

Original article

Psychological capital as a mediator between perceived stress and depression in Thai adults during COVID-19: A mediation analysis

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Abstract

Background: The Coronavirus Disease 2019 (COVID-19) pandemic has caused substantial psychological distress, including elevated stress and depression. Psychological capital (PsyCap)—a positive psychological resource comprising hope, efficacy, resilience, and optimism—may function as a psychological resource that helps buffer the adverse effects of stress on mental health.

Objective: This study aimed to examine whether PsyCap mediates the relationship between perceived stress due to the COVID-19 pandemic and depression among Thai adults.

Methods: A cross-sectional online survey was conducted with 298 Thai adults aged 18–60 years. Participants completed the COVID-19 Pandemic-Related Perceived Stress Scale (PSS-10-C), the Thai Psychological Capital Inventory, and the depression subscale of the Thai Mental Health Questionnaire. Descriptive statistics, Pearson's correlations and mediation analyses were performed using the PROCESS Macro Model 4 with 5,000 bootstrap resamples.

Results: COVID-19-related stress was positively correlated with depression ($r = 0.449$, $P < 0.001$) and negatively correlated with psychological capital ($r = -0.323$, $P < 0.001$). Psychological capital was negatively correlated with depression ($r = -0.579$, $P < 0.001$). Mediation analysis indicated that psychological capital partially mediated the relationship between stress and depression, with a variance accounted for (VAF) of 34.7%. The full mediation model explained 41.2% of the variance in depression. In the parallel mediation analysis, only hope demonstrated a significant indirect effect.

Conclusion: PsyCap, particularly hope, may help buffer the association between pandemic-related stress and depression. These findings highlight the importance of incorporating strengths-based interventions that enhance PsyCap to promote mental well-being during public health crises.

Keywords: COVID-19, depression, hope, mediation analysis, perceived stress, psychological capital.

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Depression is a leading cause of disability worldwide, significantly impairing individuals' psychological well-being and daily functioning. Since the onset of the Coronavirus Disease 2019 (COVID-19) pandemic, mental health concerns have intensified globally, with substantial increases in psychological distress and depressive symptoms.^(1, 2) Certain populations—particularly women, young adults, and residents in areas subject to prolonged lockdowns—have experienced elevated vulnerability.⁽³⁾ In Thailand, strict public health measures such as quarantine, physical distancing, and lockdown have intensified psychological distress, particularly through increased fear of infection, financial insecurity, and reduced social interaction.⁽⁴⁾ During the COVID-19 pandemic, Thai adults experienced multiple psychosocial stressors related to prolonged lockdown measures, social isolation, financial insecurity, disruption of occupational and educational routines, and concerns regarding infection risk. Public health restrictions, including quarantine policies and physical distancing measures implemented throughout Thailand, substantially affected daily life and psychological well-being. Young adults and individuals facing economic instability appeared particularly vulnerable to psychological distress and depressive symptoms during this period. These contextual stressors may have contributed to increased mental health burden among the Thai population.

Perceived stress, as defined by Lazarus RS, Folkman S. gklolololol⁽⁵⁾, refers to an individual's appraisal of environmental demands as exceeding their coping resources. While perceived stress has been consistently linked to depression during the COVID-19 pandemic^(6,7), not all individuals exposed to stress develop depressive symptoms. This suggests the presence of moderating or mediating psychological factors that buffer against the adverse mental health effects of stress.

Psychological capital (PsyCap) is a higher-order construct consisting of hope, self-efficacy, resilience, and optimism.⁽⁸⁾ PsyCap has been shown to enhance adaptive coping and emotional regulation, thereby reducing susceptibility to depression.⁽⁹⁾ In times of crisis, such as the COVID-19 pandemic, PsyCap may function as a resilience-promoting resource.⁽¹⁰⁾ However, limited research has examined the mediating role of PsyCap in the relationship between perceived stress and depression within Thai populations, particularly with respect to its individual components.

Therefore, this study aimed to examine: 1) the overall mediating role of psychological capital in the relationship between COVID-19-related perceived stress and depression; and 2) the specific mediating effects of the four psychological capital components—hope, self-efficacy, resilience, and optimism—using a parallel mediation approach. It was hypothesized that psychological capital would function as a protective psychological resource and that hope would emerge as a particularly important mediator in this relationship.

Materials and methods

Participants

A total of 298 Thai adults aged 18–60 years participated in this cross-sectional study, conducted between February and March 2023. Participants were recruited via online platforms using a non-probability convenience sampling method to ensure demographic diversity. Eligibility criteria included: (a) being a Thai national, (b) continuous residence in Thailand for at least one month before participation (during February–March 2023) to ensure exposure to relevant COVID-19 public health measures and related psychosocial conditions, and (c) possessing sufficient literacy to complete a Thai-language online questionnaire. Informed consent was obtained electronically prior to participation. Exclusion criteria included: (a) declining consent, (b) incomplete responses exceeding 10.0% of the questionnaire, (c) duplicated entries or patterned responses indicative of low response validity, and (d) participant withdrawal during the survey.

Sample size was determined using the A Priori Sample Size Calculator for Structural Equation Models⁽¹¹⁾, with the parameters set at $\alpha = 0.05$, power = 0.80, and a small to medium anticipated effect size ($f^2 = 0.20$). The minimum required sample size was 200. To account for potential exclusions due to missing or invalid data, the target sample size was increased by 60.0%. After data cleaning, 298 valid and complete responses remained for analysis.

Measures

Demographic questionnaire

A self-developed demographic questionnaire was used to collect data on participants' gender, age, education level, marital status, monthly income, and duration of residence in Thailand. Additional items assessed participants' COVID-19-related experiences, including personal or family infection and vaccination history.

Psychological capital

Psychological capital (PsyCap) was assessed using the Thai Psychological Capital Inventory⁽¹²⁾, a 44-item self-report instrument based on Luthans et al.'s model. It evaluates four components: hope (10 items), self-efficacy (12 items), resilience (12 items), and optimism (10 items). Example items include "I can think of many ways to reach my current goals" (hope), "I feel confident analyzing a long-term problem to find a solution" (self-efficacy), "I can recover quickly from difficult situations" (resilience), and "I usually expect good things to happen in the future" (optimism). Items are rated on a 5-point Likert scale (1 = totally disagree to 5 = totally agree). Higher scores reflect greater psychological capital. In the present study, Cronbach's alpha (α) for the overall scale was 0.959. Subscale reliabilities were 0.871 (hope), 0.904 (self-efficacy), 0.852 (resilience), and 0.865 (optimism).

Perceived stress

Perceived stress related to the COVID-19 pandemic was measured using the Thai version of the COVID-19 Pandemic-Related Perceived Stress Scale (PSS-10-C).⁽¹³⁾ This 10-item scale assesses the extent to which individuals perceive situations related to the COVID-19 pandemic as stressful. An example item is: "How often have you felt unable to control important things in your life because of the COVID-19 situation?" Items are rated using a 5-point response format (0 = never to 4 = always). Negatively worded items were reverse scored, with total scores ranging from 0 to 40. A score of ≥ 25 indicates high perceived stress. The scale demonstrated good reliability in this study ($\alpha = 0.835$).

Depression

Depression was assessed using the depression subscale of the Thai Mental Health Questionnaire (TMHQ)⁽¹⁴⁾, which includes 20 items designed to assess depressive symptoms and emotional distress. An example item is: "I felt hopeless about the future." Items are rated on a 5-point scale (0 = not at all to 4 = extremely). T-scores ≥ 65 indicate a high likelihood of clinical depression. Internal consistency in the present sample was excellent ($\alpha = 0.966$).

Procedures

Data collection was conducted between February and March 2023 via an online self-administered

questionnaire hosted on Google Forms. Ethical approval was obtained from the Ethics Committee of the Faculty of Medicine Siriraj Hospital, Mahidol University (COA no. 058/2023). The survey link was distributed through multiple social media platforms, including Facebook, Instagram, Twitter, and LINE.

Before beginning the questionnaire, participants were presented with an online information sheet detailing the study's objectives, confidentiality protections, and their rights as participants. Informed consent was obtained electronically. The survey consisted of four parts: 1) demographic questions, followed by; 2) the PSS-10-C; 3) the Thai Psychological Capital Inventory; and (4) the depression subscale of the Thai Mental Health Questionnaire.

Upon completion, participants were provided with an infographic as a token of appreciation and to enhance awareness of psychological capital. They also had the option to receive individualized feedback on their levels of psychological capital, perceived stress, and depression risk.

All data were securely stored on a password-protected computer. Once the targeted sample size was reached and data screening was completed, statistical analyses were performed.

Statistical analysis

All analyses were conducted using IBM SPSS Statistics (version 29, licensed to Mahidol University) and the PROCESS macro (Hayes, 2013). Descriptive statistics, including frequencies, means, standard deviations, skewness, and kurtosis—were computed to summarize participant characteristics and assess the distribution of study variables.

Bivariate relationships between demographic variables and levels of COVID-19 stress, psychological capital, and depression were examined using Pearson's chi-square test. Effect sizes were calculated using Cramer's V.

Pearson's product-moment correlation coefficients were used to assess the strength and direction of associations among the primary variables: perceived stress, psychological capital (total and subscales), and depression.

To test the hypothesized mediation effects, two models were conducted using the PROCESS macro (Model 4) with 5,000 bootstrap resamples and 95% bias-corrected confidence intervals.

- A simple mediation model was conducted to examine the indirect effect of psychological capital in the relationship between COVID-19 stress and depression.
- A parallel mediation analysis was conducted, incorporating the four components of Psychological Capital—hope, self-efficacy, resilience, and optimism—as simultaneous mediators.

Statistical significance was set at $P < 0.05$ for all analyses. The proportion of variance explained (R^2) and Variance Accounted For (VAF) were used to interpret the strength and type of mediation.

Results

Descriptive analysis of the samples' personal characteristics

The final sample comprised 298 Thai adults with a mean age of 29.61 years ($SD = 9.62$). The majority were female (67.8%), aged between 18–28 years (58.7%), and single (87.2%). Most participants had completed a bachelor's degree (62.8%), and approximately one-third (33.2%) reported a monthly income below 15,000 Thai baht. In terms of COVID-19-related experiences, 62.1% of participants reported having contracted COVID-19 themselves, while 81.9% indicated that at least one family member had been infected. The majority (84.2%) had received at least three doses of a COVID-19 vaccine. **Table 1** presents detailed demographic characteristics of the sample.

Descriptive analysis of the variables

Table 2 presents descriptive statistics for the key study variables: COVID-19-related perceived stress, depression, and psychological capital. The mean score for COVID-19 stress was 16.59 ($SD = 6.67$), indicating a normal level of perceived stress. The average depression score was 1.30 ($SD = 0.99$), also within the normal range. The overall psychological capital score was 3.89 ($SD = 0.53$), reflecting a moderately high level of PsyCap in the sample.

All four PsyCap components were reported at similarly high levels:

Hope: $M = 3.75$, $SD = 0.62$

Self-efficacy: $M = 3.72$, $SD = 0.64$

Resilience: $M = 4.06$, $SD = 0.53$

Optimism: $M = 4.03$, $SD = 0.58$

Skewness and kurtosis values for all variables were within acceptable thresholds, indicating approximate normality of the distributions.⁽¹⁵⁾

The correlation analysis of demographic data and COVID-19 stress, psychological capital, and depression

Table 3 presents the results of chi-square analyses and effect size estimates (Cramer's V) examining the associations between demographic variables and levels of COVID-19 stress, psychological capital, and depression. Significant associations were found between depression and gender ($\chi^2 = 12.307$, $P = 0.002$), marital status ($\chi^2 = 11.723$, $P = 0.001$), income ($\chi^2 = 24.174$, $P < 0.001$), and vaccination history ($\chi^2 = 4.095$, $P = 0.043$), with small to medium effect sizes. Psychological capital was significantly associated with education ($\chi^2 = 9.727$, $P = 0.045$) and income ($\chi^2 = 21.362$, $P = 0.019$), both with small effect sizes.

No statistically significant associations were observed between COVID-19 stress and any demographic variables. Similarly, no significant relationships were found between psychological capital and gender, marital status, or COVID-19 infection experiences. The overall effect sizes ranged from very small to medium.

Relationships among COVID-19 stress, psychological capital, and depression

Pearson correlation coefficients were calculated to examine the associations among COVID-19 stress, psychological capital, its four components (hope, self-efficacy, resilience, and optimism), and depression (**Table 4**). COVID-19 stress showed a significant positive correlation with depression ($r = 0.449$, $P < 0.01$) and a significant negative correlation with psychological capital ($r = -0.323$, $P < 0.01$). Psychological capital was negatively associated with depression ($r = -0.579$, $P < 0.01$).

All four components of psychological capital were negatively correlated with both COVID-19 stress and depression at statistically significant levels ($P < 0.01$). These relationships ranged from weak to moderate in magnitude.

Mediation analysis

To examine the mediating role of psychological capital in the relationship between COVID-19 stress and depression, two mediation models were tested using PROCESS Macro (Model 4) with 5,000 bootstrap resamples and 95% confidence intervals (CIs).

Table 1. Demographic characteristics of participants (n = 298).

Demographics		n	(%)
Age range (years)			
(Mean = 29.6, SD = 9.6)	18 - 28	175	58.7
	29 - 39	73	24.5
	40 - 50	36	12.1
	51 - 60	14	4.7
Gender	Male	50	16.8
	Female	202	67.8
	LGBTQ+	46	15.4
Marital status	Single	260	87.2
	Married	31	10.4
	Separate/divorce	7	2.3
Education	Junior high school	6	2.0
	Senior high school / Voc. Cer.	40	13.4
	Dip. / High voc. cer.	4	1.3
	Bachelor's Degree	187	62.8
	Master's Degree	57	19.1
	Others	4	1.3
Income per month (Thai Baht)	Less than 15,000	99	33.2
	15,001 – 25,000	85	28.5
	25,001 – 35,000	55	18.5
	35,001 – 45,000	17	5.7
	45,001 – 55,000	21	7.0
	More than 55,000	21	7.0
Self-experienced COVID-19	Experienced	185	62.1
	Never	113	37.9
Family-experienced COVID-19	Experienced	244	81.9
	Never	54	18.1
Vaccination history (dose)	Never	1	0.3
	1	1	0.3
	2	45	15.1
	3	108	36.2
	4	97	32.6
	5	42	14.1
	6	4	1.3

Table 2. Descriptive analysis of COVID-19 stress, depression, and psychological capital.

Variables	Mean	SD	Skewness	Kurtosis	Level
COVID-19 stress	16.59	6.671	-0.187	0.141	Normal
Depression	1.30	0.985	0.688	-0.439	Normal
Psychological capital	3.89	0.531	-0.219	-0.174	Moderately high
- Hope	3.75	0.618	-0.213	-0.103	Moderately high
- Self-Efficacy	3.72	0.643	-0.252	0.182	Moderately high
- Resilience	4.06	0.529	-0.306	-0.275	Moderately high
- Optimism	4.03	0.581	-0.397	-0.219	Moderately high

Table 3. Shows cross-tabulation of Chi-square and Cramer's V test of demographic data and level of depression, COVID-19 stress, and psychological capital.

Variables	Demographic data	χ^2	df	P	V	Effect size
Depression	Gender	12.3	2	0.002*	0.203	Small
	Marital status	11.7	1	0.001*	0.198	Small
	Education	1.6	2	0.440	0.074	Small
	Income	24.2	5	0.000*	0.285	Medium
	COVID-19 infection experiences					
	- Self-experienced COVID-19 infection	1.043	1	0.307	0.059	Very small
	- Family-experienced COVID-19 infection	2.882	1	0.090	0.098	Very small
Covid-19 stress	- Vaccination history	4.095	1	0.043*	0.117	Small
	Gender	3.320	2	0.190	0.106	Small
	Marital status	0.663	1	0.415	0.047	Very small
	Education	3.714	2	0.156	0.112	Small
	Income	6.743	5	0.240	0.150	Small
	COVID-19 infection experiences					
	- Self-experienced COVID-19 infection	0.003	1	0.959	0.003	Very small
Psychological capital	- Family-experienced COVID-19 infection	0.763	1	0.382	0.051	Very small
	- Vaccination history	2.298	1	0.130	0.088	Very small
	Gender	1.903	4	0.754	0.057	Very small
	Marital status	2.914	2	0.233	0.099	Small
	Education	9.727	4	0.045*	0.128	Small
	Income	21.4	10	0.019*	0.189	Small
	COVID-19 infection experiences					
	- Self-experienced COVID-19 infection	1.9	2	0.394	0.079	Very small
	- Family-experienced COVID-19 infection	2.1	2	0.342	0.085	Very small
	- Vaccination history	0.006	2	0.997	0.005	Very small

Table 4. Pearson's correlation coefficients between COVID-19 stress, depression, and psychological capital.

Variables	CVST	DP	PsyCap	H	E	R	O
1.CVST	(0.835)						
2.DP	0.449**	(0.966)					
3.PsyCap	-0.323**	-0.579**	(0.959)				
H	-0.248**	-0.537**	0.894**	(0.871)			
E	-0.272**	-0.505**	0.907**	0.780**	(0.904)		
R	-0.318**	-0.516**	0.897**	0.715**	0.735**	(0.852)	
O	-0.328**	-0.517**	0.888**	0.692**	0.710**	0.796**	(0.865)

VST, COVID-19 stress; DP, Depression; PsyCap, Psychological Capital; H, Hope; E, Self-efficacy; R, Resilience; O, Optimism. Values on the diagonal represent Cronbach's alpha coefficients. $P < 0.01$ (two-tailed).

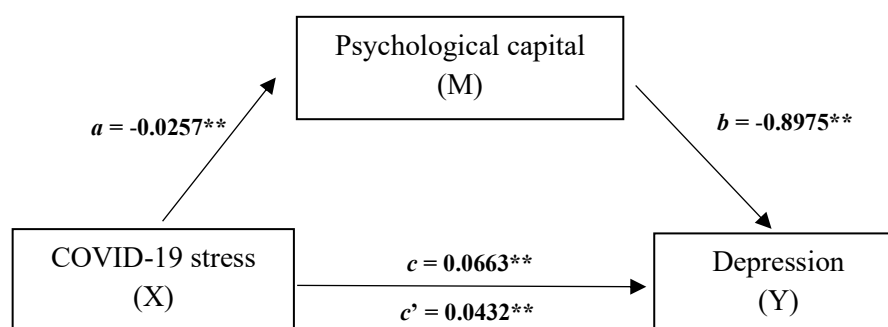


Figure 1. A simple mediation model with unstandardized path coefficients. ** $P < 0.01$

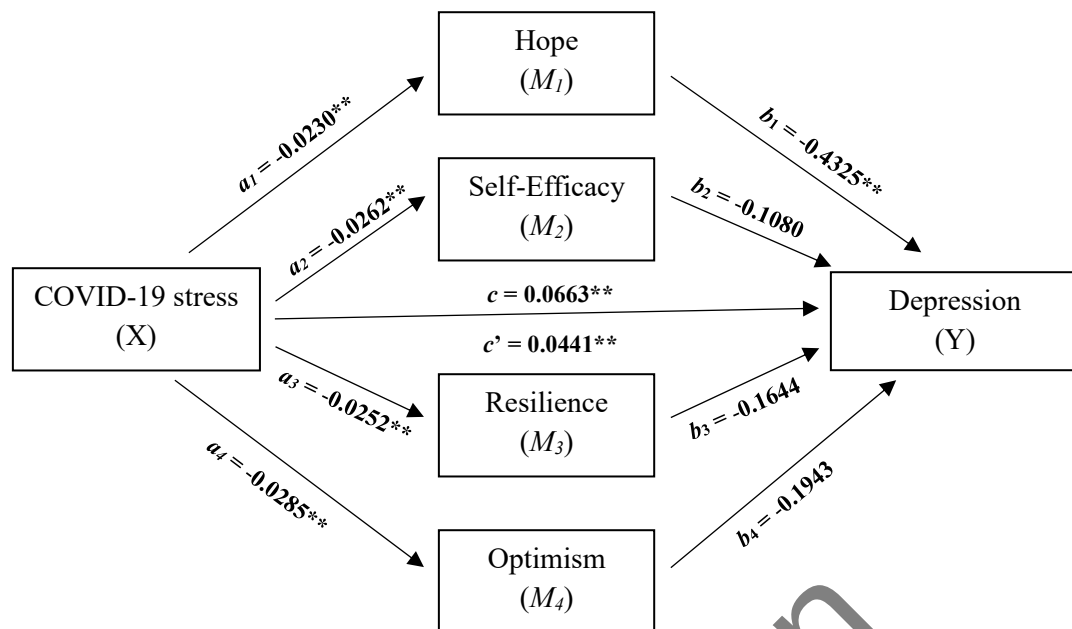


Figure 2. A parallel mediation model with unstandardized path coefficients. ** $P < 0.01$

Simple mediation

As illustrated in **Figure 1**, psychological capital was found to partially mediate the relationship between COVID-19 stress and depression. In this model, COVID-19 stress was a significant predictor of depression (path c: $b = 0.0663$, $SE = 0.0077$, $P < 0.01$). COVID-19 stress also significantly predicted psychological capital (path a: $b = -0.0257$, $SE = 0.0044$, $P < 0.01$), and psychological capital, in turn, negatively predicted depression (path b: $b = -0.8975$, $SE = 0.0874$, $P < 0.01$).

The indirect effect of COVID-19 stress on depression through psychological capital was significant ($ab = 0.0230$, 95% CI [0.0136, 0.0336]), indicating a partial mediation. The total explained variance increased from $R^2 = 0.2018$ (COVID-19 stress alone) to $R^2 = 0.4118$ when psychological capital was included as a mediator. The Variance Accounted For (VAF) was 34.7%, supporting a partial mediation interpretation according to Hair JF, *et al.* (2016). Complete numerical results for this model are reported in **Table S1** (see **Supplementary materials**).

Parallel mediation

The parallel mediation model examined the four components of psychological capital (hope, self-efficacy, resilience, and optimism) as simultaneous mediators. As shown in **Figure 2**, COVID-19 stress significantly predicted all four mediators: hope ($a_1 = -0.0230$, $P < 0.01$), self-efficacy ($a_2 = -0.0262$, $P < 0.01$), resilience ($a_3 = -0.0252$, $P < 0.01$), and optimism ($a_4 = -0.0285$, $P < 0.01$).

However, only hope significantly predicted depression ($b_1 = -0.4235$, $P < 0.01$), whereas self-efficacy, resilience, and optimism did not reach statistical significance in their respective paths (all $P > 0.05$). The indirect effect via hope was statistically significant ($ab = 0.0097$, 95% CI [0.0025, 0.0195]), and the corresponding VAF was 14.69%, suggesting a minimal but partial mediation effect.

The full model explained 41.7% of the variance in depression ($R^2 = 0.4173$). These findings highlight hope as the most influential psychological capital component mediating the impact of COVID-19 stress on depression. Full results are presented in **Table S2** (see **Supplementary materials**).

Discussion

This study investigated the mediating role of psychological capital (PsyCap) and its components in the relationship between perceived stress due to the COVID-19 pandemic and depression among Thai adults. The findings contribute to a growing body of research on positive psychological resources that buffer the negative effects of pandemic-related stress.

COVID-19 stress and depression

Consistent with prior studies, perceived stress related to COVID-19 was positively associated with depression.^(2, 16) This relationship supports the stress-diathesis model, which suggests that chronic stressors, such as those experienced during a public health crisis, may trigger depressive symptoms in vulnerable individuals.⁽¹⁷⁾ The residual psychological toll of lockdowns, financial insecurity, and health-related uncertainty appears to continue affecting individuals

beyond the acute phase of the pandemic. These findings underscore the need for early identification and intervention in stress-induced depressive symptoms.

Psychological capital as a protective resource

PsyCap was found to be negatively associated with both perceived stress and depression, reinforcing its role as a protective psychological buffer.^(9, 16, 18) In the Thai context, culturally embedded values such as Thum jai (acceptance), emotional restraint, and adaptability appear to play important roles in coping with adversity. Although this study did not measure psychological capital directly, these values are consistent with elements of PsyCap and suggest cultural pathways through which PsyCap may develop and be maintained.⁽¹⁹⁾ Recent international studies support these findings. For example, Yildirim M, *et al.*⁽²⁰⁾ reported that PsyCap mediated the relationship between fear of COVID-19 and intolerance of uncertainty among healthcare workers. Similarly, Yao Y, *et al.*⁽²¹⁾ demonstrated that PsyCap and social support jointly mediated the link between personality traits and mental health in a Chinese sample. Regionally, Aballe and Nieve⁽²²⁾ found that PsyCap partially mediated the relationship between COVID-19-related stress and organizational commitment among nurses in the Philippines. These findings highlight the broad applicability of PsyCap across diverse populations and cultural contexts.

Mediating role of psychological capital

The mediation analysis showed that PsyCap partially mediated the relationship between perceived stress and depression, with a variance accounted for (VAF) of 34.69%. This finding aligns with previous research emphasizing PsyCap's role as a resilience-enhancing psychological resource during times of adversity.^(23, 24) The significant increase in explained variance in depression, from 20.2% in the direct model to 41.18% in the full model, highlights the potential value of targeting PsyCap in psychological interventions. Future work may further situate these findings within frameworks such as conservation of resources theory or positive organizational behavior.

The central role of hope

Among the four PsyCap components, only hope significantly mediated the relationship between stress and depression. Although the mediation effect was modest (VAF = 14.7%), this result emphasizes hope's centrality as a future-oriented motivational construct.

According to Snyder's hope theory,⁽²⁵⁾ individuals with higher hope are better equipped to generate solutions and maintain motivation in the face of obstacles. Previous studies have shown that hope promotes emotional regulation and adaptive coping.⁽²⁶⁾ In the context of prolonged public stressors like COVID-19, fostering hope may enhance psychological resilience and reduce depressive symptoms. While self-efficacy, resilience, and optimism were also negatively associated with depression, they did not independently mediate the stress-depression link, potentially due to contextual or cultural variability in how these traits are expressed or measured.

Demographic associations and broader implications

In line with earlier studies, several demographic and health factors—such as gender, younger age, poorer health perception, number of physical symptoms, and type of employment—were significantly associated with psychological distress in non health workers in Spain.⁽²⁷⁾ These findings similarly point to the continuing influence of socio economic and contextual vulnerabilities on mental health outcomes. For instance, individuals with fewer resources or living in more constrained conditions may perceive greater vulnerability and lower coping capacity. Mental health interventions that consider such demographic risk factors, alongside psychological strengths, may be more effective in mitigating distress during public health crises.

Limitations and future directions

Despite its contributions, this study has several limitations. First, the cross-sectional design precludes causal inference and limits the ability to establish temporal relationships among perceived stress, psychological capital (PsyCap), and depression. Therefore, the mediation findings should be interpreted as statistical rather than causal mediation. Longitudinal or experimental studies are needed to clarify the directionality of these relationships. Second, the use of convenience sampling through online platforms may limit the generalizability of the findings. The sample was predominantly composed of younger adults aged 18–28 years, many of whom may have been students rather than full-time workers. Consequently, the findings may not fully represent the stress experiences of older adults or individuals from more diverse occupational backgrounds in Thailand. In addition, female participants were overrepresented in the sample. Because previous studies have reported gender differences in stress perception and depressive

symptoms, the findings may have limited generalizability to the broader Thai male population. Third, although several demographic variables (e.g., gender, marital status, income, and vaccination history) were significantly associated with depression, these factors were not included as covariates in the mediation analyses. Therefore, the observed mediation effects should be interpreted cautiously, as uncontrolled demographic characteristics may have influenced the magnitude of the associations among perceived stress, PsyCap, and depression. Additionally, prior psychiatric diagnoses were not assessed and may also have influenced depression levels.

Despite these limitations, this study benefits from a relatively large sample and the use of culturally validated psychological instruments. Future research should examine the generalizability of these findings across more diverse demographic and occupational groups, particularly among clinical populations. Further longitudinal and intervention-based studies are also needed to determine whether PsyCap-focused interventions can effectively reduce depressive symptoms and strengthen psychological resilience during large-scale public health crises.

Conclusion

This study examined the mediating role of psychological capital (PsyCap) and its components—hope, self-efficacy, resilience, and optimism—in the relationship between perceived stress due to the COVID-19 pandemic and depression among Thai adults. The findings demonstrated that PsyCap, particularly hope, significantly mediated the relationship between perceived stress and depression. The mediation effect of overall PsyCap accounted for 34.7% of the total effect, and hope emerged as the only significant component-level mediator, highlighting its central role.

These findings highlight the value of psychological capital, particularly hope, in protecting against depression during stressful periods. PsyCap helps buffer the negative effects of stress on mental health, and interventions that boost hope, set goals, and build resilience may reduce depression during public health crises.

To build on these findings, future research should employ longitudinal or experimental designs to assess causality and evaluate PsyCap-targeted interventions. Further exploration of cultural and contextual moderators will also help tailor PsyCap-based

interventions to different populations. By promoting internal psychological strengths, it may be possible to foster population-level resilience and reduce the burden of depression in the face of global adversity.

Author contributions

Thanayot Sumalrot contributed substantially to the conception and design of the study, data acquisition, statistical analysis, interpretation of the findings, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. Kamonnet Wannasewok contributed substantially to data acquisition, literature review, and interpretation of the findings. Kittiya Chokcharoenying contributed to participant recruitment, data collection, and manuscript preparation. Anon Khunakorncharatphong contributed to methodological consultation, statistical interpretation, and critical revision of the manuscript. All authors approved the final version submitted for publication and agree to be accountable for all aspects of the work.

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Microsoft Copilot and ChatGPT were used solely for language editing assistance, including grammar, spelling, punctuation, and clarity improvement. The authors take full responsibility for the content of the manuscript.

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Conflict of interest statement

All authors have completed and submitted the International Committee of Medical Journal Editors Uniform Disclosure Form for Potential Conflicts of Interest. All authors declare that they have no conflicts of interest.

Data sharing statement

All data generated or analyzed in the present study are included in the published article. Further details are available for non commercial purposes from the corresponding author upon reasonable request.

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