



Research Article

THE MENTAL HEALTH STATUS AND RELATED FACTORS AFFECTING THE MENTAL HEALTH OF UNIVERSITY STUDENTS DURING COVID-19 OUTBREAK

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Abstract

The global crisis, COVID-19, induced disruption to routine instruction that impacted the academic life of higher education students. This study aimed to assess mental health status and study the factors affecting students' mental health. The sample size was estimated using the Yamane formula (Yamane, 1973). Three hundred and sixty undergraduate students (ages 18-23 years) in the academic year 2022, were recruited using accidental sampling from the faculty of Education, Naresuan University. The Thai Mental Health Indicator (TMHI-15), with a value of validity (0.61) and reliability (0.83), was used to examine students' mental health status. A set of mental health status-related factors questionnaire, with a value of validity (0.67-1.00) and reliability (0.90), was also used to survey factors involved in affecting students' mental health status. Data were analyzed using multiple linear regression analysis. The findings revealed that 56.4% of students were in poor mental health status. Academic self-efficacy, adaptability, social support, and studying environment were significant predictors for students' mental health with 22% ($R^2=.22$, Adjust $R^2=.20$, $F=5.98$, $p<.05$). A factor that influenced students' mental health the most was self-efficacy, while social support and adaptability were the second and third factors that influenced students' mental health. These factors could play a mediating role related to student's mental health status during the COVID-19 outbreak.

Keywords: Global Crisis, Mental Health, Related Factors, University Age

Introduction

A natural disaster, COVID-19, drastically shifted routine instruction and face-to-face, to new improvised learning formats known as online instruction. The academic process in the universities was forced to transition during the COVID-19 outbreak (Hofer et al., 2021; Schleicher, 2020; Stockinger et al., 2021; Collie et al., 2017).

The pandemic's impact contributed to negative academic life consequences and more stressors for university students due to abrupt changes, such as lockdowns and online courses (Chao, et al., 2020; Chao et al., 2020; Zhai & Du, 2020; Li et al., 2022). According to recent reviews, a study analyzed the anxiety elements of undergraduate students during the Coronavirus disease 2019 (COVID-19) pandemic and found that students had a high level of anxiety, especially about studying and financial issues (Ingard et al., 2020) as well as a study determined the factors that influenced adults' mental health during the COVID-19 lockdown in Spain. The study suggested that multiple factors, such as age, gender, loneliness, healthy habits, and coping humor, can contribute to the psychological impact (Pinedo et al., 2021); whereas studies on the effects of the COVID-19 pandemic on psychological and mental variables in Asia were primarily conducted in China. Results showed that there was a pooled prevalence of about 30% of stress, anxiety, and depression (Pinedo et al., 2021; Salari et al., 2020; Xiong et al., 2020).

Considering the definitions of mental health based on the World Health Organization (WHO). Mental health is regarded as the ability to effectively function and adapt to the environment for one's quality of life (Sadry et al., 2022). Farahbakhsh et al. (2007) reported that the aspect of mental health is the ability to cope with the pressures of life which led a person far from anxiety and symptoms of the disability. The World Health Organization defines mental health as a state of mental well-being that people can cope with the stresses of life, realize their abilities, learn, and work well, and contribute to their community (World Health Organization [WHO], 2022). The global crisis caused adverse effects on the mental health of the public. Especially, increasing adverse psychological consequences on individuals, for example, anxiety, frustration, depression, and hopelessness, including worries about future studies, increasing workloads, academic performance, and even professional careers among higher education students (Collie et al., 2017; Aristovnik et al., 2020; Chandra, 2020; Son et al., 2020). There are studies that reported certain personal, interpersonal, and cultural factors also influence a person's response (Videbeck, 2014).

University students were an important group who had been confronted with the damaging effects of the COVID-19 pandemic for up to two years. They would experience a variety of academic stressors on campus. Many students reported high academic stressors. Another possible reason for this situation was home study, as well as the uncertainty back to campus which led students to poor mental health (Li et al., 2022; Fairbrother & Warn, 2003; Rawson et al., 1994; Agnew et al., 2019). The consequences of lockdown are related to many mental health problems (Bonnini & Michela, 2022). Researchers reported that individuals' mental health involved stressors. With academic stressors, an increase in anxiety and depression was positively associated with mental health (Li et al., 2022).

The distress of mental health had been linked to a lower level of academic self-efficacy and poor study progress (Grotan et al., 2019), while social support from family, university, or friends given to students can attenuate mental problems during the COVID-19 pandemic (Li et al., 2022; Zhong et al., 2021). In addition, poor adaptability was generally observed in academic institutions in this adverse period (Adlington et al., 2022). Considering students' adaptation to adverse contexts, a support network can lead them to fully participate in

the university's social environment. They can talk about the difficulties they are facing, and share experiences (Sahao & Kienen, 2021).

Indeed, the university context is complex, and some factors can distress students during the university period or in specific situations (Sahao & Kienen, 2021).

According to the literature, this requires a database of mental health involving a new era of the global crisis in the university age. It is necessary to understand the effects of the COVID-19 outbreak on university students in order to develop strategies and interventions for mental health in university students who need to achieve their academic life. Accordingly, this study aimed to assess mental health status and study the factors affecting the mental health of university students. In this paper, a research question is proposed whether the COVID-19 outbreak can affect the mental health of university students or not and which factors are associated with mental health status among university students.

Research Methodology

This descriptive cross-sectional study was conducted in the Faculty of Education, Naresuan University, Phitsanulok, Thailand. The target population was 1,977 students in the academic year 2022. The sample size was estimated using the Yamane formula (Yamane, 1973) ($n = \frac{N}{1 + Ne^2}$), the calculation result shows that three hundred and thirty-three are the sample size. Three hundred and thirty-three undergraduate students (ages 18-23 years), year 1st - year 5th, were recruited using accidental sampling. Individuals who agree to participate were asked to complete the questionnaire through social media (Line and Facebook). The accidental sampling method was used to obtain data from students who enrolled in the study course for the academic year 2022. Nevertheless, the data were completed with a higher than the calculation. Three hundred and sixty of the data were also collected and analyzed prospectively. The data were collected at one point in time via an online survey, and Google form sent to participants by social media from July to September 2022, and up to three reminders were sent weekly to enhance the response rate. The data were collected through an online questionnaire during the outbreak of COVID-19 that shifted familiar instruction, face-to-face, to new improvised learning, online taking courses.

Research Instrument

The sets of questionnaires, the Thai Mental Health Indicator (TMHI-15) and questionnaires about mental health status-related factors, were used as tools with a value of validity (0.61) and reliability (0.83) (Mongkol et al., 2001; Mongkol et al., 2013). The TMHI-15 consists of a set of questions (15 items) regarding personal experience in the past month to the present. This self-report questionnaire asked for information about incidents, and the presence of symptoms related to mental health.

Regarding the literature search and found studies of variables, we conduct a research tool for collecting data, the mental health status-related factors questionnaire consists of four aspects, namely; 1) academic self-efficacy, 2) adaptability, 3) social support, and 4) studying environment. All the items were

measured using the Likert scale, a five-point nominal scale, ranging from 1 (least) to 5 (greatest). The validity and reliability of the mental health status-related factors questionnaires were measured traditionally and were appropriate for this study. The qualified items should have the item congruence (IOC) equal to or greater than 0.50. This research tool was assessed by three expert judgments, which were 0.67 - 1.00 for each issue. When Cronbach's alpha coefficient is over 0.70, the total reliability is excellent (0.90).

Statistical Analyses

The data on mental health status were organized and summarized by descriptive statistics. Prior to the statistical analyses, the tests for normal distribution were performed and verified. When the statistical analysis results met the assumptions of the regression model, multiple linear regression analysis (Stepwise model) was used to examine significant factors associated with the mental health status of university students. Results were considered statistically significant at $p < .05$.

Results and Discussion

Based on the survey, most students' mental health status was poor (56.4%). Approximately 40.8% and 2.8% of university students were in fair and good mental health status, respectively.

Table 1 Mental Health Status of University students (n = 360)

Mental Health Status	Score	n	Percentages
Poor	≤ 43	203	56.40
Fair	44 - 50	147	40.80
Good	51 - 60	10	2.80
Total		360	100.00

Table 2 Results of linear regression analysis of related factors for the mental health status of university students

	Unstandardized Coefficient B (SE)	Standardized Coefficient β	t	Sig.
(Constant)	.40 (.17)		2.31	.02
Academic self-efficacy				
• Self-efficacy in academic achievement.	.12 (.03)	.17	3.51*	.00
Social support				
• Family always support when students have academic stressors.	.08 (.03)	.16	2.59*	.01
• Getting helpfulness from staff.	.08 (.03)	.15	3.00*	.00

	Unstandardized Coefficient	Standardized Coefficient	t	Sig.
	B (SE)	β		
(Constant)	.40 (.17)		2.31	.02
Adaptability				
• Feeling uncomfortable in a conversation with others.	-.06 (.03)	-.12	- 2.44*	.02
R = .46 R ² = .22 Adj. R ² = .20 SE = .49 F = 5.98 Sig. = .01				

*p<.05

All mental health status-related factors variables were added simultaneously to each model, after which 4 unique sources of concern were entered into models to see which sources of concern predicted mental health outcomes after controlling for demographics. R² values, adjusted R² values, F value, and P values are presented. In the standard multiple regression analysis conducted for predicting the mental health related to factors, the results showed that academic self-efficacy, adaptability, social support, and studying environment were significant predictors for the mental health of university students for the percentage of 22 (R² = .22, Adjust R² = .20, F = 5.98, p < .05).

The multiple linear regression analysis (stepwise model) findings showed that academic self-efficacy, social support, and adaptability were significant factors related to mental health scores (Table 2). The findings as depicted in Table 2 showed that academic self-efficacy (self-efficacy in academic achievement) was the factor most influencing mental health in university students (Beta = .12, p < .05). Afterward, the factor about social support by getting helpfulness from staff (Beta = .08, p < .05) and family always support when students have academic stressors (Beta = .08, p < .05) were the second and third factors influencing mental health in university students.

The last related factor which influenced mental health in university students was adaptability (feeling uncomfortable in a conversation with others) (Beta = .06, p < .05). Of those factors could predict mental health in university students 22% (R² = .22, Adjust R² = .20, F = 5.98, p < .05) and could be predicted in raw scores and equation as follows.

Raw score (unstandardized) regression equation

$$Y = .40 + .12(X_1) + .08(X_2) + .08(X_3) + (-.06) (X_4)$$

Raw score (standardized) regression equation

$$Z = .18(Z_1) + .17(Z_2) + .15(Z_3) + (-.12) (Z_4)$$

According to the main findings of the study, students' mental health mostly was poor during the COVID-19 outbreak, and self-efficacy was the first factor that influenced mental health, these results are consistent with the idea that a sense of efficacy is an important factor that enhances human accomplishment and many ways of personal well-being (Bandura, 1994). Since students' self-efficacy refers to the beliefs and

attitudes of individuals toward their ability to learn, plan, carry out the steps required for specific objectives achievement, and perform the behavior, the variables like students' feelings, thinking, and actions are influenced by self-efficacy (Vermeiren et al., 2022; Eccles & Wigfield, 2002; Bandura, 1997).

During the COVID-19 pandemic, adverse psychological consequences (such as depression) increased in individuals, many college students were an important group that reported high academic stressors regarding anxiety and depression because of lockdown and online taking courses (Li et al., 2022). People who do not believe in their capabilities to do some difficult tasks, also have a decline in aspirations and commitments, and mostly get stress and depression (Bandura et al., 1999). It could be summarized that self-efficacy is negatively related to health problems (Tahmassian & Jalali Moghadam, 2011).

Our present results showed that self-efficacy in academic achievement was the factor most influencing mental health in university students. The results are consistent with previous findings that self-efficacy influenced mental health indirectly through assertiveness and could be a negative predictor of mental health such as depression, anxiety, and stress. A low level of self-efficacy causes depression and anxiety in individuals, as a result, they probably get stressed and give up without coping with the situation (Khalil et al., 2021). Especially, academic self-efficacy affects positive emotions. It can be stated that students who believe in their ability to achieve their tasks, will have a good feeling about the learning process (Hayat et al., 2020).

We also found social support to be a related factor in predicting mental health. Getting helpfulness from staff and family support, when students have academic stressors were the second and third factors influencing mental health in university students. Social support or social relationships are about college students including family, friends, spouses, co-workers, and acquaintances (Vaughn et al., 2016). In particular, social support appears to be an essential predictor of social well-being. Further, enhancing social support could protect college students' mental health in the COVID-19 pandemic environment (Li et al., 2022).

Researchers reported that academic stressors or pressure involved individuals' mental health especially, college students (Duprey et al., 2020; Yeom et al., 2020; Zhang et al., 2021; Li & Mei, 2002; Zhang et al., 2006). Social support was established as a mediator in buffering the impact of stressors, and as a protective psychological factor, it could help cope with life's obstacles. Such an individual obtained specific social resources from others. Positive psychological and physical health outcomes, improving mood disorder and cardiovascular health, are involved in individuals' quality and quantity of social support (Bertera, 2005; Cohen, 1988; Uchino et al., 2001) as well as Tiaotrakul et al. (2021) reported that high physical activity positively correlated with moderate psychological well-being in university students (Tiaotrakul et al., 2021). The adverse impacts of academic stressors on mental health decreased and raised a higher level of well-being if an individual received enough support from families, friends, or others (Li et al., 2022).

Another related factor of the current study on the mental health status of university students was adaptability (feeling uncomfortable in a conversation with others). Considering that students' adaptation to higher education influences their mental health, the level of demand and interpersonal relationships including facilitators, support networks, the availability of information, and academic integration were the main obstacles

(Adlington et al., 2022). Sahao and Kienen (2021) reported that the personal factor was the one complicating adaptation to higher education. Regarding the personal factor, interpersonal relationships (56.5%) toward higher education adaptation, this factor was about asking for help and information which can solve a problem more. Students also need to relate to other different people in order to deal with any academic life (Adlington et al., 2022) because adaptation could be beneficial for coping with an adverse situation (Stockinger et al., 2021).

Suggestions for individuals to develop behaviors related to social skills, for example, the ability to start and maintain conversations, have some conversations with other groups of people, express feelings, defend their own rights, ask for help, and refuse requests (Adlington et al., 2022; Del Prette & Del Prette, 2009). With the immediate shift from traditional and familiar to largely improvised online taking courses during the COVID-19 outbreak, students who were adaptable and coping with uncertainty and ambiguity in the pandemic environment could better predispose them through the low-control settings. The research reveals that adaptability is important in students' academic achievement and personal well-being (Stockinger et al., 2021).

Overall, there is a limitation in the present study that it could not be generalized to the public to some extent, due to the focused group and special time. We collected at one point via an online survey of university students with their own characteristics. The context of the COVID-19 pandemic varied depending on the global and country's epidemic situation. Thus, recruiting more extended people in the study samples is necessary.

Conclusion

With the new era of the global crisis, COVID-19, the adverse impacts of academic stressors on mental health increased and raised a lower level of mental health because of sudden changes in instruction. The University students presented a high incidence of poor mental health during the COVID-19 outbreak. One of the most important factors related to mental health status was self-efficacy. However, some related factors, like social support and adaptability, could not be ignored.

As previously mentioned, students who did not believe in their ability to achieve their tasks or did not have self-efficacy including did not receive enough support from families and others and could not adaptable because of feeling uncomfortable in a conversation with others, probably raised a lower level of mental health in the academic process. The academic institution should be aware of mental health status and some related factors among university students, as well as develop strategies and interventions for mental health in university students to achieve their academic life through hard situations, like a new pandemic in the future.

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