

# The Impact of Stressors on Depressive Symptoms Among Youth Myanmar Migrant Workers in Thailand: A Cross-Sectional Study

Nanda Win , Nuchanad Hounnaklang , Pankaew Tantirattanakulchai , Alessio Panza

College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand

Correspondence: Alessio Panza, College of Public Health Sciences, Chulalongkorn University, Sabbasastravicaya Building (10th - 12th Floor), Soi Chulalongkorn 62, Phyathai Road, Pathumwan, Bangkok, 10330, Thailand, Tel +66 2218 8205, Fax +66 2255 6046, Email [alessio3108@hotmail.com](mailto:alessio3108@hotmail.com)

**Background:** Many youths suffer from depressive symptoms globally, especially youth migrant workers who are more vulnerable to depressive symptoms than non-migrant youths. Given the extensive literature reviewed, little is known about the impact of stressors on depressive symptoms among young migrant populations. Therefore, this study aimed to investigate the impact of stressors on depressive symptoms among young Myanmar migrants in Thailand.

**Methods:** This cross-sectional analytical study was conducted between August and December 2023, using self-administered questionnaires. The sample size was 165 young migrant workers in Myanmar by simple random sampling. The exclusion criteria were participants who had serious physical illness or acute mental illness, and unwillingness to participate in the study. Sociodemographic characteristics, Rosenberg Self-Esteem Scale, and CESD (The Center for Epidemiological Studies-Depressive symptoms) were included in the questionnaires. Chi-square and Fisher exact tests were used for descriptive statistics. Hierarchical linear regression analysis was used to examine the association between stressors, self-esteem, coping behavior, and depressive symptoms.

**Results:** It was found that 47.9% of young Myanmar migrant workers had experienced depressive symptoms. Depressive symptoms was associated with four variables: workplace stressors ( $\beta = 0.525$ ,  $p < 0.001$ ), security stressors ( $\beta = 0.181$ ,  $p < 0.01$ ), living stressors ( $\beta = 0.126$ ,  $p < 0.05$ ), and self-esteem ( $\beta = -0.135$ ,  $p < 0.05$ ).

**Conclusion:** According to hierarchical linear regression analysis, workplace, security, and living stressors significantly increased depressive symptoms scores, whereas self-esteem decreased depressive symptoms scores among young 165 Myanmar migrant workers. Therefore, policymakers should be encouraged to establish preventive measures against specific stressors. In addition, many young migrant workers have been found to experience depressive symptoms. Mental health care should be prioritized and made accessible to this vulnerable and risky group.

**Keywords:** depressive symptoms, youth migrant workers, stressors, Myanmar

## Introduction

According to the World Migration Report, the percentage of migrants in 2015 was around 3.3% of the world's population.<sup>1</sup> The number of migrant workers had been increasing from 100 million in 1960, to 153 million in 2000, and 244 million in 2015.<sup>2</sup> After the establishment of The Association of Southeast Asian Nations (ASEAN) Economic Community in 2015, it is larger economic integration and cooperation, and higher immigration of labors within ASEAN member countries according to their multinational agreement. Thailand is one of the countries along with Singapore and Malaysia facing a rapid flow of transnational migration from a recent publication from the World Bank report.<sup>3</sup> The number of migrants in 2018 was approximately 4.9 million, and the number of migrant laborers from Myanmar, Laos, Vietnam, and Cambodia was 3.9 million. Myanmar migrant workers constituted the largest proportion (67%), followed by Cambodian migrant workers (23%), and Lao migrant workers (10%).<sup>4</sup> Since Thailand is becoming an aging society, the number of migrant laborers is predicted to increase to fill the labor shortage.

Today, the number of youth is approximately 1.2 billion youth which is 16% of the global population. By 2030, it is predicted that the number of youth will increase by 7% to nearly 1.3 billion according to the Sustainable Development Goals (SDG).<sup>5</sup> In 2018, the number of youth Myanmar migrant workers in Thailand was around 300,000 to 400,000.<sup>6</sup> The youth population has been facing multifaceted challenges such as poor access to education, health, employment, and gender equality. Crossing national borders is one of the crucial rationales for youth Myanmar migrant workers due to economic inequalities, political and environmental crises, and seeking employment.<sup>7</sup>

Migrants have various experiences that influence their health throughout all stages of the migration process. They go through high occupational stressors, such as unfairness, minimal wages, dirty, difficult and dangerous working environment, lack of legal status and poor living environment.<sup>8–12</sup> These unfavorable situations can increase depressive symptoms.<sup>13</sup> A systematic review of health issues among foreign workers identified poor working conditions and health problems associated with these conditions, including mental health issues including depressive symptoms.<sup>14</sup> Migrant workers are susceptible to depressive symptoms due to the demanding nature of their jobs and the limited resources available to support them.<sup>15,16</sup> Migrant workers frequently find themselves in high-risk occupational environments such as construction sites, manufacturing plants, and small mining operations, where safety measures and health services are often inadequate. Additionally, they commonly face job stressors such as long working hours, structural and occupational discrimination, and an imbalance between effort and reward.<sup>12,17</sup>

Additionally, inadequate living conditions among migrant workers have been associated with increased rates of depressive symptoms.<sup>18</sup> The lack of these necessities such as overcrowding, lack of privacy, and poor sanitation can create a stressful inducing environment, which can contribute to the development of depressive symptoms. In a cross-sectional study among Latino migrant workers in the United States, poor living condition was linked to the depressive symptoms.<sup>18</sup> In a cross-sectional study among 300 Myanmar migrant factory workers in Ratchaburi province, Thailand, there was significant association between living status and depressive symptoms.<sup>19</sup> Another significant risk factor for depressive symptoms among migrant workers is security-related stress. Studies have shown that the threat of arrest, deportation, police raids, and barriers to leaving the workplace contribute to depressive symptoms among migrant workers in factory settings. These conditions, which restrict movement and prevent job changes, limit access to basic labor rights and have a profound impact on mental health.<sup>20</sup>

These stressful life events are among the most powerful triggers of depressive episodes in humans. The brain's response to these stressors is complex, involving the activation and inhibition of neurons that influence sensory, motor, autonomic, cognitive, and emotional functions.<sup>21</sup> Stressor is defined as any event, force, or condition that results in physical or emotional stress according to American Psychological Association while depressive symptoms is a mood disorder characterized by persistent feelings of sadness, loss of interest, and a range of emotional, behavioral, and cognitive symptoms that impact an individual's well-being and daily functioning. From the result of a systematic review, migrant workers were exposed to several mental health problems, especially depressive symptoms becoming global public health issues.<sup>12,22–24</sup> Depressive symptoms was the third global disease burden.<sup>25</sup> A previous 50 meta-analysis researches pointed out that migrant workers suffered higher depressive symptoms than the non-migrant workers and the community.<sup>26</sup> In a study among 398 Myanmar migrants in Thailand, the prevalence of depressive symptoms was at 46.98%.<sup>27</sup> This burden will cause functional impairment, lower quality of life, decreased productivity, impaired interpersonal relationship and can lead to suicidal ideation, suicidal attempt and suicide.<sup>28</sup> The exposure to above mentioned risk factors indicates an increased risk for migrant workers to suffer of depressive symptoms. However, exposure to risk factors does not always lead to disease, since exposure may be coupled with protective factors, decreasing the likelihood of developing any disease, including depressive symptoms. Protective factors for depressive symptoms include good coping behaviors and high self-esteem, that is, individual's global evaluation of their self-worth and competence. In a cross-sectional study among Mexican migrants in the Midwestern United States, self-esteem and depressive symptoms were indirectly associated with each other. Self-esteem has been suggested as an important job resource for migrant workers at the individual and social level, protecting migrant worker's mental health in stressful work situations.<sup>29</sup>

The integrative model for depressive symptoms can be visualized as a dynamic interaction between the aforementioned components: (1) vulnerability factor (low self-esteem), (2) stressors (workplace, security, living conditions), and (3) coping mechanisms (coping behavior). This comprehensive model highlights the necessity of a multifaceted approach

to understanding and treating depressive symptoms. By examining the interplay between self-esteem, different stressors, and coping mechanisms, mental health professionals can create more specific and effective strategies for prevention and intervention. This method not only addresses the symptoms of depressive symptoms but also targets the underlying causes, leading to improved mental health outcomes. Access to mental health care has been included as an indicator of the development goals. Based on SDG Target 3.4, premature death will decrease by one-third through prevention, treatment, and promotion of mental health and well-being by 2030.

A little is known about the impact of workplace, security, living stressors, coping and self-esteem on depressive symptoms among young Myanmar migrant factory workers in Thailand. However, a previous study examined the relationship between depressive symptoms and living conditions in the central region of Thailand.<sup>19</sup> In addition, a recent study focusing on an association between self-esteem and depressive symptoms among migrants in Macau.<sup>30</sup> Moreover, one previous study focusing only about association between social determinants and depressive symptoms among Myanmar migrant adult workers in Chiang Mai, Northern Thailand.<sup>31</sup> Additionally, one recent study investigated about the association between workplace stressor, security stressor and depressive symptoms among Myanmar migrant adult workers on the Thailand-Myanmar border.<sup>20</sup> In those studies, the target population was not focusing on younger age range. In addition, there exists a research gap in the current literature as recent studies have not included certain variables (workplace stressor, security stressor, living condition stressor, coping, self-esteem) that may be crucial in understanding the full scope of the issue. Therefore, the null hypothesis was that there was no impact of workplace, security, living stressors, coping and self-esteem on depressive symptoms while the alternative hypothesis was there was impacts of workplace, security, living stressors, coping and self-esteem on depressive symptoms.

## Materials and Methods

### Participants and Procedures

This was a cross-sectional, analytical study. Samutprakarn is the hub for distribution centers and also has a large number of industrial estates including warehouses and Thailand factories for sale and rent with 6814 factories. Also, a high concentration of Myanmar migrant workers was working in the said locations of the province with 158,000. By simple random sampling, six factories (one medium-sized and five small-sized factories) in the Samut Prakan Province, Thailand were selected. The inclusion criteria were (1) being Myanmar migrant workers, (2) reading and writing in Burmese language, and (3) aged range between 18–24 years old. The exclusion criteria were (1) participants with serious physical or acute mental illness, and (2) who were not willing to participate in this study. According to inclusion and exclusion criteria, 165 young Myanmar migrant workers were chosen after obtaining the informed consents from the authorities of the factories and workers. Self-administered questionnaires as mentioned in Measurements session were distributed between August and December 2023 at those six factories.

### Measurements

#### Sociodemographic Variables

The sociodemographic variables included age, gender, marital status, education level, monthly income, and duration of residence in Thailand.

#### Workplace Stressors

The stressors consisting of 18 items to measure having difficulties, discrimination and abuse from supervisor or manager at work, was adopted from one recent study.<sup>20</sup> The 5 Likert scale was employed as follows: (1) Never (2) Seldom, (3) Sometimes, (4) Often, (5) Always; and the score was between 0 and 72; while the Cronbach's alpha was 0.85.

#### Security Stressors

It comprises three items that measure participants with problems with local authorities. It was adopted from one recent study.<sup>20</sup> The 5 Likert scale was employed as follows: (1) Never (2) Seldom, (3) Sometimes, (4) Often, (5) Always. The scores ranged from 0 to 12. Cronbach's alpha was above 0.70.

## Living Condition Stressors

It comprises four items that measure the living situation and difficulties faced by migrant workers. It was adopted and modified from one recent report.<sup>32</sup> The 5 Likert scale was employed as follows: (1) Never, (2) Seldom, (3) Sometimes, (4) Often, and (5) Always. The scores ranged from 0 to 20. Cronbach's alpha was above 0.70.

## Self-Esteem

To measure participant's overall feelings of self-worth or self-acceptance, Rosenberg self-esteem scale was used.<sup>33</sup> The scale consisted of ten items, using a 4 Likert scale such as (1) strongly agree, (2) agree, (3) disagree, and (4) strongly disagree). The scores ranged from 0 to 30. Cronbach's alpha was 0.73.

## Coping Behavior

This scale measures how an individual experiences a stressed or depressed mood. It consisted of ten items. It was adopted and modified from a recent study.<sup>27</sup> It uses a 4 Likert scale ranging from hardly true to completely true. The scores ranged from 0 to 52. Higher scores indicate better coping behaviors. Cronbach's alpha was above 0.70.

## Depressive Symptoms

CES-D questionnaire was used in this study for measuring a lower mood, feelings of fault/worthlessness, a sense of helplessness/hopelessness, psychomotor retardation, anorexia, and insomnia the whole one week.<sup>34</sup> It is composed of 20 items. It is a 5-point Likert scale included "less than one day", "1–2 days", "3–4 days", and "5–7 days". The score was between 0 and 60, and the cut-off point was 16. Cronbach's alpha value was 0.78.

## Data Analysis

Data were analyzed by applying SPSS (Statistical Package for The Social Sciences) version 29.0. Descriptive statistics were used to establish the characteristics of Myanmar migrant workers and assess the prevalence of depressive symptoms. Chi-square and Fisher exact tests were used to assess the association between sociodemographic characteristics and depressive symptoms. Hierarchical linear modelling was applied to analyze the variables that contributed significantly to the variance in depressive symptoms. The first model included three stressors: the workplace, security, and living conditions. The coping behavior was entered into the second model. Coping behavior was removed and self-esteem was added to the third model. In the final model, all the four factors were added to each block. To clarify the changes in effect size while adjusting for various predictors in the models, a standardized beta coefficient was provided. The significance level was set at  $p < 0.05$ .

## Results

### Descriptive Statistics

The sample size was 165 participants; their sociodemographic characteristics are outlined in Table 1. With ages from 18 to 24 years, the mean age was 21.18 years (SD = 1.85) years. Among them, 36 (21.8%) were adolescents. Most participants were men (53.3%), single (85.5%), had a primary school education level (46.7%), had between 9000 and 15,000 THB monthly income (59.4%), and stayed in Thailand for one and two years (49.7%). According to the chi-square analysis, education level was statistically significant with depressive symptoms ( $\chi^2$  value= 119.099,  $p=0.035$ ), and monthly income was also statistically significant with depressive symptoms ( $\chi^2$  value= 80.072,  $p < 0.001$ ) (Table 1).

### Simple Linear Regression Analysis

For crude and adjusted associations between independent variables and depressive symptoms, simple and hierarchical linear regressions were used (Table 2). According to simple linear regression, workplace stressors were the strongest predictor for depressive symptoms, with  $\beta = 0.701$  and  $R^2 = 0.491$ . There was an indirect relationship between coping behavior, self-esteem, and depressive symptoms ( $\beta = -0.468$ ,  $-0.312$  and  $R^2 = 0.219$  and  $0.098$ , respectively).

**Table 1** Socio-Demographic Characteristics of Youth Myanmar Migrant Workers (n = 165)

Characteristic	Total n	Depressive symptoms		p-value <sup>a</sup>
		No n (%)	Yes n (%)	
<b>Age (years)</b>				0.506
18–19	36	17 (19.8)	19 (24.1)	
20–24	129	69 (80.2)	60 (75.9)	
<b>Gender</b>				0.197
Men	88	50 (58.1)	38 (48.1)	
Women	77	36 (41.9)	41 (51.9)	
<b>Education level</b>				<0.001 <sup>b*</sup>
No formal education	16	0	16 (20.3)	
Primary school	77	14 (16.2)	63 (79.7)	
Middle school	52	52 (60.5)	0	
High school and above	20	20 (23.3)	0	
<b>Monthly income (THB)</b>				<0.001 <sup>b*</sup>
≤ 9000	48	0	48 (60.8)	
9001–15,000	98	67 (77.9)	31 (39.2)	
> 15,000	19	19 (22.1)	0	
<b>Duration of residence in Thailand (year)</b>				0.164
< 1	65	38 (44.2)	27 (34.2)	
1–2	82	42 (48.8)	40 (50.6)	
> 2	18	6 (7.0)	12 (15.2)	

Notes: <sup>a</sup>Chi-square; <sup>b</sup>Fisher's Exact; \*p < 0.001.

Abbreviation: THB, Thai baht.

## Hierarchical Linear Regression Analysis

As shown in Table 2, four blocks of predictors were combined using hierarchical linear regression for depressive symptoms. Three stressors, including workplace stressors, security stressors, and living condition stressors, were included in the model, accounting for 53.2% of the variance in the depressive symptoms score. Model 1 showed that workplace stressors ( $\beta = 0.584$ ,  $p < 0.001$ ) and security stressors ( $\beta = 0.193$ ,  $p < 0.01$ ) were positively associated with the depressive symptoms scores. The total explained variance increased slightly to 53.5% after including coping behavior in the second model, and statistically significant variables associated with depressive symptoms remained unchanged, as in Model 1. Removing coping behavior and adding the self-esteem variable in the third model contributed to an additional 1.5% of the variance in depressive symptoms scores, with workplace stressors ( $\beta = 0.544$ ,  $p < 0.001$ ), security stressors ( $\beta = 0.185$ ,  $p < 0.01$ ), and self-esteem ( $\beta = -0.141$ ,  $p < 0.05$ ) significantly associated with depressive symptoms. Living stressors were significantly associated with depressive symptoms ( $\beta = 0.130$ ,  $p < 0.05$ ) in Model 3. Finally, adding all stressors (workplace, security, and living stressors), coping behavior, and self-esteem in Model 4 contributed to an additional 0.1% of the variance in the depressive symptoms scores. Five variables accounted for 55.1% of the total variance in the depressive symptoms scores. According to Model 4, workplace stressors ( $\beta = 0.525$ ,  $p < 0.001$ ), security stressors ( $\beta = 0.181$ ,  $p < 0.01$ ), and living stressors ( $\beta = 0.126$ ,  $p < 0.05$ ) were

**Table 2** Simple Linear and Hierarchical Linear Regression Analysis for Predicting Depressive Symptoms

Variable	Simple Linear Regression		Hierarchical Regression			
	Standardized Beta	R <sup>2</sup>	Standardized Beta			
			Model I	Model II	Model I	Model IV
<b>Stressors</b>						
Workplace stressors	0.701***	0.491	0.584***	0.548***	0.544***	0.525***
Security stressors	0.526***	0.279	0.193**	0.187**	0.185**	0.181**
Living stressors	0.211**	0.044	0.105	0.099	0.130*	0.126*
<b>Coping</b>	-0.468***	0.219		-0.069		-0.041
<b>Self-esteem</b>	-0.312***	0.098			-0.141*	-0.135*
R <sup>2</sup>			0.532	0.535	0.550	0.551

Notes: \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

Abbreviation: R<sup>2</sup>, R-square.

positively associated with depressive symptoms, whereas self-esteem ( $\beta = -0.135$ ,  $p < 0.05$ ) was negatively associated with depressive symptoms scores.

## Discussion

This study aimed to investigate the impact of stressors on depressive symptoms among young Myanmar migrants in Thailand. The prevalence of depressive symptoms among them was at 47.9% which is higher than 21% depressive symptoms rate among 4495 migrant female workers between 18–24 years old in Ethiopia<sup>35</sup> and 33.4% depressive symptoms rate in a study among Myanmar migrants in Thailand in 2016.<sup>20</sup> Throughout the last decade, 19 studies recommended that youth with immigration experiences have higher chance of depressive symptoms when compared with those without. Approximately 75% of youths with immigration experiences had moderate levels of depressive symptoms.<sup>36</sup> In one recent study, compared to non-migrant residents, migrant workers reported a lower prevalence of depression.<sup>37</sup> In this study, it may be due to currently there is Myanmar political situations which was stressful and traumatic experiences, difficulties in resettling in other countries, such as negative Thai public opinions viewing Myanmar migrant workers as burdens,<sup>38</sup> staying far away from family and friends, familiar environments, and adapting to a new cultural environment with different norms, values, and language.<sup>39</sup> Therefore, they faced a lot of challenges and suffered from depressive symptoms, and there is an urgent and critical need to address it.<sup>40</sup> Besides migration, youth are also a sensitive period for social growth with social interactions. There were many biopsychosocial changes and emotional and social challenges in this period.<sup>41</sup> This result is similar to that of a parallel mixed-method study in which the prevalence of depressive symptoms was approximately 46.98%.<sup>27</sup>

Regarding sociodemographic variables, age was significantly associated with depressive symptoms among the migrant workers. Nevertheless, not all research Results, including those of our study, support this association. It was consistent with two studies found that there was no relationship between age and depressive symptoms.<sup>42,43</sup> Furthermore, some researches proved that women had more depressive symptoms when compared with men to.<sup>43</sup> But the difference of gender were insignificant in other researches as same as our result.<sup>44</sup> Both young male and female migrant workers frequently encounter comparable challenges and stressors, such as financial difficulties, job instability, harsh working conditions, and social isolation. These common experiences may obscure any gender-specific variations in the prevalence of depressive symptoms. Marital status variable was not associated with depressive symptoms according to this study as the similar result with other study.<sup>45</sup> As well as duration of residence in Thailand was not also a predictor for having depressive symptoms. Based on our data, young migrant workers with low levels of education and income were more



likely to experience depressive symptoms. This is similar to the results of other recent studies.<sup>13,42,43</sup> If migrants work with poor education levels as well as poor financial situations, they might be directly and indirectly affected by misunderstandings of job policies, safety measures, worry about living expenses, and solutions for daily challenges. This leads to a sensitive age-range population with high depressive symptoms scores.

Nowadays, young migrant workers face many challenges such as stressors. Our study pointed out that stressors such as workplace, security, and living are associated with depressive symptoms. According to the results, workplace stressors were the strongest predictors of depressive symptoms. A recent study has pointed out that work-related stress is the most significant occupational health problem. This might be related to work conditions, such as having experienced sexual comments and sexual contact in the workplace,<sup>46</sup> being forced to work even with illness, being restricted from leaving the workplace during lunch or break time,<sup>47</sup> being forced to work overtime without any extra payment, being yelled from the manager or employer,<sup>48</sup> and being threatened to turn them into authority from the employer or manager. In addition, the employer or manager restricted movements and prevented migrant workers from changing jobs, which is one of the violations of basic labor rights. This result is consistent with those of previous studies. In a cross-sectional study, work-related stress was found to be an important risk factor for depressive symptoms. Occupational stress has been found to be related to depressive symptoms in migrant labors.<sup>49</sup> Migrant workers experience more depressive symptoms due to deprivation, long working hours, and minimal payments.<sup>50</sup> It was recognized as a major difficulty by not only youth migrant workers but also other all migrant workers. As a result of their low level of education, limited work experience and specific skills, most of the migrant workers were employed in labor-intensive industries.<sup>51</sup>

Another factor associated with depressive symptoms in this study was security stressor. This may be due to the arrest, deportation by immigration officials, and police raids on the youth of Myanmar's migrant workers. These findings are supported by a cross-sectional study of 589 Myanmar migrant laborers in Mae Sot, Tak Province, Thailand. From that study, security stressor was associated with depressive symptoms among not only factory migrant workers but also migrant workers in sex industry and agriculture industry.<sup>52</sup> Youth migrant workers frequently lack access to legal protections, making them more susceptible to exploitation and abuse. This absence of protection can result in feelings of vulnerability and helplessness, which are linked to increased levels of depressive symptoms.

Third stressor that associated with depressive symptoms among youth Myanmar migrants was a living stressor. Difficult living conditions, including poor housing and working conditions, contribute to greater depressive symptoms in this population.<sup>20</sup> There is a same result with one a cross-sectional survey of 1211 Cambodian migrant laborers in Sakaeo and Surin provinces, Thailand, in which the location of their housing was far away from the community center, and it was a temporary shelter. In addition, there was a limitation in their accessibility to services for their basic needs, especially poor accessibility to health services.<sup>20</sup> From our study, youth Myanmar migrant workers need to share space with other roommates, such as family, relatives, friends, cohabitates, or other migrant workers, even though the room is too small for living. Moreover, hygiene in the environment in which they lived is poor. The surroundings of their rooms were noisy, and they did not have sufficient privacy. These factors may lead to higher levels of depressive symptoms.

Direct violations of migrant's rights and poor living and working environments can cause higher depressive symptoms rates and affect a large number of migrants globally.<sup>53,54</sup> According to the Thai Labor Protection Act 1998, there is legal protection, including minimum wages, maximum work hours, and occupational health and safety standards for all workers, whether migrant workers or not.<sup>55</sup> However, the provisions of the Act do not reach the youth migrant population. Increasing the coverage of the Labor Protection Act for all age ranges would enhance labor rights protection in the working environment. Enhanced supervision and implementation of legal standards and labor protections are required to lower the exploitation of youth migrant workers in Thailand.<sup>56</sup> According to the result, self-esteem is recommended as an important protector for having depressive symptoms in stressful workplace.<sup>29</sup> According to our study, self-esteem was a protective factor for youth migrants from depressive symptoms. This was supported by some studies in which self-esteem was a robust predictor of depressive symptoms. High self-esteem signifies a positive self-evaluation, which helps buffer against the negative thoughts and feelings commonly associated with depressive symptoms. Individuals with high self-esteem are more resilient to stress and setbacks, making them less susceptible to depressive symptoms. They are more likely to use effective coping strategies, such as problem-solving and seeking social support, which can mitigate stress and prevent depressive symptoms. Additionally, people with high self-esteem are more

confident in social interactions, leading to stronger and more supportive social networks. High self-esteem is associated with a more optimistic outlook on life, which reduces the likelihood of developing depressive thoughts. It is also linked to a greater sense of control over one's life, which diminishes feelings of helplessness and hopelessness related to depressive symptoms. Moreover, individuals with high self-esteem are more likely to maintain a balanced perspective, recognizing both their strengths and weaknesses without being overwhelmed by self-criticism.<sup>57–60</sup> In contrast, while in this study, coping behavior was not significantly associated with depressive symptoms. According to the recent study,<sup>20</sup> not only workplace and security stressor but also living condition stressor was statistically significant associated with depressive symptoms. In addition, self-esteem was an important protective factor for youth migrant workers to reduce depressive symptoms. This comprehensive model highlights the necessity of a multifaceted approach to understanding and treating depressive symptoms.

The limitations of this study included its cross-sectional design. Therefore, the study results can only support etiological evidence for further studies but not the direction of causality. Future research utilizing longitudinal designs would be instrumental in elucidating causal pathways and temporal dynamics of depressive symptoms among youth migrant workers. Second, the sample size of the study was small. Third, it focused only on the age range of 18–24 years to youth Myanmar migrant workers. Depressive symptoms and the factors linked to it may differ at various stages of life. Future studies that include a wider age range could reveal if the associations we observed hold true throughout the different stages of life for migrant workers. Fourth, this study was conducted in only six factories in Samut Prakan Province, and it cannot represent the mental health condition of the entire population of Myanmar youth migrant workers in Thailand. This is a factory-based study, which might, therefore, miss other youth Myanmar migrant workers in other different kinds of occupations. To enhance the applicability of our findings, future studies should encompass multiple regions and diverse migrant populations, thereby capturing a wider range of experiences and stressors. Finally, a key limitation of this study is the method used to measure depressive symptoms. Instead of a clinical diagnosis by a healthcare professional, depressive symptoms was assessed through self-reported questionnaires or screening tools. This method has several implications: potential self-report bias, reduced diagnostic accuracy, variability in how symptoms are interpreted, influence of contextual factors, and fluctuations in symptoms over time. Future research should include clinical assessments conducted by qualified mental health professionals to achieve a more accurate and reliable diagnosis of depressive symptoms. Combining self-reported measures with clinical evaluations will offer a more comprehensive understanding of the prevalence and severity of depressive symptoms within the study population. The strength of this study was that the study results would be intended to help direct both healthcare professionals and decision-makers to facilitate better services that will effectively provide more assistance to better mental health outcomes. Furthermore, this study results will be beneficial for further studies concerning with other migrant workers in other regions.

## Conclusion

Our study indicated that there were higher rates of depressive symptoms among them. The variables that increased depressive symptoms scores were workplace, security, and living stressors, while self-esteem was a protective factor for decreasing depressive symptoms among youth Myanmar migrant workers. Therefore, our study not only highlights the urgent need for mental health interventions among youth Myanmar migrant workers in Thailand but also emphasizes the importance of addressing the determinants and protective factor of mental health. By doing so, we can improve the well-being of this vulnerable population and contribute to the overall health and productivity of the youth migrant workforce in Thailand. Because youth migrant labor is crucial for economic development, increasing GDP, and employment opportunities, particularly in an aging society. In addition, Further studies are required to investigate factors associated with depressive symptoms. For recommendations, there should be efficient collaboration between government sectors, organizations, and policymakers to provide care for this vulnerable group. They should implement preventive measures and interventions for specific stressors and consider the improvement of oversight, enforcement of legal standards, and labor protection. To address workplace stressors, implement fair work schedules, ensure reasonable workloads, introduce regular breaks, and limit overtime. Promote a positive work culture with zero tolerance for bullying and ensure workplace safety through regular inspections. Offer mental health awareness programs and training for managers and



workers. Establish peer support groups for sharing experiences and coping strategies. For living condition stressors, ensure adequate housing and provide access to healthcare, educational resources, and recreational facilities. Work with employers and local authorities to upgrade housing and offer financial assistance. Facilitate language and cultural orientation programs and promote community integration through joint activities. For security stressors, ensure migrant workers know their legal rights and advocate for protective policies. Establish confidential channels for reporting abuse and unsafe conditions. Provide legal aid services and partner with NGOs for assistance. Set up 24/7 support hotlines for emergencies. Additionally, mental health care should be prioritized and made accessible to this young high-risk group. Moreover, the integrative model for depressive symptoms can be visualized as a dynamic interaction between the aforementioned components: (1) vulnerability factor (low self-esteem), and (2) stressors (workplace, security, living conditions). This comprehensive model highlights the necessity of a multifaceted approach to understanding and treating depressive symptoms. By examining the interplay between self-esteem and different stressors, Mental health professionals can create more specific and effective strategies for prevention and intervention. This method not only addresses the symptoms of depressive symptoms but also targets the underlying causes, leading to improved mental health outcomes.

## Abbreviations

CESD, Center for Epidemiological Studies-Depressive symptoms; ASEAN, Association of Southeast Asian Nations; SDG, Sustainable Development Goals; SPSS, Statistical Package for the Social Sciences.

## Data Sharing Statement

Data is available upon request to the corresponding author.

## Ethics Declaration

This study was performed in accordance with the principles stated in the Declaration of Helsinki. Ethical approval was obtained from The Research Ethics Review Committee for Research Involving Human Research Participants, Group I, Chulalongkorn University (COA No. 143/66) on July 1, 2023. Written informed consent was obtained from all the participants. Their identities and confidentiality were protected. Furthermore, the participation of Myanmar migrant factory workers were all volunteers and the decision to participate in the study were not disclosed to any authority. Research ethics was served throughout the whole study data collection time. The researcher referred them to consulting with mental health professionals at the mental health department of Samut Prakan Province Hospital.

## Acknowledgments

This research was supported by the 90th Anniversary of Chulalongkorn University Scholarship under the Ratchadapisek Somphot Endowment Fund.

## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

## Disclosure

The authors report no conflicts of interest in this work.

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