A Project entitled

Understanding of Depression and Anxiety of Education-majored Students at the Education University of Hong Kong

Submitted by

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Declaration

I, ***TAN Qing Vicky***, declare that this research report / project report represents my own work under the supervision of ***Mr. WONG Wai Kin Joseph***, and that it has not been submitted previously for examination to any tertiary institution.

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1. Introduction

1.1 Research Background

In a mordern society where psychological issues are prominent and the trend is on the rise, particularly anxiety and depression, it is neglectable to pay attention to future teachers' mental health for better catering education to the next generation. Mental health, as defined by WHO (2022), is the integration of emotional, psychological, and social well-being. It is a vital aspect of overall well-being that allows individuals to effectively manage life's challenges, harness their potential, and contribute to their communities. It plays a fundamental role in decision-making, fostering relationships, and shaping our world. Mental health is not only a fundamental human right but also essential for personal growth, community well-being, and socio-economic development. Also, Mental health conditions encompass a range of mental disorders, psychosocial disabilities, and other mental states that are characterized by notable distress, impairment in functioning, or a potential for self-harm. Among these, depression and Anxiety are common mental health conditions.

According to studies conducted in various affluent nations, it has been revealed that approximately 25% of individuals in their adult years from these communities exhibit symptoms that can be classified as a diagnosable mental disorder (Ryan et al., 2015). Also, the surge in student suicides has sparked immense concern for adolescent and

young adult mental health (Lun et al., 2018). Furthermore, reported by the American College Health Association (2018), depression and suicidal thoughts are quite common among college students - it was found that 39% of college students have reported experiencing depression that impacts their functioning, with 12% indicating they have had serious suicidal thoughts within the past year.

1.2 Significance

1.2.1 Young Adult Mental Health in Hong Kong

Young adults are among the populations most vulnerable to the risks of mental illness. According to WHO (2020), worldwide mental health reform faces an ongoing challenge, and Hong Kong is not an exception in facing an increasing number of suicide cases due to mental disorders and diseases. In a psychometric study (n=1119) of eight governmental funded universities in Hong Kong, 767 (68.5%) respondents had mild to severe symptoms of depression, and 599 (54.4%) respondents had mild to severe anxiety symptoms (Lun et al., 2018). A Mental Morbidity Survey reports of mental illness in Hong Kong showed that combined anxiety and depression were the most common mental problems in Hong Kong, and a strong link was established between anxiety and depression (Lam et al., 2015).

1.2.2 Teacher's Mental Well-Being

Also, teacher's mental well-being deserves more attention, as they may undergo much stress while having significant impacts on their students. It was indicated that there is a broad range of stress that teacher educators undergo in their programs (Deasy et al., 2014a; Stormont & Young-Walker, 2017). In Hong Kong, studies have demonstrated a fourfold greater frequency of episodes of depression among teachers (12.5%) versus the average population (2.9%) (Hong Kong Professional Teachers Union, 2018; Lam et al., 2015). Another empirical evidence has suggested an impact of stress on teachers' psychological states, whereby highly stressful instructors reported lower self-efficacy (Klassen and Chiu 2010) and inefficacy when managing classrooms (Brouwers and Tomic 2000). Besides, in a cross-sectional study of preschool educators, emotional exhaustion resulting in mental illness was correlated with less emotional support at educator-student interactions (Jennings, 2015). Therefore, the psychological well-being of these individuals is an imperative need of concern because better well-being also signals a warmer level of mindfulness in teaching (Tsang et al., 2021).

In short, Hong Kong young adulthood may be facing mental conditions, and education major students are one of them who may be affected vitally. There are psychological studies on cross-universities in Hong Kong, and the education students at other schools worldwide, but research related to education-majored students at the Education

University of Hong Kong seems to be lost in understanding, which is the gap. Given the fact that teachers play an important role in influencing the future education of the next generation, and it is suggested by Werner-Seidler et al. (2017) that schools present an opportune environment to implement prevention programs that can counteract the trajectory towards dysregulation, refining school-based prevention programs can alleviate mental health burdens, encourage mental resilience and promote positive public health outcomes, the present study is significant in providing grounds for better preventive measures. In essence, the present study sought to gain perspectives on the depressive and anxiety illnesses of education-major students at the Education University of Hong Kong (i.e. eduhk), thereby proposing guidelines for tailoring corresponding psychotherapeutic remedies.

1.3 Research Aims and Objectives

1.3.1 The Central Research Question

How and to what extent do the selected factors relate to depression and anxiety among education major students at eduhk?

1.3.2 Sub-questions

1) How and to what extent do academics, lifestyle, and interpersonal relationships affect mental health?

2) Do other possible factors (e.g. degree of study and gender) impact students' mental health differently?

1.3.3 Aims and Objectives

The present study aims to examine the selected factors' relevancy with depression and anxiety respectively, and the possible mechanism affecting education students' mental health at eduhk. It is dedicated to finding out to what extent and how academics, lifestyles, and interpersonal relationships affect education students mentally, and if there are differences between different personal categories (e.g. gender and degree) in relation to mental conditions.

2. Literature Review

2.1 Literature Searching Strategy

In this study, relevant literature was primarily searched using keywords in both Google Scholar and the Eduhk library. If the literature cited other relevant sources on the current research topic, those sources were also accessed and directly cited as necessary. During the literature review process, it was observed that the topic being studied has been widely discussed for many years, and the majority of findings yielded similar results in terms of correlation analysis. The research direction in the field has not shown significant fluctuation or variation, with only a few data updates. Therefore, it is believed that there is no need to limit the literature search to the past ten years. Additionally, in the discussion section, there are some topics, such as the characteristics of Eastern and Western cultures, which are not rapidly evolving or changing. Therefore, the present study will include literature from the past 20 years.

2.2 Background - Rising Mental Problems Worldwide

Mental health issues have been rising and getting more serious problems worldwide and the number of young adults who are struggling with mental issues, especially depression and anxiety, is excessively huge. For instance, depression has been a severe mental issue among university students (i.e. 28.4% in China), who were facing excessive stress due to

academics, change of accommodation and lifestyle, turning out failure in life and learning, or even suicide (Gao et al., 2020). In a college in Chongqing, the number of depressions even reached 57.5% (Shao et al., 2020). Also, there was a cross-sectional survey conducted by Islam et al. (2020) included 400 freshman students aged from 18 to 23 years old residing at Jahangirnagar University (in Bangladesh) and findings suggest that moderate to extremely severe depression and anxiety disorders had a prevalence of 69.5% and 61%, respectively. Even worse, Asif et al. (2020) identified 88.4%, 75% and 84.4% frequencies of anxiety, depression and stress, among college students in Sialkot, Pakistan, respectively.

2.3 Academics

Academic stress was found a positive correlation with mental health illness (Agnafors et al., 2021; Nyayieka et al., 2020; Panayiotou et al., 2019). Students are prone to psychological distress under academic pressure (Van Zyl et al., 2017). As revealed by Chan and Sun (2021), an association was revealed between the duration of a program and the level of negative faith, symptoms of depression, anxiety and stress. For instance, it was observed that students who attended a 5-year or medical program displayed higher levels of awfulizing beliefs and emotional problems (Chan & Sun, 2021). In China, medical students' academic internships have been linked to depression due to excessive workloads in both preclinical and clinical subjects, increased tension and worry about

their future careers (Shao et al., 2020), and the pressure of laboring in an unfamiliar setting, with little oversight, and of witnessing pain, suffering and mortality (Mahroon et al., 2018). Likewise, in a practice study, education students were reported to undergo higher levels of depression and anxiety (Zhu, 2017), particularly at the start of the first semester of the first year (Bewick et al., 2010). Also, AlAzzam et al. (2021) ssuggested that Jordanian students with average or below-average academic performance encounter higher levels of anxiety and depression than their peers, primarily due to their fear of failure, high parental expectations and a strong desire to achieve personal goals.

2.4 Lifestyles

Research showed that being depressed has been linked to engagement in unhealthy behaviors, such as frequent cigarette smoking (Birk et al., 2019), excessive alcohol consumption, tobacco smoking, unhealthy diet, lack of adequate physical activity, and insufficient sleep (Mofatteh, 2021). According to Jao et al. (2018), students who indicated involvement in various health risk behaviors were more prone to reporting lower levels of mental well-being. The level of physical activity, as suggested by Mofatteh (2021), can be a deciding factor out of all. Studies have indicated that there is a correlation between low physical activity and an increased risk of depression (Mammen and Faulkner, 2013; Teychenne et al., 2010). Additionally, a number of meta-analyses of data from at least 3,540,450 person-years revealed an association between lower

cardiorespiratory fitness (a measurement of physical inactivity) compared to high CRF and a 64% higher risk of depression (Kandola et al., 2019; Schuch et al., 2016a). Furthermore, according to Hamidah et al. (2015), exercise has numerous mental health benefits, including reducing depression and anxiety levels by diverting attention away from their sources. Also, when a person does physical exercise, the neurotransmitter concentration increases in the brain by stimulating sympathetic nerves and the production of endorphins, which assisting regulate emotions (Hamidah et al., 2015).

2.5 Interpersonal relationships

In light of Chi et al. (2020) research, college students, exposed to interpersonal relationship pressure were at higher risk of mental health issues. Peers play a crucial role in supporting students by providing a sense of community, acceptance, and friendship (Bissonette & Szymanski, 2019), while youths reporting relatively high rates of injury by peers at school have a worse mental health profile (Long et al., 2021). Additionally, on the basis of the weight of social status during teenagers (Bowker & Ramsay, 2016; Sweeting & Hunt, 2014), it was anticipated that the popularity and quantity of friendships among peers would be positively linked with having better mental health. However, a contradictory statement was claimed by Long et al. (2021), that there was no association between peer popularity or friendship network size.

Furthermore, surveys revealed a higher rate of depression and anxiety among students who were living alone or in poor relationships with a romantic partner or classmates or friends (Long et al., 2021; Shao et al., 2020). Also, prior research done by Kwong et al. (2019) has established the link between bullying and depression, and the study reveals that being bullied can have both immediate and long-term consequences, such as persistent depression. In particular, LGBT groups were more fragile than other students, with the fact that they were exposed to a higher probability of being discriminated against and embattled, and these aggressions were positively related to depressive symptoms (Bissonette & Szymanski, 2019).

2.6 Literature Summary

Mental problems have been a rising issue worldwide (Asif et al., 2020; Gao et al., 2020; Islam et al., 2020; Shao et al., 2020), and Hong Kong students are not an exception (Chan & Sun, 2021; Ng et al., 2020).

As pointed out, stress on academic-related things negatively affects mental health (AlAzzam et al. 2021b; Chan & Sun, 2021b; Liu et al., 2019; Shao et al., 2020; Zhu, 2017). Physical exercise also can be seen to have a strong correlation with mental health. The fewer exercises done regularly, the higher possibility of the mental issues emerging,

and vice versa (Birk et al., 2019; Hamidah et al., 2015; Mammen and Faulkner, 2013; Teychenne et al., 2010). Also, it appears that companionship can play an essential part in psychological well-being. A student who has a relatively bad relationship will have a higher chance of depression and anxiety (Bissonette & Szymanski, 2019; Long et al., 2021; Shao et al., 2020).

Although mental issues can be associated with many factors, after reviewing the literature, it can be seen that academic, lifestyle, and interpersonal relationships were the most common ones and have been a heated discussion. As such, the present study is mainly examining the association between mental health conditions and these three aspects.

3. Research Design and implementation

3.1 Research Design

A cross-sectional study design was employed. This methodology was stimulated and adapted from Lun et al. (2018). The research involved three sets of questionnaires: the 9-item Patient Health Questionnaire (PHQ-9) to screen for depressive symptoms, the 7-item GAD scale (GAD-7) to screen for anxiety symptoms, and a socio-demographic

questionnaire to identify participants' personal and characteristics. All applied the Likert scale. The PHQ-9 and GAD-7 were validated instruments for the evaluation of depressive and anxiety symptoms amongst the general population in Hong Kong. Both used a scoring system to determine the severity of symptoms (Lun et al., 2018). The socio-demographic questionnaire asked 1) respondents' personal and characteristics (e.g. study year), 2) selected specific factors questions (i.e. the academic, living styles and interpersonal relationships), and combined open-answer questions with pre-set options. The survey will be available in both English and Chinese versions. Participants will read an ethical statement granted by The Education University of Hong Kong before agreeing to participate. They will then complete the questionnaires. Participants will be informed that the questionnaire cannot be returned after submission.

3.2 Participants

100 eduhk students will be involved. They are required to fulfill the conditions listed below:

1) Current students

2) Majoring in education where prepare them to be a future teacher

3) Commencing on undergraduate or taught postgraduate degrees study (associate degree and doctoral degree are not acceptable)

3.3 Data Analysis

3.3.1 Anxiety and depression level

According to PHQ-9, a score of 0-9 was defined as relatively mild (with a non-minimal level score of 0-4), a score of 10 to 14 as moderate, and a score of ≥15 as relatively severe (with severe depression score of ≥20).

According to the GAD-7, a score of 0-9 was defined as relatively mild (with a non-minimal level score of 0-4), a score of 10 to 14 as moderate, and a score of ≥15 as severe.

3.3.2 Correlational Tests

The data were analyzed using IBM SPSS Statistics (Version 27) with the application of Spearman and Chi-square tests. A statistical significance level (p) of .05 was chosen for determining significant differences. A correlation coefficient (rs) of .5 was considered indicative of a strong correlation.

4. Result

All the potential participants were initially approached in February 2024 on campus at the Education University of Hong Kong. In total, 100 education-majored students completed questionnaires. These students fulfilled all inclusion criteria for being survey participants.

Table 1 demonstrated the distribution of respondents' personal, characteristics and mental conditions levels. Among the respondents, 70% of participants were female students and the others were male biologically. They are all aged from 18 to 26. Most of the participants (69%) were in bachelor's degrees. Of these, year-1 students consisted of 35%, and year-2 to year-5 students were 5%, 5%, 16%, and 8% respectively. The rest 31% of the participants were postgraduate students. Regarding the number of close friends in school, the vast majority of participants (87%) reported having 0-3 close friends at school, while only 13% had a larger circle of close friends. When it came to physical activities, most respondents (65%) either did not go for workouts or went for them infrequently and 29% engaged in occasional physical exercises. A mere 6% of participants engaged in regular exercise (equal to or more than four times a week). In terms of academic performance, the majority of respondents (67%) fell within the 3.2-3.5 GPA range. Around a quarter of participants had a GPA below 3.2, and only 8% had a higher academic achievement (>3.5). For the anxiety level, there were 13% of participants claimed to have severe anxiety, a quarter had moderate levels, 32% were at

mild levels and the rest 30% indicated low levels. For the level of depression, 6% and 10% indicated severe and moderately severe levels of depression respectively, 31% were in moderate levels of depression, 27% had mild depression and the rest (26%) showed minimal depression.

TABLE 1: Distribution of respondents' personal, characteristics and mental health conditions levels (N = 100)

Variables	n	%
Gender		
Female	70	70
Male	30	30
Age		
18-20	45	45
21-23	24	24
24-26	31	31
Study Year		
Year 1	35	35
Year 2	5	5
Year 3	5	5
Year 4	16	16
Year 5	8	8
Postgraduate Degree	31	31
Close Friends in School		
0-1	34	34
2-3	53	53
4+	13	13
Weekly Workout Frequency		
0-1	65	65
2-3	29	29
4+	6	6
GPA		
<3.2	25	25
3.2-3.5	67	67
>3.5	8	8
Anxiety Level		
Low	30	30
Mild	32	32
Moderate	25	25
Severe	13	13
Depression Level		
Minimal	26	26
Mile	27	28
Moderate	31	30
Moderately Severe	10	10
Severe	6	6

Differences in Anxiety and Depression Levels Between Genders and Degrees are presented in Table 2. In terms of gender, mild anxiety was reported by 42 females and 20 males, moderate anxiety by 19 females and 6 males, and relatively severe anxiety by 9 females and 4 males. As for depression, mild or minimal depression was reported by 37 females and 17 males, moderate depression by 20 females and 10 males, and a relatively more severe depression index by 13 females and 3 males. The p-values for anxiety and depression were both greater than .05 (.813 and .633, respectively), indicating that there were no significant differences in anxiety and depression between males and females.

However, there were statistically significant differences in anxiety and depression indices between undergraduate and master students (p-value were .025 and .047, respectively). For anxiety, 37 undergraduate students (53.6%) and 25 master's degree students (80.6%) reported relatively mild anxiety. Additionally, 22 undergraduate students (31.9%) and 3 master's degree students (9.7%) reported moderate anxiety, while 10 undergraduate students (14.5%) and 3 master's degree students (9.7%) reported more severe anxiety. Regarding depression, 33 undergraduate students and 20 master's degree students reported mild or very low levels of depression (47.8% and 64.5%, respectively). Roughly 30% of undergraduate students and master's degree students reported moderate

depression (21 and 10, respectively). Furthermore, 15 undergraduate students (21.7%) and one master's degree student (3.2%) reported more severe depression indices.

Table 2: Differences in Anxiety and Depression Levels Between Genders and Degrees

	Female	Male	p*	Undergraduate	Master	p*
	n (%)	n (%)	p=.813	n (%)	n (%)	p=.025
Anxiety						
Relatively Mild	42 (60.0)	20 (66.7)		37 (53.6)	25 (80.6)	
Moderate	19 (27.1)	6 (20)		22 (31.9)	3 (9.7)	
Relatively Severe	9 (12.9)	4 (13.3)		10 (14.5)	3 (9.7)	
Depression			p=.633			p=.047
Relatively Mild	37 (52.9)	17 (56.7)		33 (47.8)	20 (64.5)	
Moderate	20 (28.6)	10 (33.3)		21 (30.4)	10 (32.3)	
Relatively Severe	13 (18.6)	3 (10.0)		15 (21.7)	1 (3.2)	

*Significant differences are less than 0.05.

Table 3 showed the mean and standard deviation of overall, undergraduate and master anxiety and depression levels. In general, the mean and standard deviation anxiety level was 7.81 ± 5.391, indicating a mild anxiety level (Mild anxiety level range: 5-9), and the depression level was 9.12 ± 5.885, which also indicated a mild to moderate level of depression (Mild Depression level range: 5-9). The mean (standard deviation) levels of

anxiety and depression for undergraduate students were 8.55 (5.373) and 9.77 (5.139), respectively, and for master students were 6.16 (5.139) and 7.68 (4.445), respectively.

Table 3: Mean and Standard Deviation of Total, undergraduate and master students

	Mean (GAD)	SD (GAD)	Mean (PHQ)	SD (PHQ)
Total (n=100)	7.81	5.391	9.12	5.885
Undergraduate (n=69)	8.55	5.373	9.77	6.350
Master (n=31)	6.16	5.139	7.68	4.445

Presented in Table 4, of all tested factors, 1) Academic Overwhelmedness 2) Unhealthy Lifestyle, 3) Health Issue, 4) Reluctance of Unhealthy Lifestyle Transformation and 5) On-campus Socialization showed statistically significant ($p<0.05$) or highly significant ($p<0.01$) with both anxiety and depression levels. Academic Overwhelmedness was strongly and positively correlated to both anxiety levels ($r_s = .631$, $p < .001$) and depression levels ($r_s = .720$, $p < .001$). Unhealthy lifestyles, health issues and reluctance to unhealthy lifestyle transformation were all strongly and positively correlated with the level of depression ($r_s = .572$, $r_s = .553$, $r_s = .550$ respectively), while the correlation between them and anxiety level was comparatively weaker ($r_s = .313$, $r_s = .419$, $r_s = .378$ respectively). On-campus socialization was also positively and strongly associated with anxiety levels ($r_s = .534$, $p < .001$) and depression ($r_s = .530$, $p < .001$) levels.

Interestingly, it appears that there is no significant correlation between academic achievement, having close friends with depression and anxiety, and between the Workout Routines and anxiety ($p > .5$).

Table 4: Considered Academic/Lifestyle/Relationship variables and their correlation with anxiety and depression, and correlation coefficients (N=100)

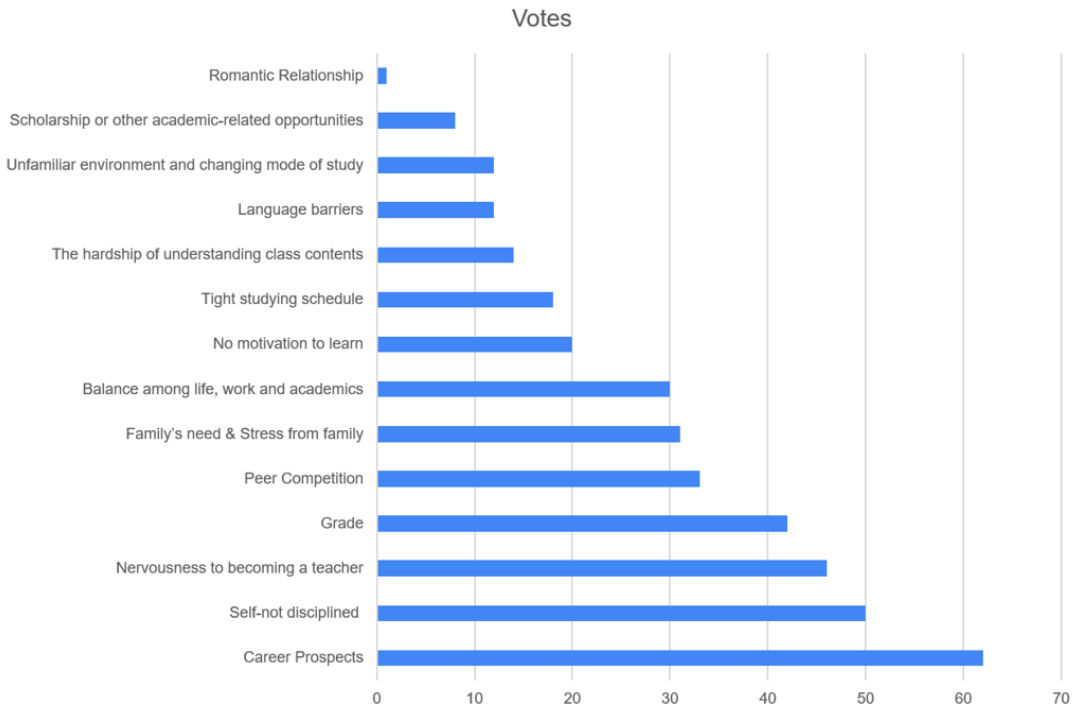
		Mean	SD	Correlation with anxiety*	Correlation with depression*
Academic					
	Academic Overwhelmedness	1.77	1.254	$p < .001$, $rs = .631$	$p < .001$, $rs = .720$
	Academic Achievement	2.15	1.019	$p = .102$	$p = .119$
Lifestyle					
	Unhealthy Lifestyle	1.81	1.293	$p = .002$, $rs = .313$	$p < .001$, $rs = .572$
	Health Issue	.97	1.010	$p < .001$, $rs = .419$	$p < .001$, $rs = .553$
	Reluctance of Unhealthy Lifestyle Transformation	1.75	1.218	$p < .001$, $rs = .378$	$p < .001$, $rs = .550$
Interpersonal Relationships					
	On-campus Socialization	1.38	1.144	$p < .001$, $rs = .534$	$p < .001$, $rs = .530$
	Sense of receiving support, like and love	2.57	.967	$p = .376$	$p = .145$
	Having Close Friends	2.2	1.175	$p = .924$	$p = .485$

*Significant differences are less than 0.05; Correlation is considered as strong if $rs > 0.5$.

As demonstrated in Table 5, participants voted on the factors that contributed to their sources of academic-related stress. The most voted choice was career prospects and

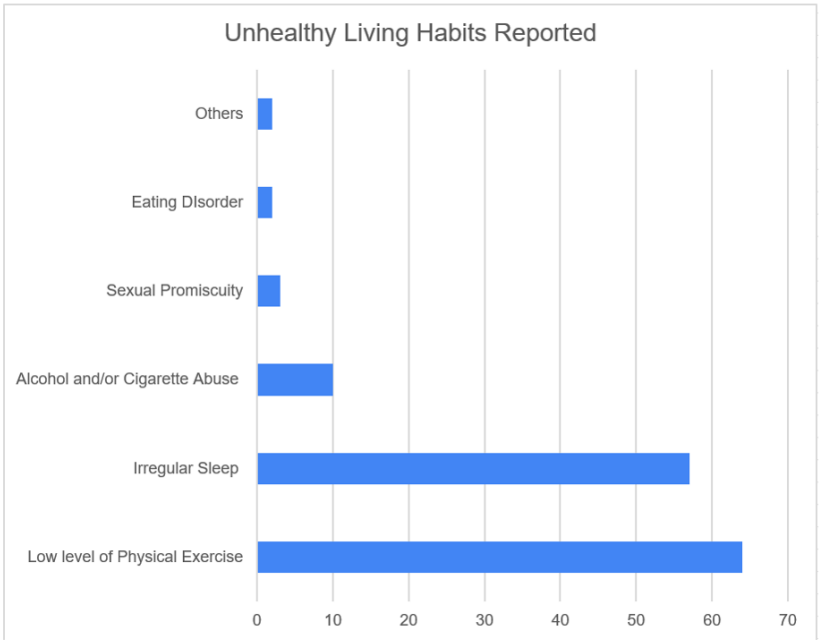
planning, with 62% of participants selecting it. This was followed by self-not discipline, which was chosen by 50% of the participants. Additionally, almost half of the participants (46%) reported nervousness about becoming a teacher (i.e. Status Transformation from student to teacher), and 42% mentioned grades as a source of stress. Furthermore, peer competition, family needs and stress, and work-academic-life balance were also reported as significant roots of stress, with around 30% of respondents reporting (33%, 31%, and 30% respectively). In addition, approximately 10-20% of the respondents indicated that factors such as learning motivation, class contents and schedule, language barriers, and adaptation to the environment were causing pressure on them. Last, a small percentage (8%) of participants mentioned that scholarship opportunities and romantic relationships (1%) were also affecting them.

Table 5: Participants' Votes of the Factors that cause the most Pressure



When it comes to unhealthy living habits (Table 6), it was reported that most of the participants (67%) engaged in low levels of physical exercise, 57% had irregular sleep patterns, and some of them (10%) had alcohol and/or cigarette abuse. However, sexual promiscuity (3%) and eating disorders (2%) were in a negligible portion of the present research.

Table 6: Participants' Claim of the Unhealthy Living Habits



5. Discussion

5.1 Main Results

The results showed that the general level of anxiety and depression was mild, while higher scores were claimed by the undergraduate students, which indicated relatively severe mental conditions among undergraduate students than master students. Regarding gender, there was no gender difference found in the present research. When it comes to academics, participants' psychological problems were associated with academic overwhelmedness. Ordered by priority, the overwhelmedness can come from the career and stress of being a future teacher, self-discipline problems, family and peer stress and the courses themselves. It was also found that unhealthy lifestyles were correlated with both mental health conditions, and it was deduced that the more frequently students engaged with irregular sleep patterns, low levels of physical exercise and alcohol and/or cigarette abuse, the worse mental health status they were in. Furthermore, the positive and strong correlation between on-campus socialization and mental conditions indicated that students underwent more anxiety and depression symptoms with the rising social anxiety perceived from socialization.

5.2 Academic-related factors (RQ1)

The findings suggested that students who suffered higher levels of psychological problems (i.e. depression and anxiety) were likely to go through more academic-related stress. This was congruent with many previous studies suggesting an association between academic and mental health (Agnafors et al., 2021; Nyayieka et al., 2020; Panayiotou et al., 2019; Van Zyl et al., 2017; Shao et al., 2020). The academic stress source, as the results presented, mainly came from a) Career Prospects of the Study Major, b) Self Discipline Problem and c) Peer and Family Stress.

a. Career Prospects of the Study Major

As found in the results, students were worried about their career prospects and experienced the uncertainty of being a future teacher. Under the fluctuations in the socio-political environment in Hong Kong, students tended to undergo employment pressure throughout their university studies, and uncertainties in career prospects can be exacerbated with limited interaction with the labor market (Lun et al., 2018). So, when students were unsure about the suitability of their degree for their career requirements, or if they anticipated employment opportunities in short supply under the fierce competition in the field of education (Chan & Sun, 2021), that was, when they felt a high level of uncertainty about their future career path (Alrawadıeh, 2021), it was probable that they would experience increased psychological distress.

b. Self Discipline Problem

According to the results, the self-discipline problem in the academic was a critical source of stress leading to psychological problems. Procrastination, for instance, has been found to show a strong correlation with worry that leads to anxiety and depression (Stöber & Joormann, 2001), and procrastinators had critically greater levels of difficulty in regulating their emotions (Bytamar et al., 2020). Furthermore, Visser et al. (2018) discovered procrastinators faced greater academic challenges and difficulties in reacting to failure, which in turn increased their anxiety and stress, and the ensuing academic performance dissatisfaction perpetuated a vicious cycle (Lun et al., 2018).

c. Peer and Family Stress

Furthermore, stress from peers and family was also significantly reported in the present study. In the same vein, it was found that students may face increasingly fierce competition against peers for limited opportunities and therefore causing higher levels of mental disturbance with more awfulizing beliefs that devaluated everything (Chan & Sun, 2021). Also, students whose families had lower income possibly were placed with higher parental expectations on them and therefore excessive mental distress (AlAzzam et al., 2021).

5.3 Lifestyles (RQ1)

5.3.1 Physical Activity (PA)

The present study found that the more or deeper unhealthy living behaviors students engaged in, the worse their mental health conditions. Among all unhealthy behaviors, the level of physical activity (i.e. PA) was particularly a significant factor associated with mental health status, which was congruent with previous studies (Mammen & Faulkner, 2013; Teychenne et al., 2010). Evidence showed that positive PA habits encouraged people more socially connected (Usher & Curran, 2017) and PA produced endorphine, which worked as an emotion regulator to alter the state of consciousness for better mental health (Hamidah et al., 2015). Furthermore, PA had been shown to decrease inflammation and enhance the ability to withstand damage caused by oxidative stress, both of which were believed to play a role in the development of common mental health disorders (Kandola et al., 2019). Considering better self-esteem encouraged healthier mental health via reducing perceived threats and improving coping strategies (Lu et al., 2018), PA played a role in boosting self-esteem by increasing one's body satisfaction (Hamidah et al., 2015). For instance, it decreased the likelihood of developing obesity (Parinduri, 2014).

5.3.2 Irregular Sleep

The present study also determined that another important living style habit associated with mental health conditions was irregular sleep patterns, which was in line with previous research done by Castiglione-Fontanellaz et al. (2023) and Lemola et al. (2013), demonstrating that having an inconsistent sleep schedule was linked to an increased presence of depressive symptoms. The irregular sleep may be due to the result of delayed sleep onset, which contributed to a shift in circadian rhythm, leading to persistent sleep difficulties and reduced mood (Alonzo et al., 2021). On the one hand, research demonstrated that longer sleep onset latency appeared more on school days, where subject to constraints on sleep timing and duration (Castiglione-Fontanellaz et al., 2023). On the other hand, using social media before bedtime can delay sleep and reduce its duration because exposure to electromagnetic fields from mobile phones can decrease melatonin production, resulting in delayed sleep onset and an increased likelihood of psychiatric symptoms (Alonzo et al., 2021). Combined with the cognitive and emotional arousal caused by social media content, this may lead to restless sleep and negatively impact psychological well-being and cognitive functioning (Hale & Guan, 2015; Basner et al., 2014; Falbe et al., 2015).

5.4 Interpersonal relationship (RQ1)

In terms of the interpersonal relationship, results provided evidence that it was associated with mental health conditions. Explicitly, social anxiety from socialization was a strong correlate. Where students felt stressed during the socialization (i.e. social anxiety/social fear), higher scores on anxiety and depression levels were ensured. This was not surprising and consistent with many previous studies (Russell & Topham, 2012; Long et al., 2021; Zheng et al., 2023), that social anxiety often led to significant emotional distress (i.e. depression and anxiety) and impairments in individuals (Lai et al., 2015). Taken the literature on a global scale, eastern countries (Stein & Stein, 2008) and Chinese students usually reported more common social anxiety compared to their Western counterparts (Lee et al., 2009; Zhong et al., 2008). A plausible explanation was that the experience and manifestation of social anxiety were influenced by cultural factors (Lai et al., 2015) from specific cultural backgrounds (Xie & Leong, 2008). In essence, Chinese and other Asian individuals may exhibit heightened interpersonal sensitivity, which can contribute to higher levels of social anxiety (Lee et al., 2009). For instance, Chinese culture set high standards for interpersonal relationships, which can create more demanding social interactions (e.g. avoiding losing face, and exchanging social favors based on reciprocity) (Xie & Leong, 2008). These cultural factors may contribute to social fear being more widely accepted or even considered a normal phenomenon (Hsu & Alden, 2007), the culture therefore rendered the higher social anxiety under Chinese social norms (Lee et al., 2009; Zhong et al., 2008).

5.5 Degree and Gender Difference (RQ2)

5.5.1 Degree

When it came to the difference in mental health conditions due to the level of studying degree, the findings suggested that there were relatively severe mental conditions encountered by undergraduate students. Similar results were found in the research study by Chan and Sun (2021). In the mentioned research, it was suggested that students who were studying a program with longer length in years had higher levels of psychological problems than those who were in programs of lesser duration, and it might be due to the higher expenditures, being unsure about the fast-changing employment markets and more projects, examinations and assignments to fulfill the graduation requirements (Chan and Sun, 2021). The prevalence of mental health conditions among undergraduate students may be also explained by that most of them were required to take part in internship placement before graduation (Chan & Sun, 2021) which resulted in excessive workload and stress (Baldassin et al., 2008), while master students were not in demand. A similar previous study found that depression and anxiety levels were more common as a result of taking part in internships and the intensity exaggerated students' worries about their qualifications in the labor market (Shao et al., 2020).

5.5.2 Gender

Lastly, the results did not indicate any difference between mental health conditions and gender, while previous studies had inconclusive debates on gender differences in terms of anxiety and depression levels. It was found that female students exhibited higher levels of psychological disorder among U.S. and Canadian students in the Faculty of Medicine (Dyrbye et al., 2006), and reported females had more severe depression, pain and sleepiness, compared to their male counterparts (Ng et al., 2020). In contrast, some research found male students had higher scores in depression (Sun et al., 2012; Chan & Sun, 2020). Hence, from the literature and our findings, we may not conclude that gender was a variable in relation to psychological issues, which may be attributed to the research design and different subdivisions of examined factor(s). The present research did not attempt to discuss gender differences in different years of study separately but only tried to discuss them as a whole with the unrepresentative sample size in year 2 and year 3 students (i.e. both study years only included 5 students). According to Dyrbye et al. (2006b), female students reported an increasing trend in year 1 and year 2 studies, while no difference by gender in the midyear study. Students who were in the first three years of study had a higher anxiety score (Fawzy & Hamed, 2017), with a downward trend of depression and anxiety afterward, observed by Gao et al. (2020). As such, future research could explore gender differences by defining clearer boundaries based on the year of study (or other possible factors) and a sufficiently representative number of respondents within the survey design. Furthermore, the findings derived from the self-report survey

findings may be subject to certain limitations, including potential biases and the influence of social desirability (Tunçgenç et al., 2023). Lower levels of mental problems, for instance, were commonly reported by male students, likely due to the enforcement of traditional Chinese gender roles that emphasized the expectation for males to exhibit qualities such as assertiveness, independence, and strength, which were categorized as "masculine" (Chan & Sun, 2020). So, future research on gender differences is warranted by considering an alternative method for more solid results.

6. Limitation

Firstly, as discussed in the previous section, although some studies have shown relatively high validity of self-reported diagnoses of mental health conditions (Jao et al., 2018), self-report survey findings may be biased and subject to social expectations (Tunçgenç et al., 2023).

Also, the present study had a very limited subdivision of students' backgrounds, and each sub-group was not equal in amount (e.g. study year). As stated in the discussion section, it may be the reason for the inconsistency with previous studies because the differences discussion can only lie at a very general level, since the subdivision level of the variable may be rendering different results. In this vein, it is suggested that future research can

consider an alternative method or make amendments to avoid oversight, such as the application of stratified random sampling. At the same time, comprehensive information about the backgrounds of students, along with efforts to foster a diverse student population encompassing both local and non-local students, as well as Chinese-speaking and non-Chinese-speaking students, could facilitate further subgroup analysis. (Lun et al., 2018).

Another main limitation of the present study is that the data is correlational. Due to the cross-sectional nature of the survey, it may not infer the causality between the association between mental health conditions and the selected factors (i.e. academic, lifestyle and interpersonal relationship). In some possibilities, the association can be due to a third variable. In future studies, conducting a longitudinal study would be valuable in order to investigate the causal relationships among the selected variables and validate their respective functions in impacting mental health.

Finally, the study population consisted only of education-majored students in The Education University of Hong Kong and therefore may not be extended directly to other settings. The research findings best represent exclusive groups of students at eduhk. Nonetheless, the present findings showed a high overlap with previous studies with various scopes. Thus, it is believed that the present research is valuable in providing an

implication for broader groups. Still, future research can attempt to expand the sample size and scope and build more on the basis of this study to make more generalized and solid statements.

7. Implication

This research makes contributions to the understanding and mechanism between mental health conditions and academic, lifestyle and interpersonal relationship factors. Although the present study and its measures may suffer from limitations, there still are some implications that can be inferred on the grounds of present findings.

7.1 Government

Firstly, governments can promulgate policies to enable students to benefit from sports activities. Research consistently provides evidence that physical activity is advantageous and suggests that individuals who engage in regular physical activity experience improved mental health compared to those who are inactive (Chen et al., 2020). It is globally appealed and recommended to engage in at least 60 min of daily moderate-vigorous PA (Fan & Cao, 2017), and many countries have already initiated relevant policies to encourage young people to go for regular PA. According to Australia's

physical activity guidelines, for instance, it is recommended that young people engage in at least 60 minutes of moderate to vigorous physical activity every day (Usher & Curran, 2017), which can be adopted in Hong Kong Society by government effort as well. It is also suggested that successful policies may require embedding extra measures (e.g. public awareness, health literacy, or amount of newly developed infrastructures) (Gelius et al., 2020). Therefore, when initiating the PA policy and guidelines, the Hong Kong government may simultaneously devote to PA awareness education and infrastructure construction.

7.2 School

Second, school-level efforts in organizing activities are necessary. It was suggested that college campus mental health services should integrate both physical activity and social aspects into the design in order to increase intervention effectiveness among college students and to encourage more holistic health among students (VanKim & Nelson, 2013; Usher & Curran, 2017). In this vein, the School may create more opportunities for Team Sports and encourage students to take part in them. Evidence showed that team sports significantly imply a positive influence on acting as a buffer against social anxiety symptoms (Dimech & Seiler, 2011). It was also found that those who were more physically active reported sleeping longer and better, contributing to mental health (Bisson et al., 2019). As such, students may alleviate their social anxiety, be physically

active, and stay away from risky living behaviors contributing to anxiety and depression by playing team sports.

At the same time, enhancing social support for students is necessary. Students tend to worry about their careers during the long duration of study, as found in the present study. Schools may help students alleviate their distress by providing social support. Social support refers to the provision of psychological and material resources by a social network to aid an individual and plays a crucial role in promoting psychological adjustment and can act as a protective factor against the negative impacts of mental illness (Shao et al., 2020). Schools, for example, can build connections with more enterprises and communicate stories of success to students aiming to reduce stress and develop a positive attitude toward the career prospects of their academic majors (Alrawadıeh, 2021).

7.3 Individual

When it comes to the individual aspect, proactive coping strategies play a significant role in improving the ability to mediate mental illness (Davis & Brekke, 2014). That suggests students take initiative for their mental problems, in particular the undergraduate students, who were found more common anxiety and depression in the present study. On

the one hand, students can proactively seek social support. On the other hand, the research has revealed the correlational relationships between mental health conditions, and students are advised to take these results for grounded trying to avoid health risky behaviors.

8. Conclusion

To sum up, the present study reported the prevalence of depression and anxiety symptoms in a sample of education-majored students at eduhk. The correlational relationships between the two mental health conditions and multiple factors were examined. Academic-related stress such as the career prospect of the major, physical activity, irregular sleep, and social anxiety play an important role in inferring mental well-being. Although the research is restricted by limitations, these results and deduced mechanisms are important for both students and mental well-being supporters. By implementing government policy, broadening and tailoring social support, and adopting proactive coping strategies, symptoms of anxiety and depression may be alleviated among students.

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