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THE RELATIONSHIP BETWEEN SELF-EFFICACY AND EMPATHY WITH RESILIENCE IN BALA RESCUE VOLUNTEERS IN DISASTER PREPAREDNESS

Ady Waluya*, Johan Budhiana, Nunung Liawati
Sekolah Tinggi Ilmu Kesehatan Sukabumi, Jalan Karamat Nomor 36, Karamat, Gunungpuyuh, Sukabumi, Jawa Barat 43122, Indonesia
*adywaluya@dosen.stikesmi.ac.id

ABSTRACT
Earthquakes are sudden natural events caused by the movement of tectonic and volcanic plates. According to data from the National Disaster Management Agency (BNPB) from 2019 to 2023, there have been 3,855 earthquakes in Indonesia. Therefore, disaster volunteers are required to have high resilience. There are various factors that contribute to resilience, including self-efficacy and empathy. To determine the relationship between self-efficacy and empathy with resilience in Jaga Bala Rescue volunteers in dealing with earthquakes in Cianjur Regency. This cross-sectional study involved 62 Jaga Bala Rescue volunteers in Cianjur Regency, who were selected using total sampling. Data were collected using validated and reliable questionnaires, with a validity index p-value < 0.05 and reliability > 0.70, namely the GSES, Empathy based on the Likert scale, and CD-RISC 20. Data were analyzed using Somers' d test to identify the relationship between variables. Results: The results of the analysis showed a significant relationship between self-efficacy (p = < 0.001) and empathy (p = 0.009) with the resilience of Jaga Bala Rescue volunteers. There was a significant relationship between self-efficacy and empathy with resilience in Jaga Bala Rescue volunteers in their preparedness for earthquakes in Cianjur Regency.

Keywords: earthquakes; empathy; resilience; self efficacy; volunteer

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INTRODUCTION

Indonesia is one of the countries with a very high level of disaster vulnerability. This is due to its location as the largest archipelago in the world. Indonesia has 13,466 islands, with a land area of 1,922,570 km² (37.1%), while its waters cover 3,257,483 km² (62.9%), bringing the total area of Indonesia to 5,180,053 km². This is due to its location at the meeting point of three active tectonic plates, namely the Indo-Australian Plate, the Eurasian Plate, and the Pacific Plate. As a result, Indonesia is geologically very vulnerable to natural disasters such as earthquakes (Maulana & Andriansyah, 2024).

The National Disaster Management Agency (BNPB) recorded a total of 9 earthquakes that occurred in Indonesia from 1 January to 31 March 2023. Data from the BNPB Geoportal in 2023 also reveals the high frequency of disasters in Indonesia over the past decade (2012–2022). Earthquakes have the potential to occur in all districts/cities in West Java Province. All districts/cities in West Java Province are classified as having high and moderate risk levels. In Bandung, according to Firmansyah, M.A. (2025), throughout 2024, West Java recorded 1,321 earthquakes, with the majority (1,184) occurring at shallow depths. The most severe earthquakes occurred in Sumedang and Kertasari, Bandung Regency, damaging approximately 700 homes, 16 educational facilities, 5 healthcare facilities, and 32 places of worship. As a result, 450 people were displaced, 58 suffered minor injuries, and 23 sustained severe injuries. This situation highlights the high earthquake risk in the region, making it crucial for the community to enhance preparedness and disaster mitigation measures (Susilawati et al., 2025).

According to Law No. 24 of 2007 of the Republic of Indonesia, a natural disaster is a disaster that occurs as a result of a natural event or series of events. Recognising the various impacts caused by disasters, the central government, provinces, and districts/cities have a responsibility to implement anticipatory measures before a disaster occurs, with the main objective of reducing potential losses. To minimise this, victims need preparedness (mitigation) that focuses on reducing disaster risk, which is manifested as an effort to deal with potential disasters (F. A. Setyorini, 2023). Disaster preparedness is a series of measures aimed at reducing the risk of disasters. These measures include infrastructure development, awareness raising, and strengthening the community's capacity to deal with disaster threats. One group that is in dire need of a high level of preparedness is volunteers (Cahyo et al., 2023).

Volunteers are individuals or groups who work voluntarily in disaster management, including pre-disaster skills, emergency response, and post-disaster skills. Being a volunteer is not easy; volunteers face various risks, challenges, and pressures in disaster situations, even risking their lives, so it takes individuals with high resilience to carry out this work (Abdurrasyid et al., 2023). Resilience is the ability to respond in a healthy and productive manner when facing difficulties or trauma, which is important for coping with stress in everyday life. Factors that can shape individual resilience include empathy, outreach skills, self-efficacy, analysis of problem triggers, optimism, impulse control, social factors, institutional factors, and emotional regulation (Khairulyadi et al., 2021; Yulianti et al., 2023).

The first factor that influences volunteer resilience is self-efficacy. Self-efficacy is an individual's belief in their ability to optimise their potential to carry out tasks and achieve expected results in a particular situation and condition (Sugiri & Fatmawati, 2025). Self-efficacy is one of the aspects of resilience that describes belief in one's ability to face and solve problems effectively. Volunteers with high self-efficacy tend to be committed to solving problems, including overcoming disasters (Masruroh et al., 2023).

Another factor that influences volunteer resilience is empathy. Empathy is the ability to feel sympathy and understand the emotional state of others, as well as to find solutions to problems by taking the perspective of others. The ability to empathise can increase resilience, which is the ability to adapt to problems in one's environment. This shows that when an individual has the ability to empathise, they will be able to build resilience so that they can adapt to their environment and solve the problems they are facing (Alisabana, 2022). The purpose of this study was to determine the relationship between self-efficacy and empathy with resilience among Jaga Bala Rescue volunteers in their preparedness for earthquakes in Cianjur Regency.

METHOD

The type of research in this study is correlational research with a cross sectional approach. This research was conducted not February 2025 until July 2025. The population in this study were all Jaga Bala Rescue volunteers in Cianjur Regency with a total sample size of 62. The sampling technique used Total Sampling. Data collection was carried out using a questionnaire, the self-efficacy variable refers to a standardized questionnaire namely the General Self-Efficacy Scale and the resilience variable refers to a standardized questionnaire namely the Connor Davidson Resilience Scale (CD-RISC 20). The validity test results of the General Self-Efficacy Scale for each questionnaire question had a factor loading > 6 and were considered valid (Hayat et al., 2021). The validity test results for the CD-RISC 20 were declared valid with a rix value ≥ 0.30 (Gati & Pujianto, 2024). Univariate analysis was conducted using frequency distribution and percentage. Bivariate analysis used Somers' d. The research ethics letter was issued by the Sukabumi College of Health Sciences Ethics Committee with the number: 001450/KEP STIKES SUKABUMI/2025.

RESULT

Table 1 shows that most respondents were aged 17-25, namely 50 people (80.6%), male namely 51 people (82.3%), employed namely 41 people (66.1%), married namely 52 people (83.9%), the length of time the respondents had been volunteers was 1-5 years for 45 people (72.6%), had participated in disaster simulation training for 54 people (87.1%), had participated in first aid training for 45 people (72.6%), and sometimes participated in volunteer activities for 37 people (59.7%).

Table 1.
Respondent Characteristics

Variable	f	%
Age (Years)		
17-25	50	80,6
26-45	8	12,9
46-65	4	6,5
Gender		
Male	51	82,3
Female	11	17,7
Employment Status		
Employed	41	66,1
Unemployed	21	33,9
Marital Status		
Married	52	83,9
Unmarried	8	12,9
Divorced (living)	1	1,6
Divorced (deceased)	1	1,6
Length of Time as A Volunteer (Years)		
<1	6	9,7
1-5	45	72,6
>5	11	17,7
Have Participated in Disaster Simulation Training		
Yes	54	87,1
No	8	12,9
Have You Ever Participated in Special First Aid Training		
Yes	45	72,6
No	17	27,4
Frequency of Participating in Volunteer Activities		
Rarely	17	27,4
Sometimes	37	59,7
Often	8	12,9
Total	62	100,0

Table 2.
Univariate Analysis

Variable	F	%
Self-efficacy		
High	12	19,4
Moderate	42	67,7
Low	8	12,9
Empathy		
High	13	21,0
Moderate	41	66,1
Low	8	12,9
Resilience		
High	34	54,8
Moderate	15	24,2
Low	13	21,0

Table 2 shows that most respondents had moderate self-efficacy namely 42 people (67.7%), had moderate empathy namely 41 people (66.1%), and had high resilience namely 34 people (54.8%).

Table 3.
Relationship between Self-efficacy and Resilience

Self-efficacy	Resilience						Total	%	P-Value
	High	%	Moderate	%	Low	%			
High	12	100	0	0	0	0	12	100,0	<0,001
Moderate	21	50,0	14	33,3	7	16,7	42	100	
Low	1	12,5	1	12,5	6	75,0	8	100	

Table 3 shows that respondents with high efficacy mostly had high resilience, with 12 people (100%). Furthermore, respondents with moderate efficacy mostly had low resilience, with 21 people (50.0%). Meanwhile, respondents with low efficacy mostly had low resilience, with 6 people (75%), and a small number had high and moderate resilience, with 1 person each (12.5%). The results of the statistical test using Sommer's d show that the p-value is 0.000, which means <0.05, so Ho is rejected. This indicates that there is a relationship between self-efficacy and resilience among rescue volunteers in preparedness for earthquakes in Cianjur Regency.

Table 4.
Relationship between Emphaty and Resilience

Emphaty	Resilience						Total	%	P-Value
	High	%	Moderate	%	Low	%			
High	8	61,5	5	38,5	0	0	13	100	0,009
Moderate	25	61,0	8	19,5	8	19,5	41	100	
Low	1	12,5	2	25,0	5	62,5	8	100	

Table 4 shows that respondents with high empathy mostly had high resilience, with 8 people (61.5%), and a small number had moderate resilience, with 5 people (38.5%). Furthermore, respondents with moderate and low empathy numbered 8 (19.5%) each. Meanwhile, respondents with low empathy mostly had low resilience, numbering 5 (62.5%), and a small number had moderate resilience, numbering 2 (25.0%). The results of the statistical test using Sommer's d show that the p-value is 0.009, which is <0.05, so Ho is rejected. This means that there is a relationship between empathy and resilience among Bala Rescue volunteers in their preparedness for earthquakes in Cianjur Regency.

DISCUSSION

The results showed that most respondents had high self-efficacy. Self-efficacy is an individual's belief in their ability to do something to achieve results in certain situations and conditions. This self-confidence consists of self-confidence, self-adaptability, cognitive quality and quantity, and acting under pressure (Adhila, 2022). There are various factors that have a significant relationship with a person's self-efficacy, including gender, employment status, and simulation and disaster training (Edy et al., 2025; Fadilla & Yuliasari, 2025; F. D. Setyorini & Nofriza, 2024).

One factor related to an individual's self-efficacy is gender. This is supported by Setyorini & Nofriza (2024), who revealed that men tend to be more confident in their abilities, encouraging them to solve problems more quickly and effectively. The next factor that correlates with self-efficacy is employment status. This is in line with Fadilla & Yuliasari (2025), who argue that a diverse work environment can contribute to the development of behavior and confidence in one's ability to face challenges. The next factor that influences self-efficacy is disaster training and simulation. This is in line with Edy et al. (2025), who explain that disaster training and simulation aim to increase volunteers' awareness and confidence in order to encourage their preparedness for disasters.

The results of the study show that most respondents have moderate empathy. Fatiha & Sari (2025) define empathy as a reaction to the observed experiences of others and consists of two responses, including cognitive, intellectual reactions, and emotional reactions. There are several factors that can influence empathy, including age and training (Anggraini, et al 2024; Christian, 2024).

One factor related to resilience is age. This study is in line with Christian (2024), who states that during adolescence to early adulthood, cognitive and emotional abilities begin to mature, enabling individuals to better understand and empathize with others. The next factor is training, in line with the research by Anggraini et al. (2024), which states that training can help individuals better understand the emotions of others. Disaster training and simulations can help volunteers understand the suffering, fear, and trauma experienced by victims, thereby evoking emotional and cognitive empathy.

The results showed that most respondents had high resilience. Resilience is a group of organisms consisting of humans and others who interact with each other in a certain area. The gathering of these groups of organisms is based on shared interests and involvement in the same field. The resilience of volunteers is influenced by several factors, namely age, length of time as a volunteer, and frequency of involvement (Rahmat et al., 2024).

One factor that influences volunteer resilience is age. Research in line with Efendi et al. (2023) shows that young adults have resilience that manifests itself in the form of personal qualities that enable them to thrive in the face of adversity (Budiyani, 2024). Another influencing factor is the length of time spent as a volunteer, which can affect volunteer resilience. In line with Fadilla & Yuliasari (2024), the longer a person has been a volunteer, the higher their tendency to persevere and adapt in the face of pressure and challenges in helping victims. In addition, the frequency of participating in volunteer activities can influence volunteer resilience. In line with research by Prastiwi (2023), the higher the frequency of individual involvement, the more opportunities there are to demonstrate existence and resilience, and the more likely they are to develop high resilience.

The results showed that there was a relationship between self-efficacy and resilience among rescue volunteers in preparing for earthquakes in Cianjur Regency ($p < 0.05$). This is similar to the study by Nalichaeva et al. (2021) which revealed that self-efficacy affects the resilience of volunteers. This is in line with Turner et al. (2021) who stated that self-efficacy is related to resilience in volunteers. Resilience is a person's capacity to maintain stability, survive, and maintain psychological health after going through several traumatic events. One of the factors that influence resilience is self-efficacy. Self-efficacy is the perception of how well one can function in a particular situation and is related to the belief that one has the ability to find solutions, persevere, and be confident in one's own abilities to face problems so that goals can be achieved (Masruroh et al., 2023).

Self-efficacy is an important component and key indicator in assessing the extent to which a person has the competence, self-confidence, and skills needed to carry out an action effectively and responsibly. Belief in one's own abilities increases an individual's readiness to face challenges and contribute optimally in the event of a disaster. Volunteers with high self-efficacy tend to have strong confidence in their ability to face challenges and make changes. Conversely, volunteers with low self-efficacy often doubt their ability to complete tasks and adapt to the environment, and feel pessimistic about the results that will be achieved (Masruroh et al., 2023).
According to the researchers' assumptions, rescue volunteers in Cianjur Regency have a high level of resilience, as demonstrated by their maximum efforts to help disaster victims with strong commitment and dedication. Their success in carrying out humanitarian tasks is also greatly influenced by self-efficacy, the volunteers' belief in their own ability to face various difficulties, obstacles, and risks in the field. With a high level of self-efficacy, volunteers are able to maintain motivation, take appropriate actions, and remain focused and adaptive even in the midst of pressure and uncertainty.

The results of the study indicate that there is a relationship between empathy and resilience among rescue volunteers in preparing for earthquakes in Cianjur Regency ($P < 0.05$). These findings are in line with Alisabana (2022) who stated that there is a relationship between empathy and volunteer resilience. This is supported by Ghodsi et al. (2022) who argued that empathy is a factor that

contributes to volunteer resilience. Empathy is an emotional state of an individual when recognizing the feelings and conditions of other individuals, such as being able to interpret both verbal and nonverbal language, thereby improving the psychological well-being of people who are capable of empathy. In addition, empathy can improve social relationships and make them more positive and competent (Alisabana, 2022).

Empathy enables individuals to understand other people's perspectives and better cope with stress. With this ability, a person not only feels the difficulties experienced by others, but can also anticipate the emotions and motivations that influence behavior to reduce these problems. This makes individuals more effective in overcoming problems and finding adaptive solutions. Conversely, if cognitive empathy skills are low, an individual's resilience tends to decrease, making it more difficult to adapt to life's pressures and challenges (Alisabana, 2022).

According to the researchers' assumption, rescue volunteers in Cianjur Regency have high resilience, as demonstrated by their efforts to do their best to help disaster victims regardless of the circumstances. This shows their high level of commitment and dedication, but is also driven by a deep sense of empathy for the suffering of others, in providing the best possible assistance to disaster victims, regardless of the difficulties, obstacles, or risks they may face in the field.

CONCLUSION

Based on the results of the study, there is a relationship between self-efficacy and empathy with resilience among rescue volunteers in preparing for earthquakes in Cianjur Regency.

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