

## Level and predictors of mental health literacy among secondary school students in Nakhon Pathom Province, Thailand

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### ABSTRACT

Mental health literacy (MHL) is one of the most important factors in resolving mental health disorders for adolescents. This cross-sectional study examines the level of MHL among secondary school students and seeks to determine its predictors. A multi-stage sampling technique was used to recruit a sample of 404 students with a mean age of 14.89 years ( $SD = 1.66$ ) attending an autonomous secondary school in Nakhon Pathom province, Thailand in the first semester of the 2023 academic year. The research instruments were two self-reporting questionnaires, namely the General Health Questionnaire (GHQ – Thai version) and the Mental Health Literacy Survey. Content validity was reviewed by three experts and the Index of Consistency (IOC) was 0.97, with Cronbach's alpha reliabilities of 0.94 (GHQ), and 0.75 (MHL). Descriptive statistics including chi-square test and binary logistic regression were used to analyze the data. The mean score of MHL was 28.96 ( $SD = 3.58$ ), indicating adequate MHL within this sample. Academic performance (OR 1.834, 95%CI 1.139-2.954), studying at the senior high school level (OR 1.559, 95%CI 1.005-2.418), and experiencing psychological distress (OR .535, 95%CI .321- .892) were all predictors of adequate MHL. These findings suggest that school administrations and healthcare providers should develop a program to ensure junior-level students attain cognitive abilities and an adequate MHL level to prevent future mental illness.

### Key words:

academic performance, mental health literacy, secondary school students, senior high school, psychological distress,

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## INTRODUCTION

Adolescent mental health issues are a growing public health concern. According to the World Health Organization (WHO), between 10 and 20 percent of adolescents are reported to have experienced mental health problems.<sup>1-2</sup> Similarly, in Thailand, one in seven adolescents aged 10 to 19 have previously had a mental disorder<sup>3</sup>, and 27.7 % of students aged 11 to 16 reported experiencing depressive symptoms.<sup>4</sup> Adolescence is a crucial transitional period in an individual's life with the potential for significant mental health issues and the development of physical, cognitive, and psychosocial problems between childhood and adulthood.<sup>1</sup> Consequently, untreated mental health issues during adolescence can persist into adulthood as mental disorders.<sup>5-6</sup> It is critical that students understand the signs of mental health issues, seek help, and receive early diagnosis and treatment. Mental health literacy can prevent and resolve mental health illnesses.<sup>5,7,8</sup> Moreover, evidence indicates that individuals with adequate mental health literacy are able to recognize mental health resources to support them with managing obstacles, preserving their wellbeing, and preventing mental disorders.<sup>5-6,9</sup>

Mental health literacy (MHL) is a cognitive and literacy skill that includes knowledge and beliefs about mental disorders which help to recognize, manage, or prevent mental disorders.<sup>7,10-12</sup> MHL has five components: (a) mental disorder recognition; (b) knowledge of help-seeking options and treatments available; (c) knowledge of effective self-help strategies; (d) mental health first aid knowledge; and (e) knowledge of mental disorder prevention.<sup>11</sup> Evidence indicates that adolescents with adequate MHL are more likely to seek professional assistance, perceive less stigma associated with mental health problems, and are better equipped to promptly identify mental illness.<sup>4,13</sup> In the

other words, adolescents with low or inadequate MHL are considered to face major obstacles when attempting to access mental healthcare since they are unable to identify problems with their mental health, which can cause delay in receiving care.<sup>8,14-16</sup> This can then lead to an increase in the prevalence of mental health problems and more severe mental illnesses among this group. Thus, in an attempt to decrease the incidence rate of mental health conditions, it is important to study the level of MHL among adolescents.

Some studies indicate a high level of MHL among high school students in Thailand. One study of 420 students aged 15- 19 years found a high level (61.3%) of MHL.<sup>17</sup> Meanwhile, another study involving 206 junior high school students identified a medium to high MHL level.<sup>18</sup> Another study involving 349 high school students found a moderate level of MHL.<sup>19</sup> Although an adequate level of MHL appears to satisfy public health providers and educators, each of the aforementioned studies highlighted that some participants had low or inadequate MHL. Thus, further studies on MHL among teenagers should not be disregarded. In addition, the reviewed literature illustrates that biological and psychological factors affect MHL among high school students, including being female, academic performance, and psychological distress.<sup>6,8,9,14,15,17,19</sup> Moreover, socio-economic factors including parents' marital status, living arrangements, parents' education level, parents' occupation, family size,<sup>6</sup> and parents' income<sup>6,19</sup> affect MHL among high school students. Few studies on the level of MHL and its related factors have been undertaken with Thai secondary school students.<sup>14,21</sup> Given the prevalence of mental health problems and a lack of studies on the underlying causes and extent of MHL, improving MHL is necessary in order to enhance mental health outcomes.<sup>14</sup> The aims of the present research were therefore to ascertain the mental health

literacy level of Thai secondary school students and identify the factors that predict it. This information can be used to support the creation of programs or interventions aimed at enhancing the mental health of adolescents.

## MATERIALS AND METHODS

A cross-sectional study was designed to determine the level and predictors of mental health literacy among secondary school students, including sociodemographic factors such as age, gender, educational level, academic performance, parents' marital status, living arrangement, and psychological distress. The study was conducted from May to June 2023.

**Population:** The population of this study was students studying in grades 7 to 12 equivalent to secondary school level. The target population was 36,179 students who were in grades 7 to 12 and attending secondary schools in Nakhon Pathom province, Thailand in the first semester of the 2023 academic year.<sup>22</sup>

**Sample size and sampling:** The sample size was calculated using G\*Power software. A power of 0.95, an alpha value of 0.05, and a small effect size of 0.15 were considered. G\*Power software suggested a sample size of 119. A total sample of 404 students was recruited by using multi-stage random sampling. One out of 29 secondary schools were selected by simple random sampling. Two classes per level were randomly selected. Two classes per grade from grades 7 to 12 were included for a total of 12 classes. All students in each selected class were invited to participate in the study. To avoid social embarrassment and stigmatization, all students in each selected class (roughly 30 students per class) were invited to participate voluntarily.

**Instruments:** Data was collected using four self-reported questionnaires as follows.

1. Demographic information was collected from the participants completing a personal information record form. The demographic information collected included six questions, covering gender, age, educational level, academic performance, parents' marital status, and living arrangement.

2. Mental health literacy was measured using a modified version of the Mental Health Literacy Questionnaire developed by Jorm et al. (2000),<sup>11</sup> Kutcher et al. (2016),<sup>12</sup> Namdet et al. (2018),<sup>21</sup> and Kaewprom et al. (2014).<sup>23</sup> The questionnaire was designed to measure the level of mental health literacy in an adolescent population. The questionnaire included 42 items consisting of five subscales covering: 1) recognition and understanding of mental health problems; 2) knowledge of the etiology and risk factors for mental health problems; 3) knowledge of mental health self-care; 4) attitudes towards mental health problems; and 5) knowledge of help-seeking behaviors. Each correct answer per item received 1 point from three possible answers, namely true, false, or I don't know. Incorrect and "I don't know" answers received 0 points while the correct answer received 1 point. Scores ranged from 0-42 with higher scores indicating greater mental health literacy, and vice versa. In this study, the total score of mental health literacy was categorized as "adequate" (total score  $\geq 25$ ) or "inadequate" (total score  $< 25$ ). Three experts reviewed the validity of the questionnaire and gave it a content validity index of 0.97. The questionnaire was then tested with 30 secondary school students from another classroom who were excluded from the main sample group. The

Cronbach's alpha reliability of the questionnaire was .75.

3. Psychological distress was measured using the General Health Questionnaire (GHQ - Thai version).<sup>24</sup> The GHQ has been widely used to determine common distress amongst Thai people. The GHQ is a 30-item self-reported questionnaire used to identify mental distress. Scores range from 0 – 30, with higher scores indicating greater distress. In the present study, total scores to indicate the presence of psychological distress were categorized as “no or normal” (total score < 4) or “yes or psychological distress” (total score  $\geq$  4). Among the several versions of the GHQ, the GHQ-30 has been shown to be the most stable and have the highest level of validity. In this study, the Cronbach's alpha reliability of the GHQ was .94.

**Ethical Considerations:** This study was approved by the Mahidol University Central Institutional Review Board (MU-CIRB) (No.MU-CIRB 2022/328.0212) . Before the questionnaires were administered, participants and their parents were asked to sign the consent form. For students to be eligible for the study, they had to be in good general health, had never been diagnosed with any mental problem, and received parental permission to participate in the study, were invited to participate.

**Data collection:** After IRB approval by the MU-CIRB, the researcher met with the facilitating teachers to make an appointment. At that time, written informed consent was obtained from all participants. At the end of the survey, participants were provided with help to seek information they could utilize if they felt distressed, and participants who reported depression in their survey

responses were provided with contact information for crisis services. Data collection in a given school setting took approximately 30 minutes.

**Data Analysis:** Descriptive statistics were used to describe the demographic characteristics and the study variables in terms of frequency, percent, mean, standard deviation, and range. To obtain the association between MHL and potential factors, Chi-square test and binary logistic regression were conducted. Candidate factors including gender, age, educational level, academic performance, and psychological distress were tested using logistic regression. The method of enter-step elimination was employed in the logistic regression. The P-value was set at < 0.05 throughout the analysis process, and 95% confidence intervals were calculated.

## RESULTS

### *Demographic characteristics of the sample*

The demographic characteristics of the sample are presented in Table 1. A total of 404 students (males:  $n = 150$ , 37.1%) and (females:  $n = 254$ , 62.9%) were recruited. Of this sample, 276 (68.3%) students reported adequate mental health literacy. The age of the participants ranged from 12 to 18 years with a mean of 14.89 (SD = 1.66). Additionally, 50.5% of the participants studied at the senior high school level. Of the sample, 91.3% had a grade point average (GPA) above 3.00. The majority of the participants (71.5 %) lived with their families. Most of their parents were married (71.3%) and lived together. It was found that 46.3% of the participants reported having psychological distress. Details are shown in Table 1.

**Table 1.** Socio-demographic characteristics and level of mental health literacy of the sample (N = 404).

Variables	<i>n</i>	%
Mental Health Literacy $M = 28.96, SD = 3.58$		
Adequate	276	68.3
Inadequate	128	31.7
Gender		
Male	150	37.1
Female	254	62.9
Age (years) $M = 14.89, SD = 1.66$		
12	35	8.7
13	59	14.6
14	76	18.8
15	72	17.8
16	90	22.3
17	49	12.1
18	23	5.7
Education level		
Junior high school	204	50.5
Senior high school	200	49.5
GPA $M = 3.62, SD = 0.35$		
$\leq 3.00$	35	8.7
3.01 - 4.00	369	91.3
Living with parents		
Yes	289	71.5
No	115	28.5
Marital status of parents		
Married	288	71.3
Others	116	28.7
Psychological distress $M = 6.35, SD = 6.63$		
Yes	187	46.3
No	217	53.7

**Factors related to mental health literacy**

Based on the logistic regression analysis, three factors significantly related to mental health literacy among high school students were identified (Table 2). These three factors included academic performance, older students, and current psychological distress when controlled for each other. Students with academic

performance or GPA above 3.00 were 1.83 times more likely to have adequate mental health literacy than those with academic performance or GPA equal to or below 3.00 (adj. OR 1.834, P-value < 0.05, 95%CI 1.139-2.954). In addition, students studying at the senior school level were more likely to have adequate mental health literacy than those studying at the junior school level

(adj. OR 1.559, P-value < 0.05, 95% CI 1.005-2.418). Students with psychological distress were less likely to have adequate

mental health literacy (adj. OR .535, 95% CI .321-.892).

**Table 2.** Logistic regression analysis for the likelihood of having an adequate MHL.

Variable	$\beta$	$X^2$	<i>P</i>	Exp(B)	95% C.I. for EXP(B)	
					Lower	Upper
Psychological distress	-.625	5.752	.016	.535	.321	.892
Senior high school	.444	3.933	.047	1.559	1.005	2.418
Academic performance	.607	6.225	.013	1.834	1.139	2.954
Constant	.164	.229	.073	1.608		

## DISCUSSION

The study findings show that the high school students reported adequate mental health literacy. The rate of adequate mental health literacy level (68.3%) was higher than that in similar previous studies in Thailand (33.20 - 54.20%).<sup>17,21</sup> In comparison with adequate mental health literacy among secondary school students from other countries, the rate of mental health literacy level in this study is higher than a study conducted among students in Malaysia, for which the adequate mental health literacy was 3.0%.<sup>13</sup> Likewise, a study performed among high school students in Istanbul, Turkey reported the mental health literacy rate to be 45.80%.<sup>25</sup> The level of adequate mental health literacy in adolescents therefore seems to vary across regions, cultures, and instruments of MHL. The higher rate of adequate mental health literacy in the present study may be because most of the students (91.3%) had a grade point average (GPA) above 3.00, since higher academic attainment is associated with the ability to understand mental health problems, the causes of mental health problems, and seek appropriate skills to manage mental health problems and prevent mental disorders.

Further, this study identifies the potential related factors of mental health literacy among secondary school students. Academic performance, being at the senior

high school level, and having psychological distress were associated with mental health literacy among the secondary school students.

The findings show that students with academic performance or GPA above 3.00 were 1.83 times more likely to have adequate mental health literacy than those with academic performance or GPA equal to or below 3.00. This indicates that academic performance is positively related to students' ability to recognize and understand the characteristics of mental disorders, including the risks and causes, while they also have greater competence in acquiring mental health resources and services. These findings support those of previous studies among high school students.<sup>2,6</sup> For example, in a study conducted in Saudi Arabia, secondary school students' educational performance was significantly related to MHL in univariate analysis. In that study, 53.6% of students with a GPA of 95-100% had a good mental health awareness level compared to 38.9% of those with a GPA less than 90% ( $P < 0.05$ ).<sup>6</sup> Thus, cognitive ability plays an essential role in learning, knowledge acquisition, and mental health management among secondary school students. Educators should address this issue when formulating education management policies for secondary school students.

In the present study, students at the senior high school level were more likely to have adequate mental health literacy compared with those at the junior level. This difference may be attributed to the rapid changes in cognitive and emotional development that occur during adolescence, which is in line with the findings of Nobre et al.<sup>26</sup> and various other studies.<sup>14,27</sup> For instance, a study of 1,104 US adolescents reported that educational level was significantly correlated with MHL ( $r=.07$ ,  $p<.05$ ).<sup>27</sup> Students tend to gain more knowledge and understanding of mental health through secondary education, which helps them acquire knowledge of MHL in several ways, such as reading information related to MHL from social media. However, increased exposure to information about mental health in Thailand, especially from online platforms created by The Department of Mental Health, contributes to more access to professional help and treatment of mental illness.<sup>26</sup> This could result in students at the senior high school level to have a more adequate MHL compared to those at the junior level.

The present study also found that students with psychological distress were less likely to have adequate MHL. This means that students with insufficient mental health literacy have limited skills to take preventive measures for mental health problems and disorder management. Consistent with the current study, a previous study that investigated 700 high school students in China showed that MHL is a negative predictor of adolescents' psychological distress.<sup>7</sup> Similarly, Jia-Yuan Zhang et al.<sup>9</sup> reported psychological distress to be significantly negatively correlated with mental health literacy. Meanwhile, a study of 420 adolescents indicated that individuals experiencing psychological distress had statistically significantly lower MHL than those

without psychological distress.<sup>17</sup> Moreover, some previous studies indicate that adolescents with a history of mental illness had higher MHL scores than those without a history of mental illness.<sup>8,27</sup>

Gender was found to not be associated with MHL in the present study. This finding is not in complete agreement with all previous studies. Some previous studies report that gender is not associated with adequate MHL among high school students,<sup>2,9</sup> but several other studies stated that females were significantly associated with adequate MHL.<sup>2,8,13,16,21</sup> With these inconclusive findings, programs or interventions to achieve adequate MHL should be developed to target both female and male high school students. This study also found that being older had no association with adequate MHL, similar to a previous study,<sup>21</sup> although this is inconsistent with several other studies.<sup>2,6,16</sup> The inconclusive findings of the present study may reflect the restricted age range of the included high school students.

Moreover, this study found that parents' marital status and living arrangements had no association with MHL. Among high school students, parents were the main source of students' information regarding mental health.<sup>6</sup> However, it could be possible that living with family does not guarantee a happy life and support for students. These findings suggest that other forms of social support such as healthcare providers and educators could provide knowledge of mental health problems to prevent or reduce mental disorder rates among adolescents. Moreover, policy reforms within educational institutions should establish mental health by integrating the development of cognitive ability as a component of curricula and providing funding for local education and behavioral health authorities to increase mental health awareness and promotion in schools.

## LIMITATIONS

There are three limitations to this study. First, our findings may have limited generalizability to other groups than adolescents attending secondary schools in Nakhon Pathom province, Thailand. Although most adolescents have a similar academic level, there may be differences in Thailand's regions and urban and rural areas, in addition to other countries which may not have the same characteristics. Second, we used a cross-sectional design, which may not reflect sequences and patterns of the relationship among all study variables, which are likely to change over time. A longitudinal design would be preferable to explain these effects more accurately.

## RECOMMENDATION

A high level of adequate mental health literacy was found in the sample of Thai secondary school students. The findings from the present study imply that academic performance, experiencing depressive symptoms, being at the senior high school level, and having psychological distress were more likely to contribute to adequate mental health literacy. The findings suggest that policy reforms within educational institutions should prioritize mental health literacy in schools by implementing effective prevention programs or curricula for mental disorders to improve adequate mental health literacy among this group of secondary school students. Mental health professionals in the community—especially in school settings—should be included in such a program. The prevention program could educate on knowledge of mental health problems such as depressive symptoms and psychological distress, knowledge of the causes and risks of mental health problems, knowledge of mental health self-care, knowledge of attitudes towards mental

health problems, and knowledge of help-seeking behaviors. The prevention of mental disorders should be focused more on students with low academic performance and those at the junior level. Future research should seek to examine socio-economic factors, including parents' education level, parents' occupation, family size, and parents' income, as well as other socio-cultural factors, including regional and urban-rural settings, that are associated with mental health literacy. A better understanding of these factors could help reduce mental health problems and prevent mental disorders among adolescents and adults.

## REFERENCES

1. World Health Organization. Recognizing adolescence [Internet]. [Cited 2022 May 16]. Available from: <https://apps.who.int/adolescent/second-decade/section2/page1/recognizing-adolescence.html>
2. Al-Shannaq Y, Darwish S, Mohammad AA, Jaradat D. Depression and depression literacy among adolescent school students. *Jordan J Nurs Res*. 2023;2:55-68. doi: <https://dx.doi.org/10.14525/JJNR.v2i1.08>
3. UNICEF, Institute for Population and Social Research, Burnet Institute: Strengthening mental health and psychosocial support systems and services children and adolescents in East Asia and the Pacific: Thailand Country Report. UNICEF, Bangkok, 2022.
4. Choychoda S, Hale W W, Sarayuthpitaka J, Tangdhanakanond K. A cross-sectional study on the prevalence of Thai adolescent depression. *KJSS*, 2023;44:509–16. doi: 10.34044/j. kjss.2023.44.2.21
5. Seedaket S, Turnbull N, Phajan T, Wanchai A. Improving Mental Health Literacy in Adolescents: Systematic Review of Supporting Intervention



- Studies. *Trop Med Int Health*. 2020;25(9):1055–64. doi:10.1111/tmi.13449
6. Abonassir AA, Siddiqui AF, Abadi SA, Al-Garni AM, Alhumayed RS, Tirad RS, et al. Mental health literacy among secondary school female students in Abha, Saudi Arabia. *J Family Med Prim Care*. 2021;10(2):1015-20. doi: 10.4103/jfmprc.jfmprc\_2083\_20.
7. Jorm AF. Mental health literacy. Public knowledge and beliefs about mental disorders. *Br J Psychiatry*. 2000;177:396-401. doi: 10.1192/bjp.177.5.396.
8. Pehlivan Ş, Tokur Kesgi NM, Uymaz P. Psychological distress and mental health literacy in university students. *Perspect Psychiatr Care*. 2021;57(3):1433-41. doi: 10.1111/ppc.12709.
9. Zhang X, Yue H, Hao X, Liu X, Bao H. Exploring the relationship between mental health literacy and psychological distress in adolescents: A moderated mediation model. *Prev Med Rep*. 2023;33:102199. doi: 10.1016/j.pmedr.2023.102199.
10. Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P. "Mental health literacy": a survey of the public's ability to recognise mental disorders and their beliefs about the effectiveness of treatment. *Med J Aust*. 1997;166(4):182-6. doi: 10.5694/j.1326-5377.1997.tb140071.x.
11. Jorm AF. Mental health literacy: empowering the community to take action for better mental health. *Am Psychol*. 2012;67(3):231-43. doi: 10.1037/a0025957.
12. Kutcher S, Wei Y, Coniglio C. Mental Health Literacy: Past, Present, and Future. *Can J Psychiatry*. 2016;61(3):154-8. doi: 10.1177/0706743715616609.
13. Singh S, Zaki RA, Farid NDN. Adolescent mental health literacy and its association with depression. *ASM Science Journal*. 2018;13(5):207–16.
- Singh S, Zaki RA, Farid NDN, Kaur K. The Determinants of Mental Health Literacy among Young Adolescents in Malaysia. *Int J Environ Res Public Health*. 2022;19(6). doi: 10.3390/ijerph19063242.
14. Abdelsalam NM, Said RM. Level and predictors of mental health literacy of depression and suicide among undergraduate medical students. *Middle East Curr Psychiatry*. 2022;29:64. <https://doi.org/10.1186/s43045-022-00229-6>
15. Bragg TL, Segal DL, Coolidge FL. Mental health literacy and attitudes about mental disorders among younger and older adults: a preliminary study. *Open J Geriatr*. 2018;1(2):1–6.
16. Chidmongkol R, Mueannadon R, Kaewma S. Depression and Mental Health Literacy in Adolescents. *Journal of Nursing and Health Research*. 2020;21(2):40-51.
17. Chidmongkol R, Aryuwat P, Laoratsri P. Mental Health Literacy of Junior High School in School of Non Soong Sub-district, Muang District, Udon Thani. *Nursing, Health, and Education Journal*. 2019;22:35-42.
18. Yosson S, Boonchieng W, Kueausukon P. Mental health literacy among junior high school students in schools under municipal jurisdiction. *Journal of Nursing and Health Research*. 2023;24(1):107-19.
19. Supreeyaporn N. School Mental Health: Guideline for Mental Health Promotion in Adolescents. *Journal of Education Studies*. 2023;51(1):EDUCU5101002 (13 pages) doi: 10.14456/educu.2023.2.
20. Namdej N, Phongsakchat P, Sangournpak O. Mental Health

- Literacy among Senior High School Students in Saraburi Province. *J Nurs Educ.* 2018;11(3):125-38.
21. Secondary Educational Service Area Office Nakhon Pathom. Academic year information. [Internet]. [cited 2022 May 16]. Available from: <https://www.mathayom-npt.go.th/bigdatapmnpt/index.php>
22. Kaewprom C, Yuthavisut S, Pratoom L, Boontum A. Mental health literacy among village health workers A case study of two sub-districts in Kloong, Chantaburi. *J HEALTH Sci.* 2014; 8(1):10-6.
23. Nilchaikovit T, Sukying C, Silpakit C. Reliability and validity of the Thai version of the General Health Questionnaire. *J Psychiatr Assoc Thailand.* 1996;41(1):2-17.
24. Arslan S, Karabey S. High School Students' and Teachers' Mental Health Literacy Levels in Istanbul, Turkey: A Comprehensive Analysis. *J Sch Health.* 2023;93(8):698-706. doi: 10.1111/josh.13316.
25. Nobre J, Calha A, Luis H, Oliveira AP, Monteiro F, Ferré-Grau C, et al. Mental Health Literacy and Positive Mental Health in Adolescents: A Correlational Study. *Int J Environ Res Public Health.* 2022;19(13). doi: 10.3390/ijerph19138165.
26. Coles ME, Ravid A, Gibb B, George-Denn D, Bronstein LR, McLeod S. Adolescent Mental Health Literacy: Young People's Knowledge of Depression and Social Anxiety Disorder. *J Adolesc Health.* 2016; 58(1):57-62. doi: 10.1016/j.jadohealth.2015.09.017.
27. Pumpayung P, Taifapoon T. Influence of opinion leaders in online social network on stigma, attitude and decision making towards mental healthcare service. *Journal of Public Relations and Advertising.* 2018; 11(1):21–42.