

Exploring the Impact of the COVID-19 Pandemic on Returnee Migrant Workers' Income, Psychological Well-Being, and Daily Life Expenses: A Case Study in Thua Thien Hue Province

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Abstract

The COVID-19 pandemic has significantly affected the lives, economies, and cultures of communities in Vietnam despite it no longer being considered a global emergency. Migrant workers who returned to their localities during the outbreak are among the most vulnerable groups affected by the pandemic. This study surveyed 298 returning migrant workers in 6 Thua Thien Hue province coastal communes to understand the pandemic's effects on them. Results indicate that the pandemic has affected migrant workers differently based on their work type, education level, and gender. The pandemic severely impacted workers' employment and income, with self-employed workers being the most affected. The reduction in income led to changes in their quality of life, including cutting down on expenses and experiencing increased stress. In particular, female migrant workers with limited education have experienced heightened vulnerability and anxiety in comparison to their male counterparts, primarily attributed to their societal and caregiving responsibilities. However, most respondents intend to remigrate post-pandemic to continue sending remittances home regardless of the challenges ahead. The findings highlight the need for policies and support measures to improve the resilience and adaptive capacity of migrant workers in the post-pandemic period. These measures should focus on skill improvement, access to job placement networks, social insurance, and employment contracts, and raising awareness about the importance of saving income and providing psychological support.

Keywords

COVID-19 pandemic; migrant workers; quality of life; resilience; Vietnam

Introduction

Amidst the global struggle against the COVID-19 pandemic since its onset in 2020, Vietnam, like many nations, has faced significant challenges, and the period from May to December 2021 witnessed a surge in infections, leading to the implementation of lockdowns and stringent social distancing measures. This had profound economic repercussions as venture companies, factories, and enterprises were compelled to halt operations, leaving thousands of workers stranded and grappling with the swift erosion of their livelihoods. Among the most adversely affected groups were migrant workers, confronting immediate hardships such as food insecurity, housing issues, job loss, illness, and difficulties in meeting basic needs, as highlighted in various studies (Ha et al., 2020; Quang et al., 2023; Sen et al., 2022). Similar challenges unfolded in developed and developing countries, such as Bangladesh, India, the United States, Saudi Arabia, and Qatar (Hossain, 2021; Irudaya Rajan et al., 2020; Khan et al., 2021). The compounded concerns, fears, and reduced quality of life experienced by migrant workers further intensified the impact of the pandemic (Ekanayake & Amirthalingam, 2021).

In Vietnam, many returned migrants sought refuge in central coastal areas during the COVID-19 pandemic (Sen et al., 2022). Previous research highlighted the enduring effects of the Formosa marine pollution incident in 2016 on the life and livelihoods of communities in these coastal regions, already recognized as highly vulnerable to the impacts of climate change (Huynh et al., 2022). Long-distance migration for work has become a prevalent livelihood strategy in these central coastal areas, leaving older people and children in villages dependent on remittances from migrant workers (Huynh et al., 2022; Truyen et al., 2020). In such a context, the return of migrant workers to coastal areas during the COVID-19 pandemic presented specific challenges to their livelihoods.

Despite the significance of this issue, limited information exists regarding the pandemic's impacts on the quality of life of different groups of migrant workers in the central province of Vietnam and their post-pandemic intentions. This study aims to fill this gap by investigating the effects of the COVID-19 pandemic on the quality of life of migrant workers and exploring their intentions and challenges in the post-pandemic period. The ultimate goal is to provide a scientific foundation for crafting effective policies that ensure the quality of life and enhance the resilience of migrant workers.

Methodology

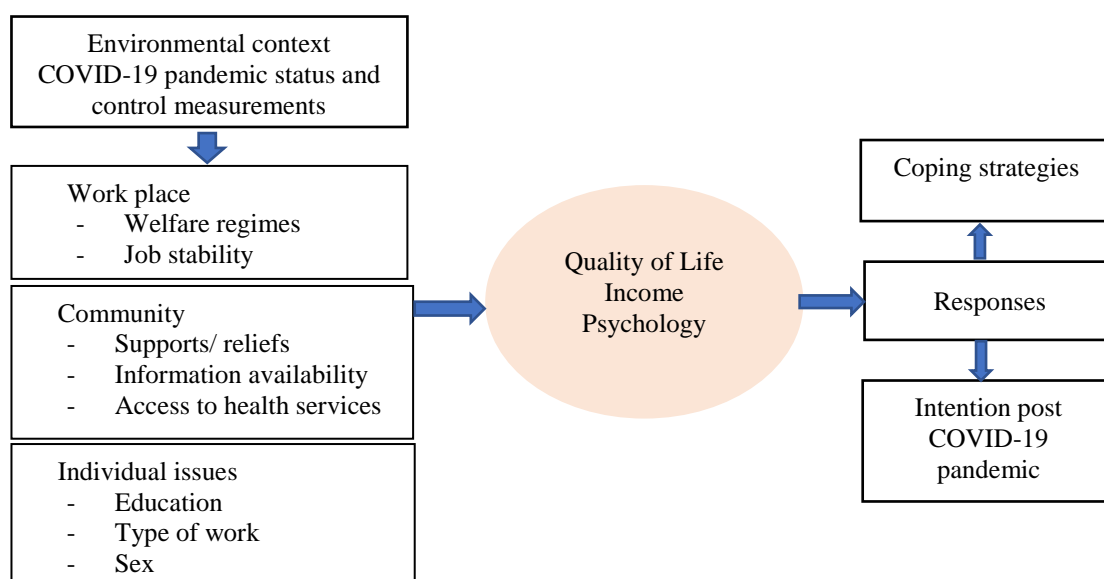
Research framework

This study employs the cumulative risk assessment (CRA) framework, developed by Fox et al. (2018) and adapted by Alahmad et al. (2020) and Ha et al. (2020) to evaluate the impact of the COVID-19 pandemic on the livelihoods of diverse groups of returned migrant workers. The research framework of Alahmad et al. (2020) showed that factors affecting the quality of life, particularly the health of migrant workers during the COVID-19 pandemic, are diverse and can be derived from their community, workplace, living environment, and individual issues. The framework was further developed by Ha et al. (2020) to assess the impacts of the COVID-19 pandemic on a specific group of migrant workers. Within the framework, the environmental context indicates the status of the pandemic's seriousness and the control

measures of related governmental departments. Factors originating from the community include the availability of pandemic-related information, access to foods and basic needs, access to health services, government support programs, and health insurance. Individual issues include work types, education, and gender, and lastly, the factors related to the workplace, such as job stability and income.

Based on interviews of key informants at the study sites and reviews of recent studies in the country (Mai, 2020; Sen et al., 2022), our study adapts and integrates indicators such as gender, education, and various work types. Noteworthy findings reveal vulnerabilities among self-employed workers (Mai, 2020; Sen et al., 2022 Simelton et al., 2021), psychological anxieties related to education levels (Ha et al., 2020; Selod & Shilpi, 2022), varied stressors based on educational backgrounds (Gao et al., 2020; Lei et al., 2020) and women experience more negative emotions and psychological impacts than men (Abdul Azeez et al., 2021; Hung et al., 2020; Wang et al., 2020). Classification based on education, work type, and gender provides insights into nuanced impacts across different demographic groups during the pandemic. The research framework in Figure 1 shows a matrix focusing on the effects of the COVID-19 pandemic (environment, workplace, government) across three dimensions: quality of life, income, and psychology. Characteristics of returned migrant workers are classified into education level, type of work, and sex.

Figure 1: The Conceptual Framework for Analyzing Impacts of the COVID-19 Pandemic on the Quality of Life of Returned Migrant Workers



Note: Adapted from Alahmad et al. (2020) and Ha et al. (2020)

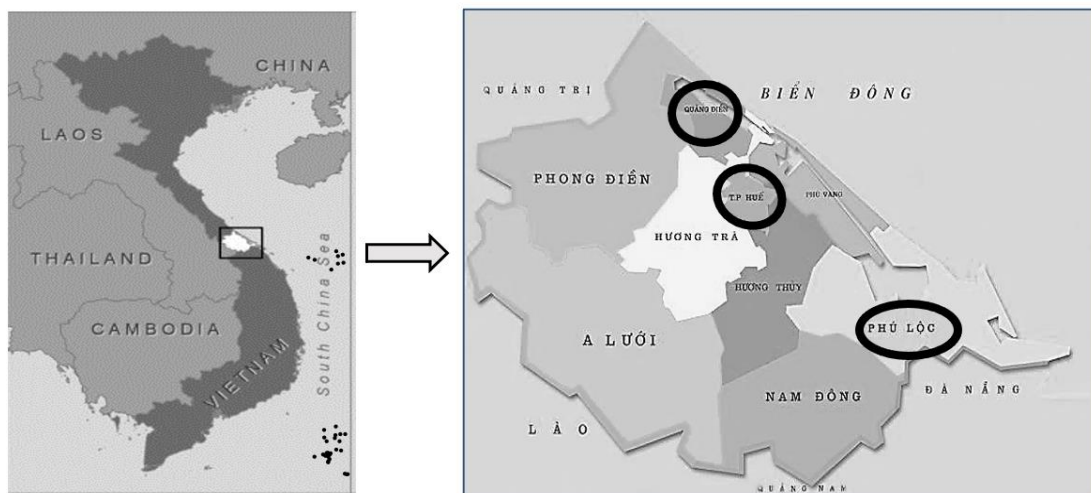
Returned migrant workers, facing challenges from the pandemic, adopt diverse coping strategies tailored to their capacities and resources. These strategies encompass limiting spending, seeking employment, external support, relocation, or borrowing money (Hoa, 2021), and returned migrant workers intend to remigrate post-pandemic (Khan & Arokkiaraj, 2021; Sen et al., 2023). Recognizing the prolonged challenges the pandemic poses, our study investigates returned migrant workers' intentions to remigrate or stay in the countryside. Understanding their perceived challenges is vital for stakeholders and authorities, guiding the development of timely support measures.

This research framework identifies immediate impacts and addresses adaptive and long-term strategies, providing essential insights for policymakers and offering a critical foundation for supporting returned migrant workers facing the challenges of the COVID-19 pandemic.

Study site

The study was conducted in the coastal region of Thua Thien Hue province. This area was selected for various reasons. Firstly, the area has a high poverty rate of nearly 10% in 2021 (considerably higher compared to the average of the province at 3.5% and the country at 4.3%), with 27 communes included in the Prime Minister approved list of most vulnerable communes of the country in 2021 (Communist Party of Vietnam, 2022). Secondly, the area has a high rate of migrant workers, particularly after the Formosa marine environmental incident in 2016, as stated by the Communist Party of Vietnam (2022). Thirdly, the COVID-19 pandemic affected the region, with 35% of the total returning workers in the province impacted by the pandemic (Department of Labor, War Invalids, and Social Affairs of Thua Thien Hue, 2021). Finally, the results of in-depth interviews with officials from the Department of Labor, War Invalids, and Social Affairs of Thua Thien Hue province were affected heavily by the COVID-19 pandemic. Therefore, we chose the coastal communes of the province for the research site (Figure 2).

Figure 2: Location of the Study Sites



Data collection

This study employed a cross-sectional survey conducted between January and July 2022 to investigate the impacts of the COVID-19 pandemic on migrant workers' income, psychology, and quality of life upon their return. The survey sample size ($n = 298$) was determined using the Slovin calculation formula $n = N / (1 + N \cdot e^2)$ (with n : survey sample, N : population, and e : sampling error) (Adam, 2020). Considering a 5% sampling error from a population of 11,000 migrant workers who returned to Thua Thien Hue Province due to the pandemic, as reported by the Department of Labor, War Invalids, and Social Affairs of Thua Thien Hue (DOLISA).

Sample selection

All returning migrant workers during the specified period were required to register on the provincial app Hues, providing personal information such as origin, destination address, occupation, health status, and sociodemographic details. However, in Vietnam, the occupations of migrant workers are very diverse. Therefore, we have divided it into four main labor occupations (self-employed, small businesses, government, and international companies). Self-employed people are in informal, unstable jobs with no labor contracts and little investment capital. Small businesses are stable jobs, have short-term labor contracts, and invest capital for trading. Government jobs are jobs in agencies under state managers with stable and long-term working contracts. International companies are jobs with long-term stable contracts and the managers of large corporations and companies. The provincial DOLISA managed and processed the database of returned individuals. Employing a multi-stage sampling method, six coastal communes (Vinh Hung, Vinh Hien, Quang An, Quang Cong, Quang Ngan, and Hai Duong) were randomly selected for survey administration. These communes, labeled 'green' during the pandemic, had no movement restrictions during the survey period.

Sampling procedure

In the first stage, a systematic random sampling method was used to select 300 migrant workers (50 from each commune) (Table 1). Interviews were conducted with every fifth person on the list until the fiftieth respondent. If a selected individual was COVID-19 positive, they were skipped, and the next person on the list was interviewed. Three hundred participants were interviewed, resulting in a valid sample of 298 individuals over 18 years old for data analysis.

Survey instrument

The survey questionnaire was meticulously developed through an extensive review of relevant research and in-depth interviews with commune officials. To ensure its efficacy, the instrument underwent a rigorous pre-testing phase involving ten returned migrant workers before the general survey commenced. This pre-testing guarantees the questionnaire's accuracy and comprehensiveness in gathering necessary information. Evaluating a small group of returning migrants helps identify participants' comprehension of the questions and potential difficulties in responding. Any issues during this phase are indicators for researchers to adjust or improve the questionnaire before full-scale implementation. Entering interview data is crucial for ensuring the accuracy and reliability of information collected from the questionnaire and interviews.

The instrument was strategically crafted to gather comprehensive data on participants' experiences during the pandemic. The survey investigates the impact of the COVID-19 pandemic on workers who returned to their hometowns, encompassing personal, educational, occupational, and financial dimensions. It explores reasons for working away, income changes, and psychological effects. Furthermore, it concentrates on understanding the coping strategies employed by migrant workers to adapt and their aspirations for the post-pandemic period. Additionally, the questionnaire assesses received support and plans, providing insights into the challenges affected workers face and guiding potential support measures.

Certainly, the survey incorporated specific inquiries employing the Likert scale, featuring five levels (*strongly disagree, disagree, neutral, agree, strongly agree*). This method was used to assess participants' psychological well-being, mainly focusing on concerns and apprehensions regarding the repercussions of COVID-19 on migrant workers. Illustrative questions encompassed topics like: "Do you experience stress due to concerns about a shortage of food?" and "Are you anxious about family separation in the event of contracting COVID-19?"

Qualitative data collection

Key informant interviews (KII) were conducted with nine migrant workers and six commune officers, selected through purposive sampling. A focus group discussion included six migrant workers and five staff responsible for culture and information in the studied communes. The content analysis method was employed to analyze interview transcripts and group discussion data, following a deductive approach guided by the conceptual framework (Figure 1). In total, 298 interviews, qualitative data from key informants, and focus group discussions were considered for comprehensive analysis.

Table 1: Overview of Valid Questionnaires in Communes of Thua Thien Hue Province

Commune	District	No. of migration workers sampled	
		Male	Female
Quang Cong	Quang Dien	25	25
Quang Ngan	Quang Dien	23	25
Quang An	Quang Dien	22	28
Vinh Hien	Phu Loc	26	24
Vinh Hung	Phu Loc	22	28
Hai Duong	Hue City	25	25
Total		298	

Data analysis

Data analysis for this study included descriptive statistics (percentage, mean, and standard deviation) and the variation test of the studied criterion using the chi-square test, one-way ANOVA, and the independent sample t-test. Data analysis was conducted using IBM SPSS Statistics 25 software. The t-test was applied to test the variation of the quality-of-life indicators between male and female groups. One-way ANOVA was used to test variations in income and psychological indicators among groups with different types of work and different levels of education. The chi-square test was used to analyze data regarding different job types, education levels, and gender. Perceptions collected through in-depth interviews were evaluated using a content analysis method where transcripts were coded and grouped into topics or keywords. Then, appropriate codes were used to clarify the analytical content of the study.

Research ethics

The studies were carried out following good research practice, which means that fundamental principles of ethical research issues, such as informed consent and confidentiality, were considered. The research ethics and study protocol were approved by the Research Ethics Committee of Hue University (ID: DHH2023-02-172).

Results

Basic characteristics of migrant workers

The demographic characteristics of the surveyed migrant workers returning due to the COVID-19 pandemic are presented in Table 2. There were 298 migrant workers aged 18 years or older who returned during the pandemic period who participated in this study. The proportion of female migrant workers was higher than that of male migrant workers, with 58.3% and 41.3%, respectively. The average age of migrant workers was 34.6 years old, and they had migrated for about 8.79 years. Despite their young age, the education level of migrant workers was low, as only 18.8% had graduated high school, and 17.4% had a university degree. The average income level of migrant workers was between 7 and 10 million VND (~300–430 USD) monthly. Interestingly, there was a relatively high proportion of single (unmarried) migrant workers in the sample size (52%) compared to married (45.3%) or divorced (2%) respondents. Almost all migrant workers (96.67%) had health insurance, but a much lower percentage (38.33%) had social insurance.

Table 2: Demographic Information of Migrant Workers ($n = 298$)

Variable	Frequency	Percentage/ Mean (SD)
1. Age of migration worker	298	34.6 (10.6)
2. Gender		
Male	119	41.3
Female	179	58.7
3. Education level of migration worker		
Primary school	24	8.10
Secondary school	102	34.2
High school	56	18.8
Short training course	64	21.5
Colleges and University	52	17.4
4. Relationship		
Married	135	45.3
Single	155	52.0
Divorced	6	2.00
Others	2	0.70
5. Having health insurance	298	96.67
6. Having social insurance	298	38.33
7. No. of years of out-migration	298	8.79 (7.5)

Impact of COVID-19 on migrant workers with different work types

Prior to the onset of the COVID-19 pandemic, migrant workers across various job types, including self-employed, small business, government, and those working for international companies, enjoyed stable monthly incomes ranging from approximately 5–7 million VND (\approx 250–300 USD). This stability provided a sense of security, enabling them to meet basic needs and engage in some discretionary spending. However, the emergence of the pandemic significantly disrupted the income stability of migrant workers across all categories. Survey respondents reported annual income losses exceeding 25% compared to pre-pandemic levels. The severity of these reductions varied by job type, with self-employed workers experiencing the highest losses, with 47.2% facing reductions of 50–75%, likely due to the vulnerability of the “sidewalk economy” to social distancing measures. Small business and

international company employees experienced smaller reductions of 25–50%, while government workers, often capable of remote work, suffered the least income loss.

The impact of COVID-19 extended beyond financial aspects, leading to substantial psychological distress among migrant workers who faced various stressors. These stressors included concerns about food shortages, fear of family separation, security not being guaranteed, worries about children's education and health status, and stress from being in a narrow space for a long time during lockdown. While stress levels did not significantly differ across job types, slight variations were stress due to health concerns and fear of family separation ($p < .001$). However, almost all respondents expressed stress related to health concerns (68.5–93.9%) and food shortages (76.9–88.8%), with self-employed workers exhibiting slightly lower concern about health concerns than other groups.

The income reductions necessitated adjustments in daily life expense patterns. Despite sacrifices, particularly in healthcare and savings, the primary focus remained on covering basic needs like food. Interestingly, the research revealed that self-employed and small business groups disproportionately reduced spending on healthcare compared to government and international company workers ($p = .046$). Conversely, government and small business employees dipped into savings more than their self-employed and international company counterparts ($p < .001$).

Table 3: The Impacts of the COVID-19 Pandemic on Migrant Workers in Different Work Types

Impact of COVID-19	Types of works (%)				Sig.
	Self-employed	Small business	Government	International company	
1. Income loss/reduction					
More than 75%	10.1	6.10	0.00	1.40	0.016
50–75%	47.2	24.5	38.5	25.9	0.004
25–50%	40.4	59.2	38.5	57.1	0.041
Less than 25%	0.00	6.10	0.00	4.80	0.133
2. Psychology (% of respondents)					
Stress due to fear of food shortage	88.8	79.6	76.9	87.1	0.355
Stress due to health concerns	68.5	75.5	92.3	93.9	0.000
Fear of family separation when being infected with COVID-19	68.5	67.3	69.2	82.3	0.047
Security is not guaranteed	46.1	36.7	16.7	48.3	0.116
Worried about the education and health status of children	52.8	55.1	46.2	55.8	0.903
Stress from being in a narrow space for a long time during lockdown	40.4	51.0	53.8	53.1	0.287
Fear of being stigmatized for being in a pandemic area when returning home	49.4	38.8	38.5	39.5	0.445
3. Daily life expenses (Likert scale)			Average scores		
Spending on food	2.045	2.367	2.538	2.493	0.067
Spending on children's Education	2.135	2.184	1.769	2.047	0.606
Spending on healthcare	3.082	2.629	2.923	2.445	0.046
Spending on entertainment/recreation and leisure time	3.989	3.980	4.154	4.171	0.577
Cumulative savings	2.723	3.909	3.917	3.219	0.000

Overall, the data reveals a complex picture of the pandemic's impact on migrant workers. While income losses were experienced across all groups, self-employed workers suffered the most. Psychological distress was widespread, with specific stressors affecting different groups to varying degrees. The analysis of daily life expenses further reinforces the disparity in economic outcomes and coping mechanisms. These findings emphasize the need for targeted support measures tailored to address the specific vulnerabilities of different work types and groups in the post-pandemic recovery phase.

Impact of COVID-19 on migrant workers of different gender groups

Both female and male migrant workers experienced income declines due to the pandemic, with no significant overall difference in the scale of income loss ($p > .01$). However, females faced a slightly higher proportion of losses within the 50–70% range (33.1% vs. 32% males, $p = .019$). This finding suggests a potential clustering of more considerable income reductions among female workers.

Gender disparities emerged in specific psychological stressors. Male migrant workers expressed more significant health concerns (87.4% vs. 77.2% females, $p = .020$) and fear of family separation due to COVID-19 (81.1% vs. 66.7% females, $p = .004$). This likely reflects traditional breadwinner roles, leading to heightened anxiety about securing family well-being and maintaining the family unit during isolation. Interestingly, despite government subsidies, males also scored higher in worrying about security not being guaranteed (54.1% vs. 37.7% females, $p = .005$). This potentially indicates increased financial pressure on male breadwinners in uncertain times.

Conversely, female migrants displayed more significant concerns about security not being guaranteed and food shortages (p values of .005 & .017, respectively). This aligns with cultural norms that often place household responsibilities and managing family resources on women. Their anxieties likely stemmed from the potential inability to provide necessities, particularly for families with children, during income loss.

Regarding daily life expenses, all female and male migrant workers reflected that the pandemic has significantly affected their lives during and after. The pandemic affected almost all daily life expenses. The level of impact was almost similar between male and female groups in most aspects of daily life expenses, except for the effects of spending on healthcare (2.443 females vs. 1.771 males, $p < .001$).

Table 4: COVID-19 Impacts on Migrant Workers of Different Gender Groups (%)

Impacts of COVID-19	Gender		Sig.
	Male	Female	
1. Income loss/reduction			
More than 75%	0.80	2.30	0.461
50–75%	32.0	33.1	0.019
25–50%	46.0	55.4	0.795
Less than 25%	2.00	4.00	0.122
2. Psychology (% of respondents)			
Stress due to fear of food shortage	82.9	90.2	0.017
Stress due to health concerns	87.4	77.2	0.020
Fear of family separation when being infected with COVID-19	81.1	66.7	0.004
Security is not guaranteed	37.7	54.1	0.005

Impacts of COVID-19	Gender		Sig.
	Male	Female	
Worried about the education and health status of children	53.7	55.3	0.789
Stress from being in a narrow space for a long time during lockdown/ quarantine	48.0	50.4	0.682
Fear of being stigmatized for being in a pandemic area when returning home	43.1	44.7	0.813
3. Daily life expenses (Likert scale)	Average scores		
Spending on food	2.354	2.320	0.288
Spending on children’s Education	2.320	3.066	0.630
Spending on healthcare	1.771	2.443	0.000
Spending on entertainment/ recreation and leisure time	4.274	3.811	0.901
Cumulative savings	2.957	1.544	0.158

The analysis reveals a nuanced picture of how COVID-19 impacts vary for male and female migrant workers. While income loss was similar across genders, the nature and intensity of psychological stressors and spending adaptations differed. These findings highlight the importance of gender-sensitive support measures that address the specific vulnerabilities and priorities of both male and female migrant workers during and after the pandemic.

Impact of COVID-19 on Migrants with Different Education Levels

The results of the impacts of the COVID-19 pandemic on migrant workers with different educational levels are shown in Table 5. We can see from Table 5 that migrant workers at any education level had an income loss ranging from less than 25% to above 75% due to the COVID-19 pandemic. The groups of migration workers with a primary education level or with only short training had significantly higher income loss than those in other groups. The percentage of migrant workers whose income loss was 50–75% in these two groups, primary school and short training courses, were 41.7% and 56.3%, respectively, much higher than that of the remaining groups ($p < .001$). Nevertheless, the proportion of migrant workers with tertiary education who had an income loss between 25–50% was considerably higher than those with primary education, secondary school, and short training ($p = .011$).

Table 5: Impacts COVID-19 Pandemic on Migrant Workers With Different Education Levels

Impacts of COVID-19	Education					Sig.
	Primary school	Secondary school	High school	Colleges and University	Short training course	
1. Income loss/reduction						
More than 75%	4.50	6.90	5.40	3.80	1.60	0.622
50–75%	41.7	28.4	28.4	17.3	56.3	0.000
25–50%	50.0	50.0	66.1	55.9	34.4	0.011
Less than 25%	0.00	2.90	5.40	7.70	0.00	0.146
2. Psychology (% of respondents)						
Stress due to fear of food shortage	91.7	87.3	80.4	82.7	89.1	0.542
Stress due to health concerns	87.5	82.4	85.7	84.6	79.7	0.867
Fear of family separation when being infected with COVID-19	83.3	79.4	73.2	65.4	75.0	0.328
Security is not guaranteed	21.7	32.1	40.2	50.0	65.6	0.000

Impacts of COVID-19	Education					Sig.
	Primary school	Secondary school	High school	Colleges and University	Short training course	
Worried about the education and health status of children	20.8	35.7	55.9	63.5	73.4	0.000
Stress from being in a narrow space for a long time during lockdown/ quarantine	25.0	52.0	44.6	57.5	56.3	0.030
Fear of being stigmatized for being in a pandemic area when returning home	45.8	59.8	41.1	42.3	45.3	0.956
3. Daily life expenses (Likert scale)	Average scores					
Spending on food	2.792	2.647	2.607	2.135	1.603	0.000
Spending on children's Education	1.958	2.324	2.107	1.788	1.794	0.073
Spending on healthcare	2.365	2.892	2.589	1.750	2.626	0.002
Spending on entertainment/ recreation and leisure time	4.333	4.088	4.250	3.721	4.143	0.081
Cumulative savings	2.917	3.489	3.058	3.000	3.210	0.227

Table 5 provides insights into the psychological impact of the COVID-19 pandemic on migrant workers. Across all education levels, a prevalent concern among migrant workers is stress due to fear of food shortage during quarantine due to COVID-19. The stressors identified include concerns about health concerns, fear of family separation in case of COVID-19 infection, and stress from being in a narrow space for a long time during lockdown. Returning migrant workers also feared being stigmatized for being in a pandemic area when returning home; a sentiment consistently shared irrespective of their education level ($p > .05$). However, the analysis revealed notable variations among migrant workers based on their educational background. Those with college or university education and short training courses exhibited a higher proportion of concerns about security not being guaranteed, worries about their children's education and health, and stress from being in a narrow space for a long time during lockdown compared to workers with primary, secondary, or high school education ($p < .001$ & $.03$, respectively). This discrepancy suggests that migrant workers with higher education levels, often engaged in work-from-home positions that ensured a steady income, were more attentive to factors such as their children's education and family security, as they experienced reduced concerns about food security and other essential expenses.

The study results also showed that migrant workers with different levels of education reduced their daily life expenses differently due to the COVID-19 pandemic. Migrant workers with primary and secondary education reduced their food more than those with college, university, short training courses, and high school education ($p < .001$).

Research shows that migrant workers with secondary school and short training courses have to cut spending on healthcare more than migrant workers with colleges and university, high school, and primary school education ($p < .05$). Migrant workers with low education lost their jobs, and subsequently had their income reduced, which forced them to limit their spending to cover their costs such as healthcare.

Migrant workers' strategies to cope with the COVID-19 pandemic

To limit the impacts of the COVID-19 pandemic, migrant workers proactively applied various coping strategies (Table 6). There were eight coping strategies: i) seek a new job, ii) borrow money from friends and/or colleagues, iii) borrow money from the bank, iv) limit spending, v) move to cheaper housing, vi) search for an online job; vii) asking for support from family or relatives; viii) do nothing. Table 6 shows that migrant workers' coping strategies for the COVID-19 pandemic depend on their education level. Most migrant workers at all levels of education are looking for a new job, borrowing money from the bank, asking for support from family or relatives, or moving to cheaper places. This perception was the same for all returned migration workers and did not depend on whether they were well-educated or not ($p > .05$). However, the proportion of migrant workers with college and university, high school, and short training courses education who had savings was much higher than that of migrant workers with primary school and secondary school education ($p = .009$).

The percentage of migrant workers with college and university, and short training courses who searched for online jobs was higher than those with primary, secondary, and high school education ($p < .001$). In contrast, the percentage of migrant workers with primary, secondary, and high school education who borrow money from friends and colleagues was higher than those with college and university, and short training courses education ($p = .005$). Research also shows that migrant workers with higher education have better adaptation options than those with lower education.

Table 6: Migrant Workers' Strategies to Cope With the COVID-19 Pandemic (%)

Strategies to cope with the COVID-19 pandemic	Education-based groups (%)					Sig.	Gender (%)			Sig.	Type of work (%)				Sig.
	Primary school	Secondary school	High school	Colleges and University	Short training course		Male	Female	Self-employed		Small business	Government	International Company		
Looking for a new job	65.6	58.9	52.9	50.0	55.8	0.521	65.0	51.4	0.019	62.9	57.1	23.1	55.1	0.059	
Borrow money from friends and colleagues	16.7	18.6	12.5	9.6	3.1	0.005	17.1	9.1	0.041	12.4	14.3	23.1	10.9	0.608	
Borrow money from the bank	4.2	5.9	3.6	9.6	9.4	0.615	6.5	6.9	0.905	11.2	0.0	0.0	6.8	0.061	
Savings/Reduce or limit spending	4.2	29.4	37.5	32.7	43.8	0.009	64.2	69.7	0.320	56.2	69.4	76.9	72.8	0.053	
Move/migrate to cheaper places	25	21.6	23.2	11.5	32.8	0.110	26.0	20.6	0.270	33.7	20.4	7.7	18.4	0.023	
Search for online jobs	8.3	37.3	23.2	59.6	50.0	0.000	38.2	39.4	0.832	48.3	49.0	53.8	28.6	0.004	
Asking for support from family or relatives	37.5	24.5	25.0	17.3	26.6	0.441	29.3	21.7	0.137	36.1	14.3	15.4	13.5	0.000	
Do nothing	8.3	6.9	0.0	5.8	9.4	0.267	1.6	9.1	0.007	6.7	12.2	15.4	2.7	0.041	

Further, Table 6 shows the strategies employed by female and male respondents in response to the COVID-19 pandemic. Both male and female migrant workers chose many coping strategies, such as borrowing money from the bank, reducing spending, and moving to less expensive accommodation. However, the proportion of male migrant workers who looked for a new job (65%) was higher than that of female migrants (51.4%) ($p = .019$). Male migrants borrowed more money from friends and colleagues (17.1%) than female migrants (9.1%), $p = .041$. In contrast, more female migrants chose to do nothing than males (1.6% & 9.1%, respectively).

Results in Table 6 show that almost all migrant workers were looking for a new job (23.1–62.9%) and to limit spending (56.2–72.8%). In the context of the pandemic, income reduction significantly affected the daily expenses of migrant workers. Self-employed migrants, services, and government areas searched for online jobs considerably more than those working for the company business ($p = .004$). Self-employed migrants, services, and company business areas are moving to cheaper places significantly more than government workers ($p = .023$). The services, government, and company enterprises groups asked for support from family or relatives and less than those self-employed ($p < .001$).

Similarly, Table 7 presents the results of a focus group discussion on migrant workers' opinions of solutions to adapt to regarding the COVID-19 pandemic. A predominant and immediate adaptation was the active pursuit of new or part-time employment and an overarching effort to curtail or limit expenditures. Virtually all participants engaged in proactive measures to secure additional work, underlining the pivotal role of employment in meeting basic needs during the crisis.

Recognizing the potential impact of the pandemic on income, migrant workers systematically prioritized cost reduction across various aspects of their lives. Emphasizing savings, particularly for essential items such as food and medicines for dependents, emerged as a primary focus. With the escalating prices exacerbated by the pandemic's duration, a shift to more affordable housing became a prevalent strategy to counter the surge in living costs.

Many participants explored online job opportunities as a supplementary income source to support their families. Seeking support from family or relatives was another prevalent coping mechanism, with some opting to return to their hometowns and rely on familial assistance during challenging times. Borrowing from friends and colleagues was a commonly employed strategy, with some resorting to bank loans to cover daily expenses or initiate new businesses.

Notably, some participants exhibited a lack of proactive response, expressing worry and diminished confidence, hindering their ability to formulate coping strategies. Conversely, another subset appeared indifferent to the pandemic, taking no discernible action.

In summary, the analysis underscores a combination of proactive and reactive strategies employed by migrant workers to navigate the challenges posed by COVID-19. While securing new employment and reducing expenses were prevalent adaptations, the diverse responses highlight the intricate nature of individual experiences and their unique vulnerabilities during the pandemic.

Table 7: Opinions of Migrant Workers Regarding Solutions to Adapt to the COVID-19 Pandemic

Solutions to adapt to the COVID-19 pandemic	Description	Rank
Looking for a new job or part-time job	Migrant workers find new jobs or part-time work for income, pay for life	1
Reduce or limit spending	Almost all migration workers tried to reduce spending to save money and ensure food security and essentials for themselves and their families throughout the pandemic. Food and medicine for children and older people are their spending priorities.	2
Move to cheaper accommodation	Prices increased when COVID-19 was prolonged and unpredictable, so most migrant workers moved to cheaper accommodations to cover their living costs.	3
Search for online jobs	Many migrant workers searched for online work to support their family	4
Asking for support from family or relatives	Asking for support from family or relatives is also an approach to dealing with the pandemic crisis. Most of these respondents asked for support by deciding to return to their hometowns and stay with their family or relatives.	5
Borrow money from friends and colleagues	To deal with income loss, migrant workers had to borrow money from friends and colleagues	6
Borrow money from banks	To deal with income loss, migrant workers had to borrow money from banks (to pay for daily expenses and new businesses).	7
Do nothing	Migration workers were worried and lost confidence, so they had no plan. Some migration workers did not feel concerned about COVID-19, so they did nothing.	8

Migrant workers' intentions post COVID-19 pandemic and their perceived challenges

Understanding migrant workers' intentions post-pandemic is crucial for various stakeholders, including local authorities, migration agencies, employers, and authorities at the destination, to formulate suitable policies and plans. Migrants' intentions and their perceived challenges indicate their expectations and associated risks that they are unable to manage, which influence their decision (Usmani et al., 2023) to remigrate or stay in the countryside post-pandemic (Sen et al., 2023). Table 8 shows the migrant workers' intentions post-pandemic and their perceived challenges. It can be seen from the table that intention post-pandemic was diversified; however, almost 46.7% of migrant workers intend to remigrate, 45.3% intend to stay in the countryside with their family, and the remaining 8% have no plans. Among them, a proportion (up to 33.3%) intend to remigrate and try to find a suitable job, although there is uncertainty about what they will do.

Table 8: Migrant Workers' Intention Post COVID-19 Pandemic and Their Perceived Challenges

Intention of migrant workers post COVID-19 pandemic	Percent
Remigrate and find suitable jobs	33.3
Remigrate to the same places/ cities as before and find similar jobs	13.4
Stay in the countryside and wait for the ex-employer to offer the job again	10.2
Stay in the countryside, work on a farm, and take care of my parents	8.8
Take part in professional online training and look for a permanent job in their home province	8.5
They stay in the countryside and create their own business	13.2
Find similar jobs in their home province or neighboring provinces	4.6
Do not know; will think about it later	8.0
Migrants' perceived challenges post-pandemic	
The high cost of remigration	29.7
Unknown socioeconomic and security/ safety policies regarding migration workers and labor post-pandemic	22.2
Economic impacts and job availability post-pandemic in the destination cities	17.4
Lack of information and livelihood resources to find a suitable job in the countryside	19.1
Mental shocks as a consequence of the pandemic	13.3
Returnee discrimination	9.2
Do not know, do not care	3.5

Meanwhile, the other respondents (46.7% of migrant workers) intend to remigrate but need to go to the same places before finding similar jobs (13.4%) or finding suitable jobs (33.3%). Those returned migrant workers who intend to stay in the countryside post-pandemic had diverse expectations and reasons for this. Some are old enough to stabilize their life with their family and take care of their parents (8.8%). They want to work on farms with limited land resources but with a safe and peaceful life. Further, up to 13.2% of migrant workers intend to stay in the countryside and create businesses. It was explained that these respondents do not want to remigrate because they have experienced being unsafe and having an insecure life at the destination. Most of these respondents were working low-paid jobs at enterprises.

Regarding challenges, most respondents (96.5%) were worried about multiple risks ahead. The results in Table 8 show that the biggest challenge for those who intend to stay is a lack of information and livelihood sources, making it difficult to find jobs in the countryside (19.1%). In addition to that, 9.2% perceive being discriminated against or looked down on. However, for those who want to remigrate, many migrant workers think that the high cost of remigration and resettling their life at the destination is the main challenge for them (29.7%). Unknown socioeconomic and security/safety policies regarding migrant workers post-pandemic and job availability post-pandemic in the destination cities perceived as risks (22.2% & 17.4%, respectively). However, some respondents were unsure about remigration and claimed not to know or do not care about any risks (3.5%).

Discussion

During the initial surge of the COVID-19 pandemic, many migrant workers returned to their hometowns, prompting the inaugural examination of workers' quality of life in Thua Thien Hue province's coastal region. The study reveals widespread job losses and prolonged income

inadequacy, causing severe financial vulnerability due to extensive pandemic-related measures. Migrant workers with lower education levels and precarious employment, such as self-employment or small businesses, were notably more affected than those with higher education and international employment. This aligns with previous research in various regions, indicating that workers with stable jobs and social insurance face fewer challenges during the pandemic. Contrary to traditional Vietnamese cultural beliefs, this study found that male migrant workers responsible for supporting their families experienced heightened fear and vulnerability. This finding was against the conventional view within Vietnamese culture and previous findings that women are more vulnerable and more psychologically sensitive than men (Hung et al., 2020; Wang et al., 2020).

This study reveals that female migrant workers experienced more significant income loss than male workers. Many low-educated female migrants were self-employed in vulnerable sectors, such as street vending and lottery ticket sales. This resulted in job losses and reduced income during the COVID-19 pandemic, primarily due to social distancing measures. This trend aligns with findings in other locations, including Hong Kong, China, the United States, and Saudi Arabia (Hossain, 2021; Irudaya Rajan et al., 2020). Additionally, female migrant workers in industrial zones faced increased job layoffs during labor force reductions, limiting their return-to-work opportunities and income. This highlights the need for heightened attention to the challenges faced by female migrant workers, who experience fewer job opportunities and a higher likelihood of job loss than their male counterparts.

The study also indicates that the COVID-19 pandemic has exacerbated depression, psychological strain, food shortages, isolation from infected relatives, and difficulties accessing medical services for migrant workers. Notably, self-employed and small business migrant workers with lower education levels reported lower stress levels in various aspects, such as health, security, learning, children's health, and prolonged confinement, compared to those in other job types with higher education. Despite facing income losses and food shortages, self-employed migrants demonstrated resilience in finding new employment opportunities, even at the risk of compromising their health. In contrast, those working in government and international companies with higher education levels could maintain income and food security, equipped with resources like phones, computers, and internet access, contributing to heightened awareness and concern about the COVID-19 pandemic.

However, this finding is not consistent with other research, which states that people with low education were more vulnerable to psychological anxiety before COVID-19 compared to people with high education (Ha et al., 2020; Selod & Shilpi, 2022). Only a few studies indicate that migrant workers with high education are more psychologically affected by COVID-19 (Gao et al., 2020; Lei et al., 2020). The theory of Adaptation Psychology explains that the basis of an individual's judgment of a stimulus depends on their past experiences and recollections of the encounters they have had with similar stimuli (Edwards, 2018). Based on the theory, research can explain the psychology of low-education migrant workers, as they have faced similar difficulties previously (natural disasters, poverty), so their ability to adapt is higher. The study also found a relatively straightforward difference in the impacts of COVID-19 on the psychology of male and female migrant workers.

The majority of research on domestic and international migrant workers highlights higher anxiety and fear among female migrants compared to their male counterparts, as evidenced by studies in Hong Kong, China, and the United States (Abdul Azeez et al., 2021; Hung et al., 2021; Wang et al., 2021). While limited studies suggest that male migrant workers may be more psychologically affected (Göktaş & Varlı, 2023), this study supports such findings. It

underscores the importance of addressing and supporting the psychological challenges faced by migrant workers, recognizing the gender-specific need for support. Society must adopt an objective perspective on male migrant workers to alleviate burdens and pressures.

This study reveals a significant decline in the quality of life for migrant workers during pandemic restrictions. Notably, those in self-employment and small businesses have reduced healthcare spending more than their counterparts in government or international companies. The loss of jobs and subsequent income reduction among low-educated migrant workers has compelled them to limit spending to meet essential costs, aligning with findings in studies conducted in India and Bangladesh (Hossain, 2021; Irudaya Rajan et al., 2020). Vietnamese studies indicate similar trends, with migrant workers reducing education costs and children facing challenges accessing learning materials while supporting their parents in domestic responsibilities (Le, 2021; Mai et al., 2020).

Despite the negative impact on quality of life, including income reduction and job loss, a considerable proportion (33%) of returning migrant workers express an intention to remigrate post-pandemic. Job opportunities and the responsibility of being the primary income provider for their families drive this intention. This aligns with research by Khan and Arokkiaraj (2021) and Sen et al. (2023), emphasizing the uncertainty in post-COVID cities regarding market demand and job opportunities as a significant challenge. Additionally, stricter socioeconomic policies and the perceived high cost of returning to cities may influence migrants' decisions, especially those with lower education and income levels, who opt to stay in rural areas due to safety and limited resources. Some view the pandemic as an opportunity to resettle in the countryside and care for their families and parents.

Limitations

This study was conducted during the pandemic, and there were certain limitations in accessing returning migrant workers due to restrictions on travel. Only communes in the 'green zone' could be reached, and therefore, many communes in 'red zones' with returning migrant workers were not included in the study. Furthermore, the study did not include the returning migrants' households, which could help to understand the following intentions of migrant workers and households in the post-pandemic period. Therefore, future research may look at ways to deal with the consequences of the COVID-19 pandemic from a myriad of perspectives.

Conclusions and implications

Migrant workers returned to their hometowns primarily due to income challenges, psychological stress, and reduced daily expenses caused by COVID-19. Lower-educated workers in self-employment and the service industry faced significant income reductions but showed lower pandemic-related psychological concerns than their more educated counterparts. While overall income decline was similar for both genders, men expressed more anxiety about healthcare and financial security, reflecting traditional roles. Women's concerns focused on family security and food shortages. Gender-sensitive support measures are crucial, highlighting the need for policies to enhance migrant workers' financial well-being, particularly for women. These findings highlight the urgency for policies aimed at improving

the overall economic well-being of migrant workers and providing targeted support for female migrant workers. Initiatives should focus on enhancing professional skills, supporting income growth, and establishing psychological support programs. Encouraging shared responsibility for family finances, strengthening government controls, promoting international labor market participation, and collaborating with relevant agencies are crucial strategies. The lessons from this study can inform the development and implementation of effective programs and policies at both central and local government levels.

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