

How spirituality strengthens community resilience to flood disasters

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Abstract

Flood is one of the natural disasters that often occurs in Indonesia. Floods that threaten and disrupt people's lives cause casualties, environmental damage, loss of property, and psychological impacts. The community's ability to deal with disasters well through the process of adaptation and maintaining self-functions so that they return to their original state before the disaster occurs. Spirituality has an important role in forming a resilient individual. Individuals with good spirituality have a strong relationship with their God, fellow human beings, and even with themselves. The purpose of this study was to determine the relationship between spirituality and community resilience to floods in Wonoasri Village, Tempurejo District, Jember. The independent variable of this research is spirituality and the dependent variable is disaster resilience. This research is a correlational study with a cross-sectional approach. Sampling using the g-power application with the results of 193 respondents. Data collection using the DSES questionnaire and resilience questionnaire. Data analysis used Kendall's Tau C test with a p-value <0.05. The results of this study indicate a positive relationship between the two variables. There is a relationship between spirituality and resilience to floods in Wonoasri Village, Tempurejo Jember district ($\alpha = 0.000$ or $\alpha < 0.05$. Correlation coefficient 0.279). This research shows that the higher the level of spirituality, the higher the level of resilience possessed.

Keywords: Community resilience, Flood disaster, Spirituality

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1. Introduction

Indonesia has many rivers which cause flooding every year (BNPB, 2021a). Based on 2019 data, Indonesia recorded the highest number of disaster events with a total of 8,183 incidents. The flooding that occurred had a significant impact, including the loss of life to 21,451 people. In addition, many homes suffered heavy damage, leaving many residents homeless or having to make major repairs. Public facilities such as places of worship and educational facilities were also damaged, which disrupted people's daily activities, including religious activities and teaching and learning processes (BNPB, 2021b).

Disasters can cause various kinds of impacts, both physical and psychological. Conditions that are often found after a disaster are Post Traumatic Stress Disorder (PTSD), prolonged sadness, anxiety disorders, depression, etc. (Zakiah et al., 2021). This situation can affect various aspects of life, such as being an economic and health burden and affecting the quality of life of the victim. Individual preparedness behavior is related to perceptions of perceived risk regarding severity, personal vulnerability,



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ability to prepare (efficacy) and specific behaviors that may be undertaken to reduce the risk (Erlin & Sari, 2020). In addition, the ability to adopt successful coping strategies in the face of severe adversity will determine psychological resilience (Zakiah, 2021).

Resilience in overcoming disasters is an individual's ability to manage stress properly, which is very important for disaster survivors. This ability involves not only physical strength, but also mental and emotional strength, allowing a person to bounce back and face challenges better (Apriyanto & Setyawan, 2020). Resilience plays an important role in helping individuals restore balance in their lives, reduce the negative impacts of disasters, and speed up the recovery process. Resilience is also closely related to choosing appropriate coping strategies, which help individuals deal with stressful situations in a constructive way (Steven et al., 2023). Factors that influence resilience include dynamic individual, social and environmental factors, such as self-confidence, support from family and friends, as well as physical and social conditions around the individual (Habibah et al., 2018).

One individual factor that can influence a person in achieving a state of resilience is spirituality. Spirituality is defined as awareness or belief in a higher power or energy that inspires a person to seek meaning and purpose outside themselves (Nelson, 2009). Good spirituality in an individual is related to the ability to overcome difficulties, challenges and problems. In the context of a disaster, spirituality can provide a greater sense of calm, hope and purpose in life, helping individual's better deal with difficult situations (Widiyanta & Purba, 2018). Spiritual beliefs can also be a powerful source of emotional support, providing additional strength to overcome stress and trauma (Cahyani & Akmal, 2017). Thus, developing spirituality can be one way to increase individual resilience in facing disasters and other life challenges.

Based on a preliminary study conducted in Curahlele Hamlet, Wonoasri Village, Tempurejo District, Jember Regency, it was found that according to residents, resilience is a way of adapting to a better condition to the conditions they are facing. Apart from that, residents also believe that spirituality is something that cannot be separated from religion. Based on this description, the researcher wishes to conduct research on the relationship between spirituality and community resilience to flood disasters in Wonoasri Village, Tempurejo District, Jember Regency.

2. Hypotheses Development

Spirituality refers to an individual's or a community's sense of connection to something greater than themselves, which can involve religious beliefs, a sense of purpose, and a sense of meaning in life. Spiritual beliefs can provide comfort and emotional support during and after a disaster. This emotional support can help individuals cope with the stress and trauma associated with flooding. Spirituality often involves a sense of belonging to a community (Walton et al., 2021). This can foster social cohesion and collective action, which are crucial for effective disaster response and recovery. Spirituality often involves a sense of belonging to a community. This can foster social cohesion and collective action, which are crucial for effective disaster response and recovery. Many spiritual practices encourage positive coping mechanisms such as prayer, meditation, and reliance on faith, which can help individuals manage their emotions and maintain psychological stability during crises. Community resilience refers to the ability of a community to withstand, adapt to, and recover from adverse situations such as natural disasters. Key elements of community resilience include: (1) Being well-prepared for potential disasters through education, planning, and resource allocation; (2) The ability to respond effectively during a disaster, minimizing harm and coordinating relief efforts; (3) The capability to recover swiftly and efficiently after a disaster, restoring normalcy and improving future resilience; and (4) The capacity to adapt to changing conditions and reduce future risks, enhancing long-term sustainability (Gil-Rivas & Kilmer, 2016). Praptika et al. (2024) and Walton et al. (2021) has found that individuals with strong spiritual beliefs tend to have better psychological outcomes after traumatic events. Spiritual communities often provide social support networks that are vital during disasters, offering practical help and emotional support. Based on the conceptual and empirical study, the hypothesis is formulated.

H₁: there is a significant relationship between the level of spirituality and community resilience to flood disasters

3. Methods

This research uses a correlation study design with a descriptive correlational research type and a cross-sectional approach. This research aims to describe the level of spirituality and

disaster resilience in society, then look for the relationship between these two variables. The population of this study were residents of Curahlele Hamlet, Wonoasri Village, Tempurejo District, Jember Regency, who met the inclusion and exclusion criteria. The research sample was determined using the G-power application with a significance value of 0.05, resulting in 193 respondents. The sampling technique used is cluster random sampling, by dividing the population into several separate groups (clusters), then taking samples from these clusters randomly.

The data collection tool in this research is a questionnaire. Researchers collect data formally from subjects by answering questions in writing, both structured and unstructured questions. The demographic questionnaire includes gender, age, religion, education, and occupation. Most of the questions are in the form of a checklist to make it easier for respondents to choose answers. To measure the level of spirituality, the Daily Spiritual Experience Scale (DSES) questionnaire is used which is related to daily spiritual experiences. This questionnaire consists of 15 questions and 1 additional question, with a 6-point Likert scale. Interpretation of DSES results is divided into three categories: low (16-41), medium (42-67), and high (68-94) spirituality levels (Loustalot et al., 2011). The resilience questionnaire was adopted from previous research and consists of 18 questions covering 7 aspects, such as emotional regulation, impulse control, optimism, causal analysis, empathy, self-efficacy, and reaching out. Scores are given based on agree or disagree answers, with a score of 2 for an agreed answer and 1 for a disagree answer. Interpretation of resilience results is divided into two categories: high (score > 28) and low (score ≤ 28) (Satria & Sari, 2017).

Data was collected in Curahlele Hamlet, Wonoasri Village, Tempurejo District, Jember Regency, in June 2023. Data collection was carried out by distributing questionnaires to respondents who had been selected using a cluster random sampling technique. The DSES questionnaire is used to measure the level of spirituality, while the resilience questionnaire is used to measure the level of disaster resilience. Data analysis was carried out using Kendall's Tau C correlation test. This test was chosen because the dependent and independent variables in this study are ordinal. Kendall's Tau C is used to measure the relationship between two variables and prove the hypothesis if the variable data is in ordinal form. The Kendall's Tau C test is a modification of the Kendall's Tau correlation test which is used for data with contingency tables other than square.

This research has received ethical feasibility from the Health Research Ethics Commission, Faculty of Nursing, Jember University No. 260/UN.25.I.14/KEPK/2023, taking into account research ethics. Each respondent was given an explanation of the research objectives and given the freedom to participate or not. The confidentiality of respondents' data is guaranteed and the data obtained is only used for research purposes. Researchers also obtained approval from the relevant institutions before carrying out the research.

4. Results and Discussion

Data collected through demographic questionnaires, Daily Spiritual Experience Scale (DSES) questionnaires, and resilience questionnaires are then presented in Table 1.

Table 1.
 Characteristics of respondents (n=193)

Variable	Frequency (n)	Percentage (%)
Age (year) (Mean ± SD)	37.83	8.67
Sex		
Male	110	57
Female	83	43
Education Level		
Elementary school / equivalent	87	45.1
Middle School / equivalent	65	33.7
High school / equivalent	41	21.2
Job		
Farmer	95	49.2
Self-employed	79	40.9
Laborer	16	8.3
Not working/retired	3	1.6
Ethnic		
Javanese	138	71.5
Madurese	55	28.5

Table 1 shows that the average age of respondents in this study was 37.83 years. The youngest respondent who took part in this research was 20 years old, while the oldest respondent who took part in this research was 50 years old. The 193 research respondents were dominated by male respondents (57 percent). The final education of respondents in this study

varied with the majority being elementary school graduates/equivalent (45.1 percent). Most of the research respondents worked as farmers with a total of 95 people (49.2 percent). Meanwhile, for ethnicity, the majority of respondents were Javanese with a total of 138 people (71.5 percent).

Table 2.

Category of spirituality and resilience in respondents (n=193)

Variable	Frequency (n)	Percentage (%)
Spirituality in Respondents		
High	162	83.9
Medium	31	16.1
Low	0	0
Disaster Resilience of Respondents		
High	171	88.6
Low	22	11.4

Table 2 shows that almost all the people of Curahlele Hamlet, Wonoasri Village, Tempurejo District, Jember Regency have a high level of spirituality, namely 162 people (83.9 percent). Meanwhile, the remaining 31 people (16.1 percent) had a medium level of spirituality. Respondents' disaster resilience also showed that as many as 171 respondents who were residents of Curahlele Hamlet, Wonoasri Village, Tempurejo District, Jember Regency had a high level of resilience (88.6 percent). Apart from that, there were still 22 respondents (11.4 percent) who had a low level of resilience to flood disasters.

Table 3.

Table of the relationship between spirituality and community resilience against flood disasters

Test	Variable(s)	Correlation Coefficient (R)	p-value
Kendall's Tau C	Spirituality Disaster Resilience	0.279	0.000

Table 3 shows the results of the analysis for the relationship between spirituality and community resilience to flood disasters using Kendall's Tau C Test, obtaining a significance value of $\alpha = 0.000$ or $\alpha < 0.05$, which means that the alternative hypothesis (H_a) is accepted or there is a significant relationship. The strength of the relationship between the two variables is 0.279, which means that the two variables spirituality and disaster resilience have a weak relationship strength. The relationship between these two variables is positive, meaning that the higher the level of spirituality, the higher the level of resilience.

Discussion

The research results show that the majority of people have a high level of spirituality and there are no people who have a poor level of spirituality. The benefits of spirituality for spirituality survivors have a good ability to predict aspects of spiritual goals that can improve a person's psychological well-being (Widiyanta & Purba, 2018). High spirituality is certainly needed by disaster survivors to prepare for resilience after a natural disaster occurs. The various impacts that arise after a flood disaster include the possibility of disruption of housing, structures and community systems, social relations and social services, loss of productive sources including land, income, and livelihoods, the decline in cultural culture and cooperation in society, and loss of sources of life and income can encourage ecosystem exploitation, hardship, social tension, and poverty (Cahyani & Akmal, 2017).

The high value of spirituality in this research can be interpreted as meaning that people view their lives today as providing a lot of meaning and value so they can feel spiritual satisfaction. With high spiritual values, people can have effective internal coping strategies in dealing with crises. This is of course very useful and influences their attitude, especially when faced with difficult conditions. Therefore, the researcher believes that the spiritual level of the people of Curahlele Hamlet, Wonoasri Village is quite good, as proven by the majority of people having a high level of spirituality and no people having a bad or low level of spirituality.

The research results show that the majority of respondents have high levels of resilience to flood disasters. However, there were still 11.4 respondents who had poor disaster resilience. Having resilience is very important, because it is the human capacity to face, overcome and become stronger or able to change adversity or adversity in life (Nugraheni et al., 2022). Individuals who have resilience will be able to think clearly to be able to survive in this environment so that they can process cognitively and affectively positively towards the things

they face. Resilience can be interpreted as a person's ability to adapt, overcome problems, and survive disasters in a functional condition (Satria & Sari, 2017).

Seven abilities form resilience, namely emotional regulation, impulse control, optimism, empathy, causal analysis, self-efficacy, and reaching out. Everyone has all these factors. However, what is different is how someone uses and maximizes these factors to face difficult times (Habibah et al., 2018). In this research, residents of Curahlele Hamlet, Wonoasri Village, Tempurejo District, and Jember Regency had a high level of spirituality (83.9 percent) and also a high level of resilience (88.6 percent). This is following previous research that spirituality shows a causal relationship with resilience which helps individuals overcome stressful conditions in life and provides protection for individuals in dealing with depression and stress. This is also the opinion of previous researchers, some factors can influence resilience, one of which is spirituality (Handayani et al., 2019). Individuals with good spirituality will increase coping, optimism, and hope, reduce anxiety, and support feelings of comfort and calm (Muller et al., 2014).

The level of resilience of a person or community determines how they survive in stressful situations, recover, and respond to disasters that occur. Adaptation as the ability to build resilience and maintain boundaries between positive and negative emotional levels illustrates the power of increasing optimism (Apriyanto & Setyawan, 2020). The community shows this high resilience by not feeling sad after experiencing losses due to floods and being able to adapt to the changes that occur after the flood. An optimistic attitude in communities experiencing floods can encourage them to recover and recover after facing problems in the form of flood disasters to make their lives continue to grow and be productive (Steven et al., 2023).

Mature spirituality will enable someone to put themselves in the right place do what they should do, and be able to discover miraculous things (Widiyanta & Purba, 2018). So, researchers can say that the higher or stronger the spirituality will be manifested in the way of thinking, processing feelings, and behaving through good actions. Including the individual's ability to be beyond his understanding of time and place, and to see life from a broader and objective perspective will further increase the strength of resilience after the flood disaster (Paul Victor & Treschuk, 2020). The development of resilience is a personal journey for each individual. Therefore, each individual is different in how they perceive traumatic events and life events, meaning that individuals who have resilience do not mean they are free from sadness, hardship, and distress, but in these conditions, the individual can respond positively and continue to develop themselves to a better way (Syahimin, 2023).

Spirituality itself has a function as a mechanism by which things that cause stress are reduced so that nurses can consider this as a normal thing (Nelson, 2009). Spirituality is an effective internal coping strategy in dealing with crises, especially in the intensive care environment (Swart, 2017). Spiritually healthy people can be more flexible in dealing with problems. The Spiritual level allows a person to perceive certain events beyond his will, which is the will of God Almighty. People's beliefs tend to foster empathy and encourage people to try to solve every problem they face (Scazzero, 2014).

The discussion above shows that spirituality has a close relationship to disaster resilience in residents after the flood disaster. Spirituality shows a causal relationship with resilience which helps individuals overcome stressful conditions in life and provides protection for individuals in dealing with depression and stress. Other factors that influence resilience include internal and external factors. Internal factors come from within the individual in drawing lessons from every disaster experienced. External factors can arise from the existence of levels.

5. Conclusion

The results of this research show that there is a relationship between the level of spirituality and disaster resilience in society. The relationship between spirituality shows a positive causal relationship with resilience.

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