

Relationship Between Stress Level and Intensity of Social Media Use as Coping Media

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Abstract. Stress is defined as a non-specific reaction of the body when it comes to pressure that can interfere with bodily functions. The impact is that thesis work is delayed, and students complain on social media about the difficulties they are experiencing. All problems or demands faced by students require good preparedness and adjustment, so students need to have good preparation including coping with stress. This study was conducted to examine the relationship between stress levels and the intensity of using social media as a coping medium for 2018 students who are undergoing thesis at the Andalas University Medical Education Study Program. This study is a descriptive analytic study using 79 students who met the inclusion criteria and exclusion criteria. Data analysis using statistical tests, namely the Pearson Chi Square test. The test results obtained, there is a significant relationship between stress levels and the intensity of social media use with a p -value of $0.020 < 0.05$ ($p > 0.05$). The results obtained are that there is a significant relationship between stress levels and the intensity of using social media as a coping medium in 2018 students who are undergoing Thesis at the Andalas University Medical Study Program.

Keywords: Social Media, Stress Level, Students Undergoing Thesis.

INTRODUCTION

Stress is defined as a non-specific reaction of the body when it gets a pressure that can interfere with the functioning of the body (Pathmanathan, 2013). Stress can also be shown as the body's response to events that are unwanted and considered strange and worrying (Hasibuan, 2019). WHO (World Health Organization) states that the prevalence of stress in the world reaches more than 350 million people, this figure causes stress to be ranked 4th for diseases with the most cases in the world (Ambarwati et al., 2019). Based on the 2018 National Riskesdas report, the prevalence of mental emotional disorders in Indonesia in the population aged ≥ 15 years has increased from 6% (2013) to 9.8%. The same thing also happened in West Sumatra province which experienced an increase in the prevalence of mental emotional disorders, namely 4.5% in 2013 to 13% in 2018 (Riskesdas, 2018).

Stress occurs when a stressor is received by the brain and activates the hypothalamus which secretes corticotropin-releasing hormone (CRH). CRH binds to

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specific receptors on adenohypophysis cells to secrete adrenocorticotropin hormone (ACTH). ACTH circulates through the blood vessels to the adrenal glands and binds to specific receptors in the cortex of the adrenal glands. The adrenal gland cortex will release glucocorticoid hormones, especially Cortisol, to all body tissues including the brain. So that this hormone produces significant biological work effects. This hormone regulates many functions in the central nervous system, including consciousness, cognition, sleep, metabolism, tone, cardiovascular, immune and inflammatory reactions, growth and reproduction (Kathryn, 2020).

One of the factors causing stress or stressors in students is the demands associated with their academic activities. The main stressor that causes stress in final year students is completing a thesis (Gamayanti et al., 2018). Based on research conducted by Made Afryan et al., (2019) the highest level of stress in final year students who are working on a thesis at the Faculty of Medicine, University of Lampung is a moderate stress level (53.1%) and the lowest is a severe stress level (6.2%) (Afryan et al., 2019).

Some final year students who experience stress show almost the same symptoms, namely feeling tired, not excited or wanting to stop working on the thesis. The impact is that the thesis work is delayed, does not want to meet the supervisor, and students complain on social media about the difficulties they experience (Gamayanti, et al, 2018). All problems or guidance faced by students require good preparedness and self-adjustment, so students need to have good preparation including stress coping (Rizky et al., 2014).

Coping mechanisms are efforts made by each individual both mentally and behaviorally to overcome, tolerate, or overcome the stress caused by stressors that are considered burdensome or threatening to the individual. Some stress coping mechanisms carried out by each individual such as creating positive meaning, reactions that involve or disengage from problems, describing aggressive reactions that have a high risk and getting social support (Lubis et al., 2015). Social support can be done directly or indirectly.

Direct support is done by meeting with friends, parents or family to express feelings and find solutions. In addition, indirect support can be done by means of long-distance calls through communication tools, short messages, and internet media such as social media to express their condition (Zhang, 2017).

Hootsuite and We Are Social reported that in January 2021, the average time people globally spent accessing social media was 2 hours and 25 minutes per day. The total number of active social media users in the world is 4.2 billion or around 53.6%. As

many as 69% of social media users are in the Southeast Asia region, and Indonesia ranks third (10.5%) based on the duration of the most frequent social media use (We are social, 2021). West Sumatra experienced an increase in internet usage to 91.4% and Padang ranked second highest (93.3%) after Tanjung Pinang (100%) (APJII, 2020).

Seeing the link between the level of stress experienced by students working on their thesis and the use of social media, researchers are interested in conducting research with the title "the relationship between stress levels and the intensity of using social media as a coping medium for 2018 students undergoing a thesis in the medical study program at Andalas University.

LITERATURE REVIEW

In Kaplan and Sadock's 2015 textbook Psychiatry stress is a condition that disrupts physiological and psychological conditions due to getting a pressure or demand and developing it into an adaptive response to new or challenging stimuli.¹⁶ Stressors can come from within oneself (internal) or outside the human body (external). Internal stressors are related to genetics, development, growth and pregnancy. While external stressors such as divorce, death of loved ones such as spouses and family members, imprisonment due to legal guidance, marriage, severe physical illness or injury, work (termination and retirement), changes in the behavior of family members, sexual difficulties, getting new family members and adjusting to a new environment (Sadock BJ et al., 2015).

The stress level measurement tool is the result of an assessment of the severity of stress experienced by a person. This stress level can be measured by many scales such as the Holmes and Rahe stress scale or the Social Readjustment Rating Scale (SRSS) a tool to measure the amount of stress experienced in the past year and this test can help to determine whether people are at risk of developing stress-related diseases (Holmes, 1967). Another measurement tool is the Perceived Stress Scale (PSS-10) which is a self report questionnaire consisting of 10 questions and can evaluate the level of stress in the last few months in the respondent's life (Lee EH, 2012). Other frequently used measurement tools are The Hamilton Rating Scale for Depression (HAM-D), Hamilton Anxiety Rating Scale (HAM-A) and one of them is the Depression Anxiety Stress Scale 42 (DASS 42) or more summarized as Depression Anxiety Stress Scale 21 (DASS 21). Psychometric Properties of The Depression Anxiety Stress Scale 42 (DASS 42) totals 42 statement items and the

Depression Anxiety Stress Scale 21 totals 21 statement items. DASS can be used by individuals or groups for research purposes (Lovibond et al., 1995).

Social media is a bridge of communication both between individuals and between agencies or institutions using internet facilities. Currently, the use of social media is a common phenomenon, everyone can use social media, especially the millennial generation (Purawinangun, 2020). The intensity of social media use is the quantity of a person's attention and interest in using social media as seen from the depth or strength in using social media (Aziz, 2020).

Stress will cause the activation of the Hypothalamic Pituitary Adrenal Axis (HPA axis) to release Corticotrophin Releasing Hormone (CRH). This CRH acts on the pituitary gland as a reaction to fight stress. CRH will release Adreno Cortico Tropic Hormone (ACTH) to stimulate the adrenal cortex to release cortisol. The release of cortisol will suppress serotonin (5HT) levels in the brain accompanied by an increase in serotonin transporter (5HTT). This will cause a person to feel uncomfortable and unable to enjoy his life (dysphoric state) (Yaunin, 2017). Coping mechanisms are efforts made by a person to overcome stressors or problems he faces, both physical and psychological threats in the form of demands, challenges and pressures that require skills in the individual (Yuliani, 2019).

RESEARCH METHOD(S)

This research is an analytical descriptive study with a cross sectional study design to determine the relationship between stress levels and the intensity of using social media as a coping medium in 2018 batch students undergoing a thesis in the Andalas University medical study program. The research was conducted on students of the Medical Study Program, Faculty of Medicine, Andalas University. Implementation time October- January 2022. The study population was students of the Faculty of Medicine Medical Studies Program, Andalas University class of 2018. The sample involved was all students of the Faculty of Medicine, Andalas University Class of 2018 who met the inclusion criteria and exclusion criteria.

The inclusion criteria in this study are: Students of the Faculty of Medicine, Andalas University who agree to informed consent, and are willing to become participants during the study and students who have whatsapp, instagram, youtube or tiktok accounts. While the exclusion criteria are: female students who are menstruating,

who experience severe physical illness that interferes with their activities and have a history and psychiatric treatment.

The sampling method in this study was calculated based on the Slovin formula. Calculation of the number of samples using the formula below.

$$n = \frac{N}{1 + N(d)^2}$$

$$n = \frac{246}{1 + 246 (0,10)^2}$$

$$n = \frac{246}{3,46}$$

$$n = 71,09$$

Thus the sample size needed in this study amounted to at least 71.09 rounded up to 71 people.

Based on the above formula, a minimum sample size of 71 people is obtained, to prevent dropouts, it is necessary to correct the sample size, so that the sample size is still met, with the formula.

$$N = \frac{n}{1 - f}$$

$$N = \frac{71}{1 - 0,1}$$

$$= 78,8 \text{ (dibulatkan keatas menjadi 79)}$$

Based on the above formula, the number of samples needed in this study was 79 students of the Faculty of Medicine, Andalas University Class of 2018 who met the inclusion criteria and exclusion criteria.

FINDINGS

Characteristics of research subjects

This study used primary data from the social media usage intensity questionnaire and the DASS 42 questionnaire by answering questionnaire questions that researchers asked directly to students of the Faculty of Medicine, Andalas University class of 2018 in January 2022. The total sample was 85 respondents who were willing to fill out the questionnaire with 6 respondents who had exclusion criteria. The sample used in this study was in accordance with the inclusion criteria and did not meet the exclusion criteria, reaching 79 respondents. The following is a description of the characteristics of the research subjects.

1. Age

Table 1. Distribution of Respondents Based on Age

Age	f	%
19-20	16	20.3
21-22	63	79.7
Total	79	100

Based on table 1, it is known that the distribution of students of the Faculty of Medicine, Andalas University is dominated by respondents aged 21-22 years with 63 people (79.7%) while respondents aged 19-20 years have the least frequency of 16 people (20.3%).

2. Gender

Table 2. Distribution of Respondents Based on Gender

Gender	f	%
Male	16	20.3
Female	63	79.7
Total	79	100

Based on table 2, it is found that in the students of the Faculty of Medicine, Andalas University, the most gender is female as many as 63 respondents with a percentage of 79.7% while men have as many as 16 respondents with a percentage of 20.3%.

3. Place of Residence

Table 3. Distribution of Respondents Based on Place of Residence

Place of Residence	f	%
Kos-kosan	41	51,9
Home	38	48,1
Total	79	100

Based on table 3, it is known that the place of residence found that most respondents lived in boarding houses, namely 41 respondents with a percentage of 51.9% and respondents who lived at home were 38 respondents with a percentage of 48.1%.

4. Types of Social Media

Table 4. Distribution of Respondents By Type of Social Media

Types of Social media	f	%
Instagram	76	96,2
TikTok	50	63,3
WhatsApp	78	98,7

Youtube	77	97,5
Total	79	100

Based on table 4, it shows that most respondents use the type of social media, namely WhatsApp with 78 respondents with a percentage of 98.7%, the lowest is respondents with the type of social media TikTok there are 50 respondents with a percentage of 63.3%.

5. Intensity of Social Media Use

Table 5. Distribution of Respondents Based on Social Media Usage

Intensity Social Media Usage	f	%
Low	3	3.8
Medium	42	53.2
High	34	43.0
Total	79	100

Based on table 5, it is known that respondents with low intensity of social media use amounted to 3 respondents with a percentage (3.8%), for respondents with moderate intensity of social media use amounted to 42 respondents with a percentage (53.2%) and respondents with high intensity of social media use amounted to 34 respondents with a percentage (43.0%).

6. Stress Level Category

Table 6. Distribution of Respondents Based on Stress Level Category

Stress Level	f	%
Normal	36	45,6
Lightweight	13	16,5
Medium	15	19,0
Weight	9	11,4
Very Heavy	6	7,6
Total	79	100

Based on table 6, it is known that most of the respondents had normal stress levels, totaling 36 respondents or 45.6%. These results indicate that the incidence of stress in respondents is still at a normal level, which indicates that high stressors to respondents who are undergoing a thesis have little effect on their stress levels.

Furthermore, respondents with the least level of severe stress were found with 6 respondents with a percentage of 7.6%.

Bivariate analysis

Analysis of the relationship between stress levels and the use of social media (*WhatsApp*, *TikTok*, *Instagram* and *Youtube*) as a coping medium can be seen in the following table:

Table 7. Results of Bivariate Analysis of Stress Level with Intensity of *WhatsApp* Use

Stress Level	Intensity of Whatsapp Use				Total		P
	Low-Moderate		High				
	F	%	F	%	F	%	
Normal - Low	36	67,9	17	32,1	53	100	0,821
Moderate - High	17	65,4	9	34,6	26	100	
Total	53	67,1	26	32,9	79	100	

Based on table 7 shows a p value = 0.821, it is concluded that there is no significant relationship between stress levels and the intensity of *WhatsApp* use in 2018 class students of the Andalas University Medical Study Program.

Table 8. Results of Bivariate Analysis of Stress Level with Intensity of *Tiktok* Use

Stress Level	Intensity of Tiktok Use				Total		P
	Low-Moderate		High				
	F	%	F	%	F	%	
Normal - Low	36	67,9	17	32,1	53	100	0,223
Moderate - High	14	53,8	12	46,2	26	100	
Total	50	63,3	29	36,7	79	100	

Based on table 8 shows a p value = 0.223, it is concluded that there is no significant relationship between stress levels and the intensity of *Tiktok* use in 2018 class students of the Andalas University Medical Study Program.

Table 9. Results of Bivariate Analysis of Stress Level with Intensity of *Instagram* Use

Stress Level	Intensity of Instagram Use				Total		<i>P</i>
	Low-Moderate		High				
	F	%	F	%	F	%	
Normal - Low	24	45,3	29	54,7	53	100	0,565
Moderate -	10	38,5	16	61,5	26	100	

High						
Total	34	43	45	57	79	100

Based on table 9 shows a p value = 0.565, it is concluded that there is no significant relationship between stress levels and the intensity of Instagram use in 2018 class students of the Andalas University Medical Study Program.

Table 10. Results of Bivariate Analysis of Stress
Level with Intensity of *YouTube* Use

Stress Level	Intensitas of Youtube Use				Total		<i>P</i>
	Low-Moderate		High				
	F	%	F	%	F	%	
Normal - Low	35	66	18	34	53	100	0,294
Moderate - High	14	53,8	12	46,2	26	100	
Total	49	62	30	38	79	100	

Based on table 10 shows a p value = 0.294, it is concluded that there is no significant relationship between stress levels and the intensity of YouTube use in 2018 class students of the Andalas University Medical Study Program.

Table 11. Results of Bivariate Analysis of Stress
Level and Intensity of Social Media
Use as a Coping Media

Stress Level	Intensity of Social Media Use as a Coping Media				Total		<i>P</i>
	Low- Moderate		High				
	F	%	<i>f</i>	%	F	%	
Normal - Low	35	66	18	34	53	100	0,020
Moderate - High	10	38,5	16	61,5	26	100	
Total	45	57	34	43	79	100	

The results of the bivariate test obtained a p- value of 0.020 ($p < 0.05$) which means that there is a significant relationship between stress levels and the intensity of using social media as a coping medium.

DISCUSSION

Stress Level of Students Undergoing Thesis

This research show that students generation 2018 Program Medical Studies Program of Andalas University who underwent the thesis most were at normal stress

levels as many as 36 respondents (45.6%), followed by mild stress levels as many as 13 respondents (16.5%), then with moderate stress levels as many as 15 respondents (19.0%), then with severe stress levels as many as 9 respondents (11.4%) and the least with very severe stress levels. 6 respondents (7.6%).

This finding is in line with the results of research by Yafi (2019) that most of the students of the Yogyakarta College of Health Sciences in preparing a thesis obtained the highest level of stress in the normal category, namely 16 respondents (59.3%), mild as many as 5 respondents (18.8%), moderate as many as 3 respondents (11.1%), heavy as much as 2 respondents (7.4%) and very severe 1 (3.7%) (Rosyad, 2019). The stressors that cause the most stress are intrapersonal or stressors that come from within such as stress management and creative thinking processes while interpersonal or stressors that result from relationships with others such as friends, lecturers and parents (Rahmayani, 2019).

Intensity of Social Media Use for Students Undergoing Thesis

The results of this study found that the 2018 class of students of the Andalas University Medical Study Program who underwent a thesis on the intensity of the use of social media most of the medium level amounted to 42 (53.2%), followed by a high level of 34 (43%) and the least was a low level with a high level of social media use 3 respondents (3.8%).

The results of this study are similar to research conducted by Aulia et al., (2020) on students of SMAN 1 Jepara and SMAN 1 Donorojo where the results showed that at SMAN 1 Jepara, as many as 4 respondents (2%) had low intensity of use of social networking sites, 106 respondents (59%) had intensity of use of social networking sites. moderate, 70 respondents (39%) had high intensity, while at SMAN 1 Donorojo, as many as 4 respondents (2%) had low intensity of using social networking sites, 134 respondents (74%) had moderate intensity, 41 respondents (23%) had high intensity and 1 respondent (1%) had very high intensity (Pramudani et al., 2020).

Relationship between Stress Level and Intensity of Use of Whatsapp Social Media

Based on the results of this study, there is no relationship between stress levels and the intensity of WhatsApp use, namely the p value = 0.821. This research is in line with research conducted by Ridwan (2021) showing that there is no significant relationship between the use of whatsapp social media and mental health such as stress in students of the Ponorogo State Islamic Religious Institute as evidenced by the product moment correlation test which shows the results of the calculation of the significance

value of 0.179 with the result of r count which is 0.223. If tested according to the rules with a significance level of 5%, the r count of 0.223 is less than the r table of 0,321 or you can say the value of r is lower than the value of r table, which means H_a is rejected and H_0 is accepted. So there is no relationship between the use of Whatsapp social media and the mental health of Islamic counseling guidance students class of 2016 (Jaya et al., 2016).

Relationship between Stress Level and Intensity of Use of Tiktok Social Media

The results of this study found that there was no relationship between stress levels and the use of TikTok social media, namely the p value = 0.223. This is not in line with research conducted by Felicia (2021), namely it was found that out of 102 respondents, 82 people (80%) of them had venting in the Tiktok application and as many as 20 people (20%) of the total respondents had never vented in the Tiktok application.

The purpose of venting is mostly done to calm the mind and relieve stress with 46 respondents (45.1%). It was found that 56 people (55%) students indicated mental health disorders such as stress and anxiety and 46 other people (45%) students did not indicate mental health disorders. The results of the chi square test obtained a value of $p = 0.046$ ($p < 0.05$) which means that there is a relationship between the use of Tiktok social media as a venting platform and student mental health. TikTok users feel happy when using the TikTok application with a percentage of 62%. With a percentage of 64% of people saying that the TikTok application is the media chosen to reduce stress levels in dealing with current situations. The influence of the TikTok application on society is positive with a percentage of 76% and has a negative effect on society with a percentage of 64% (Aydogan, 2017).

Relationship between Stress Level and Intensity of Instagram Social Media Use

Based on this study, there is no relationship between stress levels and the use of social media instagram conducted chi-square test with the results of $p=0.565$ ($p > 0.05$). This research is not in line with that conducted by Mayvita (2018) which shows an influence between the variable intensity of use of social media instagram stories with mental health with a sig of 0.000. The correlation value is 0.412. That 358 students of Universitas Muhammadiyah Malang can conclude that the intensity of use of instagram stories can have a weakly significant negative effect on mental health.

Where the higher the intensity of using Instagram stories, the lower the mental health is and vice versa, the lower the intensity of using Instagram stories, the higher the mental health is (Bayu, 2012). According to research conducted by Sanz-Blas et al.,

(2019), they show that people who spend too much time on Instagram with high intensity will become addicted to using Instagram social media so that it can cause stress (Sanz-Blas et al., 2019).

The results of this study are different from those conducted by Julia et al., (2018) showing a positive relationship between comfort, life satisfaction, and getting support by sharing photos as a coping medium for media users social instagram (Julia et al., 2018).

Relationship between Stress Level and Intensity of Use of Youtube Social Media

In the research conducted, the results of bivariate analysis were obtained, which obtained the result $p = 0.294$, namely that there was no relationship between stress levels and the use of YouTube social media. However, this study is different from research conducted by Boyu Zhang (2020) to students in the United States, namely out of 49 participants where 24 participants (49%) reported an increase in PHQ-9 depression scores. While 26 participants (53%) obtained an increase in the GAD-7 anxiety score. The results show that a number of youtube uses are significantly correlated with PHQ-9 scores ($r = 0.37$ and 0.75) GAD-7 scores ($r = 0.47$ and 0.74) all P values ≤ 0.03 . these poor depression and anxiety conditions have a relationship with behavioral changes in the use of youtube social media during the covid-19 period. (Boyu, 2020).

Relationship between Stress Level and Intensity of Social Media Use as Coping Media

Based on the results of the research that has been done, the results of statistical analysis show that there is a relationship between stress levels and the intensity of social media use in 2018 class students of the Andalas University Medical Study Program with a value of 0.020 ($p < 0.05$). The results of the analysis of the relationship between stress levels and social media utilization behavior showed that adolescents in the city of Semarang with severe stress levels made good use of social media by 163 respondents (63.2%). The statistical test results obtained a value of $p = 0.003$, it can be concluded that $p < 0.05$, which means that there is a relationship between the level of stress of adolescents using social media as a stress coping strategy.

The results of this study are similar to research conducted by Stefani et al., (2016) on final year students at Diponegoro University, namely a significant positive correlation was found between the intensity of use of social networking sites and the level of depression, namely the value of $p < 0.001$ ($p < 0.05$).⁷⁹ In Pranata et al.'s research, (2016) stated that the intensity of use of social networking sites was found to be significant with anxiety in final year students.

Diponegoro University Medical Education Study Program there is a significant relationship, namely 0.000. Respondents in this study mostly used social networking sites with moderate intensity (46.9%). The intensity of using social networking sites itself has a relationship with anxiety, where the higher the intensity of using social networking sites, the higher a person's anxiety will be.

CONCLUSION AND RECOMMENDATION

Based on the results of research that has been conducted on the relationship between stress levels and the intensity of the use of social media as a coping medium in 2018 batch students undergoing thesis in the Andalas University Medical Study Program, it can be concluded that stress levels in 2018 batch students who underwent a thesis in the Andalas University Medical Study Program were more at the normal level, the intensity of social media use in 2018 batch students who underwent a thesis in the Andalas University Medical Study Program was mostly in the moderate category, no relationship was found between stress level and intensity of use whatsapp in 2018 batch students who underwent a thesis at the Andalas University Medical Study Program, there is no relationship between the level of stress and the intensity of using tiktok in 2018 batch students undergoing thesis in the Andalas University Medical Study Program, there is no relationship between the level of stress and the intensity of using Instagram in 2018 batch students undergoing a thesis in the Andalas University Medical Study Program, no relationship was found between stress level and intensity of YouTube usage on 2018 batch students who underwent a thesis in the Andalas University Medical Study Program, and there is a significant relationship between the level of stress and the intensity of using social media as a coping medium in 2018 batch students undergoing thesis in the doctor's study program of the Faculty of Medicine, Andalas University. Based on the research that has been done, there are several suggestions that can be applied, namely further research is needed by adding other variables regarding the use of social media apart from looking at the duration and frequency that can affect stress levels in medical students class of 2018, and for further research, it is necessary to consider other factors that can affect stress in 2018 class students of the Andalas University Medical Study Program.

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