



Original Article

Factors Related to Altruism among Rescue Volunteers in Disaster Preparedness in Cianjur Regency

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Abstract:

Indonesia is a country with a high level of disaster vulnerability, requiring anticipatory efforts to reduce the impact. In facing these conditions, volunteers play an important role as the front line in disaster management. Altruistic behavior is the main basis for volunteer involvement, which in practice is influenced by various factors such as self-efficacy, empathy, and resilience. This study aims to identify factors related to altruism among rescue volunteers in disaster preparedness. This study uses a correlational cross-sectional approach. The sample consists of 62 people using total sampling. Data were collected using questionnaires and analyzed using Yates' correction. There is a relationship between self-efficacy ($p < 0.001$), empathy ($p < 0.001$), and resilience ($p = 0.009$) with altruism among rescue volunteers in disaster preparedness. There is a relationship between self-efficacy, empathy, and resilience with altruism among rescue volunteers in disaster preparedness.

Keywords: Altruism, Empathy, Resilience, Self-Efficacy, Volunteers

Introduction

The United States experienced 29 natural disasters in 2024, making it the country with the highest rate of natural disasters in the world. Indonesia and China ranked second on the list, with 20 and 18 natural disasters occurring in the same year, respectively ([Statista, 2025](#)). Indonesia is a country with high disaster potential. The number of incidents in the 2025 period was recorded at 3,233 incidents. Natural disasters were dominated by hydrometeorological disasters at 99.04% and geological disasters at 0.96%, with the order of disasters being floods, extreme weather, forest and land fires, landslides, droughts, including earthquakes (Badan Nasional Penanggulangan Bencana, 2025b). In 2025, West Java Province experienced 47 disaster events, including floods, extreme weather (strong winds), landslides, and earthquakes ([Badan Nasional Penanggulangan Bencana, 2025a](#)). High vulnerability to earthquakes is influenced by the interaction between the Indo-Australian Plate and the Eurasian Plate, as well as the presence of local faults ([Budhiana et al., 2024](#); [Sukma et al., 2024](#)).

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An earthquake is an event in which the earth shakes due to the sudden release of energy originating within the earth. Earthquakes generally cause higher numbers of casualties in developing countries or countries with less stringent building regulations. Although earthquakes occur worldwide along tectonic plate boundaries, most occur around the Pacific Ocean basin, in an area called the Ring of Fire due to its high tectonic activity ([Budhiana et al., 2025](#); [Statista, 2025](#)), Indonesia is one of the countries included in this group. Earthquakes are destructive and often occur without warning, making mitigation a crucial step that must be carried out systematically, especially in vulnerable areas, with an emphasis on early prevention and preparedness ([Rahman et al., 2025](#)).

Preparedness is the knowledge and capabilities developed by governments, disaster management and recovery organizations, communities, and individuals to effectively anticipate, respond to, and recover from the impacts of disasters that may occur, are imminent, or are currently occurring. Preparedness aims to build the capabilities needed to manage all types of emergencies efficiently and achieve an orderly transition from response to sustainable recovery ([Budhiana et al., 2023](#); [United Nations Office for Disaster Risk Reduction, 2017](#)).

Historically, disaster response efforts have largely relied on emergency professionals, such as paramedics and government agencies. While they play a crucial role, resource constraints during large-scale disasters often result in delays in providing assistance and limited coverage across all affected areas. In response to these challenges, volunteers have emerged as key contributors to disaster management operations, including preparedness ([Ganoe et al., 2023](#)).

Volunteers play a very important role in disaster situations, carrying out various tasks ranging from preparation, search and rescue, to providing emotional support and recovery assistance. However, involvement in these activities requires physical and mental abilities, creativity, a sense of responsibility, team-building and cooperation skills, and self-control in difficult situations, as volunteers are often faced with dangerous conditions and significant emotional pressure. Altruism is the main motivation for volunteers, reinforced by a sense of responsibility and personal experience in dealing with disasters [X](#)([Ganoe et al., 2023](#); [Roshanravan et al., 2025](#)).

Altruistic behavior refers to a person's sincerity in acting for the good of others without expecting personal gain or benefit. This includes caring and concern for others, often prioritizing their needs and interests over one's own ([Yang, 2024](#)). In the context of disasters, the altruistic behavior of volunteers is reflected in providing assistance to others, both before, during, and after disasters, with the aim of improving the welfare of the community ([Arianti & Koentjoro, 2023](#)). There are several factors that influence altruistic behavior, namely self-efficacy, empathy, and resilience.

The first factor that influences altruism is self-efficacy. Individuals with high self-confidence tend to feel they have the ability to manage environmental demands. When individuals feel sufficiently competent and psychologically secure, altruistic behavior is more likely to emerge as a form of contribution to the welfare of others ([Weny et al., 2024](#)). In addition, empathy also contributes to increasing altruism. When individuals have a high level of empathy, they will feel the urge to help others. As a result, these individuals will give their attention to people who need help ([Fadilla & Yuliasari, 2024](#)). Resilience also influences altruistic behavior in volunteers. Resilience enables individuals to maintain social engagement and a tendency to help

others, as their psychological condition is relatively stable ([Bolton, 2024](#)).

Cianjur Regency is one of the areas vulnerable to natural disasters, one of which is the earthquake that occurred in 2022, causing massive damage. The search and evacuation process involved 584 organizations, one of which was the Jaga Bala Rescue volunteers. Bala Rescue Active volunteers are volunteers who play an active role in disaster management in Cianjur Regency. The purpose of this study was to determine the factors that influence altruism among rescue volunteers in disaster preparedness in Cianjur Regency.

Methods

Study Design

This study used a correlational design and cross-sectional approach to identify factors associated with altruism among rescue volunteers in disaster preparedness in Cianjur Regency.

Sample

The study population consisted of all 62 rescue volunteers in Cianjur Regency, and the entire population was included using a total sampling approach. Inclusion criteria included volunteers residing in Cianjur Regency, actively involved in community activities, and willing to participate in the study. Exclusion criteria included volunteers who were unavailable for long periods during the data collection process or those with health conditions that prevented participation.

Instruments

The altruism variable was measured using a questionnaire instrument consisting of 13 statements evaluated using a 4-point Likert scale, where 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. The validity of the instrument was measured using Pearson Product Moment correlation, and the analysis showed that all items had a p -value < 0.05 , indicating that each statement met the validity criteria. In addition, a reliability test was conducted using Cronbach's Alpha method, which produced a value of 0.904 (very strong), indicating good internal consistency. Therefore, the altruism instrument was considered reliable and appropriate for use in this study.

The variables of self-efficacy, empathy, and resilience were measured using a questionnaire instrument developed and adapted by the researchers based on field conditions. The measurement of self-efficacy refers to the General Self-Efficacy Scale, which consists of 10 statements with a 4-point Likert scale. The empathy variable was measured using a questionnaire containing 24 statements with a 4-point Likert scale. Meanwhile, resilience was measured using the Connor–Davidson Resilience Scale (CD-RISC 20), which consists of 20 statements with a 5-point Likert scale. The validity of the instruments was tested using Pearson Product Moment correlation, and the analysis results showed that all items on each questionnaire had a p -value < 0.05 , so all statements were declared valid. In addition, reliability testing was conducted using Cronbach's Alpha method, where the self-efficacy questionnaire obtained a value of 0.823 (strong), empathy with a value of 0.78 (strong), and resilience with a value of 0.843 (strong). Therefore, all instruments were declared reliable.

Data Collection Technique

Respondents were asked to complete a questionnaire about their characteristics, including age, gender, occupation, marital status, length of time as a volunteer, whether they had participated in disaster training and simulations, whether they had participated in special first aid training, and frequency of participation in activities.

Data Analysis Technique

The data were analyzed using IBM SPSS software version 26. Univariate analysis used frequency distribution and percentages, while bivariate analysis used Yates' correction. The significance level used in this study was 0.05.

Ethical Consideration

Ethical approval for this study was obtained from the Sukabumi College of Health Sciences with ethics number No: 001121/KEP STIKES SUKABUMI/2025. This study was conducted in accordance with ethical norms, and there were no known risks associated with it. During the study, the confidentiality and anonymity of each participant was maintained, and they were given written consent as a form of agreement to participate in the study.

Results

Table 1. Characteristics Respondents

| Variable | Category | Frequency (n) | Percentage (%) |
|--|------------------|---------------|----------------|
| Age | 10-18 years old | 5 | 8,1 |
| | 19-59 years old | 55 | 88,7 |
| | ≥60 years old | 2 | 3,2 |
| Gender | Male | 51 | 82,3 |
| | Female | 11 | 17,7 |
| Work | Working | 41 | 66,1 |
| | Not Working | 21 | 33,9 |
| Marital Status | Unmarried | 52 | 83,9 |
| | Living Apart | 1 | 1,6 |
| | Death Separation | 1 | 1,6 |
| | Marriage | 8 | 12,9 |
| Long-term volunteer | ≤1 Tahun | 11 | 17,7 |
| | 2-3 Tahun | 18 | 29,0 |
| | ≥4 Tahun | 33 | 53,2 |
| Disaster Training and Simulation | Ever | 54 | 87,1 |
| | Never | 8 | 12,9 |
| Special Training First Aid | Ever | 45 | 72,6 |
| | Never | 17 | 27,4 |
| Frequency of Participating in Volunteer Activities | Rarely | 17 | 27,4 |
| | Sometimes | 37 | 59,7 |
| | Often | 8 | 12,9 |

Table 1 shows that most respondents were aged 19-59 years old (55 people, 88.7%), male (51 people, 82.3%), employed (41 people, 66.1%), unmarried (52 people, 83.9%), had been volunteers for ≥4 years (33 people, 53.2%), had participated in disaster training and simulations (54 people, 87.1%), had participated in special first aid training (45 people, 72.6%), and sometimes participated in volunteer activities (37 people, 59.7%).

Table 2. Univariate Analysis

| Variable | Category | Frequency (n) | Percentage (%) |
|---------------|----------|---------------|----------------|
| Self-Efficacy | High | 52 | 83,9 |
| | Low | 10 | 16,1 |
| Empathy | High | 47 | 75,8 |
| | Low | 15 | 24,2 |
| Resilience | High | 49 | 79,0 |
| | Low | 13 | 21,0 |
| Altruism | High | 51 | 82,3 |
| | Low | 11 | 17,7 |

Table 2 shows that most respondents had high self-efficacy (52 people, 83.9%), high empathy (47 people, 75.8%), high resilience (49 people, 79.0%), and high altruism (51 people, 82.3%).

Table 3. Bivariate Analysis

| Variable | Category | Altruism | | | | P Value | OR | | |
|---------------|----------|----------|------|-----|------|---------|-----|--------|--------|
| | | High | | Low | | | | | |
| | | n | % | n | % | | | | |
| Self-Efficacy | High | 48 | 92,3 | 4 | 7,7 | 52 | 100 | <0,001 | 28,000 |
| | Low | 3 | 30,0 | 7 | 70,0 | 10 | 100 | | |
| Empathy | High | 44 | 93,6 | 3 | 6,4 | 47 | 100 | <0,001 | 16,762 |
| | Low | 7 | 46,7 | 8 | 53,3 | 15 | 100 | | |
| Resilience | High | 44 | 89,8 | 5 | 10,2 | 49 | 100 | 0,009 | 7,543 |
| | Low | 7 | 53,8 | 6 | 46,2 | 13 | 100 | | |

Table 3 shows the results of the Yates correction test, which indicates a relationship between self-efficacy, empathy, and resilience with altruism among rescue volunteers in disaster preparedness in Cianjur Regency ($p < 0.05$).

Discussion

There is a relationship between self-efficacy and altruistic behavior. This is in line with research conducted by Sinaga et al (2024) which explains the relationship between self-efficacy and altruism. Self-efficacy contributes to altruistic behavior because individuals' belief in their personal abilities influences their willingness to engage in actions that require effort and sacrifice. Individuals with high self-efficacy tend to view situations as challenges that can be overcome rather than risks that threaten their abilities. This perception of competence reduces doubts and anxieties about failure in helping others, making prosocial intentions easier to realize. Therefore, altruism emerges as a consequence of positive cognitive evaluations of one's own abilities ([Yentür, 2023](#)).

Research results show that empathy has a significant relationship with altruistic behavior among rescue volunteers. These results are supported by research conducted by Sakinah (2024), which states that there is a relationship between empathy and altruism among volunteers. Empathy is an important psychological driver in the formation of altruistic behavior in volunteers. A high level of empathy makes volunteers more sensitive to social issues and more consistent in providing assistance. Volunteers who have empathy not only provide temporary assistance but also show long-term commitment, sincerity, and willingness to sacrifice for the welfare of others ([Amir et al., 2025](#)).

Resilience is also closely related to altruistic tendencies, which is consistent with the findings of Uranus et al. (2022) & Cui et al. (2023). This is because individuals with high resilience are generally able to maintain emotional stability when under pressure. This ability prevents individuals from becoming overly focused

on personal suffering, allowing them to maintain the psychological space to respond to social needs. In such situations, helping others is not considered an additional burden, but rather an adaptive behavior that can still be performed (Dai & Smith, 2023).

This study has several limitations. The cross-sectional design limits the ability to draw definitive causal conclusions between the variables studied. In addition, data were collected using self-administered questionnaires, which may introduce response bias, as participants may provide socially desirable answers. However, efforts were made to ensure the validity of the measurement tools and to improve respondents' understanding of the questionnaire items in order to minimize potential misunderstandings.

Conclusion

There is a relationship between self-efficacy, empathy, and resilience with altruism among rescue volunteers in disaster preparedness in Cianjur Regency.

Suggestion

It is recommended that the Regional Disaster Management Agency (BPBD) of Cianjur Regency strengthen its volunteer capacity building program through ongoing training focused on building self-confidence, empathy, and psychological resilience in order to increase altruistic behavior in disaster preparedness. Further research is recommended to consider other factors such as volunteer experience, social support, and teamwork, as well as applying a mixed-method approach to deepen understanding of the determinants of altruism in disaster preparedness.

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