

Original Research

The Relationship Between Coping and Stress Levels in Students from The Class of 2020 at The Faculty of Medicine, Palangka Raya University, During Their Thesis Preparation

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Abstracts

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Introduction: Academic stress is prevalent among final-year students, with thesis preparation being a significant source of this stress. Coping are essential as they effectively represent the body's conscious adaptive responses to reduce stress through self-adaptation. This research determines the relationship between coping and stress levels in students from the class of 2020 at the Faculty of Medicine, Palangka Raya University, during their thesis preparation. **Methods:** The study employs a quantitative analytical observational design with a cross-sectional approach. Simple random sampling was utilized for participant selection. The research instruments comprised coping questionnaires and the Perceived Stress Scale (PSS-10). Data were analyzed using Charles Spearman's correlation analysis with a confidence interval of 95%. **Results:** Out of all 96 respondents, 49 individuals (51%) had good coping skills, and 80 individuals (83.3%) experienced moderate stress levels. Notably, among the 49 participants exhibiting good coping, a majority (42 individuals or 85.71%) experienced moderate stress levels. The Charles Spearman test findings revealed a significant value of 0,013 ($p < 0.05$) with a weak correlation and the opposite direction ($r = -0.252$). **Conclusion:** There is a significant relationship between coping and stress levels in students from the class of 2020 at the Faculty of Medicine, Palangka Raya University, during their thesis preparation.

Keywords: Coping, Medical Students, Thesis Preparation, Stress Levels, Health Risk

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INTRODUCTION

Stress is a self-adjustment to problems or pressures that come from internal and external sources. If individuals cannot overcome stress, there will be disorders of the body and soul. Disorders such as depression often lead to suicide [1].

According to the American Psychological Association, in 2022, the prevalence of stress aged 18-35 years reached 62% in women and 51% in men [2]. In Indonesia alone, the 2018 Riset Kesehatan Dasar (RISKESDAS) states that there are more than 19 million people aged 15 years and over experiencing mental and emotional disorders [3]. In fact, the Indonesia-National Adolescent Mental Health Survey (I-NAMHS) states that by 2022, 80% of people of productive age who experience stress are reporting to have suicidal ideas, plans, or actions, where this age is dominated by students who are preparing a thesis [4].

Academic stress is prevalent among final-year students, with thesis preparation being a significant source of this stress. Research by Ambarwati et al. 2019 regarding stress in final-year students showed mild stress at 35.6%, moderate stress at 57.4%, and severe stress at 6.9% [5]. When a study was conducted by Dipo N. Aidit in 2022 at Palangka Raya University regarding the relationship between verbal communication with supervisors in reducing stress in medical students who were preparing a thesis, students found that although stress levels decreased, 52% of students still experienced moderate stress [6]. The data shows that final-year medical students are at significant risk of experiencing stress, given the high demands and different learning systems in medicine compared to other study programs. Final-year students in a university must compile a thesis as one of the prerequisites to achieve an undergraduate degree. However, in preparing a thesis, students often experience obstacles. The obstacles experienced ultimately put significant pressure on students, resulting in the emergence of

stress, low self-esteem, frustration, and loss of motivation to compile a thesis, which delays the preparation of the thesis, and often, the thesis still needs to be finished [6,7].

Stress in every human being varies, and various factors influence it. According to Bart Smet in 1994, the variables that can affect stress levels are coping, individual conditions, personality characteristics, socio-cognitive variables, and relationships with the social environment [8]. Coping is a defense mechanism as a part of a conscious adaptive response from the body in the form of effective self-adjustment to reduce stress. The better the individual coping, the less stress will be [9].

Based on these problems, we need to research the relationship between coping and stress levels in students from the class of 2020 at the Faculty of Medicine, Palangka Raya University, during their thesis preparation.

METHODS

The study employs a quantitative analytical observational design with a cross-sectional approach. Simple random sampling was utilized for participant selection. The research instruments comprised coping questionnaires and the Perceived Stress Scale (PSS-10). The research was conducted in August 2023, with ethical clearance number 57/UN24.9/1.1/2023. Data was collected at the Faculty of Medicine, University of Palangka Raya, on students of class 2020 who were preparing a thesis. The sample size 96 from 120 students was estimated using the Slovin formula with a significance level of 5%. Data were analyzed using Charles Spearman's correlation analysis with a confidence interval of 95% [10].

RESULTS

The following results were obtained based on research conducted in August 2023 on 96 students of class 2020 of the Faculty of Medicine, University of Palangka Raya, who were preparing a thesis.

Respondent Characteristics

The distribution of respondent characteristics based on gender and age is presented in Table 1 below

Table 1. Respondent Characteristics

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	28	29.2%
Female	68	70.8%
Age		
20	29	30.2%
21	55	57.3%
22	11	11.5%
24	1	1%
Total	96	100%

In Table 1, the characteristics of respondents based on gender show that the highest frequency of gender is female (68 people or 70.8%). At the same time, the characteristics of respondents based on age show that the highest age frequency is 21 years (55 people or 57.3%).

Coping

The distribution of stress coping among respondents is presented in Table 2 below.

Table 2. Distribution of Respondents

Category	Frequency (n)	Percentage (%)
Good Coping	49	51%
Coping is Good Enough	47	49%
Poor Coping	0	0%
Total	96	100%

Based on the distribution of respondents' coping in Table 2, the types of coping owned by respondents are presented in Table 3 below.

Table 3. Types of Coping

Category	Emotion Focused Coping	Problem Focused Coping	Total
Good Coping	26 (53.06%)	23 (46.94%)	49 (100%)
Coping is Good Enough	34 (72.34%)	13 (27.66%)	47 (100%)

In Table 2, the highest frequency of coping is good stress coping (49 people or 51%). Bad stress coping was not found in respondents. In Table 3, respondents' most frequent type of coping is emotion-focused coping.

Stress Levels

The distribution of stress levels among respondents is presented in Table 4 below.

Table 4. Distribution Stress Level of Respondents

Category	Frequency (n)	Percentage (%)
Mild Stress	10	10.4%
Moderate Stress	80	83.3%
Severe Stress	6	6.3%
Total	96	100%

In Table 4, the highest frequency of respondents' stress levels is moderate (80 people or 83.3%). As for severe stress, there were 6 people (6.3%).

Coping and Stress Levels

The results of the crosstabulation analysis of coping and stress levels are presented in Table 5 below.

Table 5. Crosstabulation Analysis

Category	Mild Stress	Moderate Stress	Severe Stress	Total
Good Coping	7 (14.29%)	42 (85.71%)	0 (0%)	49 (100%)
Coping is Good Enough	3 (6.38%)	38 (80.85%)	6 (12.77%)	47 (100%)

In Table 5, most of the 49 respondents with good stress coping experienced moderate stress (42 people or 85.71%).

Correlations Between Coping and Stress Levels

The Charles Spearman correlation test was carried out in this study and presented in Table 6 below.

Table 6. Charles Spearman Analysis

Variables	p-value	Correlations Strength (r)	Correlation Direction
Coping and Stress Levels	0.013	- 0.252	Negative

In Table 6, the p-value is 0.013 ($p < 0.05$), the correlation strength is weak ($r = - 0.252$), and the correlation direction is negative. This value shows a significant relationship between coping and stress levels in students from the class of 2020 at The Faculty of Medicine, Palangka Raya University, during their thesis preparation. The relationship between the two variables has a weak correlation strength and opposite direction (negative). It means that the better the coping, the lower the stress level [10].

DISCUSSION

In Table 2, the highest frequency of coping is good stress coping (49 people or 51%). Bad stress coping was not found in respondents. Coping is generally categorized into two broad categories, namely emotion-focused coping and problem-focused coping. In Table 3, respondents' most frequent type of coping is emotion-focused. Emotion-focused coping is the first type used as an immediate response to stress because emotion regulation occurs during the emergence of stressors in a person. The aspects of emotion-focused coping are positive reappraisal (by doing religious things such as praying to God), seeking social-emotional (by telling problems experienced to parents or friends), accepting responsibility, self-controlling, distancing (by not overthinking about the issues that occur so as not to add to the burden of the mind), and escape avoidance. It allows individuals to regulate emotions, reduce anxiety, and foster positive emotions. Emotion-focused coping is effectively used in the short term in a person with moderate to severe stressors. Once individuals can control their feelings, they use problem-focused coping by seeking informational support, confronting coping, and planning to problem-solve [9,11].

In Table 4, the highest frequency of respondents' stress levels is moderate (80 people or 83.3%). As for severe stress, there were six people (6.3%). Preparing a thesis is a long and stressful process that can be a consistent source of difficulty and strain for medical students. This is because the preparation of a thesis takes several months to complete and is often done alongside regular lectures, adding to the overall stress experienced by students. However, despite the chronic nature of this stressor, only a few medical students experience severe stress. Low severe stress is likely due to the external support provided by the campus, such as facilities that support thesis work and well-directed lecturers. These factors help students complete their theses more efficiently. Research conducted

by Aidit in 2022 regarding the relationship between verbal communication between students and supervisors and stress levels at the Faculty of Medicine, Palangka Raya University, found that most verbal communication was in the excellent category. This excellent verbal communication between students and supervisors can reduce stress levels so that students do not end up with severe stress [6,12].

Based on the Charles Spearman correlation statistical test in Table 6, it is stated that there is a significant relationship between coping and stress levels in students from the class of 2020 at The Faculty of Medicine, Palangka Raya University, during their thesis preparation. The significant relationship is seen from the significance value below 0.05 ($p = 0.013$, $r = -0.252$). The relationship between these two variables is in the opposite direction (negative), which means that the better a person's coping, the lighter the stress level experienced [10].

When the body receives a stressor, a rapid stress response will occur where the body gives an alarm reaction mediated by the Sympathetic-Adreno-Medullar (SAM) axis, with sympathetic nerve stimulation to the adrenal medulla to produce epinephrine and norepinephrine where the body performs fight or flight. Furthermore, when stress lasts for a long time, the body will activate the resistance stage as a long-term reaction by involving the Hypothalamus-Pituitary-Adrenal (HPA) axis, Vasopressin, and Renin Angiotensin Aldosterone System (RAAS), which functions as a defense mechanism against stressors. The body's defense mechanism against this stressor is the General Adaptation Syndrome (GAS). Coping is a process that involves GAS and intelligence. The differences in GAS and intelligence responses from each individual will affect their coping abilities and styles. Coping is what will help overcome stress and reduce individual stress levels. If someone has poor coping, they will more easily experience physical disorders, unhealthy behavior, or

mental disorders. The results of this study are supported by Almira's 2022 research on medical students at Muhammadiyah University of Palembang, which states that there is a relationship between coping and stress levels. This relationship has a moderate correlation strength with a negative correlation direction [1,13,14,15,16,17,18].

Other factors influence the strength of the weak correlation between the two variables. In addition to coping, individual conditions, personality characteristics, socio-cognitive variables, and relationships with the social environment also influence stress levels. Coping and stress levels can simultaneously be influenced by gender. Sympathetic-Adreno-Medullar (SAM) axis and Hypothalamus-Pituitary-Adrenal (HPA) response patterns are very different between women and men. The female sex hormones estrogen and progesterone weaken the SAM and HPA responses, leading to slower cortisol feedback in the brain and less control over the stress response. These hormonal factors influence women's emotional experiences and may affect their coping preferences. In addition to hormones, women's limbic system is larger than men's. Thus, women are more easily in touch with emotions and feelings, causing them to stress more easily. On the other hand, using emotions in coping helps individuals regulate their emotions to remain calm, reduce anxiety, or foster positive emotions [18,19].

Based on Table 5 crosstabulation analysis, most of the 49 respondents with good stress coping experienced moderate stress (42 people or 85.71%). According to Maramis et al., 2008, four factors can affect stress levels in someone with good coping, namely as follows [1,8].

1. Stress Threshold

The stress threshold (window of tolerance) is the stress level that a person can tolerate. Life experiences shape stress thresholds. Physical and emotional stressors such as occupational stress and traumatic experiences usually tend to lower the stress threshold.

At the same time, social support and a sense of security may increase the stress threshold [1,19,20].

2. Magnitude and Specificity of Stressors

The magnitude of the source of stress (stressor) can affect the stress level in someone with good coping skills. The greater the stressor, the higher the stress level in a person. Life events can be a source of severe stress if they require individuals to accept and adjust quickly. These sudden and extreme changes can hurt individuals [1].

3. Chronic Strain Stressor

Stress that occurs consistently, repeatedly, and for a long time (chronic) will be accumulative. It makes it difficult for someone to manage it even though they have good coping. Chronic strain stressors occur in final-year students who are preparing a thesis. Problems such as difficulty finding literature, financial limitations, not being accustomed to writing scientific papers, lack of ability in time management, problems with supervisors, and many more internal and external problems increase the stress level. If someone who faces chronic strain stressors has poor coping, they will be at greater risk of experiencing physical and mental disorders due to the stress experienced compared to someone who has good stress coping [1,12].

4. Effectiveness of Coping

Good coping is often used ineffectively. This ineffective use of coping does not reduce the stressors experienced, and stress tends to increase. One way to do effective coping is to understand the problem and how the problem can be reduced. Effective coping will undoubtedly improve one's productivity in solving a problem [20].

The Sympathetic-Adreno-Medullar (SAM) and Hypothalamus-Pituitary-Adrenal (HPA) axes are essential in regulating the body's response to stress, and various life events can modify axis activity. Stressors during life serve as factors that accelerate the reactivity of the HPA axis by making individuals more sensitive to more significant stress in the future. Simple mind management can help us

deal with and find the good side of stress to view it as an opportunity to learn and grow and overcome it with effective coping.

CONCLUSION

The following results were obtained based on research conducted on 96 respondents.

1. Most respondents have good stress coping skills (49 people or 51%), and none have poor coping.
2. Most respondents experienced moderate stress (80 people or 83.3%).
3. There is a significant relationship between coping and stress levels in students from the class of 2020 at The Faculty of Medicine, Palangka Raya University, during their thesis preparation ($p = 0.013$). The relationship between these two variables is in the opposite direction with a weak correlation strength ($r = -0.252$).

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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