COVID-19 at first. The second finding, after COVID-19, illustrated that the symptoms of depression were higher than the other sub-dimensions. Nonetheless, a previous Iraqi study investigated the symptoms of obsessive-compulsive disorder (OCD), and found increasing symptoms of OCD among Iraqi medical university students, especially among the younger participants during COVID-19 (Tahir et al., 2021). The present outcomes illustrate a lower rate of OCD during and after COVID-19. At this point, it is challenging to assess OCD in a way to see only low scores and a few symptoms of OCD found among university students. It might be possible to consider more tools and clinical interviews should be used to examine the symptoms of OCD. Previous studies suggest that assessing and diagnosing OCD seems to be complicated. It ought to be based on getting more information from the

clients and their families, including more diagnostic criteria to assess the symptoms of OCD (Westwell-Roper & Stewart, 2019).

Concerning gender differences, the sample t-test compared the students' scores regarding males and females during and after COVID-19 and demonstrated that there were no gender differences in the student's ratings in reference to the Mental Health Problem Questionnaire's anxiety, depression, stress, and insomnia sub-dimensions (p 0.05). There was a statistically significant correlation between gender and OCD levels (p 0.05). As expected, the mean score of OCD and stress were greater amongst females than males. In both assessments, it was illustrated that the university students were suffered OCD less. Concerning this point, it might be significant to mention that OCD should be clinically diagnosed in a health centre; without this procedure, the outcomes might be limited.

Moreover, the current findings during the first and second assessments indicated that females had more symptoms of mental problems than males (2.96, 2.62, respectively). According to other research, female students experience twice as many anxiety disorders as male students. This might be due to the impact of the COVID-19 pandemic on gender on the one hand and on other factors that might affect the independent variables such as anxiety, depression, stress, OCD and insomnia on gender on the other. During COVID-19 females were more affected by the pandemic than males, previous researchers have demonstrated that during the pandemic, girls needed to protect themselves from harm and they were worried about cleanliness. They were under pressure to care for their families as well as protect themselves from the virus (Al-Ghurairi and Khaffaf, 2020; Kizilhan & Noll-Hussong, 2020). Concerning gender, several of the previous studies suggest that teenage girls were more likely than boys to seek counselling for mental problems because females are more likely to seek help (Adler, 2013; Watts, 2015).

However, a few studies in Iraq investigated how insomnia symptoms were more common among males than females, and how the female participants were more affected than males due to the males studying hard during the exams. They were required to

complete their homework and this consequently led to an increase in the symptoms of insomnia which had a bad influence on their physical health (Rasheed & Hussein, 2019).

It was also concluded that the COVID-19 pandemic increased psychological problems symptoms (Medicines Sans Frontiers, 2020). It might also be true to consider the psychological issues during COVID-19, as being higher than after COVID-19. The current findings show a slight decrease in the five sub-dimensions of mental problems after the pandemic, meaning that some mental health symptoms can still be predicted among the participants. This might be linked the other psychological and social circumstances such as war, political conflicts, workload, and the economic crises ongoing in Iraq, resulting in mental health problems (Aljuboori et al., 2019).

Several researchers, including Abbas et al. (2018), Ibrahim and Wayyes (2016), and Price et al. (2006) have demonstrated that depression has became one of the most prevalent psychological symptoms among college students. The proportion of female first-year students with depression is twice as large as that of their male peers. Like other studies mentioned in the literature review, the current research points out that female students suffer from some of the symptoms of mental problems than male participants during and after COVID-19, which were 2.96 and 2.62, respectively. Although the first assessment shows that the female students suffer from stress symptoms more that the other sub-dimensions, which was 3.11, the final evaluation illustrated that the prevalence of insomnia was higher than the other sub-dimensions as the mean score of insomnia was more common among females than males, at 3.53. It is probable that girls are more likely than boys to experience depression.

In relation to marital status, the t-test analysis discovered no statistically significant difference between the scores of mental problems regarding marital status. The mean of the five sub-dimensions showed that married students were more affected than single students during and after COVID-19. This meant that married people suffered more symptoms of mental health problems than single students. This might be related to the impact of COVID-19 on the prevalence of spousal violence against wives before and during the pandemic, which was associated with the lockdown periods that affected family income. As a result, the married students experienced a higher rate of mental health

problems during and after lockdown (Mahmood et al., 2022; International Rescue Committee, 2023).

Concerning place of stay during and after lockdown, this study analysed a significant link between depression, stress, and insomnia symptoms in terms of place of stay. Students living in different parts might have different experiences with different levels of mental health problem symptoms. This indicates that place of stay might influence the minds of students, causing stress and insomnia, are more common in the city than in the countryside. For instance, the current results show that the mean score of stress and insomnia during the first assessment was higher than the other sub-dimensions, as observed in 3.25 and 3.02 correspondingly. The rate of symptoms of mental problems in the city across the five sub-dimensions in the first assessment was higher than in the second assessment by 3.02 2.47 points. It was found that the scores for OCD were lower than the other sub-dimensions.

It also indicated that the mean scores of the five sub-dimensions mentioned after COVID-19 decreased slightly. Similar to this study, previous investigators such as Al-Shawi et al. (2011), Jalal-Hemni, (2014), and Mohammed et al. (2021) concluded that the occurrence of mental problems among those people who lived in cities was higher than among the participants who lived in villages. These researchers reported that the prevalence of the symptoms of OCD in cities were higher than in rural areas. This means that Iraqi students who live in the city experience several more negative psychological symptoms than those who live in the countryside.

Despite the present results during the COVID-19 lockdown being higher than the after the pandemic, place of stay has an effect on the prevalence of mental health symptoms, therefore the outcomes after COVID-19 illustrate that the symptoms of mental problems are still occurring among college students because living in the city increases the symptoms of mental problems. This might be due to city life being full of social, psychological, and financial issues such as poverty, traffic, conflicts, stress, and a high workload (Adl et al., 2016; Sharifi et al., 2015).

Further outcomes discovered a statistically significant difference in stress and insomnia in relation to the socioeconomic status of the students ($p<0.05$). This study found that during and after the assessments, the mean score for stress and insomnia were

higher than depression, anxiety, and OCD. Despite that, the present findings show that the lower-class students suffer from mental problems at two different times. The prevalence of mental health symptoms after COVID-19 was observed to be (3.02, 2.60). During the first and final assessments, the lower-class students had higher symptoms of stress and insomnia as they scored 3.30, 3.16, 2.99, and 2.95, while the OCD score was highlighted as the lowest among the other sub-dimensions. In general, the participants' results at two different times showed that the lower classes seemed more affected than the other groups of students. This might be because the influence of the COVID-19 pandemic on the economic sector in Iraq excessively harmed people, as observed where prices for food increased and there was a lack of jobs, affecting the poor class of students and causing their mental health symptoms to raise during the pandemic. It is possible to consider that students living on a low income might experience some symptoms of mental health problems. This is due to the psychological effects of COVID-19 including stress and insomnia, caused by the quarantine (Lafta & Mawlood, 2023; United Nations Developing program in Iraq, 2020). Additionally, the results of the research established similar outcomes with the existing studies in a related field. Kebede et al. (2020) explored the relationship between mental health problems and socioeconomic status, and they highlighted that mental health problems are associated with socioeconomic crises.

Based on the assessments during and after COVID-19, this study found a statistically significant difference in the student's mental problems in terms of university. This study demonstrated that the highest rate of anxiety and depression symptoms was at Charmo University during the first and final assessments, scored 3.05, 3.04, and 2.91, 2.87, respectively. In contrast, the mean of stress and insomnia at Human Development University was higher than in other colleges (3.38, 3.21, and 2.95, 3.04). There was not a huge difference found between the mean scores of anxiety, depression, stress and insomnia during the two assessments, according to the university. The findings establish similar results to the previous literature review, for example, where Kathem et al. (2021); Rasheed and Hussein (2019), and Tahir et al. (2021) investigated the relationship between mental health problems and universities. They outlined that mental health problems and university are closely related, and this can be observed among the many medical students who worked hard in the department of the medical laboratory of science who spent a lot

of time completing tasks and assignments, as well as exams. Therefore, the present study found that mental health symptoms were more common at Human Development University than other colleges. Most participants were predicted to belong to that university, particularly the department of medical science. The outcomes of this study show the prevalence of mental health problems during lockdown, which might be related to before the COVID-19 pandemic, as a further factor that impacted the university. According to the previous literature, there were a few factors that influenced mental health problems during the lockdown; Ameen et al. (2019) and Ghareb and Mohammed (2017) outlined that online study during the lockdown was significantly linked to before and during the COVID-19 pandemic because in Iraq, a lot of university students could not use technology and e-learning technology dropped behind other Arab countries (Ameen et al., 2019; Ghareb & Mohammed, 2017).

The current study noted that the first semester or academic year was more challenging. The independent t-test results in this study were compared to the fourth semester and as a result, the second-semester students experienced higher levels of anxiety, OCD, insomnia and lower depressive symptoms due to the first-year students having difficulties, including staying distant from their family. Also, the present study indicated that the mean stress score of the first assessment was 3.09, the highest score out of the other sub-dimensions showing increased symptoms of mental problems.

Similar to the earlier research, first-year students who transferred from high school to university were more likely than students in other stages of study to suffer from mental problems as the outcomes of the second assessment show that the second-semester students have higher symptoms of stress after COVID-19, at 2.67. Although the mean scores of the first assessment were higher than the second, the similarities and differences were significantly related to the semester. This study answered the research questions that established that there was a significant difference between the scores of anxiety, depression and insomnia by the semester (p 0.05). Similar to the present study, Alemu (2014), Al-Hasnawi et al. (2009), Sadik et al. (2010), and Seidi (2020) investigated how the first year of the study was challenging and observed that the students who were far away from home and their close friends during the first academic year of study had a difficult time compared to other stages of study.

One-way ANOVA was used to examine the data. The results showed a statistically significant positive connection between their state of anxiety and their level of stress, OCD, and other problems. Carrell et al. (2011), Findley and Galliher (2007), Seedat et al. (2009), and Segrin and Flora (2000) investigated the significant links between the elements of psychological disorders. Each of these studies also examined how the poor quality of the study period, academic setting, and lack of sleep affected university students. The current findings revealed there to be additional factors contributing to mental health issues, such as a lack of counselling services leading to increased anxiety symptoms (Segrin & Flora, 2000); Hussein et al., 2022); Zivin et al., 2009). Counselling and other studies show that the most common mental problems affecting college students were symptoms of anxiety, depression, stress, obsessive-compulsive disorder, and sleeplessness. These results agree with the results of the current study (Abbas et al., 2018; Alalageri & Sobagaih, 2017; Al-Ghurairi & Khaffaf, 2020).

Additionally, the findings of the current study's descriptive statistics and the students' scores for the Mental Health Issue Questionnaire are reported in Table 7 a and 7 b, as predicted given how university students usually take prescriptive assessments. The Mental Health Problem Questionnaire presented the following scores: 2.93, 0.95 from anxiety, 2.91, 0.74 from depression, 3.08, 0.84 from stress, 2.81, 0.86 from OCD, 2.91, 0.81 from insomnia, and 2.93, 0.49 from the latter. Consequently. the mean gathered data obtained using the raw score may become complicated. The assessments were made simpler using rating scales. The mean scores were quite similar. The results show that during COVID-19, the mean scores for the five sub-dimensions of anxiety, depression, stress, obsessive-compulsive disorder, and insomnia were, 2.95, 2.91, 3.08, 2.81 and 2.91, respectively. The mean mental health scores during COVID-19 were 2.93 and it was 2.23 after COVID-19. However. the mean result during and after COVID-19 was less common than the others. Considering this, the average scores for depression and insomnia were similar, while stress was higher than the other sub-dimensions.

The current study has provided more details about the correlation between the five sub dimensions of some psychological problems. Although a few researchers, for instance, Gorczynski (2018), have discovered that university students experience mental health problems and have engaged in aggressive behaviours in the past year of their study,

other researchers have disagreed with Gorczynski. Boyce (2015), Eisenberg et al. (2009), Schwartz et al. (2015), and Winton (2008) claimed that the proportion of violence is less common among university students but it should be noted that the investigators showed that the amount of criminal behaviour among females was higher than it was for males, as well as the mental health problems occurring during adolescence, particularly between 12 to 24 years old. Concerning this view, the questionnaire did not design a dimension for criminal behaviour, so there were no symptoms of violence noted among the participants, and this research did not find criminal behaviour among the university students.

A questionnaire was developed for this study to assess the symptoms of mental health problems using books and articles. The scale measured the five sub-dimensions of mental problems and was called the KMHPQ-24. The mental problem symptoms were measured using a self-reported scale with 24 items adapted from the DSM-5, Beck's scale, Cleveland Clinic, Mayo Clinic, Sampson, Robinson, and Kessler (Cleveland Clinic, 2022; Kessler et al.,2002; Legg, 2017; Mayo clinic 2022), as well as Sampson and Felman (2020), the American Psychiatric Association, (2013), and Roth (2007) and Robinson (2021). The psychological health scale's internal reliability scores for Cronbach's alpha were determined on a factor level. The research identified scores of 0.735 for "anxiety," 0.731 for "stress," 0.731 for "insomnia," 0.700 for "depression," and 0.707 for "OCD." The further results of this index and the variables were good. The MHPQ -24 uses a reliable, constant, and valid self-rated mental health assessment that is equivalent and, in some circumstances, better, according to the findings of this validation study.

The results also show the other causes of the symptoms of mental problems; for example, because of long study periods, university students may face more depression. The most important common symptoms of depression were exhaustion because of mental and physical problems, a lack of enthusiasm, boredom, negligence, feelings of guilt and distrust, sadness, loss of interest, and a lack of enjoyment in social activities (Kathem et al., 2021). Concerning symptoms of anxiety, another study in Iraq was conducted by Al-Zaidi (2008), and he discovered the common symptoms of anxiety to include irritation, instability, muscle tension, and low mood.

According to the previous literature, it was found that COVID-19 impacted age, gender, university students, and economic and social circumstances which led to an increase of the symptoms of poor mental health (Knights & Almeida, 2020; United Nations Developing program in Iraq, 2020). This study found that further factors that might have affect the development of the symptoms of mental problems before and after the COVID-19 were conflicts, lack of facilities, financial issues, poverty, jobless, and university workload (AlAli, 2015; Better,2020; Kebede et al., 2020; Knights & Almeida, 2020). In the Iraqi community, several factors and variables before, during and after the COVID-19 pandemic impact age, gender, socioeconomic status, and further environmental issues in Iraq, such as conflicts and financial, social, and economic issues, and low standards of living, have caused more people to experience mental problems. These can affect an individual's mental health negatively. Concerning northern Iraq, the previous findings investigated how Iraqi individuals have a historical experience of traumatic experiences, deaths, insecurity, and violence as well as everyday difficulties including the supply and meeting of needs such as a lack of electricity, water, sanitation, housing, work, and a lack of health services. These issues have consequently led to the increase of some symptoms of mental problems among the Iraqi people (Medicines sans frontiers, 2020; Iraqi Ministry of Health, 2017; WHO, 2015; United Nations Developing program in Iraq; 2020)

CHAPTER V

Conclusion and Recommendation

Conclusion

The main goal of the current research was to assess the symptoms of mental health problems that university students in northern Iraq were experiencing during and after the COVID-19 pandemic. The theoretical review emphasized a standard description of mental health problems. There are similarities between the various definitions of mental health problems, regardless of their differences. For instance, most definitions mention that mental health problem is described as an individual's psychological problems that affect mood, behaviour, and their feelings related to realizing and achieving goals. The common sub-dimensions of mental health problems include anxiety, depression, stress, OCD, and insomnia.

The COVID-19 lockdown was a worldwide phenomenon that affected the students' social, emotional, and psychological well-being. The rate of mental health problem symptoms during the COVID-19 was higher than after the pandemic; this is due to the pandemic's impact on age, gender, place of stay, marital status, university, semesters and socioeconomic status. There were numerous causes and variables such as conflicts and financial issues, low standards of living, traumatic historical events, deaths, insecurity, and violence, a lack of basic needs being met, and a lack of health services in northern Iraq before, during and after the pandemic. These issues consequently led to the increase of some symptoms of mental problems among university students (AlAli, 2015; Ghareb & Mohammed, 2017; Kebede et al., 2020; Knights & Almeida, 2020; United et al. program in Iraq, 2020).

Because the Iraqi community has faced different social and demographic participants and economic crises which has led to increased psychological health problem symptoms., previous Iraqi researchers have investigated that the low quality of lifestyle among Kurdish people in northern Iraq leads to an increase mental health symptoms, which consequently leads to a decreased interest in social activities, feeling guilty or a sense of low self-esteem, disturbed sleeping, eating, and the inability to concentrate on tasks (Abbas et al., 2018; Ministry of the Health of Iraq 2019; Seidi, 2020; Iraqi Ministry of Health, 2015).

It is believed that mental issues are related to age. The current results indicate that the same age groups of participants during and after lockdown suffered from the symptoms of stress, insomnia and anxiety which increased with age. Similar to the findings of this study, another study demonstrated that mental health symptoms were significantly related to age. Young people were more affected than older people due to their fear of becoming sick and dying, lower social satisfaction and physical activity, all of which are a consequence of restrictions and isolation (Karim et al., 2020; Kathem et al., 2020; 2021; Quintiliani et al., 2022; Othman, 2020).

This research concludes that there was no statistically significant difference in the student's scores for the mental health problem questionnaire's general anxiety, depression, stress, and insomnia subscales regardless of gender (p 0.05). During the pandemic, females were more affected by the lockdown than males It can be observed that the symptoms of OCD were higher among female participants than male students, and this is due to females being more worried about cleanliness and viruses (Al-Ghurairi & Khaffaf, 2020). A few studies have concluded that there are other factors after COVID-19, particularly conflicts, workloads, and economic crises, resulting from mental health problems (Aljuboori et al., 2019). However, this study has previously represented several theories, and the most exciting theory that plays a significant role in analysing OCD is Freud's theory. He outlined that individuals suffer from the symptoms of OCD because of the conflict between the aggressive id and superego (Kempke & Luyten, 2007).

Other outcomes showed there to be no significant relationship between mental problems according to marital status, unlike the other demographic aspects of the participants. The rate of mental health problem symptoms after COVID-19 among married students was higher than among single ones, and there was not a huge difference between the prevalence of mental problems during and after the lockdown. This might be because of the impact of the pandemic on spousal violence. It was established that married students were more worried than singles because COVID-19 affected their income (Mahmood et al., 2022; International Rescue Committee, 2023)

Concerning place of stay, this study demonstrated a significant association between the sub-dimensions of mental health. The current results show the comparison of the two assessments and previous studies, and it was found that place of living affects

stress, depression, and insomnia. This might be because some participants were unhappy in their place of living. For instance, the students who lived in the city suffered more mental problems than those living in the countryside. Similar to this finding, previous Iraqi researchers have highlighted that city life has more social, financial and psychological issues; these together might increase the symptoms of mental health problems (Adl et al., 2016; Sharifi et al., 2015). This study agreed with the point because most participants came from the city. Jalal-Hemni (2014) and Mohammed and Mustafa (2019) explored the correlation between depression, anxiety and insomnia according to place of stay. Place of stay can affect the mind and cause mental problems and symptoms. This study also found some steps to deal with psychological symptoms; for example, doing different physical activities, taking a break, and doing daily exercise to reduce the symptoms of mental problems (Kathem et al., 2021; Hammami et al., 2022).

Workload and university department might influence anxiety, depression, stress, and insomnia. According to the university, there was a statistically significant difference between the students' mental health questionnaire and its subscales. The outcomes during and after the COVID-19 pandemic showed that there was not a huge difference between the symptoms of anxiety and depression but it should be well known that the symptoms of stress and insomnia during lockdown were higher than the second assessment. This might be due to related to the impact of CIVID-19 on online study as a result of the university students not using the e-learning technology very well (Ameen et al., 2019; Ghareb & Mohammed, 2017).

Additionally, further factors might be related to the university workload because most participants come from Charmo and Human Development. They study at the Medical Library of Science and this department contains many course books, exams, quizzes, and assignments that can lead to an increase in the symptoms of mental health problems. When the students cannot deal with the symptoms of stress and anxiety, it might slowly convert into depression symptoms. If they cannot cope with their stress, this might transfer to insomnia. It is considered that the relationship between the student's sub-dimensions was significant according to the university. Previous researchers have demonstrated that medical students seemed to be more affected by mental problems than the other participants due to always studying hard. For this reason, counselling services

and doing daily exercise was particularly needed to reduce the symptoms of mental health (Kathem et al., 2021; Rasheed & Hussein, 2019; Zaid et al., 2007; Chan, 2007).

The basic idea of the current research was to examine the influence of the semester on the assessment of the sub-dimensions among the participants. The students were assessed at two different times. This study examined the same sub-dimensions of mental problems during and after the pandemic. It also determined the signs of insomnia, anxiety, OCD and depression. They were found to be greater and similar after COVID-19; the prevalence of stress increased after the pandemic, while the symptoms of OCD less affected students. It can be predicted that lockdown is less correlated to an increase in the symptoms of OCD. The symptoms of stress became higher than during the pandemic. This might be due to the semester of study and the pandemic, both of which can be reasons for both the stress and OCD symptoms. Concerning the previous investigations, no studies previously conducted looked at the effects of study semester on mental health problem symptoms, while the current study dealt with it. Like the current study, several researchers such as Alemu (2014), Al-Hasnawi et al. (2009), and Seidi (2020) have investigated how the first year of study is challenging due the students being far away from family and close relatives, which might consequently lead to an increase in some symptoms of mental problem.

Another significant finding of the present research was when comparing the influence of socioeconomic status on stress and insomnia. Although the participants come from the low, middle, and upper classes, it was determined that the lower classes suffered more symptoms of mental health than the other classes. This might be due to the impact of COVID-19 on the economic sector in Iraq, affecting people. As a result, there is an effect on the poorest class of students and the mental health symptoms increased during the pandemic (Kebede et al., 2020; Lafta & Mawlood, 2023; United Nations Developing Program in Iraq, 2020).

As previously mentioned, more of a budget is necessary for educational activities, staff, campus facilities, and mental health activities. This money allows for both proactive and rehabilitative services provided through psychological and counselling support and increasing the support for university dormitories and campuses to help the students be mentally well. Additionally, the study used various sources such as books, articles, and

psychological theory; these scientific and psychological resources measure the symptoms of mental problems, including the five sub-dimensions: (anxiety, depression, stress, OCD, and insomnia). COVID-19 has harmed Iraqi society and increased the rate of mental health problems in recent years. The researcher developed the survey based on several common types of mental problem (KMHPQ-24). This instrument was created for measuring mental health, and the items were taken from the DSM-5, books, and articles. Although the questionnaire can help other Iraqi researchers examine the other symptoms of mental problems in the future, it is supposed that more tools are needed.

The K-MHPQ was designed very uniquely based on the most common available sub-dimensions. It showed that the rates of psychological problems were varied in Iraq. The survey examined several variables and factors including gender, age, marital status, education, cultural, economic, and social status that were associated with mental problems. The researcher found that females and married students had more symptoms of mental health problems than males and single participants, and that the new students who were transitioning from high school to college were more affected. Those who lived in the city seemed to have more mental problems symptoms. Similar to the current findings, other Iraqi investigators claimed that mental health problems developed during lockdown. Although the final findings displayed that the score for mental problems was lower than the first time, it was predicted that university students will still have the symptoms of mental problems. This is because of the other factors that might affect the Iraqi people, including social, psychological, and economic conflict, a lack of facilities, unemployment, and other variables, such as age, gender, marital status, socioeconomic of participants, and place of stay) might play a significant role in developing the symptoms of mental health problems. Also, the students were affected by their workload, especially during their studies and exams. As a consequence, psychological symptoms are found among university students.

This study also discussed several mental health theories and theories. The most significant theory was Freud's theory; this approach played a significant role in this study as part of designing the development questionnaire (MHPQ-24) and highlighting the symptoms of the five sub-dimensions of mental health problem. Freud's theory was helpful in developing the five sub-dimensions of the symptoms of mental health

problems. He thought that mental problems were more linked to childhood experiences and the unconscious mind, and his theory was limited when it came to treating mental health problems. Unlike psychoanalytic, for instance, according to behavioural theory, mental issues develop due to life events. There are two types of cognitive treatment including Sensory Desensitization Therapy (SDT), which can be used to treat anxiety disorders. The most significant type of behavioural therapy is cognitive behavioural therapy (CBT), which might be helpful at helping to treat the client's mental health symptoms. This study was supposed to show the benefits of CBT for use by counsellors and behavioural therapists to help the university students manage their fears and anxiety and to encourage the students to understand their feelings and emotions better (Beck, 2011; Craske et al., 2014; Goedderz, 2019; McLeod, 2015).

Adler's counselling theory was mentioned previously. It was thought to be a theory to encourage university students to achieve their goals and succeed. The most crucial stage in Adler's theory is the assessment which this study could benefit from in order to obtain information about the psychology of students at the present time (Adler, 2013; Carlson & Englar-Carlson, 2017). According to the previous findings such as those of Erikson's model and following the DSM-5, social circumstances and historical factors played a significant role in the development of anxiety, depression, OCD, and insomnia. Also, this study discussed the biological model as another cause of mental health problems. In the biological view, mental health is linked to the nervous system and brain but from a biological perspective, the diagnosis of mental problems should be made by doctors with regards to biological views. This study disagrees that genetic factors alone do not cause mental health symptoms.

Roger's model was used to treat the students' mental health because it helps them to develop their self-esteem and self-awareness. Maslow's theory can help university students feel satisfied. It is possible to consider this approach to be helpful to help Iraqi students because as previously discussed, Iraqi society is facing various issues such as a lack of basic needs, conflicts, and social issues, so if the students are able to satisfy their basic needs and follow the need for safety, belonging, and self-esteem which moves to self-actualization, consequently this might lead to improved mental wellbeing.

Although, in Iraqi society, the symptoms of the five sub-dimensions of mental problems seemed to be higher during the lockdown than after, both stress and insomnia were more common than in the literature review. Besides this, the further findings showed a significant decrease in total score after home quarantine; it was predicted that various factors and variables such as exam stress, financial difficulties, work pressure, university campus, and social and psychological situations were involved in developing mental problems symptoms, and that the demographic characteristics of the students played a significant role in the increasing mental health symptoms.

Finally, this study evaluated the signs of psychological problems by reviewing the issues faced by university students using first-hand information from a small sample of students in northern Iraq, followed by comparing and contrasting the results and using descriptive statistics, Pearson correlation, one-way ANOVA, frequency, and the independent sample t-test and turkey test. Additionally, this study discovered a significant difference between mental problems concerning gender. This demonstrates that the participants with mental health symptoms are likely to experience long-lasting mental health problems. It is also possible to argue that an increase in mental problem symptoms decreases the students' ability to gain academic success. This point might link to the previous definition of mental health problem where it is defined as an individual inability to deal with one's social life and circumstances as part of achieving goals. If the students' ability has decreased in an education setting, this means that they have the symptoms of mental problems. This study also investigated and found that counselling is a crucial way to help students resolve their social, emotional, and personal issues. The fact is that in counselling, the counsellor helps their clients face their issues objectively. The counsellor offers techniques for reducing and changing negative mental and emotional problems.

Recommendations:

The present study has some recommendations, which include the following:

· Because there was a lack of research on the symptoms of mental health problems among university students in northern Iraq, it is highly suggested to do more studies about mental health.

The KMHPQ-24 was insufficient to assess the students' mental health; further research from the qualitative study perspective is needed. It is recommended to use more assessments, tools, clinical diagnoses, and interviews to diagnose the symptoms of mental health problems.

·This research represents only one city in northern Iraq; it is significantly suggested that the other researchers expand to the other parts of Iraq to provide a whole picture of Iraqi society.

·This study only investigated Kurdish students in northern Iraq. It is highly suggested to involve other Iraqi ethnic groups, such as Arabic and Turkish students, to better generalize this large population.

·Because this study mainly focused on anxiety, depression, stress, OCD, and insomnia and ignored taking into account other elements of mental health, it is strongly recommended that future research on other dimensions of mental health after the COVID-19 pandemic be conducted.

·This study only included university students; it is strongly recommended to draw on other groups, such as secondary and high school students and teachers. The reason why future research should include different groups is because the findings may differ and be more significant.

·It is advised to use qualitative research to comprehend and discover the students' lives, experiences, actions, emotions, and feelings to inform future studies. The participant's experiences may be helpful to researchers if this is achieved.

·It would be a good idea for future research to concentrate on many aspects of the population and additional elements like the teachers' evaluations when marking the students' assessments, as it is these quiz scores and grades that can significantly influence the university students. It is highly recommended that the students be involved in physical

activities such as sports, swimming, relaxation therapy, and CBT. Consequently, they will be able to handle their psychological problems.

· Due to the symptoms of insomnia being higher among the other sub-dimensions, it is highly suggested that students have six or seven hours of sleep per night with healthy food in order to develop their mental wellbeing. If this occurs, the students may remember their studies gratefully.

·The findings establish that most university students have had extra courses, materials, quizzes, and exams, and too many deadlines. Therefore, it is highly suggested that they should pay more attention to completing their assignments and tasks, and prepare themselves well before exams or deadlines.

·The results show that although the COVID-19 pandemic officially passed two years ago, the other correlated causes in Iraq, such as financial, economic, psychological, and social problems should not be ignored.

·The demographic sample revealed that the students from the lower socioeconomic classes scored more severely for mental health issues. As a result, they must pay, which might be challenging. It would be a good idea if private universities in Iraq gave a discount. This suggestion could help the colleges and the Ministry of Higher Education in addressing the issue of tuition fees.

·It is strongly advised that universities use the individual and group therapy services offered by mental health and counselling centres. This is because counsellors can meet a student alone or in a class to address their mental health issues. The counsellors should be selected for the students who suffer from the symptoms of mental health problems.

·Next, the findings can be used to guide future studies on mental health problems in universities. The results can be helpful when designing strategies and plans that could assist society in managing the symptoms of mental health issues. College and high school students can use it to increase awareness. The information might be beneficial for educators and counsellors to help students deal with psychological issues.

·Lastly, the findings of this study demonstrate that mental health problems negatively influence students. Therefore, it is highly recommended for professional counsellors, the Ministry of Health in Iraq and the Ministry of Higher Education, lecturers, and family members to be informed as they can play a significant role in involving and building a

supportive academic setting that encourages the improvement of student mental health in order to develop the student's output, and help their academic success.

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Appendices

Appendix A

Scientific research ethic committee

Ethical Approval

YAKIN DOĞU ÜNİVERSİTESİ

10.03.2021

Dear Mrywan Abdulmajeed Mohammed

Your application titled **"Assessment of Mental Health Problems of University Students in Northern Iraq during the Covid-19"** with the application number NEU/ES/2021/865 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Direnç Kanol

Assoc. Prof. Dr. Direnç Kanol
Rapporteur of the Scientific Research Ethics Committee

Note: If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.

Appendix B

Demographic Questions

Some Questions for You!

My name is Mrywan Mohammed and I am a PhD Candidate at Near East University. I am carrying out a study which aims to investigate Mental Health Problems among University students, Kindly, I am asking you to answer the following to contribute to this study. Your personal information and identity will be kept confidential. You can withdraw from the study if you do not want to participate. Kindly, ask you teacher for any ambiguities regarding the questions. I do thank you all in advance.

Mrywan A. Mohammed
PhD Candidate at Near East University
Lecturer at Charmo University – Iraq

Section One: Demography age:

Email

Ex. …...201431@charmouniversity.org, …….16002933@univsul.edu.iq,

1. Age:

18 years old
19 years old
20 years old
21 years old
22 years old
23 years old
24 years old

2. Gender:

Male
Female

3. Place of stay?

Village
Town
City

4. University:

Charmo University
Sulaimani University
Human Development University

5. College

College of Education charmo uni
Medicals and Applied Sciences- Charmo
College of Basic Education – Sulaimnai uni College of Science
Sulaimani Uni College of Health Science- Human Dev Uni
College of Languages - Human Dev Uni

6. Semester

Second = First year
Fourth = Second year
Sixth = Third year Eighth = Fourth year

7. Marital status

Single	
Married Divorced	

8. Socioeconomic status

Lower class	
Middle class	
Upper class	

Appendix C

KMHPQ-24 – English

Anxiety (5 4 3 2 1)

I am feeling of restless or tense.

Having an increased heart rate

I am unable to stop or control

I have trouble sleeping

I am feeling weak or tired

Depression: (5 4 3 2 1)

I have lost interest in activities.

My appetite is much worse now

Feeling down, depressed, or hopeless?

Reduced appetite and weight loss or increased cravings for food and weight gain

I have thoughts of hurting myself and believe that I would be better off dead.

I have difficulty concentrating.

Stress, (5 4 3 2 1)

I do not enjoy my studies and believe this causes stress.

I feel that there are too many deadlines in my study / life that are hard to meet.

I have muscle aches and headaches

I feel discouraged about the future

OCD, (5 4 3 2 1)

I have to recheck the door locks, stoves and electrical outlets before I leave home.

I count the objects as I use in my life, such as the number of steps on a staircase, or number of lights, If i lose count, i go back and start again.

I am worried about my classmates, I think they are dirty, lazy and jealous.

Fear of being contaminated by touching objects others have touched

Sleep Disorder: (Insomnia), (5 4 3 2 1)

I have difficulty falling asleep at night.

It is difficult to pay attention, focusing on tasks or remembering

I wake up in the early morning

I am not feeling well-rested after a night's sleep.

I cannot concentrate in the Lecture because of lack of sleep at night.

(American Psychiatric Association, 2013; Beck et al., 1993; Cleveland Clinic, 2022; Kessler et al., 2002; Legg, 2017; Mayo clinic 2022; Roth, 2007; Robinson, 2021; Sampson & Felman, 2020).

Appendix D

Kmhpq-24 Questionnaire – Kurdish Language

Anxiety دڵەڕوکێ

1. هەست بە نائارامی و گرژی دەکەم.

2زیادبوونی لێدانی دڵم هەیە.

3ناتوانم کۆنترۆڵی خۆم بکەم

4.کێشەی خەوتنم هەیە

5.هەست بە لاوازی و ماندوێتی دەکەم

Depression: خەمۆکی

6. حەز لە بەشداریکردنی چالاکییەکان ناکەم

7. ئارەزووی خواردنم زۆر خراپتر بووە

8. هەست بە خەمۆکی و بێهیوایی دەکەم؟

9. کەمبوونەوەی ئارەزووی خواردن و دابەزینی کێش ، زیادبوونی ئارەزووی خواردن و زیادبوونی کێشم هەیە

10. بیردەکەمەوە ئازاری خۆم بدەم و باوەڕم وایە کە مردن باشترە

11. من بەزەحمەت تەرکیز دەکەم

Stress سترێس

12. چێژ لە خوێندن وەرناگرم و باوەڕم وایە ئەمە دەبێتە هۆی سترێس

13.هەست دەکەم لە خوێندن و ژیانمدا وادەکان یان دێدلاین زۆرن کە جێبەجێکردنیان قورسە

14 ئازاری ماسولکەو سەرئێشەم هەیە

15. هەست بە نائومێدی دەکەم سەبارەت بە داهاتوو

وەسواسی OCD

بەردەوام گومانم هەیە کە پێویستە پێش ئەوەی لە ماڵەوە دەربچم، قوفڵی دەرگا و سۆپا و دەرچەی کارەبا

16.بپشکنمەوە

17 شتەکان دەژمێرم وەک چۆن لە ژیانمدا بەکاری دەهێنم، وەک ژمارەی هەنگاوەکانی سەر پلیکانەیەک، یان ژمارەی گڵۆپەکان، ئەگەر ژمارەکەم لەدەستدا، دەگەڕێمەوە و دەست پێدەکەمەوە

18گومانم لە هاوپۆلەکانم هەیە و پێم وایە پیس و تەمبەڵن و ئیرەییم پێ دەبەن

19 ترس لە پیسبوون بە دەست لێدانی ئەو شتانەی کە کەسانی تر دەستیان لێداوە

Sleep Disorder: (Insomnia) کەم خەوی

20. شەوانە بەزەحمەت دەخەوم

21. بە زەحمەت سەرنج دەدەمە سەر ئەرکەکان و بە قورسی بیرم دێتەوە

22. بەیانیان زوو لە خەو هەڵدەستم

23. دوای شەوێک خەوتن هەست بە پشوویەکی باش ناکەم

24. ناتوانم تەرکیز بکەم لە پۆلدا بەهۆی کەم خەوی شەوانەوە

Appendix E

A letter by researcher for the English translator to translate the questionnaire from English to Kurdish Language.

Hello Dear: Dr. Emad

I hope you are fine

My name is Mrywan Mohammed and I am a PhD Candidate at Near East University. I am carrying out a study which aims to assess Mental Health Problems (MHPQ) among University students, Kindly, I am kindly ask you to translate this English version into Kurdish. Thank you for your recommendations.

Mrywan Abdulmajeed Mohammed
PhD Candidate at Near East University

سڵاو بەڕێز: دکتور عیماد

من مریوان محەمەد کاندیدی دکتورا لە بەشی سایکولوجی زانکۆی نیەر است- وڵاتی قوبرس، بۆیە تۆڕینەوەیەک ئەنجام دەدەم کە ئامانج بێوانی تێکچوونی نیشانەکانی دەروونی کە ٢٤ پرسیار لە خۆ دەگرێت لەنێو خوێندکارانی زانکۆ دوای ڤالیدەیشن کۆرزونا، بێویستم بە ڕای بەڕێزتانە وەك پرۆفیشناڵێکی بواری زمانی ئینگلیزی بە وەرگێڕانی ئەم ڕاپرسیە لە ئینگلیزیەوە بۆ زمانی کوردی.

لەگەڵ ڕێزدا .....

مریوان عەبدو المەجید محمد
مامۆستای زانکۆ
کاندیدی دکتورا سایکولۆژی - قوبرس

Appendix F

A letter by the English translator to translate the questionnaire from Kurdish Language to English.

English language translator support letter

To whom it may concern

I would like to inform you that as an academic professional of English language this questionnaire which is known as Mental Health Problem Questionnaire-24 (MHPQ-24) have been translated from English language to Kurdish language by me. This translation is done to be shared by participants for the purpose of conducting a research study in the field of psychology.

Name: Emad Mahmud Radha

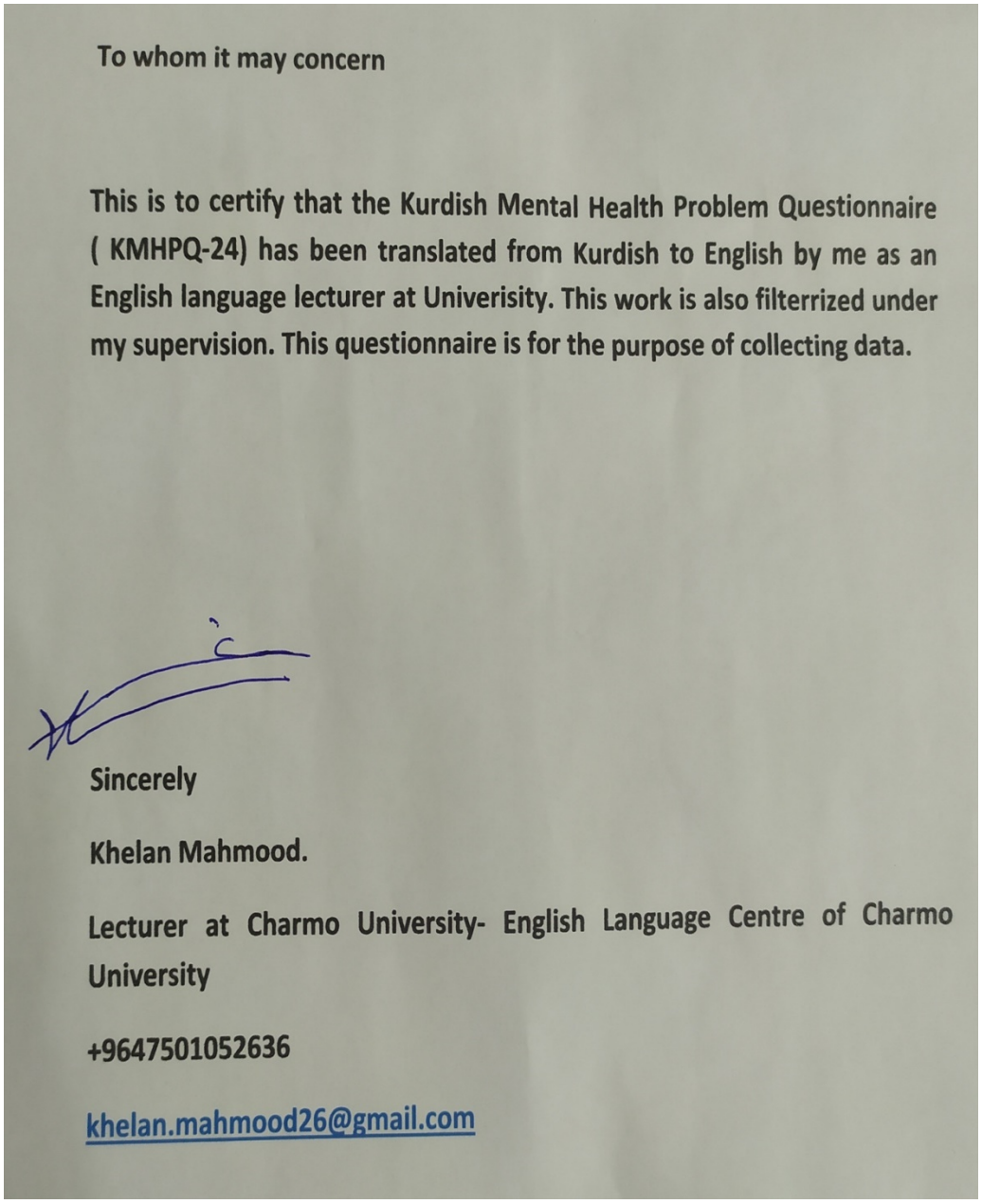
Email: emad.mahmud@ymail.com

Profession and position: PhD student in English language department /college of basic education/ University of Sulaimani

Signature:

Appendix G

A letter by the English translator to translate the questionnaire from English to Kurdish Language.



To whom it may concern

This is to certify that the Kurdish Mental Health Problem Questionnaire (KMHPQ-24) has been translated from Kurdish to English by me as an English language lecturer at Univerisity. This work is also filterrized under my supervision. This questionnaire is for the purpose of collecting data.

Sincerely

Khelan Mahmood.

Lecturer at Charmo University- English Language Centre of Charmo University

+9647501052636

khelan.mahmood26@gmail.com

Appendix H

A letter by the Professional English translator to compare the translated questionnaire

To whom it may concern

Sub: Support Letter

Rizgar A. Haji Mohammed

Email: rizgar.ahmed@knu.edu.iq
Tel: +964 (0) 7501415496

This is to certify that as a linguistic expert in the field of English language and translation I have gone through Mr. Mariwan's questionnaire (Mental Health Problem Questionnaire-24) concerning the translation issue. It seems that the translation of the items into and out of English language between English and Kurdish is quite satisfactory and reasonable and can be used for academic purposes.

If you need any further information, please do not hesitate to contact me.

Yours Sincerely,

Rizgar Ahmed Haji Mohammed (PhD Candidate in Applied Linguistics), Instructor at Knowledge University-English Department-Erbil

Appendix I

Psychiatric Report 1

To: Near East University

I am (Dr. Nashmeel Rasool HamahAmeen), I checked and read the Kurdish Mental Health Problem Questionnaire (KMHPQ-24), by (MRYWAN ABDULMAJEED MOHAMMED). The researcher assesses symptoms of mental health problems including: Anxiety, Depression, Obsessive compulsive disorder(OCD) among the university students. I agree that the questionnaire can be used with the participants.

This letter has been given upon the request the PhD Candidate. Please be informed.

Yours faithfully

Dr. Nashmeel Rasool HamahAmeen

FIBMS-Psychiatry, MBChB

Shahid Hemin Mental Health Hospital

Mobile No: 07700407347

Email: nashmilrasul@yahoo.com

Appendix J

Psychiatric Report 2

To: Near East University

I checked the Kurdish Mental Health Problem Questionnaire as known as (KMHPQ-24) by (MRYWAN ABDULMAJEED MOHAMMED). The researcher assesses the symptoms of mental health problems including: Anxiety, Depression, Obsessive compulsive disorder(OCD) and sleep disorder (Insomnia) among the university students . I agree that the questionnaire can be shared with the participants.

This letter has been given upon the request the PhD Candidate. Please be informed.

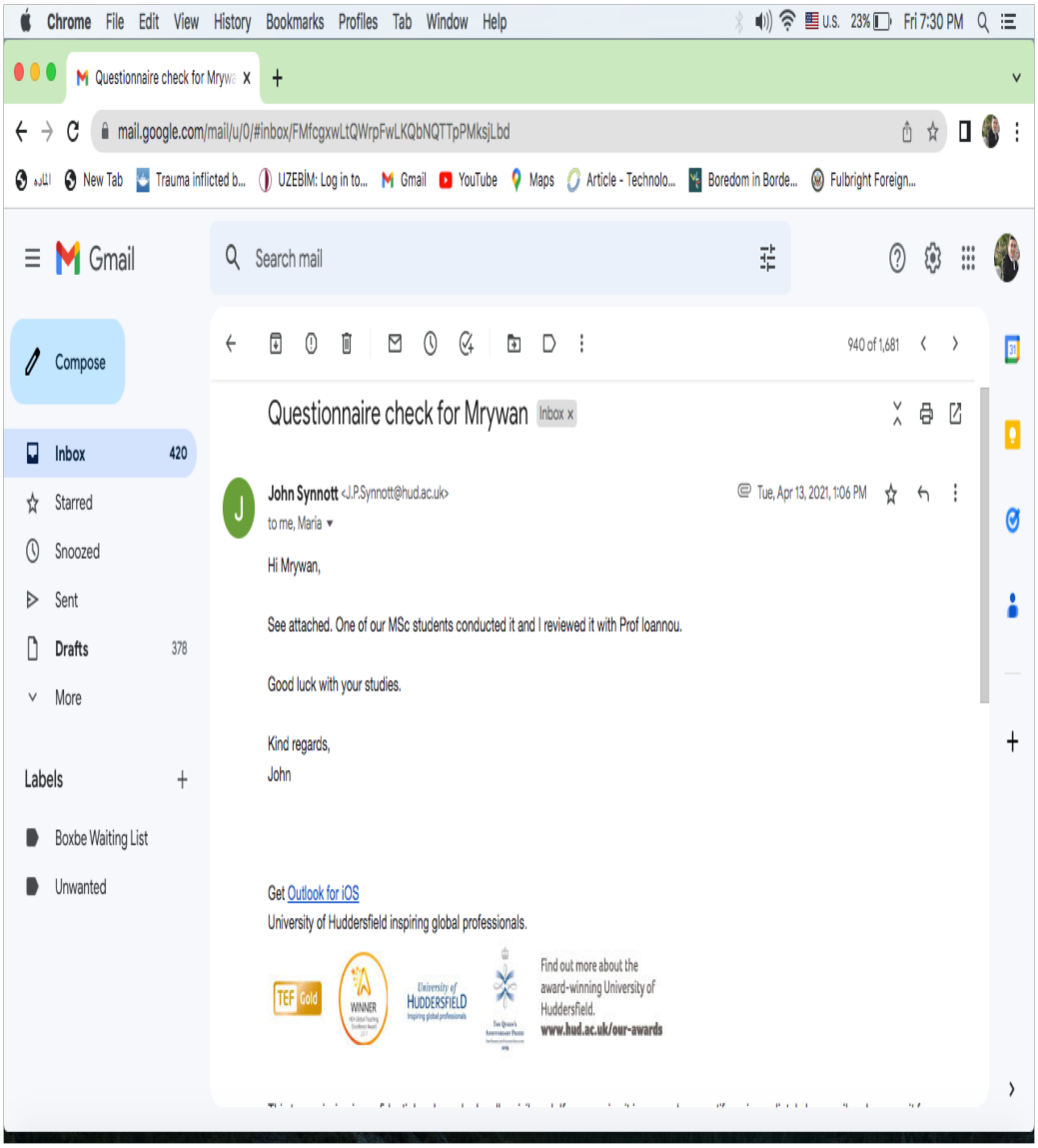
Your Sincerely

Zamdar Hamarasul Karim
MBChB, FIBMS. Psych
Lecturer at College of Medicine
Sulaimaniya University
Zamdar.karim@univsul.edu.iq

Dr. Zamdar H. Rasul Karim
Psychiatrist
F.I.B.M.S (Psych), M.B.Ch.B

Appendix K

Expert's Feedback 3 and 4



• I feel I am under stress as I do not enjoy my study.		x	I do not enjoy my studies and believe this causes stress.
• I am worry about my future	x		I feel discouraged about the future
• I feel muscle aches and headaches	x		I have muscle aches and headaches
• I think that I don't have enough time for many enjoyable activities out of University.		x	I believe that I do not have enough time for many enjoyable activities outside of university.
• I feel that there are too many deadlines in my study / life that are hard to meet.	x		
• I'm not enjoying my studies and believe this causes stress.	x		I do not enjoy my studies and believe this causes stress.
• I feel unconfident about my ability to handle my personal problems.		x	I do not feel confident about my ability to handle personal issues.
Obsessive Compulsive Disorder (OCD).			
• rechecking the door locks, stoves, electrical outlets, before leaving home.		x	I have to recheck the door locks, stoves and electrical outlets before I leave home.
• Fear of making errors while participating in the lecture.		x	I have a fear of making errors whilst participating in lectures.
• I try to count the objects as I use in this life, for example the num stairs or number of lights, when i lose it , i get back and try again.		X	I count the objects as I use in my life, suc number of steps on a or number of lights. lose count, i go back and start again.
• I am worried about my classmates, I think they are dirty, lazy and jealous.	x		
• Fear of using University Toilets		x	I have a fear of using university toilets.
• I am afraid of failing in achieving responsibilities with work, Class and University.		x	I am afraid of failing to achieve responsibilities within my work life, university and home life.
• Fear of being contaminated by touching objects others have touched	x		

SLEEP DISORDERS			
1. Been having difficulty in staying asleep once I fall asleep		x	I have difficulty falling asleep at night
2. I cannot concentrate in the Lecture because of lack of sleep at night.	x		
3. It is difficult to pay attention, focusing on tasks or remembering	x		
4. I wake up in the early morning	x		
5. I am not feeling well-rested after a night's sleep.	x		
6. I fall asleep when I am in the Class	x		
7. I'm not sleeping because I am worried about my study		x	I cannot sleep well due to being worried about my task

References:

1. Anxiety disorders. In: Diagnostic and Statistical Manual of Mental Disorders DSM-5. 5th ed. Arlington, Va.: American Psychiatric Association; 2013. http://dsm.psychiatryonline.org. Accessed Feb. 26, 2018.
2. Bbar, S. S., Beck, A. T., & Butler, A. C. (2012). Beliefs and personality disorders: an overview of the personality beliefs questionnaire. *Journal of clinical psychology*, *68*(1), 88-100.
3. Dibazi, H., Kessler, R., Müller, G. A., & Eschrich, K. (2005). Lysine 3 acetylation regulates the phosphorylation of yeast 6-phosphofructo-2-kinase under hypo-osmotic stress. *Biological chemistry*, *386*(9), 895-900.
4. Jackson-Koku, G. (2016). Beck depression inventory. *Occupational Medicine*, *66*(2), 174-175.
5. Muntingh, A. D., van der Feltz-Cornelis, C. M., van Marwijk, H. W., Spinhoven, P., Penninx, B. W., & van Balkom, A. J. (2011). Is the Beck Anxiety Inventory a good tool to assess the severity of anxiety? A primary care study in the Netherlands Study of Depression and Anxiety (NESDA). *BMC Family Practice*, *12*(1), 1-6.
6. Saeed, B. A., Shabila, N. P., & Aziz, A. J. (2021). Stress and anxiety among physicians during the COVID-19 outbreak in the Iraqi Kurdistan Region: An online survey. *PloS one*, *16*(6), e0253903.

Appendix L

Expert's opinion (5)

Hi Mrywan

I read the mental health problem questionnaire for university students. I suggest to change two questions, the first question is related to OCD, it is not allowed to say: I can't use university toilets because it is dirty, and then, in Stress section you have to edit question, I am very stress because my financial issue is related to university debt. So please change these 2 questions, otherwise, I agree that the survey can be sent to university students.

Salih Ahmed Hama

Assistant Professor

Dean of college of Health Sciences

Salihhama@uhd.edu.iq

Appendix M

Researcher's Request for the expert

Dear Dr. Synnott

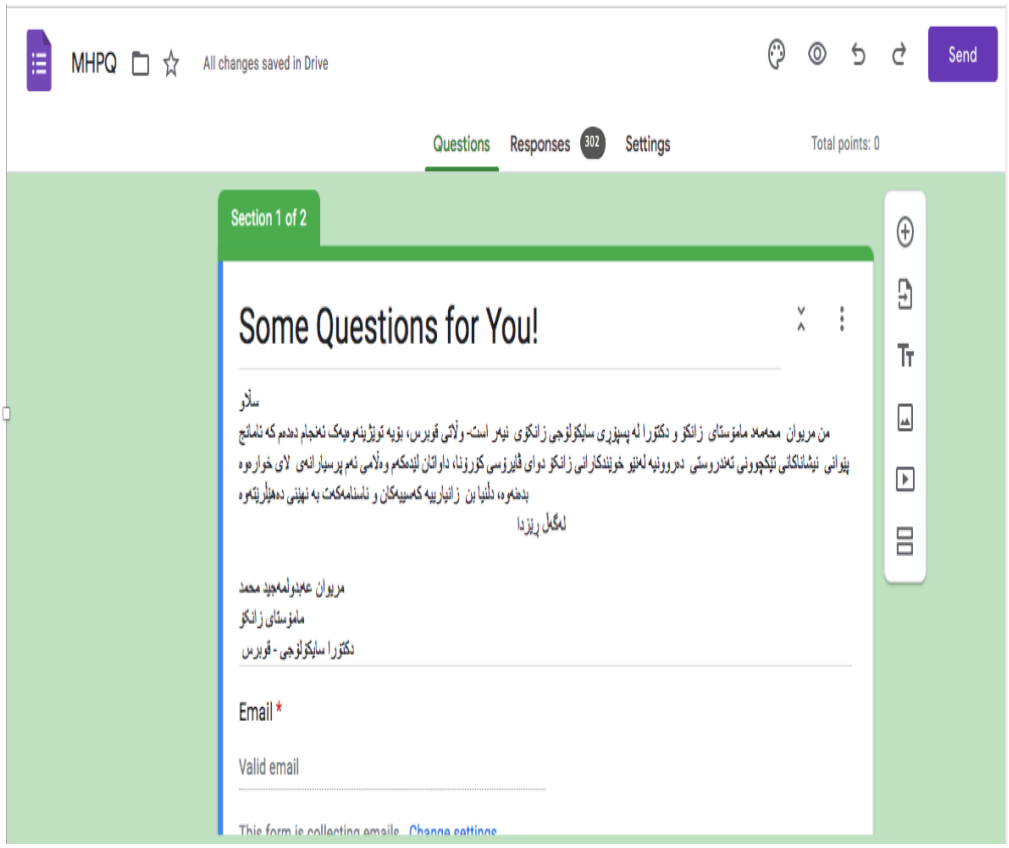
I am carrying out a study which aims to investigate the assessment of mental health problem symptoms for University students in northern of Iraq. Kindly, I am asking you to review the questions as it is needed for my study so as to be more reliable. You can kindly find the questions in the attached file below. I do appreciate any changes. I highly thank you for your help.

I am waiting for your positive response.

Sincerely,
Mrywan Mohammed
PhD Candidate at Near East University in Northern Cyprus

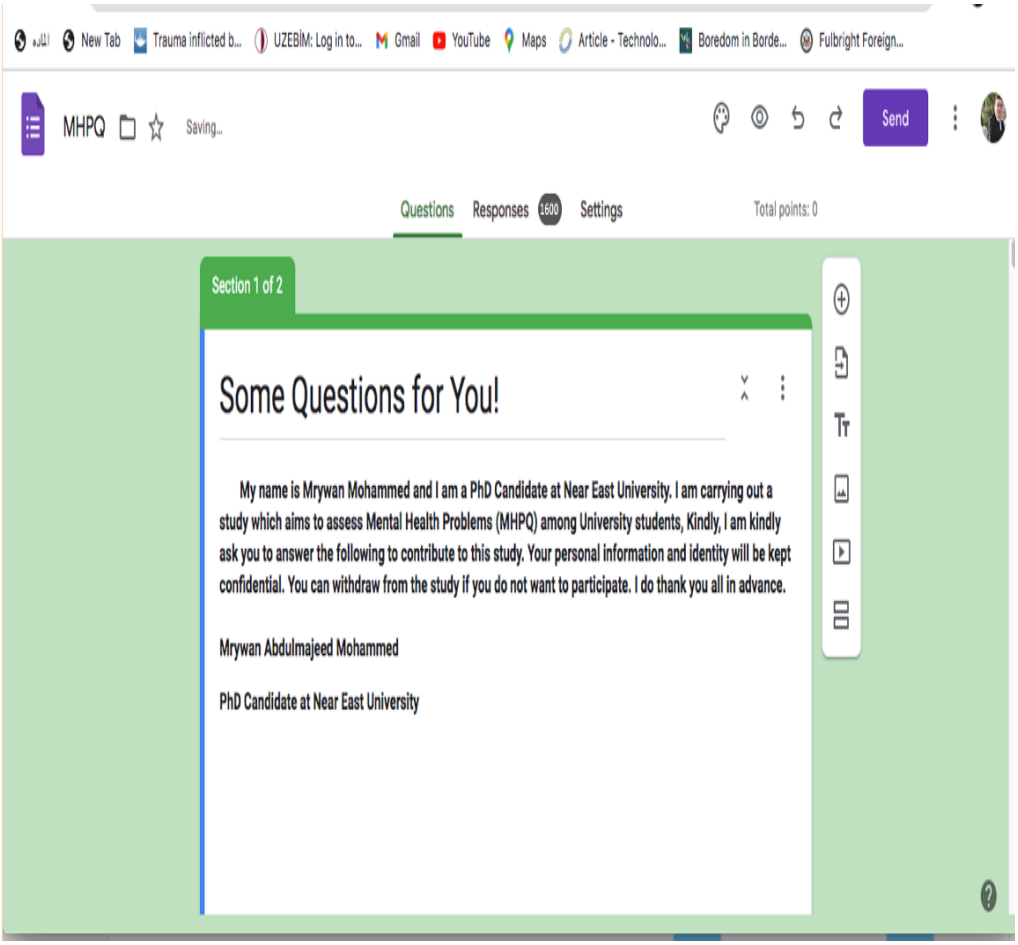
Appendix N

Google form (pre-test) with 250 responses of university students



Appendix O

A google form and 1600 responses during the COVID-19 lockdown



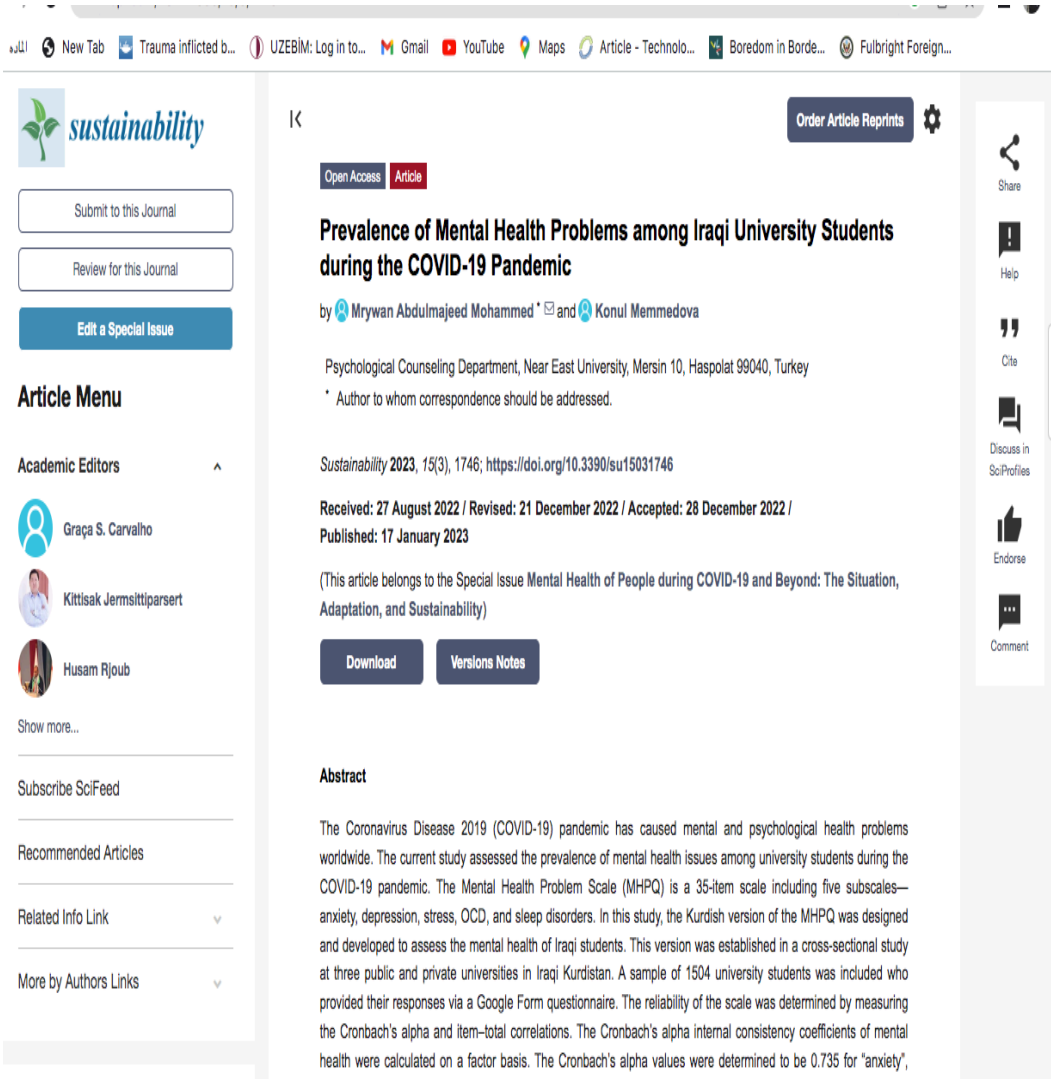
Appendix P

Shows a google form and 464 responses after the COVID-19 lockdown

Appendix Q

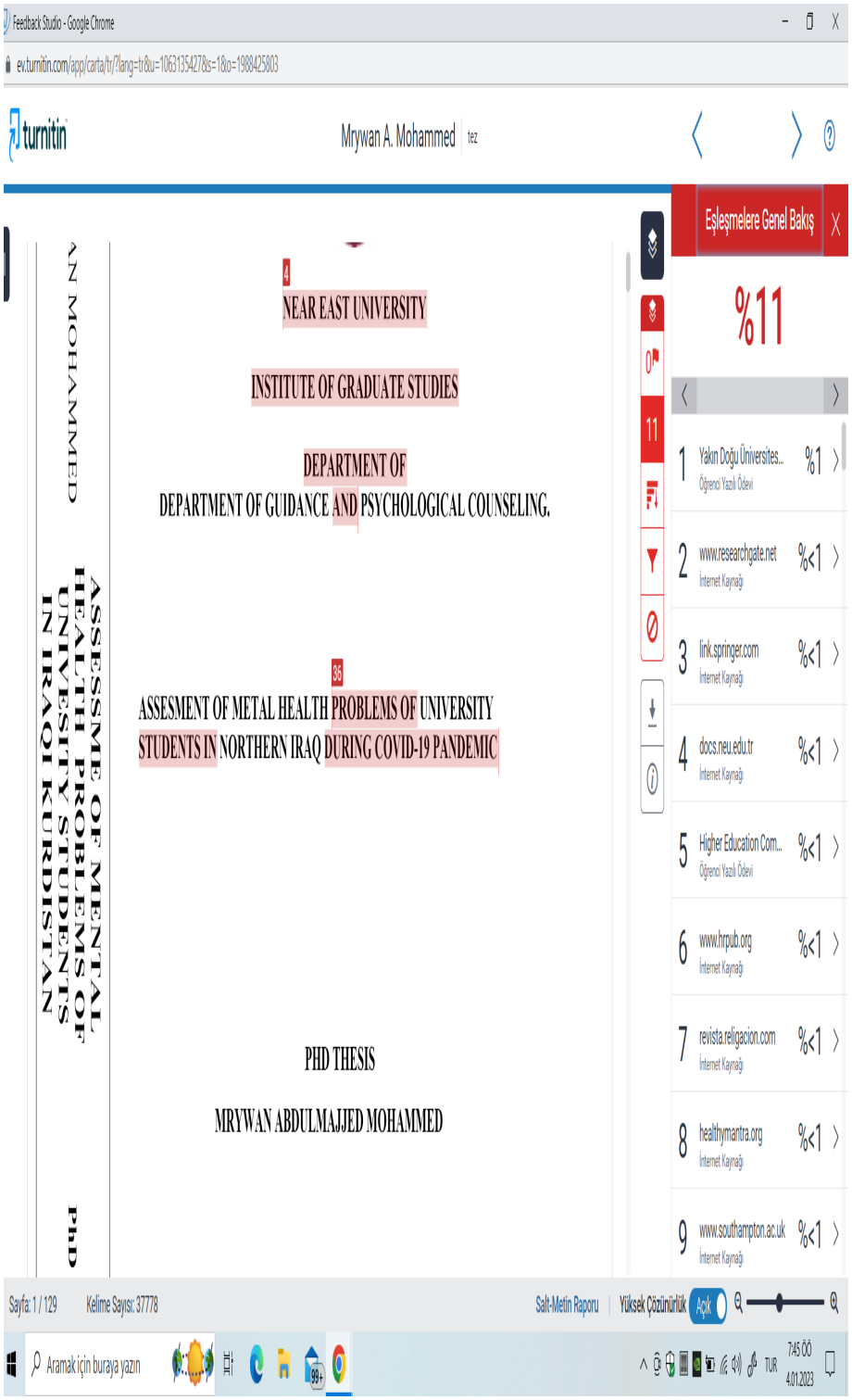
Acceptance Letter by Sustainability (Journal)

The article which is a part of the thesis which has been published by Sustainability Health, Well-Being and Sustainability Journal.



Appendix R

Plagarism Report



Appendix S (CV)

Curriculum Vitae (CV)

Mrywan A. Mohammed

Personal Information

Sulaimani, Chmachamal, Kurdistan- Iraq
009647501548375
mariwan.mohammed@charmouniversity.org

http://surl.li/hspju
Wats up: 00964 750 1548375
Sex Male. Date of Birth 1/1/1988
Nationality Iraqi

Work Experience

4/2021- 06/2021	Lecturer & Special Education Department Coordinator
4/2021- 07/2021	Department of Health Sciences, Medical Laboratory Science. Human Development University, Sulaimani- Iraq – Private Service. (https://abc.uhd.edu.iq/web?#home).
5/2021-10/2022	I visited and delivered weekly English lectures on Psychology at the School of Health Sciences.

Head of Family Counselling Unit at Zhinia Institution for Family Education – Chamchamal.

10/2014-05/2018

Department of Psychology, Charmo University, Chamchamal, Iraq– Public Service.

I prepared and delivered weekly lectures in English on the subjects of "Counselling and psychological health", "Educational psychology", and "Developmental psychology."

I visited and delivered lectures weekly on Counselling & Psychological Health at the Faculty of Science, Mathematics and Computer of Raparin University in Iraq (http://www.uor.edu.krd/en/)

I regularly supervised undergraduate students to improve their academic performance by assessing their work.

I lead the creation and function of the "Genocide Research Center", which has produced pioneering research in the psychology of genocide.

I participated in and chaired monthly staff meetings to organize the general administration of the department.

I co-organized, attended and spoke at various conferences and seminars, for example, the 1st International Conference on Contemporary

Education for Psychological Security, the 2nd International Conference of Natural Sciences (https://bit.ly/2T4EK0k), 1st International Conference on Kurdish Genocide (Doz Organization - Anfall Monument)

01/2011-02/2012 **Psychologist**

Shorsh high school, Chamchamal, Iraq – Public Service

I worked with high school-aged children listening to their concerns about academic, emotional or social problems

I helped students process their problems and plan goals and action through promoting positive behaviour's and psychological testing

I counselled parents and teachers on learning difficulties, behavioural, familial and social problems, and abuse and communication

I researched and implemented behavioural management techniques and learning programs

04/2008-09/2010 Radio presenter

Yakgrtu Radio, Kirkuk, Iraq - Private sector

I organized and presented every week a one-hour program regarding psychological issues and social problems

Interviewing guests via the telephone or in person

Education and Training

09/2019 – 06/2023 **Doctorate of Psychological Counselling (PhD)**

-Near East University, Cyprus, Nicosia
-Psychological Counselling through Groups
-Counselling in Practice, Client and Psychotherapist.
-Communication within Family
-Developmental Psychology, Approaches
-Theory of Personality
-Child & Adolescence Psychology
-Education for Learning
-Seminars in Psychological Counselling and Guidance
-Psychopathology- Abnormal Psychology
-Child Psychopathology
-Mental Health Assessment of University Students

08/2013
09/2014

Master of Science in Investigative Psychology (MSC)
Huddersfield University, Huddersfield, UK
Graduated with a GPA of 2.6/4.0 (Merit)
Investigative Psychology for Violent Acquisitive & Sexual Crime
Clinical Forensic Psychology.
The Psychology of Genocide.

Papers: A. Post-Traumatic Stress Disorder (PTSD) in Kurdish Women Survivors of Genocide.
B. Mental disorders among offenders of genocide.
Dissertation: The psychology of Genocide: The Psychological Impact of Genocide in Northern of Iraq.

10/2006 – 07/2010 **Bachelor of Psychology (BA)**
Sulaimani University, Chamchamal, Iraq
Graduated with a GPA of 76/100
Ggeneral Psychology, Social Psychology, Educational Psychology, Methods of Education, Adolescence & Empirical Psychology, Mental Health, Research & Practicing & Observation
Papers: A. what are the changes of Adolescence and Puberty?
Dissertation: Inferiority assessment for Kurdish young women survivors of Genocide

Mother tongue Kurdish - Sorani

Other language

	Lis	Rea	Spo	Wri
English	C1	C1	C1	C1
Arabic	C1	C1	B1	B1

Personal Skills

Communication skills: Presentation, public speaking, negotiating, interpersonal, team work, conflict management

Organizational skills: Multitasking, Effective time management, leadership, problem solving,
Other: Microsoft Windows & Microsoft Office independent user, Driving license

Additional Information

Publications

-Mrywan, Mohammed. “Prevalence of Mental health problems among Iraqi University students during the COVID-19-19 Pandemic. *Sustainability* 2023, *15*(3), 1746; https://doi.org/10.3390/su15031746

-Mrywan Mohammed, "The Psychology of Genocide Case Study: eyewitness accounts in Kurdistan, Survivors of Kurdish Genocide", 2017, Noor Publishing < https://amzn.to/2XNR3Nq>

-Aljabari Mrywan Mohammed, “Inferiority assessment for Kurdish young women survivors of Genocide”, 2011, Karo Publishing

Seminars

CEL 2016-2018, Charmo University (https://bit.ly/2Xr9YO1)

- The Psychological impact of Genocide on Survivors 5/10/2016
- Individual Differences 1/16/2017 Seminar Hall
- Developmental Psychology. Pre-school. 2/10/2018-
- Adolescence, Puberty, Early Adolescence, Seminar Hall 2/13/2018-
- Problems of Adolescence, a guidance for parents, 2/15/2018

- Sexual disorders 2/18/2018
- Eating Disorders (Anorexia, Bulimia) 2/20/2018
- Body Language in Classroom. 3/4/2018
- Mental Disorders (Schizophrenia) Types, Symptoms, Causes, Prevalence. 5/21/2018

Memberships & Certifications

-Bridge for Researchers in Danger Going to Europe, Training for Researchers, Thessaloniki, Greece (https://bit.ly/2XqpkCe) 2019.

-Membership at the British Psychological Society

- Membership at the Foresight for Research and Social Issues.
- Membership, Doz Organization, for Survivors' Rights in Kirkuk, Iraq
- Council of Europe - European Qualification Passport. No 18141
- Trainer. Certificate by TOT. Training of Trainers
- Awarded PhD Diploma by NEU - Cyprus