Factors Predicting Mental Health Problems among Vocational Education Students in Eastern Thailand: A Cross-sectional Study

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Abstract: Vocational education is studying courses that allow students to learn specific, practical skills for the establishment. However, both the curriculum courses and the lifestyles of students may be affected by multiple factors that influence their mental health. Understanding various factors predicting the mental health status of these students is necessary to develop programs for preventing mental health problems. This cross-sectional study aimed to identify biopsychosocial factors predicting depression, anxiety, and stress among vocational education students in the East of Thailand. Multistage cluster sampling was applied to recruit 1,474 voluntary participants. Data was collected using six questionnaires, including Sociodemographic Data, the Brief-Alcohol, Smoking, and Substance Involvement Screening Test, The Substance Use Risk Profile Scale, The Revised Olweus Bully/Victim Questionnaire, Difficulties in Emotion Regulation Scale-short form, Depression Anxiety and Stress Scale. Multivariable logistic regression was employed for data analyses.

The findings revealed that students reported depression (11.6%), anxiety (20.8%), and stress (3.9%), all classified at a mild level. The strongest predicting factor of depression was the hopelessness personality profile. At the same time, anxiety was predicted by victim and bullying behavior patterns, and stress was predicted by substance use behaviors. In addition, the difficulty of emotional regulation was associated with all their mental health problems. The results suggested that personnel in educational institutions and community nurses should promote students' abilities to regulate emotions and personality development and prevent bullying behaviors. Through the use of nursing process to screen for these significant factors and monitor at-risk students based on our findings should help to reduce the incidence rate and severity of mental health problems.

Keywords: Anxiety, Bullying, Cross-sectional study, Depression, Education, Stress, Mental health, Vocational students

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Introduction

It is estimated that one in seven adolescents in East Asia and the Pacific region is at risk of developing mental health problems.[1] A nationwide study reported in 2023 found that 7,285 of 180,000 Thai adolescents, or 4.5%, had stress and anxiety, depression, and deliberate self-harm behavior with 28%, 32%, and 22%, respectively.[1] Adolescents studying in vocational education institutions in Thailand are classified as a vulnerable group at risk of mental health problems.[2]

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The change from studying in regular academic courses to vocational courses to prepare for the labor market of developing countries results in adolescents adjusting themselves to new curriculum courses, teachers, and friends.[3] In addition, the social perspective of these students may be reflected as tendencies towards causing crimes, the conduct of violence between students in different vocational institutions, and drug problems.[4] Furthermore, family economic disparity makes them leave regular academic plans by necessity. Such impacts often result in chronic stress. Some students become anxious and depressed, have feelings of inferiority, and lack of positive motivation, which leads to performing inappropriate behaviors.[3]

Previous studies have indicated that students in vocational courses have higher risk behaviors and mental health problems when compared with those undertaking academic courses. These issues include alcohol consumption, substance and sedative use, depression, suicide, sexual risk behaviors, and problems related to unwanted pregnancies.[2,5] For instance, at least 60% of Indonesian students experience moderate levels of depression, anxiety, and stress.[6] This is consistent with a study in European countries, that found 64.4% reported the prevalence of mental health problems where at least one condition of depression, anxiety, and stress was of moderate to extremely severe level.[7] Although these mental health issues are prevalent among vocational education students, no such studies have been reported in the eastern region of Thailand. The existing research has focused on the mental health of undergraduate students.[8] Therefore, a study on mental health problems and their associated factors among vocational education students is needed to develop prevention programs further.

Literature Review and Conceptual Framework

Students in vocational schools are considered a vulnerable group to develop mental health problems.[3] A literature review found that depression, anxiety, and stress were the most common mental health conditions. These cause impacts on daily life, learning, interpersonal relationships, and health risk behavior patterns.[6,7] In Europe, these mental health problems were reported at 43.3%, 48.8%, and 29.3%, respectively.[7] Although the prevalence of mental health problems in this group was high, this problem was not reported in eastern Thailand. However, the health of vocational students can be related to the national economy, as they are an important source of employment in industries, factories and other establishments. If vocational students have mental health problems, this will affect the main labor force of a country.[2,4] Therefore, studying the factors that affect vocational students' mental health is necessary. However, the components of mental health problems are multifaceted.[9]

For our study, it was necessary to select a conceptual framework to analyze risk factors for mental health problems comprehensively, thus, the Biopsychosocial Model of Mental Health postulated by George L. Engel,[9] and related literature reviews were used. This model posits that deviations in a person's mental health are not caused by a single factor but are the results of complex interaction among various factors in each biological, psychological, and social domain. The biological domain is a change in physiology, neurotransmitters, nutritional status, and heredity that tends to affect mental health.[10] The psychological domain is the cognitive response of individual personality characteristics that affect emotions and behavior disturbance.[10] The sociocultural domain is the interaction between individuals and the environment, namely family, community, workplace, and cultural traditions.[10] These influence thoughts, beliefs, emotions, and behavior. Therefore, this model provides an understanding of a holistic picture of the person, leading to an analysis of trends or risks of mental health problems and a plan to assist them effectively.[9,10]

Examples of how each of these domains is affected by various factors are explained below. Empirical evidence shows that gender identity, underlying diseases, maternal mental illness, and substance use behaviors are biological predictive factors.[11-14] A study among lesbians, gays, bisexuals, and transgender (LGBT) groups found that gender identity and sexual orientation within the

socio-cultural context of Southeast Asians are related to a person's higher perception of stress, especially in those whose gender identity does not conform with their sexual orientation.[11] Additionally, a study found that 233,890 participants with four specific chronic diseases, cholesterol disease, kidney disease, coronary heart disease, and asthma, are related to prolonged poor mental health.[12] For parents to experience mental health problems during pregnancy or the first year of a baby's life, this can affect maternal-child bonding; some of these babies grow up with insecurities, low self-esteem, anxiety, and depressed mood.[13] In addition, the effects of substance withdrawal result in depressed and anxious moods. It is also called the "drug-addicted brain," which causes neurotransmitter disturbance regarding tolerance effects of the substances, causing a person to increase the amount of substance used.[14]

Parental marital status, difficulty with emotional regulation, and at-risk personality profiles are psychological predictive factors.[15-17] A previous study found negative impacts of divorce, step-parent, and single-parent on adolescent anxiety symptoms and resilience, while intimate family relationships affected reducing emotional tension.[15] People with difficulty in emotional regulation will be unable to awareness of dissatisfied stressors with clearly recognized emotions, leading to behavioral and emotional problems such as drug addiction, eating disorders, anxiety, and depression.[16] In addition, some personality profiles have an impact on mental health, such as the neurotic personality type, which expresses negative emotions such as anger, anxiety, and sadness. More than this, a person will respond to stress by impulsive behavior and emotional tension.[17]

For addictive substance use, evidence supports that family, human security and bullying behavior patterns are sociocultural predictive factors.[18-21] Parental addictive substance misuse may influence adolescents' depression, anxiety, and stress from poor family functioning, such as lower quality adolescent-parent communication, family cohesion, and family adaptability.[18] Vocational education students with financial readiness and high specific professional skills tend to have more career readiness. This is the one part of human security classification that increases individual self-confidence and decreases the perception of stress.[19] Also, adolescents' main external environment is friends and educational institutions. The behavioral factors of bullying or being bullied directly affect the mental health response of those affected in the form of isolation behaviors, aggression, anxiety, and depression,[20] In contrast, the bullying person, as the result of an inappropriate stress response, exhibits aggressive behaviors towards those who are weaker.[21]

Engel's[9] Biopsychosocial Model and a review of the literature review suggest that various factors in the three domains of this model act as both protective and risk factors of mental health problems. Thus, this study aimed to determine 1) the prevalence of depression, anxiety, and stress among vocational education students in the eastern region of Thailand and 2) whether **the biological domain** (gender identity, underlying diseases, parental mental illness, and substance use behavior), **the psychological domain** (parental marital status, difficulty of emotional regulation, and at-risk personality profiles (hopelessness, anxiety sensitivity, impulsivity, sensation seeking), and **the socio-cultural domain** (addictive substance uses in family, human security (i.e., income sufficiency and cumulative GPA), and bullying behavior pattern (pure victim, pure bully, and victim and bully behaviors) could predict depression, anxiety, and stress among vocational education students.

Methods

Design: This cross-sectional study with a correlational predictive design is reported here in accordance with the STROBE Statement Checklist.

Sample and Setting: The sample included students majoring in accounting, marketing, construction engineering, and automotive technician courses at four vocational education institutes in the eastern region of Thailand. The inclusion criteria were Thai nationality, age from 15-20 years, ability to read

and write in the Thai language, having no serious mental illness based on information from the classroom teachers, and consenting to participate in the study. The sample size was calculated based on an estimation formula in which the population is known. The size of the population in this study was 105,673 people, determining the proportion of this population to be randomized as = 0.112[22] and with .05 of statistical significance. Thus, 15 % of the 1,337 participants were added to overcome possible missing data. Therefore, a sample size of 1,538 was required. The multistage cluster sampling process for participants' recruitment is illustrated in **Figure 1.**

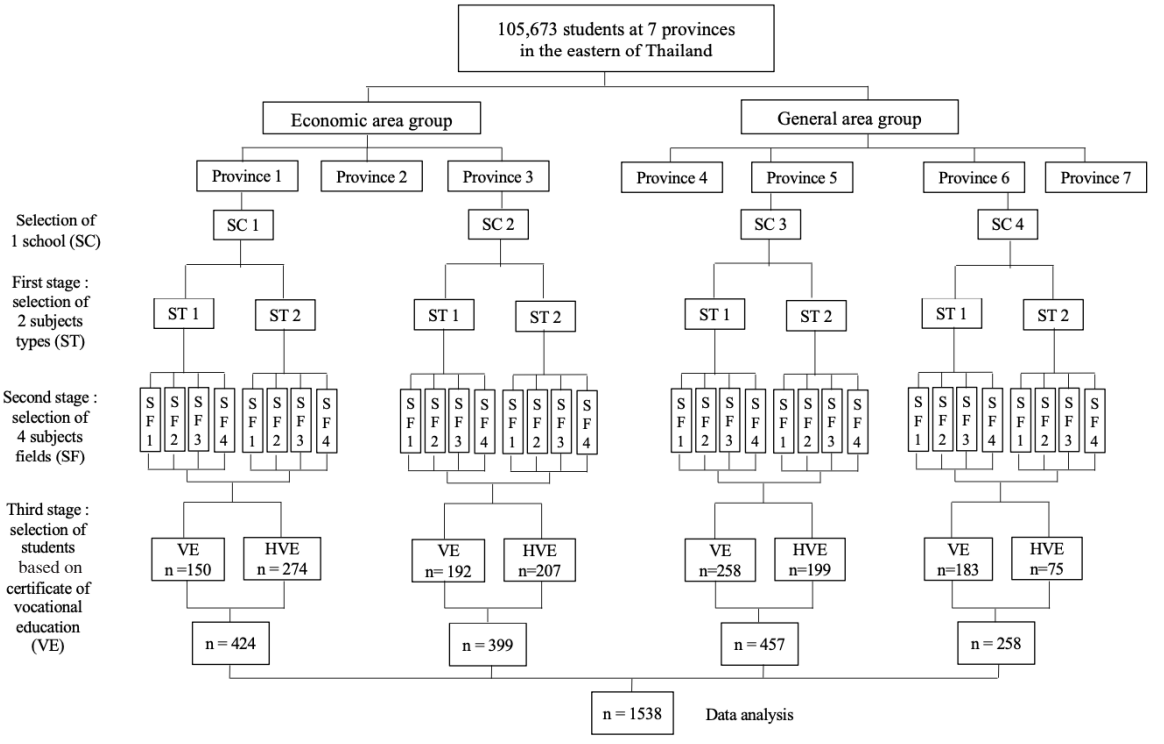

Figure 1. Multistage cluster sampling process for student recruitment survey questionnaire

Ethical Considerations: The Human Research Ethics Committee, Burapha University, certificate #HS045/2566 (C2), reviewed and approved this research, then the directors of all four schools gave their approval. The researchers collected data voluntarily after informing participants of the research objectives, data collection process, time duration, risks and benefits of the study. The participants had the right to refuse or request to stop participating in the research without explaining the reason, and such termination would not affect their schooling. Participants under 18 needed to seek permission from their parents. Both students and their parents were asked to sign the consent form. Information obtained from this study would be presented as a group report and used only for academic purposes.

Instruments: Six instruments were used for data collection. Three education and mental health experts examined all the instruments except the Sociodemographic Data Form and tested them with the item objective congruence index (IOC). Four instruments from 3-6 below were piloted for internal consistency reliability, with 30 participants having characteristics similar to those of the main study.

The Sociodemographic Data Form: The researchers developed this form to obtain age, gender and gender identity, underlying diseases, education level, cumulative GPA, sufficiency of family income, parental marital status, history of parental mental illness, and a history of addictive substance use in the family.

The Brief-Alcohol, Smoking, and Substance Involvement Screening Test (BRIEF-ASSIST) was developed by the World Health Organization (WHO)[23] to screen at-risk behaviors of substance use among vocational students in the last three months. The original English version was back-translated into Thai by Asanangkornchai and Tantirangsi.[24] It comprises 7 items with three sections: Section 1 is the experience of substance use (1 item), Section 2 is main substance usage behaviors such as "How often do you use main substance?" (4 items), and Section 3 seeks experiences in quitting addictive substances and opinions of those involved such as "Have you ever reduced or stopped using the main substance and were you not successful or not?" (2 items). The pattern of individual answer questions is different for each section. Section 1 has yes or no questions; individuals can freely choose answers based on their substance use experience. Section 2 uses a 5-point rating scale for responses ranging from every day = 8, every week = 7, every month = 6, one or two times = 5, and never = 0. Section 3 is a yes or no question for responses from yes = 6 and no = 0. Scores are calculated only for Section 2 and Section 3. The scores range from 0 to 44, with 0-3 scores indicating low risk and no treatment required, 4-26 scores indicating moderate risk and needing counseling, and 27-44 scores indicating high risk and needing treatment.[24] The IOC of the instrument was 0.97.

The Substance Use Risk Profile Scale (SURPS) was developed by Woicik et al.[25] to assess at-risk personality profiles of mental health problems among students. After receiving consent from the developer, the original English version was translated into Thai by the researchers using guidelines for the process of cross-cultural adaptation of self-report measures.[26] This scale contains 23 items comprising four personality profiles: 1) hopelessness (7 items), such as "I believe I was not successful," 2) anxiety sensitivity (5 items), for example, "I was scared when my heartbeat changed," 3) impulsivity (5 items) such as "I often do things without to consider first," and 4) sensation seeking (6 items) such as "I like to do things that make me feel a little scared." The items are assessed on a 4-point scale ranging from strongly disagree = 1 to strongly agree = 4. The total scores for each personality profile: hopelessness, anxiety sensitivity, impulsivity and sensation seeking was 7-28, 5-20, 5-20 and 6-24, respectively. Higher scores indicate a higher personality profile in that aspect.[26] The IOC of this study instrument was 0.90. The Cronbach alpha of each profile in the pilot study were 0.71, 0.73, 0.70, and 0.73, respectively and in the actual study, 0.72, 0.73, 0.71, and 0.74, respectively.

The Revised Olweus Bully/Victim Questionnaire (OBVQ) was developed by Olweus[27] to assess bullying behavior patterns among students in vocational education schools. The original version was in English and translated into Thai with back-translation by Tapanya.[28] We added two items from the literature review, namely sexual harassment and cyberbullying, for a total of 39 items. These items were classified into two groups of bullying behavior patterns; the first group was pure victim behaviors (22 items), for example, "I've been threatened or forced into doing things I didn't want to do." The second group was pure bullying behaviors (17 items), such as "I have used hurtful words, called other names, teased them in ways that caused pain or sadness." A 5-point rating scale was used for responses ranging from not happening for 2 months =1 to several times a week = 5. Interpret the results according to important questions, with only one item indicating pure victim behaviors and one item indicating pure bully behaviors. Each item has scores ranging from 0 to 5, and a score of 3 or more indicates that the respondent has behavioral characteristics in that group. However, if the score is greater than 3 on both items, the respondent

has both behavior patterns. Therefore, bullying behavior patterns can be interpreted into 3 forms: pure victim, pure bully, and victim and bully behaviors.[28] The IOC of this study instrument was 0.95. The Cronbach alpha reliability of both behavior groups in the pilot study was 0.82; in the actual study, it was 0.90 and 0.75, respectively.

The Difficulties in Emotion Regulation Scale-short form (DERS-SF) was developed by Kaufman et al.[29] to assess students' ability to regulate emotions. The original English version was translated into Thai and back-translated by Srisopa et al.[30] It comprises 18 items, with six components of difficulties in emotion regulation: 1) non-acceptance (3 items), such as "I don't know what I'm feeling," 2) difficulties engaging in goal-directed behavior (3 items) for example, "When I'm in a bad mood I have difficulty completing tasks," 3) impulse control difficulties (3 items) such as "When I'm in a bad mood I won't be able to control myself," 4) lack of emotional awareness (3 items) such as "When I'm in a bad mood I feel guilty that I feel that way," 5) limited access to emotion regulation strategies (3 items) such as "When I'm in a bad mood I believed there was nothing I could do to make myself feel better," and 6) lack of emotional clarity (3 items) such as "It took a long time for me to feel better." The items are assessed on 5-point rating estimators ranging from never or infrequently (0-10%) = 1, sometimes (11-35%) = 2, quite often (36-65%) = 3, often (66-90%) = 4, and almost always or consistently (91-100%) = 5. The total score ranges from 18 to 90, with a higher score indicating more emotion regulation difficulties.[30] The IOC of this study instrument was 0.92. The Cronbach alpha coefficient of the pilot test was 0.88, and the main study was 0.81.

The Depression Anxiety and Stress Scale (DASS-21) was developed by Lovibond and Lovibond[31] to assess mental health problems, including depression, anxiety, and stress. The original English version was back-translated into Thai by Oei et al.[32] The questionnaire consists of 21 items; for depression (7 items), such as "I find it difficult to take the initiative for anything," anxiety (7 items) such as "I am worried about events that might cause me to panic and do something embarrassing," and stress (7 items) such as "I find it difficult to relax" that occurred within the past two weeks. The items are assessed on a 4-point rating scale on how often such mental health problems happen, from never or almost never = 0 to very often = 3. Interpretation of scores is calculated separately for each aspect, and the score for each item is multiplied by 2 to make the score consistent with the original DASS-42. Therefore, the score range for each section is from 0 to 42.[32] In this study, the interpretation of abnormal range scores in each mental health problem included depression (10-42), anxiety (8-42), and stress (15-42). The IOC of this study instrument was 0.95. In this pilot study, Cronbach's alpha coefficient for depression was 0.86, anxiety was 0.79, stress was 0.80, and the main study was 0.85, 0.88, and 0.85, respectively.

Data Collection: Data were collected from November to December 2023. The researchers arranged meetings with the participants after class to inform them of the study's purposes and explain the research instruments. After that, the researchers gave participants an opportunity to ask questions and then distributed the questionnaires to them. It took approximately 30-45 minutes for students to complete these questionnaires independently. Then, a classroom teacher collected the questionnaires and kept them in sealed envelopes for delivery to the research team.

Statistical Analysis: The researchers used the SPSS version 26 software package to analyze the data. The sociodemographic data of the participants used descriptive statistics and presented as number, percentage, mean, and standard deviation. The factors associated with depression, anxiety, and stress among participants were analyzed by multivariable logistic regression. In the first step, the researchers adjusted the dependent variables as dummy variables (0 = depression, anxiety, and stress with normal range scores and 1 = depression, anxiety, and stress with abnormal range scores). Then, assumptions required for multivariable logistic regression were tested. There were 64 missing data or outliers

that were deleted. Pearson's correlation coefficients between the predictive variables were less than 0.80, the tolerance values were close to 1 (> 0.5), and the variance inflation factor (VIF) was not more than 10. This indicated no multicollinearity; that is, all independent variables had no degree of relationship with each other. After that, simple logistic regression analysis was used to test the pairwise correlation between predictive variables and each dependent variable. The predictive variables with statistically significant correlation to each dependent variable ($p < 0.05$) were analyzed by multivariable logistic regression using the Enter method.

Results

The researchers received 1,474 questionnaires, accounting for 95.84% of all questionnaires distributed. Most of the participants were males (77.5%) and had male gender identity with average age of 17.87 years (SD = 1.47). The number of those with underlying diseases was 8.1% (n = 119), and 55.6% of students perceived they were in good health (n = 819). There were 745 participants at the vocational certificate level (50.54%), followed by 729 participants from the high vocational certificate level. Most participants had a good GPA with a mean of 3.19 (SD = 0.55). The average monthly income of parents was 4,083.94 THB (USD 112.15), and 68.3% considered they had sufficient income. Most participants had married parents (59.0%), no history of parental mental illness (98.75%), and no history of additive substance use in their family (88.78%).

For the prevalence of depression, anxiety, and stress, it was found that the participants had depression, anxiety, and stress in abnormal range scores, accounted for 11.6% (n = 171), 20.8% (n = 307), and 3.9% (n = 57), respectively.

The associations between predictive variables and depression, using simple logistic regression, are shown in **Table 1.** Male gender identity, bullying behavior patterns with pure victim and victim and bully behaviors, at-risk personality profiles with hopelessness, anxiety sensitivity, impulsivity, sensation seeking, and difficulty of emotional regulation were significantly associated with depression. However, for the predictability of independent variables on depression using multivariable logistic regression, the result indicated that at-risk personality profiles with hopelessness and impulsivity and difficulty of emotional regulation could predict depression, as shown in **Table 2.**

Table 1. Simple logistic regression between predictive variables and depression (N = 1,474)

Predictive variable	BB	SE	p-value	OR	95%CI	
					Lower	Upper
Gender identity						
Male	-.464	.188	.014	.629	.435	.910
Bullying behavior patterns						
Pure victim behaviors	.803	.198	< .001	2.231	1.513	3.290
Victim and bully behaviors	1.115	.215	< .001	3.049	2.002	4.642
At-risk personality profiles						
Hopelessness	.266	.027	< .001	1.305	1.237	1.377
Anxiety sensitivity	.202	.031	< .001	1.224	1.151	1.302
Impulsivity	.257	.033	< .001	1.294	1.213	1.379
Sensation seeking	.100	.027	< .001	1.105	1.048	1.165
Difficulty of emotional regulation	.104	.008	< .001	1.110	1.092	1.128

Table 2. Multivariable logistic regression between predictive variables and depression (N = 1,474)

Predictive variable	B	SE	p-value	Adjusted OR	95%CI	
					Lower	Upper
At-risk personality profiles						
Hopelessness	.227	.031	<.001	1.255	1.180	1.335
Impulsivity	.103	.045	.023	1.109	1.014	1.212
Difficulty of emotional regulation	.086	.009	< .001	1.090	1.070	1.111

Note. - 2 log likelihood = 779.367, Chi-square (df = 11) = 278.672 (p < .001), Nagelkerke R^2 = .336

The associations between predictive variables and anxiety using simple logistic regression are shown in **Table 3.** The results demonstrated that male gender identity, bullying behavior patterns with pure victim and victim and bully behaviors, at-risk personality profiles with hopelessness, anxiety sensitivity, impulsivity, sensation seeking, and difficulty of emotional regulation were significantly associated with anxiety. The predictability of independent variables on anxiety using multivariable logistic regression found that bullying behavior patterns with victim and bully behaviors, at-risk personality profiles with hopelessness and anxiety sensitivity, and difficulty of emotional regulation could significantly mutually predict anxiety **(Table 4).**

Table 3. Simple logistic regression between predictive variables and anxiety (N = 1,474)

Predictive variable	BB	SE	p-value	OR	95%CI	
					Lower	Upper
Gender identity						
Male	-.541	.150	<.001	.582	.434	.781
Bullying behavior patterns						
Pure victim behaviors	.705	.159	<.001	2.024	1.482	2.763
Victim and bully behaviors	1.355	.171	<.001	3.877	2.772	5.423
At-risk personality profiles						
Hopelessness	.144	.021	<.001	1.155	1.109	1.203
Anxiety sensitivity	.236	.026	<.001	1.266	1.203	1.332
Impulsivity	.223	.026	<.001	1.250	1.188	1.316
Sensation seeking	.099	.021	<.001	1.104	1.059	1.152
Difficulty of emotional regulation	.092	.007	<.001	1.097	1.082	1.112

Table 4. Multivariable logistic regression between predictive variables and anxiety (N = 1,474)

Predictive variable	B	SE	p-value	Adjusted OR	95%CI	
					Lower	Upper
Bullying behavior patterns						
Victim and bully behaviors	.863	.254	<.001	2.371	1.440	3.904
At-risk personality profiles						
Hopelessness	.088	.032	.005	1.092	1.027	1.162
Anxiety sensitivity	.111	.044	.012	1.118	1.025	1.219
Difficulty of emotional regulation	.069	.010	< .001	1.072	1.051	1.092

Note. - 2 log likelihood = 660.426, Chi-square (df = 13) = 183.359 (p < .001), Nagelkerke R^2 = .309

Finally, the associations between predictive variables and stress using simple logistic regression are displayed in **Table 5.** Male gender identity, substance use behavior, bullying behavior patterns with pure victim and victim and bully behaviors, at-risk personality profiles with hopelessness, anxiety sensitivity, impulsivity, sensation seeking, and difficulty of emotional regulation were associated with stress. When multivariable logistic regression was performed, this indicated that substance use behavior, at-risk personality profiles with anxiety sensitivity, and difficulty of emotional regulation could jointly predict stress (**Table 6**).

Table 5. Simple logistic regression between predictive variables and stress (N = 1,474)

Predictive variable	BB	SE	p-value	OR	95%CI	
					Lower	Upper
Gender identity						
Male	-.721	.300	.016	.486	.270	.876
Substance use behavior	1.357	.687	.048	3.886	1.011	14.927
Bullying behavior patterns						
Pure victim behaviors	1.054	.350	.003	2.870	1.446	5.679
Victim and bully behavior	1.723	.341	<.001	5.604	2.870	10.940
At-risk personality profiles						
Hopelessness	.172	.039	<.001	1.188	1.100	1.282
Anxiety sensitivity	.351	.056	<.001	1.420	1.274	1.583
Impulsivity	.357	.053	<.001	1.429	1.287	1.585
Sensation seeking	.211	.044	<.001	1.234	1.132	1.345
Difficulty of emotional regulation	.111	.012	<.001	1.118	1.092	1.144

Table 6. Multivariable logistic regression between predictive variables and stress (N = 1,474)

Predictive variable	B	SE	p-value	Adjusted OR	95%CI	
					Lower	Upper
Substance use behavior	1.316	.616	.033	3.728	1.114	12.473
At-risk personality profiles						
Anxiety sensitivity	.235	.109	.031	1.265	1.022	1.566
Difficulty of emotional regulation	.108	.020	< .001	1.114	1.071	1.159

Note. - 2 log likelihood = 167.526, Chi-square (df = 13) = 98.404 (p < .001), Nagelkerke R2 = .407

Discussion

This study found that most vocational education students surveyed in the eastern region of Thailand had a normal range of depression, anxiety, and stress, 88.4%, 79.2%, and 96.1%, respectively. This is opposite to a study of undergraduate students, which found that most of the students had mental health problems at a moderate or higher level when tested using the same instrument as this study.[8] These inconsistent findings could possibly be explained as vocational education students in the EEC area taking classes in specific curricula to meet the needs of their stakeholders, such as employers, establishments, and local businesses. Their studies focus on developing vocational skills based on the learner's potential.[19] The educational information from this study was that most students reported good academic achievement with a high cumulative GPA. In addition, graduated students were in the labor force with available job support, which helps reduce mental health problems from stress and anxiety regarding unemployment.[19] This study's findings align with

a study that examined mental health problems among vocational students in southern Thailand, which screened 314 students with the Mental Health Status Questionnaire (Thai GHQ-28); the majority, 86.30%, had mental health at the normal level. The results of this research conclude that diverse and flexible learning design helped these students adapt to teachers, learning, and other activities.[33]

However, other biopsychosocial variables, including parental marital status, the sufficiency of income, addictive substance uses in the family, sensation-seeking profiles, underlying diseases, parental mental illness, and gender identity, were not associated with depression among vocational education students in the eastern region. These findings can be explained by the fact that most students in this study lived with their marital parents, had good family relations, and had sufficient monthly incomes from their families. These factors help students feel enhanced self-esteem, value, and mental stability.[13] Other than that, good family relationships also protect against developing personality profiles with sensation seeking. Mental health problems usually occur in an abusive family and cause people to have aggressive moods, violent behavior, and substance abuse[34] and thus knowledge of this can help identify adolescents with a high risk of depressive mood and suicidal ideation.[35]

Moreover, most of the students in this study had good health and physical well-being and no history of parental mental illness. These are protective factors that help them to build mental health strength.[13] Previous research with cross-sectional studies found that people with chronic physical illnesses were raised by incompetent mothers due to mental illness during pregnancy, and children's formative years are more likely to have mental illnesses than individuals who are in good health and receiving appropriate care.[12] In addition, parental mental illness is also considered a personal predisposing factor for the development of psychiatric disorders and a significant predictor of life course with emotional distress.[10,13] For gender identity, previous studies found that the level of intensity of control, stigma, and discrimination through various myths about the gender-diverse group varied in different contexts. Private and public areas, such as their home and schools, are specific areas for revealing the identities of people with diverse genders and using their power to create acceptance and gain standing in society.[36] Therefore, they may be proud and not worry about being discriminated against by society, which results in good mental health.

For predicted depression among vocational students, difficulty in emotional regulation and at-risk personality profiles with hopelessness and impulsivity were psychological predictive factors based on the biopsychosocial model. People with a sense of hopelessness have been classified in the group of the neuroticism personality profile.[17] Increasing personal neuroticism scores affect cognitive and behavioral problems, such as the negative perspective of self and environment, distortion of reality, and social isolation. Moreover, the neurotic person is often in trouble with poor impulsive control due to their psychological distress.[37] Adolescents with difficulties in emotional regulation have predisposing factors that tend to the incidence of depression.[16] The main objective of emotion regulation is the realization of one's own potential for regulating adverse emotions and moving towards one's goals. Therefore, promoting a person's awareness of negative emotions helps prevent or reduce depression.[38]

According to the Biopsychosocial Model of Mental Health, difficulty in emotional regulation and at-risk personality profiles with hopelessness and anxiety sensitivity are psychological predictive factors of anxiety.[17,38] At the same time, victim and bully behavior patterns are a sociocultural predictive factor. An Italian co-twin control study by Fagnani et al. found that some personal psychological components, especially those sensitive to negative events, were associated negatively with resilience and caused anxiety.[17] Similarly, those who lack emotional regulation will affect their ability to deal with unsatisfied environments and cause anxiety.[38] Evidence from longitudinal studies conducted between 2003 and 2015 found that 32.03% of 167,286 adolescents in 65 countries had experienced the effects of bullying. These severely impair a person's psychological

functioning, leading to inappropriate behaviors and high levels of anxiety.[39] The perpetrator (a bullying person) repeats the bullying against the victim, causing the individual to have more long-term psychological impairment such as a phobic disorder.[20] Moreover, some victims of bullying communicate to perpetrators later on by transferring violence to others, who have less power to reduce fear in their minds.[21]

For stress among these students, the biological predictive factor was substance use behavior, and psychological predictive factors were the difficulty of emotional regulation and at-risk personality profiles with anxiety sensitivity. Knettel et al. found that 188 college athletes had a positive view towards substance use behavior for dealing with stress, reducing tension, and self-medicating.[40] Moreover, students with high anxiety levels also use substances to reduce feelings of stress.[22] The major purpose of emotional regulation is personal improvement by distinguishing, acknowledging, and recognizing emotional conditions. This process brings psychological flexibility to respond to distress situations and decrease impulsive emotions. Thus, emotion dysregulation is an important indicator of self-vulnerability and produces increasing stress with higher perception than reality.[16,29]

Although the predictive factors of each mental health problem are different, it is interesting that the difficulty of emotional regulation was related to overall mental health problems in vocational education students. This is consistent with a study finding that this factor was a predictive factor for depression, anxiety, and stress among undergraduate students in the eastern region of Thailand.[8] Emotional regulation begins with self-understanding of one's own emotional state, then leads to creating strategies for managing emotions appropriately. These cognitive processes within the person play an important role in preventing mental health problems.[16,38]

Limitations

This study was conducted with vocational education students in the eastern region of Thailand, where the curriculum and teaching methods were specific to the eastern economic corridor of the country. Thus, generalization is limited. Further studies should compare the mental health status of vocational students across different regions of the country, which could help identify cultural or contextual factors that influence mental health outcomes. In addition, in this study, we used the DASS-21 to indicate depression, anxiety, and stress. This instrument is considered a basic screening tool; it is not a specific tool for the in-depth assessment of mental health problems.

Conclusions and Implications for Nursing Practice

This study confirmed that mental health problems stem from various factors. Community nurses and vocational education teachers can use our findings to assess those at risk of mental health problems for early detection and management. However, further testing with various samples in different vocational settings is required. Emphasis should be placed on promoting students' abilities to regulate emotions and personality development and prevent bullying behaviors to prevent mental health problems among vocational education students.

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References

1. Child and Family Policy Knowledge Center (Kid for Kids), Equitable Education Research Institute (EEFI), and The Equitable Education Fund (EEF). Stress and depression in Thai children and youth: inadequate mental health services. [Internet]. 2023 Aug 1 [cited 2024 Mar 4]. Available from: https://www.eef.or.th/infographic-71073/ (in Thai).

2. Luxmeepichet I, Lerdtomornsakul U, Tunneekul P. Preventive measures against violence problems among vocational students in Bangkok and metropolitan regions. J Social Sci Srinakharinwirot University. 2019;22(2): 348358. Available from: https://ejournals.swu.ac.th/index.php/JOS/article/view/12094/10048 (in Thai).
3. The Equitable Education Fund (EEP). Vocational student's depression: "Take off your workshop uniform! We are just adolescents" [Internet]. 2023 Apr 21 [cited 2024 Mar 4]. Available from: https:// https://www.eef.or.th/article-depression-among-vocational-students-210423/ (in Thai).
4. Chaisamritphon T. Vocational culture or "criminal factory" through the true story of a young technician who plunge into the path of guilt [Internet]. 2023 Nov 28 [cited 2024 Mar 4]. Available from: https://www.bbc.com/thai/articles/cz92009kwezo (in Thai).
5. Wittayakarn K, Uapisitwong S, Mekwilai W. The behavioral problems level and related factors among vocational students. Rajanukul Institute J. 2023;35(1):1-16. Available from: https://he03.tci-thaijo.org/index.php/RJJ/article/view/1442 (in Thai).
6. Julianto V, Sumintono B, Wilhelmina TM, Almakhi NPZ, Avetazain H. Mental health condition of vocational high school students during COVID-19 pandemic in Indonesia. Asian J Psychiatr. 2023;82:103518. doi: 10.1016/j.ajp.2023.103518.
7. Abela C, Abela A, Camilleri L. Mental health difficulties and health related quality of life amongst late adolescents in vocational education. Int J Emot Educ. 2024;16(1):106-24. doi:10.56300/CLDF4068.
8. Srisopa P, Moungkum S, Hengudomsub P. Factors predicting depression, anxiety, and stress of undergraduate students in the eastern region of Thailand. Nurs Sci J Thail. 2023; 41(3):109-22. Available from: https://he02.tci-thaijo.org/index.php/ns/article/view/260049
9. Engel GL. The clinical application of the biopsychosocial model. Am J Psychiatry. 1980;137(5):535-44. doi: 10.1176/ajp.137.5.535.
10. Santos JC, Bashaw M, Mattcham W, Cutcliffe JR, Giacchero Vedana, KGG. The biopsychosocial approach: towards holistic, person-centred psychiatric/mental health nursing practice. In: Santos JC, Cutcliffe J, editors. European psychiatric/mental health nursing in the 21st century principles of specialty nursing. Cham, Switzerland: Springer; 2018. Available from: https://doi.org/10. 1007/978-3-319-31772-4
11. Alibudbud R. Gender and sexuality in mental health: perspectives on lesbians, gays, bisexuals, and transgender (LGBT) rights and mental health in the ASEAN region. Front Sociol. 2023;8:1174488. doi: 10.3389/fsoc.2023.1174488.
12. Huang Y, Loux T, Huang X. Feng X. The relationship between chronic diseases and mental health: a cross-sectional study. Ment Health Prev. 2023;32(3):200307. doi: 10.1016/j.mhp.2023.200307.
13. Kamis C. The long-term impact of parental mental health on children's distress trajectories in adulthood. Soc Ment Health. 2021;11(1):54-68.doi:10.1177/2156869320912520.
14. Steinfeld MR, Torregrossa MM. Consequences of adolescent drug use. Transl Psychiatry. 2023;13:313. doi: 10.1038/s41398-023-02590-4.
15. Younas F, Gutman LM. Parental risk and protective factors in child maltreatment: a systematic review of the evidence. Trauma Violence Abuse. 2023;24(5):3697-14. doi: 10.1177/15248380221134634.
16. Menefee DS, Ledoux T, Johnston CA. The importance of emotional regulation in mental health. Am J Lifestyle Med. 2022;16(1):28-31.doi:10.1177/15598276211049771.
17. Fagnani C, Gigantesco A, Giacomini G, Medda E. Connecting psychosocial and personality characteristics with mental health outcomes. An Italian co-twin control study. Prev Med Rep. 2023;37:102559. doi: 10.1016/j.pmedr.2023.102559.
18. Substance Abuse and Mental Health Services Administration. Substance use disorder treatment and family therapy: updated 2020 [Internet]. 2020 [cited 2024 May 24]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK571087/
19. Tantixalerm C, Kitnuntaviwat V. Development of a guideline prototype for enhancing career readiness of students with special needs in vocational education institutions. RSjournal [Internet]. 2022;19(1):130-50. Available from: https://so03.tci-thaijo.org/index.php/RSjournal/article/view/269961 (in Thai).
20. Guo Y, Tan X, Zhu QJ. Chains of tragedy: the impact of bullying victimization on mental health through mediating role of aggressive behavior and perceived social support. Front Psychol. 2022;13:988003. doi: 10.3389/fpsyg.2022.988003.

21. Källmén H, Hallgren M. Bullying at school and mental health problems among adolescents: a repeated cross-sectional study. Child Adolesc Psychiatry Ment Health. 2021; 15(1):74. doi: 10.1186/s13034-021-00425-y.
22. Assanangkornchai S, Sai-ngam D, Walailak I, Jinphon P, Chindet A, Charoenrat S, et al. The fourth surveillance of alcohol, tobacco, substance use and health-risk behaviors among high school students in Thailand in 2018. Bangkok: Center for Alcohol Studies; 2018 (in Thai).
23. World Health Organization (WHO). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): manual for use in primary care [Internet]. 2010 Jan 1 [cited 2024 Mar 4]. Available from: https://www.who.int/publications/i/item/978924159938-2
24. Assanangkornchai S, Tantirungsi N. ASSIST screening form-Thai version and brief treatment. Nonthaburi: Thai Health Promotion Foundation; 2014 (in Thai).
25. Woicik PA, Stewart SH, Pihl RO, Conrod PJ. The Substance Use Risk Profile Scale: a scale measuring traits linked to reinforcement-specific substance use profiles. Addict Behav. 2009;34(12):1042-55. doi: 10.1016/j.addbeh.2009.07.001.
26. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. Spine (Phila Pa 1976). 2000; 25(24):3186-91. doi: 10.1097/00007632-200012150-00014.
27. Olweus D. The revised Olweus Bully/Victim Questionnaire. Research Center for Health Promotion (HEMIL Center). Bergen: University of Bergen; 1996.
28. Tapanya S. Study to develop a model for sustainable prevention of violence against children. Bangkok: Thai Health Promotion Foundation; 2007.
29. Kaufman EA, Xia M, Fosco G, Yaptangco M, Skidmore CR, Crowell SE. The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): validation and replication in adolescent and adult samples. J Psychopathol Behav Assess. 2016;38:443-55. doi: 10.1007/s10862-015-9529-3.
30. Srisopa P, Moungkum S, Hengudomsub P, Sirikit R. The Thai version of Difficulties in Emotion Regulation Scale-short form: validation among undergraduate students. Ment Health Prev. 2023;32(3):200309. doi: 10.1016/j.mhp.2023.200309.
31. Lovibond PF, Lovibond SH. The structure of negative emotional states: comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventory. Behav Res Ther. 1995;33(3):335-43. doi: 10.1016/0005-7967(94)00075-u.
32. Oei TP, Sawang S, Goh YW, Mukhtar F. Using the Depression Anxiety Stress Scale 21 (DASS-21) across cultures. Int J Psychol. 2013;48(6):1018-29. doi: 10.1080/00207594.2012.755535.
33. Na Ayutthaya SK, Jitprapun N, Wannawilai P, Phupetch K. Mental health status and adjustment of vocational college students, Songkhla. Songklanagarind J Nurs. 2016;36(4): 146-59. Available from: https://he02.tci-thaijo.org/index.php/nur-psu/article/view/73568 (in Thai).
34. Peritogiannis V. Sensation/novelty seeking in psychotic disorders: a review of the literature. World J Psychiatry. 2015;5(1):79-87. doi: 10.5498/wjp.v5.i1.79.
35. Méndez-Bustos P, Fuster-Villaseca J, Lopez-Castroman J, Jiménez-Solomon O, Olivari C, Baca-Garcia E. Longitudinal trajectories of suicidal ideation and attempts in adolescents with psychiatric disorders in Chile: study protocol. BMJ Open. 2022;12(2):e051749. doi: 10.1136/bmjopen-2021-051749.
36. Khangpiboon K. Sexual diversity rights as equal citizenship and social welfare needs on developing countries [Internet]. 2021 [cited 2024 May 30]. Available from: https://socadmin.tu.ac.th/uploads/socadmin/file_document/ (in Thai).
37. Kang W, Steffens F, Pineda S, Widuch K, Malvaso A. Personality traits and dimensions of mental health. Sci Rep. 2023;13(1): 7091. doi: 10.1038/s41598-023-33996-1.
38. Ruan QN, Chen YH, Yan WJ. A network analysis of difficulties in emotion regulation, anxiety, and depression for adolescents in clinical settings. Child Adolesc Psychiatry Ment Health. 2023;17(1):29. doi: 10.1186/s13034-023-00574-2.
39. Man X, Liu J, Xue Z. Effects of bullying forms on adolescent mental health and protective factors: a global cross-regional research based on 65 countries. Int J Environ Res Public Health. 2022;19(4):2374. doi: 10.3390/ijerph19042374.
40. Knettel BA, Cherenack EM, Rougier-Chapman C, Bianchi-Rossi C. Examining associations of coping strategies with stress, alcohol, and substance use among college athletes: implications for improving athlete coping. JIS. 2023;16(2): 186-204. doi: 10.17161/jis.v16i2.18397.

ปัจจัยทำนายปัญหาสุขภาพจิตของนักเรียนอาชีวศึกษาในเขตภาคตะวันออกของประเทศไทย : การศึกษาภาคตัดขวาง

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บทคัดย่อ: อาชีวศึกษาเป็นการเรียนในหลักสูตรที่เปิดโอกาสให้ผู้เรียนได้เรียนรู้ทักษะการปฏิบัติเฉพาะสำหรับสถานประกอบการ อย่างไรก็ตาม การเรียนตามแผนในหลักสูตรและวิถีชีวิตของผู้เรียนอาจได้รับผลกระทบจากปัจจัยหลากหลายประการที่ส่งผลต่อสุขภาพจิต การทำความเข้าใจกับปัจจัยที่สามารถทำนายภาวะสุขภาพจิตของนักเรียนเหล่านี้จึงเป็นสิ่งจำเป็น เพื่อนำไปสู่การสร้างรูปแบบการป้องกันปัญหาสุขภาพจิต การศึกษาภาคตัดขวางนี้ มีวัตถุประสงค์เพื่ออธิบายปัจจัยทำนายทางชีวจิตสังคมที่ส่งผลต่อภาวะซึมเศร้า ภาวะวิตกกังวล และความเครียดของนักเรียนอาชีวศึกษาในเขตภาคตะวันออกของประเทศไทย ใช้การสุ่มตัวอย่างแบบแบ่งกลุ่มหลายขั้นตอนเพื่อคัดเลือกอาสาสมัครเข้าร่วมวิจัยจำนวน 1,474 คน เก็บรวบรวมข้อมูลด้วยแบบสอบถาม 6 ชุด ได้แก่ ข้อมูลลักษณะทางประชากรและสังคม แบบคัดกรองประสบการณ์ในการใช้ยาสูบ สุรา และสารเสพติดตัวอื่นๆ ฉบับย่อ แบบวัดบุคลิกภาพเสี่ยงต่อการใช้สารเสพติด แบบสอบถามการข่มเหงรังแกกันของโอลเวียสฉบับปรับปรุง แบบสอบถามความยากในการกำกับอารมณ์ฉบับย่อ และแบบสอบถามภาวะซึมเศร้า วิตกกังวล และความเครียด ใช้การถดถอยโลจิสติกแบบหลายตัวแปรในการวิเคราะห์ข้อมูล

ผลการวิจัยพบว่า นักเรียนมีภาวะซึมเศร้าร้อยละ 11.6 วิตกกังวลร้อยละ 20.8 และความเครียดร้อยละ 3.9 โดยทั้งหมดนี้จัดอยู่ในระดับเล็กน้อย ปัจจัยทำนายภาวะซึมเศร้าที่สำคัญที่สุด คือ บุคลิกภาพแบบสิ้นหวัง สำหรับภาวะวิตกกังวล คือ รูปแบบพฤติกรรมข่มเหงรังแกในลักษณะเป็นทั้งผู้ถูกรังแกและรังแกผู้อื่น ในขณะที่ความเครียด คือพฤติกรรมการใช้สารเสพติด นอกจากนี้ ความยากในการกำกับอารมณ์มีความสัมพันธ์กับทุกปัญหาสุขภาพจิต งานวิจัยนี้ให้ข้อเสนอแนะว่าบุคลากรในสถานศึกษาและพยาบาลชุมชนควรส่งเสริมความสามารถของนักเรียนในการควบคุมอารมณ์ การพัฒนาบุคลิกภาพ และป้องกันพฤติกรรมข่มเหงรังแก อย่างไรก็ตาม กระบวนการพยาบาลโดยการคัดกรองและติดตามนักเรียนกลุ่มเสี่ยงจากปัจจัยที่พบ จะช่วยลดอัตราการเกิดและความรุนแรงของปัญหาสุขภาพจิตได้

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คำสำคัญ: ภาวะวิตกกังวล การกลั่นแกล้ง การศึกษาภาคตัดขวาง ภาวะซึมเศร้า การศึกษา ความเครียด สุขภาพจิต นักเรียนอาชีวศึกษา

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