

Stress, coping, and mental health status among nursing students at a private university in Nakhon Pathom, Thailand

Stephanie Molina, Sarah Jane Racal *

Faculty of Nursing, Christian University of Thailand, Nakhonpathom, Thailand.

*Corresponding author. Email: racalsarahjane@gmail.com

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ABSTRACT

Background: Stress, especially among young people, leads to life-threatening mental conditions such as depression and suicide. Nursing students, in particular, are exposed to different kinds of stress such as pressures from both academic and clinical exposures coupled with expectations to succeed. These stressors influence individual coping styles which may eventually affect students' mental, physical, and over-all wellbeing leading to the decline in their learning and academic performance.

Aims: This descriptive-correlational study was aimed at exploring the relationships among stress, coping, and mental health status among nursing students at a private university in Nakhon Pathom, Thailand.

Methods: Using a systematic random sampling, a descriptive cross-sectional study was done among one hundred and fifty 3rd and 4th year nursing students under the international nursing program. The Perceived Stress Scale, Brief COPE, and the General Health Questionnaire were used to assess the level of stress, the coping strategies used, and the mental health status of the respondents. Descriptive statistics, *t*-test, and Pearson's correlation were used to answer the research questions.

Results: It revealed that the nursing students had moderate level of perceived stress, used acceptance as the most common form of coping, and substance use and denial as the least used. Furthermore, the respondents had mild level of mental health related-illness. Significant gender differences were found in the perceived level of stress, and use of coping strategies. While mental health status significantly differed according to year level and interest in nursing. Significant mild to moderate relationships were found among perceived stress level, coping strategies, mental health status, and selected socio-demographic variables.

Conclusion: The findings of the study provide additional useful information on the relationships of stress, coping, and health outcomes. Results can also be useful in creating a stress management program for nursing students such as awareness on individual stress response and reinforcing the use of healthy coping strategies.

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INTRODUCTION

Stress and health-related response is a growing concern. The World Health Organization has

recognized the influence of stress on several mental health problems such as depression and suicide, particularly among the youth [1]. Although everyone experiences stress in various degrees and intensity, health professionals such as nurses carry extra

responsibility as they take care of other people while having to deal with their own personal challenges. It is important to address this concern while they are still in school under the supervision of their instructors as they face pressures from academic and clinical responsibilities

Stress among the nursing students is recognized as one of the most significant issues in contemporary education [2]. Aside from belonging to a vulnerable age group, nursing students are frequently exposed to several stressors which may have direct or indirect influence in their learning and academic performance. They do not only face high levels of stress related to academic assignments but also from clinical skills training. In effect, these stress influence students' over-all wellbeing particularly their mental health [3]. To deal with the challenges and stress, students employ certain coping mechanisms some of which could be healthy and some not. In Thailand, nursing students under the International Program face additional challenges particularly from living away from their families, and from learning nursing using a second language (English). Major adjustments are expected since nursing concepts learned in this program do not only focus on their own country's healthcare practices but also include culture, procedures and ways of thinking rooted mostly from other global regions. On top of the physical short and long-term outcomes from stress, students may feel anxious, confused, lonely, and mentally overwhelmed—all unseen and intangible but may have serious impacts on their overall health and wellbeing.

The concept of stress, coping, and health outcome has been a point of interest for decades, such as the Transactional Model of Stress and Coping by Lazarus and Folkman [4]. It is in fact, part and parcel of every educational curriculum among health professional. The challenge, however, is to integrate these concepts in research and practice to have a deeper understanding of the stress, coping, and related health outcomes among student health professionals such as nurses.

In line with the World Health Organization's call to recognize the importance of mental health and build resilience among the young people, the aim of this study was to determine the levels of stress, the coping strategies used, and the mental health status of students; and to explore the correlation of these factors among 3rd and 4th year nursing students. Knowledge on these would serve as an important information in identifying, planning, and creating

effective intervention programs to reduce or prevent stress and among student nurses which in turn would facilitate their performance and learning both in academic and clinical area.

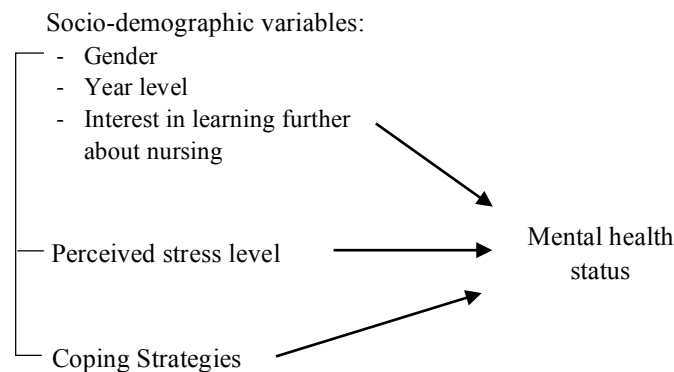


Figure 1. Conceptual framework in this study

METHODS

Research design

This study used the descriptive – correlational research design. According to Leedy and Ormrod [5], a descriptive-correlational design is one which surfaces a prevailing situation and at the same time shows the relationship between and among several variables. This is appropriate in examining the existence of relationship between independent variables without the need for manipulation and outcomes [6]. The study was sought to determine the mental health status of nursing students in a private university at Nakhon Pathom Province and at the same time correlate it with their perceived stress level and coping strategies. Thus, the researcher believed that the descriptive - correlational design is appropriate to use.

Respondents of the study

To identify the sample size in this study, the Yamane's formula was used resulting to a sample size of 150. From an official list of students enrolled in academic year 2017, systematic sampling method was used to randomly select the respondents from the 3rd year and 4th year Bachelor of Nursing Science (International Program) students. The data was collected in November 2017. They were informed of the objective of the study and anonymity of the students was observed. Questionnaires were filled out completely by all respondents.

Research instruments

The research instrument that was used to gather data in this study were modified standardized questionnaire. These were the Socio-demographic information, Perceived stress level Scale (PSS), Brief COPE Questionnaire, and General Health Questionnaire (GHQ-12).

Socio-demographic Information: General information included were age, gender, year level, monthly allowance, and interest in nursing.

Perceived stress level Scale (PSS): To examine nursing students' stress levels, the perceived stress level scale developed by Cohen in 1988 was used [7]. This consists of 14 positive and negative statements referring to the experiences of the respondents within the last month and rated on a five point scale with scores ranging from 0 (never) to 4 (very often). PSS score was obtained by reversing responses to the seven positivity worded items (4, 5, 6, 7, 10, and 13) and summing across all scale items. Higher scores mean higher perceived stress level. The authors of this questionnaire have done extensive validity checks and reported reliability for subscales ranging from 0.50 to 0.72 [8]. In this study, the reliability coefficient of the instrument is 0.86 (Cronbach's alpha).

Brief COPE: This scale is a shortened item version of the COPE Inventory that was developed for the assessment of a broad range of coping responses that was developed by Carver in 1997 [9]. This scale is composed of 14 subscales with two items in each, for a total of 28 items, that are rated using a four-point scale, ranging from "I usually don't do this at all" (score 0) to "I usually do this a lot" (score 4). Items assess both functional and dysfunctional coping responses that include planning, acceptance, using instrumental support, self-distraction, denial, venting, substance use, active coping, humor, positive reframing, religion, using emotional support, behavioral disengagement, and self-blame. Internal reliabilities range from Cronbach's alpha 0.57 to 0.90.

General Health Questionnaire (GHQ 12-item version): To measure the current mental health status of nursing students, the General Health Questionnaire (GHQ) developed by Goldberg (1978) was used [10]. A scoring of 0 (*never*), 1, 2, and 3 (*always*) was used corresponding to the four response options per item, of which the participants select one. The response options refer to degrees of change in normal day to day functioning and emotional states. The total score of 3 or higher indicates "caseness" or risk of developing a transitory stress-related illness. The

reliability of the GHQ questionnaire was assessed by Cronbach's alpha coefficient is equal or greater than 0.70 was considered satisfactory. The internal validity of this version have been demonstrated to be adequate or good in numerous studies [9].

Ethical considerations

Approval was obtained from the Ethical Review Board of the private educational institution prior to data collection. The consent form which included details on voluntary participation, freedom to withdraw, and confidentiality was given to the respondents.

Data analysis

The data was analyzed using the SPSS (Statistical Package for the Social Science) version 16.0. Descriptive statistics used the frequency, percentage, and mean. Independent samples t-test was used to test differences between two means. Pearson's correlation coefficient and point-biserial was used to test the relationships among stress factors, perceived stress level, coping strategies, and mental health status. A *p*-value of equal to or less than 0.5 was considered significant.

RESULTS

Demographic information and characteristics of participants

In this section, descriptive statistics regarding frequencies and percentage were used to describe gender, age, year level, monthly allowance, and interest in nursing. The total participants of this study were 150 nursing students, majority of which were female (80%) coming from 3rd year (66.7%) and 4th year (33.3%), with age ranging mostly from 21-22 (98.7%). Most of the participants receive a monthly allowance of 6,000-9,000 Baht (68.7%). More than half of the participants were less interested in nursing (52.7%). A detailed presentation on the Perceived Stress Scale is shown in Table 1. Results showed that Item 7 (able to control irritation in life) has the highest mean score ($M = 2.66$, $SD = .64$), followed by Item 8 (felt on top of things) with mean and standard deviation of $M = 2.63$, $SD = .63$. Items 6 (could not cope with all the things hard to do) and 9 (angered because of things that were outside of control) were the lowest scores at $M = 2.02$, $SD = .69$ and $M = 2.17$, $SD = .63$, respectively. Overall, the students have a moderate level of stress ($M = 2.36$, $SD = .63$).

Table 1. Distribution of students by Perceived Stress Scale

Statements	Mean	SD	Verbal Interpretation
1. Been upset of events that happened unexpectedly	2.47	.56	Moderate
2. Felt of unable to control important things in life	2.35	.63	Moderate
3. Felt nervous or stressed	2.29	.58	Low
4. Felt confident to handle personal problems	2.40	.60	Moderate
5. Felt things were going according to own way	2.41	.62	Moderate
6. Felt unable to cope with things that should be done	2.02	.69	Low
7. Been able to control irritation in life	2.66	.64	Moderate
8. Felt on top of things	2.63	.63	Moderate
9. Been angered of things that were happening outside of control	2.17	.63	Low
10. Felt difficulties were piling up so high that they could not be solved	2.23	.70	Low
Over-all Mean	2.36	.63	Moderate

Table 2: Distribution of Students by Brief Cope Questionnaire

Coping Strategies	Mean	SD
1. Self-distraction	4.87	.75
2. Active coping	5.28	1.07
3. Denial	3.81	1.08
4. Substance use	3.85	1.01
5. Use of emotional support	5.44	1.20
6. Use of instrumental support	5.60	1.17
7. Behavioral disengagement	4.57	.97
8. Venting	4.77	.84
9. Positive reframing	5.44	1.20
10. Planning	5.49	1.16
11. Humor	4.82	.80
12. Acceptance	5.61	1.27
13. Religion	4.48	.82
14. Self-blame	4.24	1.06
Over-all mean	4.88	1.03

Table 3: Distribution of Students by general health questionnaire for mental health status assessment

Questions	Mean	SD	Verbal Interpretation
1. Feeling that you had not made good use of time	2.24	.65	Mild
2. Feeling that you were not decisive	2.23	.54	Mild
3. Feeling that you had suffered from pressure	2.08	.59	Mild
4. Feeling that you could not overcome your own difficulties	2.03	.56	Mild
5. Feeling unhappy or distressed	2.24	.65	Mild
6. Able to lead a happy life	2.75	.82	Moderate
7. Able to face your own difficulties	2.30	.64	Mild
8. Sleepless because of worrying something	2.29	.56	Mild
9. Having lost self-confidence	2.55	.65	Mild
10. Able to concentrate on doing anything	2.38	.71	Mild
11. Feeling that you were a useful person	1.81	.77	Mild
12. Feeling happy in general	1.59	.69	Mild
Over-all mean	2.21	.65	Mild

Table 2 exhibits details on the Brief COPE Questionnaire. Results showed subscale 12 (acceptance) has the highest mean score ($M = 5.61, SD = 1.27$), followed by subscale 6 (use of instrumental support) with mean and standard deviation of $M = 5.60, SD = 1.17$. Subscales 4 (substance use) and 3 (denial) were the lowest scores at $M = 3.85, SD = 1.01$ and $M = 3.81, SD = 1.08$, respectively. Table 3 presents details on the mental health assessment. Results showed that item 6 (able to lead a happy life)

has the highest mean score ($M = 2.75, SD = .82$), followed by item 9 (having lost self-confidence) and item 10 (able to concentrate on doing anything) with mean and standard deviation of $M = 2.55, SD = .65$ and $M = 2.38, SD = .71$, respectively. Items 11 (feeling of being a useful person) and 12 (feeling happy in general) were the lowest scores at $M = 1.81, SD = .77$ and $M = 1.59, SD = .69$, respectively. Overall, the students showed a mild to moderate mental health status ($M = 2.21, SD = .65$).

Table 4: Significant findings on stress level and coping strategies using *T-test* ($df=148$)

Characteristics	Stress level			Coping strategies			Mental health		
	M	SD	t	M	SD	t	M	SD	t
Gender									
Male	17.00	1.41	-7.36*	66.25	2.62	-.83*	29.50	1.91	2.97
Female	23.84	1.94		68.37	5.08		26.43	2.03	
Year level									
Third year	24.15	1.52	3.48	70.46	3.92	9.192	26.33	1.67	-1.36*
Fourth year	22.68	2.78		64.04	4.23		26.90	.38	
Interested in Nursing									
Yes	23.57	1.80	.44	68.16	4.90	.34	26.63	2.03	-.63*
No	23.73	2.46		68.45	5.17		26.41	2.14	

* $p < 0.05$

Table 5: Correlation among the study variables

Variables	^a Gender	^a Year level	^a Interest in Nursing	Perceived stress level	Coping strategies	Mental health status
^a Gender	1	-.234**	-.175*	.518**	.068	-.237**
^a Year level	-.234**	1	.123	-.326**	-.603**	.129
^a Interest in Nursing	-.175**	.123	1	-.037	-.029	.052
Perceived stress level	.518**	-.326**	-.037	1	.237**	-.094
Coping strategies	.068	-.603**	-.029	.237**	1	.036
Mental health status	-.237**	.129	.052	-.094	.036	1

* $p < 0.05$, ** $p < 0.01$, ^a point-biserial.

Table 4 shows the significant difference in the stress level, coping strategies, and mental health status when grouped according to selected socio-demographic variables. Results were statistically significant according to year level $t(148) = -1.36, p < .05$ between the third year ($\bar{X} = 26.33, SD = 1.67$) and fourth year nursing students ($\bar{X} = 26.90, SD = .38$) and between those male ($\bar{X} = 17.00, SD = 1.41$) and female ($\bar{X} = 23.84, SD = 1.94$) nursing students $t(148) = -7.36, p < .05$, and between those interested ($\bar{X} = 26.63, SD = .633$) and not interested ($\bar{X} = 26.41, SD = 2.14$) in nursing. The stress level and use of coping strategies significantly differed between male and female nursing students $t(148) = -7.36$ and $-.83, p < .05$, respectively. The mental health status also significantly differed between the third year and

fourth year nursing students $t(148) = -1.36, p < .05$, and those who are interested and not interested in nursing $t(148) = -.63, p < .05$. The third year nursing students ($\bar{X} = 70.46, SD = 3.92$) have higher mean frequency in the use of coping strategies compared to the fourth year students ($\bar{X} = 64.04, SD = 4.23$).

Table 5 orchestrates the significant relationship among perceived stress level, coping strategies, and mental health status, results revealed significant positive relationships between gender and perceived stress level ($r = .518, p = .01$), and between perceived stress level and coping strategies ($r = .237, p = .01$). While significant negative relationships were found between year level and perceived stress level ($r = -.326$), between coping strategies and perceived stress level ($r = .237, p = .01$), between year level and coping

strategies ($r = -.603$, $p = .01$), and between gender and mental health status ($r = -.237$, $p = .01$).

DISCUSSION

Guided by the Transactional Model of Stress and Coping [4], this study assessed the correlation of perceived stress level, coping strategies, and mental health status among nursing students who enrolled at a private university at Nakhon Pathom Province. Descriptive analyses showed that the respondents as a whole has a moderate level of stress, most of the students used acceptance and instrumental support as their coping strategies, and the students had a relatively healthy mental health status. The results showed a mild to moderate verbal interpretation of stress level and a dominantly mild presence of stress-related mental problems. This finding is similar with the results obtained by previous authors of studies conducted in other Asian countries [3, 12, 13, 14, 15].

From the selected socio-demographic variables (gender, year level, and interest in nursing), it is important to note that mean differences in stress level and the use of coping strategies were found when grouped according to gender. Females, reported higher stress levels and more frequent use of coping strategies than males. The higher stress level among females may be due to greater responsibilities and expectations given to female students simultaneously coming from their homes/families and from the academic environment. Consequently, the use of coping strategies in response to stress was more frequent among females. The use of coping among females may be related to their early recognition and acceptance of the need to address the link between stress and over-all wellbeing.

The results also revealed that third year students had higher level of stress compared to the fourth year nursing students. This could be due to a fact that, as they got to a higher level, they were able to adapt and adjust to the academic and clinical requirements of the program [3]. Moreover, the higher the level of the students, the more they gained confidence and acquired expertise in nursing skills which might have helped them in effectively dealing with different stressors. The findings showed that the mental health status among nursing students was considered as good amidst the presence of moderate stress level. This result is similar with a study among Chinese and Spanish nursing students [14, 16]. This could be a good indication that nursing students are able to cope better with various stressors that they faced in their

theoretical and clinical exposures. These results present opportunities for educators and learning institutions to integrate stress management in the teaching and learning activities and promote healthy coping strategies in and outside the campus.

Finally, consistent with the Transactional Model of Stress and Coping by Lazarus and Folkman [4], this study reflected that amidst stressful situations, a good health outcome can be achieved when adaptive coping strategies are being used. Although, no causal relationship is shown, this descriptive-correlational design provided baseline information on the stress, coping, and health response of nursing students. Results particularly highlighted the major role of coping in buffering the unwanted effects of stress on one's well-being.

CONCLUSION

Findings from this study showed that 3rd year and 4th year nursing students from the International Program of a private university in Thailand were exposed to different stressors during their education and training. Results showed that, as a whole, they were at the moderate stress level affecting their overall health status especially their emotional health. This provides helpful and useful information for educators and administrators in identifying students' needs, facilitating their learning and planning effective interventions and strategies to reduce or prevent stress in nursing education and training as well as promote helpful and positive strategies to cope with stress. It is recommended that further study be conducted among all levels of nursing education, both Thai and International Program. Comparative studies among nursing school offering international programs is also recommended. A qualitative study to explore the in-depth stress experiences of students could add to the richness of these data. It is further recommended to investigate the influence of socio-demographic factors on stress, coping, and health outcomes. Other concepts of the Transactional Model of Stress and Coping, not included in the present research, can also be integrated in future studies.

CONFLICT OF INTERESTS

Authors declared no conflict of interest of the presented content.

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