



Early Adults Coping Skills and Post Traumatic Stress Disorder After Eruption of Semeru Mountain: a Cross-sectional Study

Ahmad Zainuri^{1*}, Baskoro Setioputro¹, Rismawan Adi Yunanto¹

¹ Faculty of Nursing, University of Jember, Indonesia

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ABSTRACT

Post Traumatic Stress Disorder (PTSD) is a psychiatric disorder that can occur in people who have experienced or witnessed a traumatic event. This study aims to analyze the relationship between coping skills and post-traumatic stress disorder after the eruption of Mount Semeru in early adults in Sumber Wuluh Village, Lumajang. Using a cross sectional study method, the subjects of this research were early adults (26-35 years old) with a sample of 138 respondents. Sampling uses Cluster Sampling. The results characteristics respondents in study were early adults aged 26-35 years, the gender group was mostly female, and the education level was mostly elementary and middle school. The coping skills in this study used adaptive coping (65.2%). Post traumatic stress disorder in this study, female experienced more PTSD (28.3%), and male did not experience PTSD (25.4%). The relationship between coping skills and post-traumatic stress disorder was obtained with a P-value of 0.000, less than $\alpha < 0.05$. It can be concluded that there is a relationship between the two variables, and has a correlation value of -0.622. A negative correlation means that the lower the coping skills score, the higher the post-traumatic stress disorder score. It can be concluded that coping skills and post-traumatic stress disorder have a significant relationship with a negative direction.

Keywords: Coping Skills, Disaster, Early Adult, Post Traumatic Stress Disorder

Corresponding Author:

Ahmad Zainuri

Faculty of Nursing, University of Jember,

Jl. Kalimantan No.37, Sumbersari, Jember, East Java 68121, Indonesia

Email: ahmadzainuri155@gmail.com

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I. INTRODUCTION

Post Traumatic Stress Disorder (PTSD) is a psychiatric disorder that can occur in people who have experienced or witnessed a traumatic event (American Psychiatric Association, 2022). The

problem is considering PTSD as a condition of persistent mental and emotional stress, which occurs after a traumatic experience (Riaz et al., 2023). Indonesia is surrounded by volcanoes throughout the Asia-Pacific called the Ring

of Fire or Pacific Circum. In this condition, Indonesia often experiences earthquakes that cause shaking, causing a lot of damage to the earth's surface and loss of life (Badan Nasional Penanggulangan Bencana, 2023).

When a disaster occurs, coping strategies are needed to minimize the impact on mental health (Suyanto & Hartono, 2019). In essence, humans need other people to be able to solve problems in their lives. Coping or self-defense, shows various mental and behavioral efforts to control, reduce, tolerate or minimize stressful situations (Yunere et al., 2018). Coping skills are influenced by several factors, including: physical health, positive beliefs or perspectives, problem-solving skills, social support, and level of education. Individuals with low levels of education tend to be less exposed to information about strategies when a disaster occurs. This causes a lack of skill in using coping strategies (Irzalinda & Sofia, 2019; Erlin & Sari, 2020; Bachri et al., 2022).

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several factors, including: physical health, positive beliefs or perspectives, problem-solving skills, social support, and level of education. Individuals with low levels of education tend to be less exposed to information about strategies when a disaster occurs. This causes a lack of skill in using coping strategies (Irzalinda & Sofia, 2019; Erlin & Sari, 2020; Bachri et al., 2022).

Worry and panic about various conditions can lead to negative coping. So you are very vulnerable to experiencing PTSD (Dow et al., 2023; Erlin & Sari, 2020; Adhikari & Bhagawati, 2019). PTSD is characterized by symptoms of re-experiencing a traumatic event, avoidance of thoughts and memories of the event, and persistent perception of increased threat (World Health Organization, 2022a). The impacts and reactions can occur immediately or can appear after some time (Morganstein, 2023; Durand & Barlow, 2006 dalam Endiyono & Hidayah, 2018). This requires further analysis to see the relationship between coping skills and post-traumatic stress disorder after the eruption of Semeru Mountain.

2. METHODS

This type of research uses a quantitative approach with a cross-sectional method. With a population of

1,660 in Sumber Wuluh Village, Lumajang, the sample size was obtained using the G*Power application, obtaining 138 respondents. The sampling technique uses cluster sampling. The data collection tool used a questionnaire that had been tested for validity and reliability, a coping skills questionnaire using the Brief Cope Inventory obtained an r count (0.868), and a post-traumatic stress disorder questionnaire using DSM-V PCL-5 obtained an r count (0.525-0.832). Data analysis consists of univariate and bivariate, bivariate analysis uses Pearson Product Moment correlation. This research has met the ethical requirements with letter number 353/UN25.1.14/KEPK/2024.

3. RESULTS

Characteristics of respondents

Table 1. Characteristics Respondents (n=138)

Variable	Frequency	Percentage (%)
Gender		
Male	66	47,8
Female	72	52,2
Educational		
Elementary school	57	41,3
Junior High School	40	29,0
Senior High School	25	18,0
Diploma	11	8,0
Bachelor	5	3,6

Table 1 shows that the characteristics of respondents in this study are divided into two, namely: gender and education. Gender characteristics: Most of the respondents were female (52.2%) and male (47.8%). And in the education group, the majority of respondents had elementary school education (41.3%), and junior high school education (29.0%).

Coping Skills

Table 2. Frequency Distribution of Coping Skills After the Mount Semeru Eruption (n=138)

Variable	Frequency	Percentage (%)
Adaptive	90	65,2
Maladaptive	48	34,8

Table 2 shows that coping skills are divided into two categories of adaptive and maladaptive coping. Among the 138 respondents, the majority had adaptive coping as many as 90 respondents with a percentage (65.2%), and maladaptive coping as many as 48 respondents with a percentage (34.8%).

Post Traumatic Stress Disorder

Table 3. Frequency Distribution of Post Traumatic Stress Disorder After Semeru Eruption (n=138)

Variable	Frequency	Percentage (%)
Not experiencing PTSD	68	49,3
Experiencing PTSD	70	50,7

Table 3 shows that PTSD is divided into two categories, not experiencing PTSD and experiencing PTSD. Among the 138 respondents, 70 respondents experienced more PTSD symptoms with a percentage (50.7%), and 68 respondents did not experience PTSD symptoms with a percentage (49.3%).

The Relationship between Coping Skills and Post Traumatic Stress Disorder

Table 4. The Relationship between Coping Skills and Post Traumatic Stress Disorder.

Variable	P-value	R
Coping Skills Post Traumatic Stress Disorder	0,000	-,622

Table 4 shows that the variables coping skills and post-traumatic stress disorder, after analysis using the Pearson Product Moment correlation test, obtained a P-value of 0.000, less than 0.05. So that the alternative hypothesis (H_a) is accepted, it can be concluded that there is a relationship between coping skills and post-traumatic stress disorder. Having a correlation value of $-.622$, means that the level of relationship is strong and the direction of the correlation is negative. Negative correlation means that the lower the coping skills score, the higher the post-traumatic stress disorder score, and vice versa.

4. DISCUSSION

Characteristics Respondents

Gender characteristics in this study were mostly female respondents (52.2%). According to Adhikari & Bhagawati, (2019) female are at higher risk of experiencing PTSD due to their stronger perception of threat, loss of control, and lack of social support resources.

The educational characteristics in this study mostly had elementary and middle school education levels. A higher level of education can increase an individual's ability to understand trauma, thereby increasing self-confidence in recovering physical and mental health and thereby preventing stress disorders (Adhikari & Bhagawati, 2019). Low education can affect a person when a disaster occurs, because it is caused by a lack of exposure to information from various media (Erlin & Sari, 2020).

Coping Skills

The results of coping skills in this study were that most respondents used adaptive coping with a percentage of (65.2%). This is in accordance with the research conducted Tamara et al., (2023) After the Covid-19 pandemic, the majority used adaptive coping (79.5%). In the research carried out Yunere et al., (2018) after the fire disaster, respondents who had

adaptive coping with a percentage (48.0%).

Coping skills are an individual's way of resolving a problem within themselves through change, as well as an individual's response to situations that threaten them (Larazus & Folkman, 1984). Adaptive coping is a person who can deal with problems by talking to others about the problem, seeking information, believing that everything will return to normal, and learning from past experiences (Potter et al., 2017). Psychological factors, which are aspects related to psychology or mental health. This aspect is in the form of individual intelligence abilities, past experiences, self-concept and motivation, psychological self-defense (Stuart, 2016).

Based on these supporting facts and reviews, researchers assume that the impact of the Semeru eruption resulted in different coping responses. Every individual is able to apply adaptive coping which can enable them to control stressors well. The level of education influences coping decisions. So, the better an individual's coping skills, the risk of mental health problems can be reduced.

Post Traumatic Stress Disorder

The results of post-traumatic stress disorder in this study were that some respondents experienced more PTSD with

a percentage (50.7%). This is in accordance with the research conducted Wu et al., (2022) the impact of tornadoes on rural residents, of all survey respondents who experienced PTSD, was a percentage (13.6%). In the research carried out Acharya et al., (2023) After the disaster in Nepal in 2015, a percentage of adults who survived the earthquake experienced PTSD (18.9%).

Post-traumatic stress disorder (PTSD) is a mental disorder that may occur in individuals who have past experiences that cause trauma, such as natural disasters, serious accidents, terrorist acts, war/combat, rape or being threatened with death, sexual violence and serious injury (American Psychiatric Association, 2022). As a result of exposure to traumatic experiences, PTSD can cause symptoms including: experiencing repeated symptoms, avoidance, mood disturbances, and alertness and reactivity (American Psychiatric Association, 2022; National Institute of Mental Health, 2023). Several factors can increase the risk of PTSD, social support, age, and frequency of exposure to traumatic events (Rohmah et al., 2023; Rachma & Febrianti, 2021; Xu et al., 2022; Rahayu et al., 2021).

Based on these supporting facts and reviews, researchers assume that individuals who experience traumatic

exposure can develop PTSD symptoms. The psychological response to a traumatic event is likely to increase PTSD, due to several factors such as: loss of property, death of a family member, loss of job, experiencing physical disability. Thus, the impact of this exposure is a high risk of experiencing PTSD in the long term.

The Relationship between Coping Skills and Post Traumatic Stress Disorder

The results of the relationship between coping skills and post-traumatic stress disorder showed a p-value of 0.000, less than 0.05. It can be concluded that there is a relationship between the two variables, and has a correlation value of -0.622 . A negative correlation means that the lower the coping skills score, the higher the post-traumatic stress disorder score, and vice versa, the higher the coping skills score, the lower the post-traumatic stress disorder score. This is in line with the research conducted Machado et al., (2020) showed that there was a relationship between coping skills and PTSD, there was a negative relationship on the indicators of problem focused coping, emotion focused coping, and a positive relationship on the indicators of dysfunctional coping. Then, on to research Adhikari Baral & Bhagawati, (2019) stated that there was a relationship between coping skills and post-disaster

PTSD with a p-value ≤ 0.05 , this research did not explain the direction of the relationship, positive or negative.

Based on the Roy Adaptation Model (RAM) theory, coping skills automatically occur when there is a stimulus that interferes with the human adaptation response (Alligood, 2014). Coping or self-defense, shows various mental and behavioral efforts to control, reduce, tolerate or minimize stressful situations (Yunere et al., 2018). Coping skills are influenced by several factors, including: physical health, positive beliefs or perspectives, problem-solving skills, social support, and level of education. Individuals with low levels of education tend to be less exposed to information about strategies when a disaster occurs. This causes a lack of skill in using coping strategies (Irzalinda & Sofia, 2019; Erlin & Sari, 2020; Bachri et al., 2022). Worry and panic about various conditions can lead to negative coping. So you are very vulnerable to experiencing PTSD (Dow et al., 2023; Erlin & Sari, 2020; Adhikari & Bhagawati, 2019). PTSD can cause symptoms including: experiencing repetitive symptoms, avoidance, mood disturbances, and alertness and reactivity (American Psychiatric Association, 2022; National Institute of Mental Health, 2023).

Based on these supporting facts and reviews, researchers assume that coping is

one of the factors that can influence mental health, such as post-traumatic stress. Loss of work, closed school facilities, lack of health facilities, and lack of family/social support due to traumatic exposure will trigger coping responses and increase the risk of trauma.

5. CONCLUSIONS

The characteristics of the respondents in this study were mostly female, and more of them had elementary and junior high school education. Univariate analysis of coping skills in this study, most respondents used adaptive coping. Post traumatic stress disorder in this study, some respondents experienced more PTSD. Bivariate analysis found a relationship between coping skills and post-traumatic stress disorder with a P-value of 0.000 less than $\alpha < 0.05$. The level of strong relationship is proven by the correlation value -0.622 . A negative correlation means that the lower the coping skills score, the higher the post-traumatic stress disorder score, and vice versa.

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AUTHOR CONTRIBUTIONS

Substantial contribution to conception, data collections, and analysis: Ahmad Zainuri, Baskoro Setioputro and Rismawan Adi Yunanto. Writing Manuscript and revisions: Ahmad Zainuri.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DATA AVAILABILITY STATEMENT

The data are not publicly available due to privacy or ethical restrictions.

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