

The Correlation between Aspects of Religiosity and Resilience of the 2016 Pidie Jaya Earthquake Victims

FitriMaiyani

Study Program Of Disaster Science, Graduate School, Syiah Kuala University, Banda Aceh City, Indonesia

Indra

Study Program of Agribusiness, Faculty of Agriculture, Syiah Kuala University, Banda Aceh City, Indonesia

DidikSugiyanto

Study Program of Physics, Faculty of Mathematics and Natural Sciences, Syiah Kuala University, Banda Aceh City, Indonesia

Abstract

Aceh is a province of Indonesia with a high level of earthquake vulnerability. The earthquake that occurred in Pidie Jaya in December 2016 caused psychological shock to the victims. To recover from the psychological shock, they must have resilience. There are some factors that influence the resilience of disaster victims. One of which is religiosity. Being religious is one of the characteristics of Acehnese, and it influences their attitudes and actions in dealing with disasters. This study aims to assess the level of resilience and religiosity of the 2016 Pidie Jaya earthquake victims, find the correlation between resilience and religiosity, and then find the contribution of the religiosity aspects to the resilience of the 2016 Pidie Jaya earthquake victims. The population in this study was the people who lived in Trienggadeng and Mereudu District. The sample was 204 people selected using multistage random sampling method. The instrument used to collect data was a resilience scale developed by Reivich&Shatte and a religious scale developed by Glock& Stark. To analyze the collected data, the researchers conducted a descriptive statistical test and a correlation test (Spearman's rank). The results showed that the 2016 Pidie Jaya earthquake victims had a high level of resilience (62%) and religiosity (86%). There was a positive correlation between religiosity and resilience at a moderate correlation level (0.414) with a determination coefficient of 0.171 or 17%. The five aspects of religiosity had a positive correlation with resilience, and the aspect that made the highest contribution value was the aspect of experience (0.701). In conclusion, all aspects of religiosity had a positive correlation with resilience with medium and high contribution values.

Keywords: *Disaster, Earthquake, Resilience, Religiosity*

Date of Submission: 02-07-2021

Date of Acceptance: 17-07-2021

Abstract

Provinsi Aceh merupakan daerah dengan tingkat kerawanan tinggi terhadap gempa bumi. Gempa yang terjadi di Pidie Jaya pada Desember 2016 telah menyebabkan goncangan mental pada korban. Untuk pulih dan bangkit kembali korban gempa harus memiliki daya resiliensi. Resiliensi yang terbentuk pada korban bencana dapat dipengaruhi oleh berbagai faktor, salah satunya faktor religiusitas. Religiusitas menjadi salah satu karakter kehidupan masyarakat Aceh yang mempengaruhi persepsi dan tindakan masyarakat dalam merespon dan menghadapi bencana. Penelitian ini bertujuan untuk menilai tingkat resiliensi dan religiusitas korban gempa, lalu menguji hubungan antara resiliensi dan religiusitas, selanjutnya menilai kontribusi aspek aspek religiusitas dengan resiliensi pada korban gempa Pidie Jaya. Populasi dalam penelitian ini adalah masyarakat Kecamatan Trienggadeng dan Mereudu yang menjadi korban bencana gempa bumi tahun 2016. Sampel berjumlah 204 orang korban gempa Pidie Jaya yang dipilih dengan menggunakan metode multistage random sampling. Alat ukur yang digunakan merupakan skala resiliensi diadopsi dari Reivich&Shatte dan skala religiusitas diadopsi dari Glock& Stark. Data yang terkumpul diuji deskriptif dan analisis dengan menggunakan metode statistik korelasibivariat

(Rank Spearman). Hasil penelitian menunjukkan bahwa korban gempa Pidie Jaya memiliki resiliensi yang tinggi (86%), dan religiusitas yang tinggi (62%), terdapat hubungan positif antara religiusitas dengan resiliensi pada tingkat korelasi sedang (0,414) dengan koefisien determinasi 0,171 atau 17%. Kelima aspek religiusitas memiliki hubungan dengan resiliensi dengan nilai kontribusi tertinggi 0,701 dari aspek pengalaman.

Kesimpulannya semua aspek religiusitas memiliki hubungan dengan resiliensi dengan nilai kontribusi sedang dan tinggi.

Kata Kunci: Bencana, Gempa bumi, Resiliensi, Religiusitas.

Date of Submission: 02-07-2021

Date of Acceptance: 17-07-2021

مستخلص

إن بلاد أتشيه المعروفة بولاية أتشيه مكان من الأمكنة التي اشتدت احتمالا على حدوث الزلزلة. الزلزلة ببدير جايا الحادثة ماضية شهر ديسمبر 2016 تسبب بروز الألم السيكولوجيات أو المرض القلبية للشعوب المحلية. فلا بد للشعوب الذين يعانون بالمرض السيكولوجيات من تكوين أنفسهم بالتكيفات (Riseliensi). ويمكن التكيفات من عند الشعوب أن تسببها العوامل العديدة منها الطاعة. الطاعة إلى الدين صفة من صفات تؤثر سلوك الفرد في مقابلة أو استجابة الكثرة الواقعة. وهذه الدراسة العلمية الحالية تهدف إلى التعرف على مد التكيفات والطاعة عند الشعوب الذي أصابهم الزلزلة واختبار علاقة التكيفات والطاعة وفوائدهما. المجتمع في هذه الدراسة جميع المجتمع في ناحية تريغ غديغ (Tring Gadeng) وميريدو (Mereudu) الذي أصبح ضحايا من المصيبة سنة 2016م. أما العينة عددها 204 نفر الذين اختير من خلال استخدام طريقة اختيار العينة العشوائية. مع استخدام أدوات البحث من ريفيج وشتتي (Reivich & Shatte) وقياس الطاعة التي تقاس عن طريقة جلوق وسترك (Glock & Strak). البيانات المجموعة تختبر عن خلال الوصف التحليلي باستخدام منهج الإحصاء المقارن (Rank Spearman). ونتيجة البحث تدل على أن التكيفات عند الشعوب في مرتبة عالية (62%) والطاعة (86%)، وهناك علاقة إيجابية بين التكيفات والطاعة التي صارت في مرتبة المقارنة المتوسطة (0,44) مع النتيجة المقررة 0,171 أو 17%. وخمسة العناصر التي يمتلكها الطاعة لها علاقة بالتكيفات بالنتيجة 0,701 من عنصر الخبرات. والاستنباط، أن كل عناصر الطاعة لها علاقة جيدة بالتكيفات. المصطلحات الأساسية: الكثرة، الزلزلة، التكيفات، الطاعة

I. Introduction

Aceh is a province of Indonesia with a high level of earthquake vulnerability. The earthquake in Aceh originates from two main sources that are the megathrust zone under the Indian Ocean which is the meeting area between the Indo-Australian plate and the Eurasian plate and the Great Sumatran Fault which forms a mountain range that stretches across Sumatra Island from north to south.¹ One of the causes of great earthquake losses is the lack of public understanding in the characteristics of an earthquake threat.

An earthquake is an event that occurs suddenly so that people are not ready to deal with it. The characteristics of an earthquake are having a great destructive force, lasting for a short time, and also having the potential to repeat itself in the same fault area at an unpredictable time. This phenomenon cannot be prevented. The government makes efforts to identify earthquake characteristics in an area and to reduce the impacts caused by an earthquake. A survey of community behavior during and after a disaster is an effort to reduce the impacts of a disaster.

On December 7, 2016 an earthquake occurred in Pidie Jaya with a magnitude of 6.5 on the Richter scale. The earthquake resulted in 104 people died, 186 people seriously injured, and 789 people mildly injured. Apart from the people died and injured, the earthquake also caused damage to the infrastructure, economic, social, and residential sectors.² Until now, the post-disaster recovery, rehabilitation, and reconstruction process is still ongoing in Pidie Jaya. The implementation of the recovery, rehabilitation, and reconstruction is based on the Sendai Framework for Disaster Risk Reduction (SFDRR). The SFDRR sets four specific priorities for action one of which is enhancing disaster preparedness for effective response and to "Building Back Better" in recovery, rehabilitation and reconstruction.³

Resilience is the ability of a system or community affected by a disaster to recover quickly and efficiently.⁴ Resilience is the individual's ability to get out of difficult times, and to adapt and cope with bad

¹Pustlitbang PUPR, *Buku Peta Gempa 2017*, 2017.

²Kementerian ESDM RI, "Tanggapan Gempabumi Timur Laut Pidie Jaya, Aceh 6,4 Sr - 7 Desember 2016," <https://vsi.esdm.go.id/>, last modified 2016, accessed May 25, 2021, <https://vsi.esdm.go.id/index.php/gempabumi-a-tsunami/kejadian-gempabumi-a-tsunami/1383-tanggapan-gempabumi-timur-laut-pidie-jaya-aceh-64-sr-7-desember-2016#>.

³IFRC, "Sendai Framework for DRR," no. March (2015): 25, <http://www.unisdr.org/we/inform/terminology>.

⁴Michael Heylin, "Disaster," *Chemical & Engineering News* 64, no. 5 (1986): 3.

events that they experience.⁵ Resilience is an indicator of good adjustment or positive adaptation after trauma. During the recovery, rehabilitation and reconstruction process, it is necessary not only to build better infrastructure but also to create individuals, communities, and systems that are resilient as a form of non-structural mitigation.⁶ The desired results of post-disaster recovery, rehabilitation, and reconstruction efforts can be obtained if the individuals, communities, and systems have a good degree of resilience. The degree of resilience in each region is different. This determines the response to disasters and disaster management in that area.

In the perspective of natural disasters, resilience is a multidimensional thing that means it is related to many factors in the process of forming resilience such as biology, psychology, social support, genetic, and resistance. Humans also carry out a dynamic process in responding to changes in their surrounding environment in disaster situations so that the degree of resilience of each area is different.⁷ When suffering from stress, Indonesians usually perform Islamic rituals such as performing salat, praying, or going to a mosque. This strategy is known as religious coping which is the belief that God will help someone get out of his problem. In Western psychology, this is called the concept of surrender to God's Will, and this concept has a correlation with resilience.⁸ Victims of natural disasters such as earthquakes, lose control of the events that occur because they are faced with a greater force. Therefore, religious coping is one of the most suitable positive treatments to deal with a problem which people have limited or no control such as dealing with natural disasters.⁹

The resilience of Acehnese in dealing with an earthquake may develop because Acehnese are a religious community. A religious leader is also an important person that provides information and influences people's attitudes towards disasters in Aceh.¹⁰ Aceh is a province of Indonesia which implements sharia local regulations. The study of Satria and Sari found that Acehnese had a high level of resilience (63.0%) in the face of disasters.¹¹ Things that affect each individual to rise from adversity are factors such as a positive mindset, family support, social ties, community support, and a religious lifestyle.¹²

Based on these factors, the researchers believe that the resilience of Acehnese develops from a religious environment. The correlation between resilience and religiosity is also supported by the results of the previous study on the victims of the Sidoarjo mud flow. It was found that religiosity and community support together had a very significant correlation with resilience.¹³ The victims of the Bantul earthquake also showed that the higher the religiosity level of the earthquake victims, the higher the ability to deal with stressor.¹⁴ It means that doing religious rituals and other positive activities after the disaster demonstrates a high level of resilience.

Based on the description above, the researchers investigated the correlation between religiosity and resilience of the 2016 Pidie Jaya earthquake victims. Pidie Jaya is a district in Aceh where an earthquake occurred in 2016 and now it is undergoing recovery, rehabilitation, and reconstruction. The potential for

⁵Kathryn M. Connor and Jonathan R.T. Davidson, "Development of a New Resilience Scale: The Connor-Davidson Resilience Scale (CD-RISC)," *Depression and Anxiety* 18, no. 2 (2003): 76–82.

⁶Daniel P. Aldrich, "Social, Not Physical, Infrastructure: The Critical Role of Civil Society after the 1923 Tokyo Earthquake," *Disasters* 36, no. 3 (2012): 398–419.

⁷George A. Bonanno et al., "What Predicts Psychological Resilience After Disaster? The Role of Demographics, Resources, and Life Stress," *Journal of Consulting and Clinical Psychology* 75, no. 5 (2007): 671–682.

⁸Kenneth I. Pargament, Harold G. Koenig, and Lisa M. Perez, "The Many Methods of Religious Coping: Development and Initial Validation of the RCOPE," *Journal of Clinical Psychology* 56, no. 4 (2000): 519–543.

⁹Elaine Z. Shing, Eranda Jayawickreme, and Christian E. Waugh, "Contextual Positive Coping as a Factor Contributing to Resilience After Disasters," *Journal of Clinical Psychology* 72, no. 12 (2016): 1287–1306.

¹⁰Wignyo Adiyoso and Hidehiko Kanegae, "The Preliminary Study of the Role of Islamic Teaching in the Disaster Risk Reduction (A Qualitative Case Study of Banda Aceh, Indonesia)," *Procedia Environmental Sciences* 17 (2013): 918–927, <http://dx.doi.org/10.1016/j.proenv.2013.02.110>.

¹¹Budi Satria and Mutia Sari, "Tingkat Resiliensi Masyarakat Di Area Rawan Bencana," *Idea Nursing Journal* 8, no. 2 (2017): 30–34.

¹²Ghozali Rusyid Affandi, "Internalisasi Nilai-Nilai Transendensi Untuk Meningkatkan Resilensi Pasca Tsunami Di Aceh: Studi Literatur Melalui Peran Keluarga," *Procedia: Studi Kasus dan Intervensi psikologi* 3, no. 1 (2015): 29–34.

¹³Aris Setiawan and Niken Titi Pratitis, "Religiusitas, Dukungan Sosial Dan Resiliensi Korban Lumpur Lapindo Sidoarjo," *Persona: Jurnal Psikologi Indonesia* 4, no. 02 (2016).

¹⁴Ardiman Adami and Rr Indah Ria Sulisyorini, "Spiritualitas Dan Proactive Coping Pada Survivor Bencana Gempa Bumi Di Bantul," *Psikologika: Jurnal Pemikiran dan Penelitian Psikologi* 13, no. 25 (2008).

earthquake recurrence in Pidie Jaya in the same fault area is possible. Studies that investigated the correlation of the resilience of disaster victims and the factors that influence it are limited. This study investigated the same topic with the previous study by Ni et al. that was an investigation of factors associated with resilience of adult survivors five years after the 2008 Sichuan earthquake in China.¹⁵ Moreover, Adisaputri conducted a study on the role of religious beliefs and practices in disaster to the victims of Padang earthquake in 2009.¹⁶ The researchers hope by knowing the correlation between resilience and religiosity the government can develop a policy to build resilient individuals, communities and systems as a form of non-structural mitigation.

II. Method

This study is a quantitative correlational study. This study investigated the correlation between two variables that were the religiosity variable (X) and the resilience variable (Y). The population in this study was the 2016 Pidie Jaya earthquake victims. The sampling method was multistage random sampling, sampling scheme that combines several methods. First, the researchers conducted cluster sampling and chose 2 sub-districts in Pidie Jaya which had a high level of damage (6-8 MMI). Second, the researchers conducted simple random sampling and selected two villages of each district. The last, the researchers selected 10% of each village population to be the representative sample which the total was 204 people.

Table 1. The number of sample

| No | Sub-districts | Villages | Population | Sample |
|-------|---------------|---------------|------------|--------|
| 1 | Meureudu | Kota Meureudu | 779 | 78 |
| 2 | | RhiengMancang | 381 | 38 |
| 3 | Trienggadeng | Cot Makaso | 320 | 32 |
| 4 | | KutaPangwa | 561 | 56 |
| Total | | | 2.041 | 204 |

The researchers conducted a cross-sectional survey conducted by questionnaire. The survey was conducted from May to June 2020. The researchers used the resilience scale developed by Reivich&Shatte and the religiosity scale developed by Glock& Stark which had been modified to the answer item to be a Likert scale (4 choices). The researchers tested the validity and reliability of the questionnaire and tested the normality of the data. To test the validity, the researchers used a Pearson product-moment correlation and obtained 21 valid items of religiosity and 25 valid items of resilience. To test the reliability, the researchers used Cronbach's alpha. The results showed that the Cronbach's alpha value generated for the religiosity scale was 0.984, and the Cronbach's alpha value generated for the resilience scale was 0.911. That meant the questionnaire was reliable because both Cronbach's alpha values were $r_{\alpha} > r_{\text{table}} (> 0.60)$. To test the correlation between the two variables, the researcher used a Chi Square test at a significance level of 5% or 0.05. Because the data was not normally distributed, the data were analyzed using Spearman's rank correlation to find out the correlation between aspects of religiosity and resilience.

¹⁵Cuiping Ni et al., "Factors Associated with Resilience of Adult Survivors Five Years after the 2008 Sichuan Earthquake in China," *PLoS ONE* 10, no. 3 (2015): 1–14.

¹⁶Gianisa Adisaputri, "The Role of Religious Beliefs and Practices in Disaster : The Case Study of 2009 Earthquake in Padang City , Indonesia The Role of Religious Beliefs and Practices in Disaster : The Case Study of 2009 Earthquake in Padang City , Indonesia" (2016): 1–84, <https://core.ac.uk/download/pdf/80334097.pdf>.

Table 2. The variables

| Variabels | Definitions | Aspects | Instruments | Criteria | Type of Data |
|-----------------|---|--|--------------------------------|--|--------------|
| Resilience (X) | Resilience is a capacity to be insusceptible, resilient, and strong in facing and overcoming life pressures in a healthy and productive manner. | 1. Emotion regulation 2. Impulse control 3. Optimism 4. Achievement 5. Empathy 6. Self-efficacy Cause analysis | Likert Scale Questionnaires | 1. low (1-49) 2. moderate (50-74) 3. high (75-100) | interval |
| Religiosity (Y) | Religiosity is the practice and appreciation of religious teachings in everyday life. | 1. Belief 2. Ritual 3. Practice 4. Knowledge 5. Experience | Likert Scale Questionnaires | 1. low (1-41) 2. moderate (42-63) 3. high (64-84) | interval |

III. Results And Discussion

The profile of the respondents aimed to provide general information about the respondents. The profile was about gender, age, education level, wheather or not attending Islamic boarding school, wheather or not attending religious meetings, and earthquake impacts. A more detailed explanation can be seen in the table 3.

Table 3. The Profile of the Respondent

| Profile | Description | The number of respondents | Percentage |
|-------------------------|---------------------|---------------------------|------------|
| Genders | Male | 83 | 40.68 |
| | Female | 121 | 59.32 |
| | Total | 204 | 100 |
| Age | 18-29 year old | 79 | 38.72 |
| | 30-39 year old | 53 | 25.98 |
| | 40-49 year old | 36 | 17.65 |
| | 50-60 year old | 36 | 17.65 |
| | Total | 204 | 100 |
| Education Level | Elementary school | 20 | 9.80 |
| | Junior High School | 30 | 14.70 |
| | Senior High School | 114 | 55.90 |
| | University | 40 | 19.60 |
| | Total | 204 | 100 |
| Islamic Boarding School | Yes | 24 | 11.76 |
| | No | 180 | 88.24 |
| | Total | 204 | 100 |
| Religious Meeting | Yes | 147 | 72.06 |
| | No | 57 | 27.94 |
| | Total | 204 | 100 |
| Earthquake Impacts | Losing Family | 10 | 4.90 |
| | Losing Property | 87 | 42.65 |
| | No Immediate Impact | 107 | 52.45 |
| | Total | 204 | 100 |

The number of male and female respondents was almost equal. The number of female respondents was 121 people (59.32%), and the number of male respondents was 83 people (40.68%). 44% of the respondents attended a religious meeting every week and were part of the Sirul Mubtadin Ta'lim Assembly. 11% of the respondents attended Islamic boarding school. Therefore, half of the respondents were people who had a good religious understanding. Moreover, half of the respondents were people who impacted directly due to the 2016 Pidie Jaya earthquake. 42% of the respondents lost their property and 5% of the respondents lost their family.

1. Resilience

Resilience is the individual's ability to rise up and build physical and psychological endurance when experiencing a traumatic event or an abnormal situation.¹⁷ In this study, the researchers divided the resilience

¹⁷Bonanno et al., "What Predicts Psychological Resilience After Disaster? The Role of Demographics, Resources, and Life Stress."

of the 2016 Pidie Jaya earthquake victims into three levels that were low, medium, and high resilience. The results of the data analysis showed that there was no earthquake victim who had a low level of resilience. There were 79 people (38%) who had a moderate level of resilience and 125 people (62%) who had a high level of resilience. The following table shows the results of the data analysis on resilience variable.

Table 4. the Frequency Distribution of the Respondents' Resilience Levels

| Criteria | Score | Frequency | Percentage (%) |
|----------|--------|-----------|----------------|
| low | 25-49 | 0 | 0 |
| moderate | 50-74 | 79 | 38,7 |
| high | 75-100 | 125 | 61,3 |
| Total | | 204 | 100 |

The data showed that the 2016 Pidie Jaya earthquake victims mostly had a high level of resilience. They were able to rise from a traumatic event and to build greater physical and psychological endurance. In this study, 42% of the respondents lost their property, and 5% of the respondent lost their family because of the earthquake. Based on the observation, the earthquake victims were optimistic about a better future and they also empathized with others. This means that they had a high level of resilience and had this quality: emotion regulation, impulse control, self-efficacy, problem analysis, desired achievement, empathy, and optimism.¹⁸ At this level, they were at the level of recovery and the level of thriving. These two levels indicated their condition as resilience individuals.

The 2016 Pidie Jaya earthquake victims were able to return to their daily activities normally. Moreover, some of them were not only able to return to their previous level of function after experiencing the stressful condition, but they were also able to develop rapidly in several aspects that were manifested in positive behavior, emotions and thoughts. The study conducted by Satria & Sari also found that the resilience level of most Acehese that were 63.0% in the face of disasters.¹⁹

Previous studies also found that the resilience level of Indonesian was rarely in the low level and at least at a medium level. For example, the study of Aisha found that none of the adolescent orphanages in Surakarta had a low level of resilience, and 76% of them had a high level of resilience.²⁰

2. Religiosity

Religiosity is a state of fully experiencing religious values by obeying religious teachings as guidelines for daily life.²¹ In this study, the researchers divided the religiosity of the 2016 Pidie Jaya earthquake victims into three levels that were low, medium, and high religiosity. The results of the data analysis showed that there was no earthquake victim who had a low level of religiosity. In fact, 77,5% of the respondents (158 people) had a high level of religiosity, and 22,5% of the respondents (46 people) had a moderate level of religiosity. The following table shows the results of the data analysis on religiosity variable.

Table 5. the Frequency Distribution of the Respondents' Religiosity Levels

| Criteria | Score | Frequency | Percentage (%) |
|----------|-------|-----------|----------------|
| low | 21-41 | 0 | 0 |
| moderate | 42-63 | 46 | 22,5 |
| high | 64-84 | 158 | 77,5 |
| Total | | 204 | 100 |

The data showed that the 2016 Pidie Jaya earthquake victims mostly had a high level of religiosity, and they had these qualities: belief, knowledge, practice, ritual, and experience. In this study, 72% of the respondents attended a religious meeting every week, and they were part of the SirulMubtadinTa'lim Assembly. 11% of the respondents attended Islamic boarding school. Therefore, they had good understanding of Islamic religion.

¹⁸Karen Reivich and Andrew Shatté, *The Resilience Factor: 7 Essential Skills for Overcoming Life's Inevitable Obstacles*. (Broadway books, 2002).

¹⁹Satria and Sari, "Tingkat Resiliensi Masyarakat Di Area Rawan Bencana."

²⁰Aisha, "Hubungan Antara Religiusitas Dengan Resiliensi Pada Remaja Di Panti Asuhan Keluarga Yatim Muhammadiyah Surakarta," *Jurnal 1* (2014): 1-14.

²¹Septa Aristiani Saputri, "Hubungan Antara Religiusitas Dan Dukungan Sosial Dengan Psychological Well-Being Pada Santri Kelas Viii Pondok Pesantren Tahfidzul Qur'an Ibnu Abbas Klaten" (2013).

It was easy to find Islamic centers, Islamic boarding schools, and religious meetings in Pidie Jaya, and that increased the understanding of Islamic values of the earthquake victims. Apart from family, external factors such as community environment and institutional environment can influence the level of religiosity of an individual. The community environment provides values that affect the development of an individual's religiosity. Both formal and non-formal institutional environment such as associations or organizations also affect the development of an individual's religiosity.²²

The study conducted by Huber investigated the level of religiosity of people in 21 countries, and the study found that people in Indonesia had a moderate and high level of religiosity.²³ The religiosity in this study was measured using Centrality of Religious Scale (CSR). The following is an illustration of the level of resilience and religiosity of the Pidie Jaya earthquake victims.

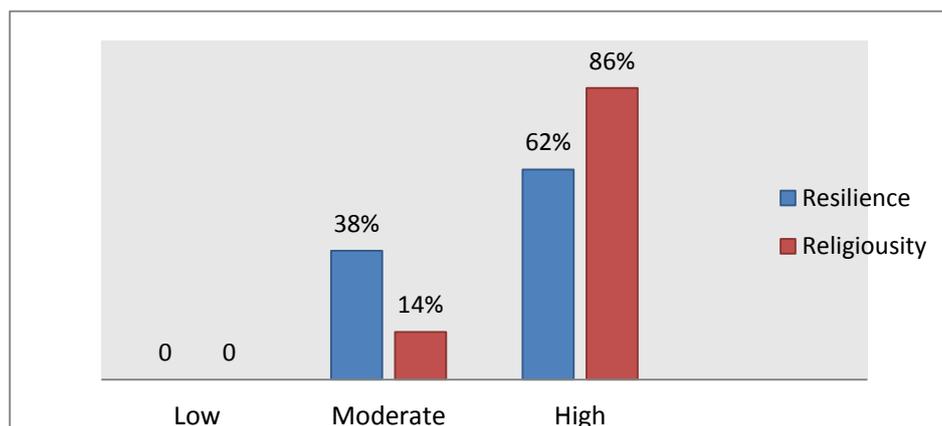


Figure 1. The level of resilience and religiosity of the Pidie Jaya earthquake victims

The figure 1 provides information that most of the 2016 Pidie Jaya earthquake victims had a high level of resilience and religiosity, and no one had a low level of resilience and religiosity

3. The Correlation between Religiosity and Resilience

The activity of disaster risk reduction policies and strategies to prevent new disaster risk in Indonesia mainly focuses on identifying the potential threats of disaster. However, in face of a natural disaster such as an earthquake humans cannot avoid the occurrence because it brings enormous forces beyond human ability. Therefore, many researchers are interested in investigating the human responses during and after a disaster. Human responses to disasters can be a factor of vulnerability or a capacity that influences perceptions and behaviour towards disasters.²⁴ The role of religious belief and practice in a religious community contributes to deal with and shape resilience after a disaster.²⁵ The table 6 below is a cross tabulation table presenting data on the correlation between religiosity and resilience of the 2016 Pidie Jaya earthquake victims.

Table 7. The Cross Tabulation Table of Religiosity and Resilience

| Religiosity | Resilience | | | | Total | X ² | P value | OR |
|-------------|------------|------|------|------|-------|----------------|---------|-------|
| | Moderate | | High | | | | | |
| | N | % | N | % | | | | |
| Moderate | 35 | 76.1 | 11 | 23.9 | 46 | 34,938 | .000 | 8,244 |
| High | 44 | 27.8 | 114 | 72.2 | 158 | | | |
| Total | 79 | 38.7 | 125 | 61.3 | 204 | | | |

²²Djamaludin Ancok, Fuad Nashori Suroso, and Muh Sungaidi Ardani, *Psikologi Islami: Solusi Islam Atas Problem-Problem Psikologi* (Pustaka Pelajar, 2000).

²³Stefan Huber and Odilo W. Huber, "The Centrality of Religiosity Scale (CRS)," *Religions* 3, no. 3 (2012): 710–724.

²⁴Adisaputri, "The Role of Religious Beliefs and Practices in Disaster : The Case Study of 2009 Earthquake in Padang City , Indonesia The Role of Religious Beliefs and Practices in Disaster : The Case Study of 2009 Earthquake in Padang City , Indonesia."

²⁵Rahim Ali Sheikhi et al., "Role of Religious Institutions in Disaster Risk Management: A Systematic Review," *Disaster medicine and public health preparedness* (2020): 1–16.

The table 7 shows that 72.2% of 158 earthquake victims with a high level of religiosity had a high level of resilience, and 76.1% of 46 earthquake victims with a moderate level of religiosity had a moderate of resilience. The results of the data analysis using chi square test showed that there was a correlation between religiosity and resilience of the 2016 Pidie Jaya earthquake victims. The p-value was 0,000, and the OR value was 8,244. That means the earthquake victims who had a high level of religiosity was 8,244 times more resilience than the earthquakes victims that had a low level of religiosity. Furthermore, to find out how much the contribution and direction of the correlation between the two variables the researchers conducted a bivariate correlation test with the Spearman's rank correlation and the results are presented in the table 8.

Table 8. The results of the correlation between religiosity and resilience

| | | Religiusitas | Resiliensi |
|--------------|-----------------|--------------|------------|
| Religiusitas | KorelasiSperman | 1'000 | .414 |
| | P value | | .000 |
| | N | 204 | 204 |
| Resiliensi | KorelasiSperman | .414 | 1.000 |
| | P value | .000 | |
| | N | 204 | 204 |

The results of the correlation test indicated that the hypothesis of this study was accepted. The p-value in this study was $0.00 < 0.05$ and the spearman rank correlation coefficient was 0.414. That means the higher the religiosity level, the higher the resilience level and vice versa. Based on the Guilford correlation coefficient interpretation, the value of 0.414 meant moderate correlation between religiosity and resilience.²⁶ Moreover, the r^2 value was 0.171 which meant that there was a 17% positive correlation between religiosity and resilience. These results are same as the results of the study conducted by Aisya's.²⁷ The study found that there was a positive correlation between religiosity and resilience in adolescents with an r^2 value of 56.5% which meant moderate correlation. The results of this study are same as the results of the study conducted by Rachman et al.²⁸ The study found that there was a positive correlation between religiosity and resilience in breast cancer survivors with an r^2 value of 35.64%. A positive correlation means if the religiosity was at a high level, the resilience will be at a high level and vice versa.

The Acehese are religious so that in dealing with problems they carry out religious rituals such as salat, praying, or going to a mosque or musalla. This strategy is called religious coping which is the belief that God will help someone get out of his problem. In Western psychology this is called the concept of surrender to God's Will, and this concept has a relationship with resilience.²⁹

4. The correlation between the aspects in religiosity and resilience

In general, disasters are divided into two types that are natural disasters and unnatural disasters. These two types of disasters give different pressure on the victims' mental. In unnatural disasters, the deaths and damages result from human acts of omission and commission. In natural disasters such as earthquakes, humans have no control of what is happening and they face a greater force. Therefore, religious coping is one of the most suitable positive treatments for dealing with perceptions of a lack of control related to natural disasters.³⁰

The quality of religious is the extent to which an individual views daily life from a religious point of view and applies the religious teachings in daily life. The aspects of religiosity can be a key component of effective risk communication in building resilience, and the practices of rituals increase human cognitive abilities and maintain behavior in interacting and acting so that they have resilience.³¹ Religiosity according to

²⁶Joy Paul Guilford, "Fundamental Statistics in Psychology and Education" (1950).

²⁷Aisha, "Hubungan Antara Religiusitas Dengan Resiliensi Pada Remaja Di Pantu Asuhan Keluarga Yatim Muhammadiyah Surakarta."

²⁸Mutya Puji Nur Rachman, Irfan Fahmi, and Nisa Hermawati, "Hubungan Religiusitas Dengan Resiliensi Pada Survivor Kanker Payudara," *Psikologia (Jurnal Psikologi)* 3, no. January (2018): 29–39, <http://ojs.umsida.ac.id/index.php/psikologia>.

²⁹Pargament, Koenig, and Perez, "The Many Methods of Religious Coping: Development and Initial Validation of the RCOPE."

³⁰Shing, Jayawickreme, and Waugh, "Contextual Positive Coping as a Factor Contributing to Resilience After Disasters."

³¹Stephen Sutton, "RELIGIOUS PRACTICES AND COMMUNITY RESILIENCE Chapter 14 Disaster Resilience : An Integrated Approach . Douglas Paton & David Johnston (Eds)," no. August (2018).

Glock and Stark consists of the aspects of belief, knowledge, ritual, experience, and application.³² This study found that every aspect of religiosity had a positive significant correlation with resilience. The researchers conducted a bivariate correlation test with the Spearman's rank correlation and the results are presented in the table 9.

Table 9. the results of correlation between the aspects in religiosity and resilience

| Variable | Aspect | Correlation Coefficient (r) | Effective Contribution (r ²) | Criteria |
|------------|-------------|-----------------------------|--|----------|
| Resilience | belief | 0,677 | 45% | High |
| | ritual | 0,597 | 35% | Moderate |
| | application | 0,658 | 43% | High |
| | knowledge | 0,693 | 48% | High |
| | experience | 0,701 | 49% | High |

The following is the contribution value of the correlation between aspects in religiosity and resilience of the 2016 Pidie Jaya earthquake victims. The figure 2 presents more detail information.

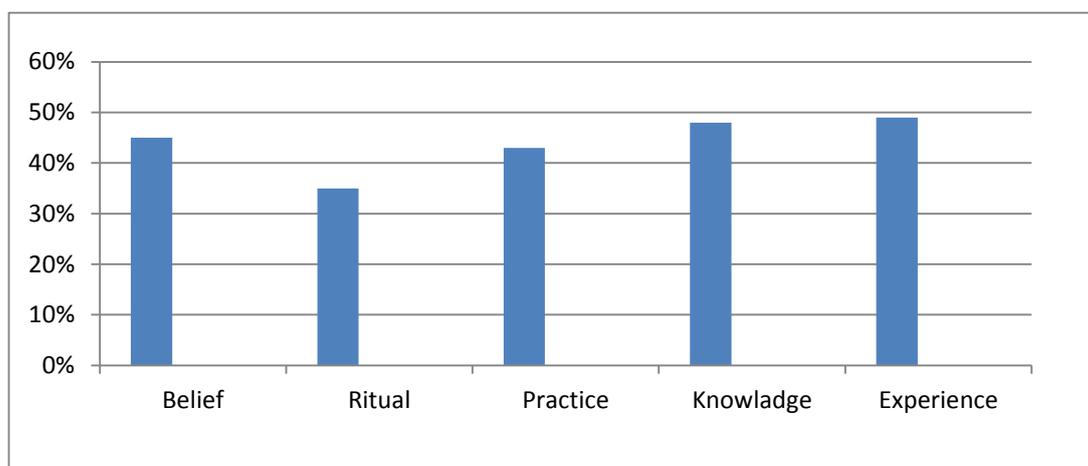


Figure 2. the value of the contribution of the correlation between aspects in religiosity and resilience

The figure 2 presents information that every aspect of religiosity contributes positively to resilience. A religious individual will always try to obey his/her religious teachings, try to learn knowledge about his religion, carry out religious rituals regularly, believe in religious statutes, and experience religious experiences. The results of this study indicated that religiosity along with the aspects in it contributed positively to the resilience of the 2016 Pidie Jaya earthquake victims. Below is more detail information.

a. Experience Aspect

The experience aspect gave the greatest contribution to resilience by 49% with a correlation coefficient of 0.701. Religious experience is an aspect of religiosity which refers to experiences, emotions, and perceptions, so this aspect represents religiosity from a sociological perspective that reflects social interactions and represents the psychology of a religious person.³³ In Islamic teachings, the aspect of experience is same as ihsan (appreciation) so that the aspect of experience in religiosity becomes one of the most suitable positive treatments as religious coping to deal with perceptions of lack of control related to natural disasters.³⁴

An experience of happiness can bring an individual to gratitude, and an experience of disappointment can bring an individual to patience. Both attitudes getting closer to God in living this life can make an individual calm, and have good impulse control and emotional regulation. When the earthquake victims have a good relationship with their God, they will have positive thoughts. For example, God gives me a test, and He wants me to be stronger. Moreover, they will ask for His forgiveness so that it creates a sense of acceptance,

³²Charles Y Glock and Rodney Stark, "Religion and Society in Tension: A Publi. from the Research Program in the Sociology of Religion Survey Research Center, Univ. of Calif., Berkeley" (1970).

³³Huber and Huber, "The Centrality of Religiosity Scale (CRS)."

³⁴Shing, Jayawickreme, and Waugh, "Contextual Positive Coping as a Factor Contributing to Resilience After Disasters."

hope, and gratitude. The 2016 Pidie Jaya earthquake victims surrendered to God and were patient when they had the traumatic experience, and that was a reflection of the aspect of religious experience.

b. Knowledge Aspect

The knowledge aspect gave a contribution value of 48% with a correlation coefficient of 0.693. The knowledge aspect is same as science in Islamic teachings. Knowledge and belief are cognitive aspects that are reflected in the thoughts and actions of an individual.³⁵ Knowledge measures an individual's level of understanding of religious teachings and an individual's efforts in carrying out activities that increase his knowledge. That it is easy to find Islamic centres, Islamic boarding schools, and religious meetings in the community provides access to people to increase their knowledge. In this study, 72% of the respondents attended a religious meeting every week and they were part of the Sirul Muhtadin Taklim Assembly. 11% of the respondents attended Islamic boarding school. Therefore, their understanding and knowledge of Islamic religion was good.

c. Belief Aspect

The belief aspect is same as aqidah in Islamic teachings. This aspect gave a contribution value of 45% with a correlation coefficient of 0.677. Belief is a cognitive dimension of what people believe.³⁶ Belief in God is in line with the aspect of knowledge about God. This aspect explains that knowing God well and having faith in God make people to have high resilience because they can respond positively to every incident and because people believe that everything that happens in life is God's provision and is the best for them so that they are quite tolerant of unexpected events.³⁷ This affects the attitude of being persistent in facing difficulty and being emotionally intelligent so that self-confidence and awareness of one's strengths and limitations will emerge.³⁸ At this level of awareness, a religious person will make effort and then surrender to God for something beyond his control. The concept of surrender to God has a correlation with resilience.³⁹

d. Practice Aspect

The practice aspect in Islamic teachings is same as morals. This aspect is an action that describes the application of the other four aspects in daily life. Religious practice is the application of the aspects of knowledge, belief, experience, and ritual. The practice aspect gave a contribution value of 43% with a correlation coefficient of 0.658. The practice aspect describes the forms of religious feelings and experiences such as a feeling of calm and solemnity in doing religious rituals, a feeling of fear in doing bad activities, and the activity of doing good.

e. Ritual Aspect

The ritual aspect gave a contribution value of 35% with a correlation coefficient of 0.597. The ritual aspect is same as sharia in Islamic teachings. A religious ritual is a basic action or behavior of an individual in religion which means carrying out obligations and sunnah on an ongoing basis. Doing a religious ritual increase human cognitive abilities and maintain behavior in interacting and acting.⁴⁰ Calm and emotional intelligence are obtained when doing a religious ritual such as performing salat and praying which have positive effects such as happiness and reducing stress.

Therefore, doing a religious ritual is the way of the 2016 Pidie Jaya earthquake victims to get closer to God. Some religious rituals are carried out individually and some are carried out collectively at a mosque and musalla. A religious ritual carried out collectively can improve communication and relationship between community members. Performing salat collectively in a mosque can increase a sense of belonging in communication, influence community behavior, and increase coping in dealing with disasters. Besides a place to do a religious ritual, a mosque can also be a place to build social structures so that those who have lost their

³⁵Huber and Huber, "The Centrality of Religiosity Scale (CRS)."

³⁶Ibid.

³⁷M I A At-Tuwaijiri, "Ensiklopedi Manajemen Hati: Fikih Ibadah," *Jakarta: Darus Sunnah* (2014).

³⁸E L Widuri, "Regulasi Emosi Dan Resiliensi Pada Mahasiswa Tahun Pertama Humanitas, Vol," *IX No. 2 Agustus 2012* (2012).

³⁹Pargament, Koenig, and Perez, "The Many Methods of Religious Coping: Development and Initial Validation of the RCOPE."

⁴⁰Sutton, "RELIGIOUS PRACTICES AND COMMUNITY RESILIENCE Chapter 14 Disaster Resilience : An Integrated Approach . Douglas Paton & David Johnston (Eds)."

family will feel more stable and accepted, easy to get help, and provide assistance to others. Increasing social networks in the community contributes to increasing community resilience through various efforts such as information disseminating, promoting social organizations, and motivating communities to contribute to reconstruction efforts.⁴¹ Therefore, doing a religious ritual collectively not only increases personal resilience but also increases community resilience.⁴²

IV. Conclusion

This study finds that the level of resilience and religiosity of the 2016 Pidie Jaya earthquake victims was at a high level. There is a significant positive correlation between religiosity and resilience of the 2016 Pidie Jaya earthquake victims. All aspects of religiosity that are belief, ritual, experience, knowledge, and practice are related to the resilience of the 2016 Pidie Jaya earthquake victims. To increase the resilience of victims of natural disasters, it is important to pay attention to the aspects of religiosity mentioned above. Religiosity plays a big role for people as a coping strategy and is proven to have a correlation towards resilience. Strengthening religious values through regional policies can be done to support community resilience as a form of non-structural mitigation.

References

- [1]. Adami, Ardiman, and Rr Indah Ria Sulisyorini. "Spiritualitas Dan Proactive Coping Pada Survivor Bencana Gempa Bumi Di Bantul." *Psikologika: Jurnal Pemikiran dan Penelitian Psikologi* 13, no. 25 (2008).
- [2]. Adisaputri, Gianisa. "The Role of Religious Beliefs and Practices in Disaster : The Case Study of 2009 Earthquake in Padang City , Indonesia The Role of Religious Beliefs and Practices in Disaster : The Case Study of 2009 Earthquake in Padang City , Indonesia" (2016): 1–84. <https://core.ac.uk/download/pdf/80334097.pdf>.
- [3]. Adiyoso, Wignyo, and Hidehiko Kanegae. "The Preliminary Study of the Role of Islamic Teaching in the Disaster Risk Reduction (A Qualitative Case Study of Banda Aceh, Indonesia)." *Procedia Environmental Sciences* 17 (2013): 918–927. <http://dx.doi.org/10.1016/j.proenv.2013.02.110>.
- [4]. Affandi, Ghozali Rusyid. "Internalisasi Nilai-Nilai Transendensi Untuk Meningkatkan Resilensi Pasca Tsunami Di Aceh: Studi Literatur Melalui Peran Keluarga." *Procedia: Studi Kasus dan Intervensi psikologi* 3, no. 1 (2015): 29–34.
- [5]. Aisha. "Hubungan Antara Religiusitas Dengan Resiliensi Pada Remaja Di Panti Asuhan Keluarga Yatim Muhammadiyah Surakarta." *Jurnal 1* (2014): 1–14.
- [6]. Aldrich, Daniel P. "Social, Not Physical, Infrastructure: The Critical Role of Civil Society after the 1923 Tokyo Earthquake." *Disasters* 36, no. 3 (2012): 398–419.
- [7]. Ancok, Djamaludin, Fuad Nashori Suroso, and Muh Sungaidi Ardani. *Psikologi Islami: Solusi Islam Atas Problem-Problem Psikologi*. Pustaka Pelajar, 2000.
- [8]. At-Tuwaijiri, M I A. "Ensiklopedi Manajemen Hati: Fikih Ibadah." *Jakarta: Darus Sunnah* (2014).
- [9]. Bonanno, George A., Sandro Galea, Angela Bucciarelli, and David Vlahov. "What Predicts Psychological Resilience After Disaster? The Role of Demographics, Resources, and Life Stress." *Journal of Consulting and Clinical Psychology* 75, no. 5 (2007): 671–682.
- [10]. Connor, Kathryn M., and Jonathan R.T. Davidson. "Development of a New Resilience Scale: The Connor-Davidson Resilience Scale (CD-RISC)." *Depression and Anxiety* 18, no. 2 (2003): 76–82.
- [11]. Glock, Charles Y, and Rodney Stark. "Religion and Society in Tension: A Publi. from the Research Program in the Sociology of Religion Survey Research Center, Univ. of Calif, Berkeley" (1970).
- [12]. Guilford, Joy Paul. "Fundamental Statistics in Psychology and Education" (1950).
- [13]. Heylin, Michael. "Disaster." *Chemical & Engineering News* 64, no. 5 (1986): 3.
- [14]. Huber, Stefan, and Odilo W. Huber. "The Centrality of Religiosity Scale (CRS)." *Religions* 3, no. 3 (2012): 710–724.
- [15]. IFRC. "Sendai Framework for DRR," no. March (2015): 25. <http://www.unisdr.org/we/inform/terminology>.
- [16]. Kementerian ESDM RI. "Tanggapan Gempabumi Timur Laut Pidie Jaya, Aceh 6,4 Sr - 7 Desember 2016." <https://vsi.esdm.go.id/>. Last modified 2016. Accessed May 25, 2021. <https://vsi.esdm.go.id/index.php/gempabumi-a-tsunami/kejadian-gempabumi-a-tsunami/1383-tanggapan-gempabumi-timur-laut-pidie-jaya-aceh-64-sr-7-desember-2016#>.
- [17]. Lassi, Stefano, and Daniele Mugnaini. "Role of Religion and Spirituality on Mental Health and Resilience: There Is Enough Evidence." *International Journal of Emergency Mental Health* 17, no. 3 (2015): 661–663.
- [18]. Ni, Cuiping, Meyrick Chum Ming Chow, Xiaolian Jiang, Sijian Li, and Samantha Mei Che Pang. "Factors Associated with Resilience of Adult Survivors Five Years after the 2008 Sichuan Earthquake in China." *PLoS ONE* 10, no. 3 (2015): 1–14.
- [19]. Pargament, Kenneth I., Harold G. Koenig, and Lisa M. Perez. "The Many Methods of Religious Coping: Development and Initial Validation of the RCOPE." *Journal of Clinical Psychology* 56, no. 4 (2000): 519–543.
- [20]. Pustlitbang PUPR. *Buku Peta Gempa 2017*, 2017.
- [21]. Rachman, Mutya Puji Nur, Irfan Fahmi, and Nisa Hermawati. "Hubungan Religiusitas Dengan Resiliensi Pada Survivor Kanker Payudara." *Psikologia (Jurnal Psikologi)* 3, no. January (2018): 29–39. <http://ojs.umsida.ac.id/index.php/psikologia>.
- [22]. Reivich, Karen, and Andrew Shatté. *The Resilience Factor: 7 Essential Skills for Overcoming Life's Inevitable Obstacles*. Broadway books, 2002.
- [23]. Saputri, Septa Aristiani. "Hubungan Antara Religiusitas Dan Dukungan Sosial Dengan Psychological Well-Being Pada Santri Kelas Viii Pondok Pesantren Tahfidzul Qur'an Ibnu Abbas Klaten" (2013).
- [24]. Satria, Budi, and Mutia Sari. "Tingkat Resiliensi Masyarakat Di Area Rawan Bencana." *Idea Nursing Journal* 8, no. 2 (2017): 30–34.
- [25]. Setiawan, Aris, and Niken Titi Pratiis. "Religiusitas, Dukungan Sosial Dan Resiliensi Korban Lumpur Lapindo Sidoarjo." *Persona: Jurnal Psikologi Indonesia* 4, no. 02 (2016).

⁴¹Stefano Lassi and Daniele Mugnaini, "Role of Religion and Spirituality on Mental Health and Resilience: There Is Enough Evidence," *International Journal of Emergency Mental Health* 17, no. 3 (2015): 661–663.

⁴²Sheikhi et al., "Role of Religious Institutions in Disaster Risk Management: A Systematic Review."

- [26]. Sheikhi, Rahim Ali, Hesam Seyedin, Ghader Qanizadeh, and Katayoun Jahangiri. "Role of Religious Institutions in Disaster Risk Management: A Systematic Review." *Disaster medicine and public health preparedness* (2020): 1–16.
- [27]. Shing, Elaine Z., Eranda Jayawickreme, and Christian E. Waugh. "Contextual Positive Coping as a Factor Contributing to Resilience After Disasters." *Journal of Clinical Psychology* 72, no. 12 (2016): 1287–1306.
- [28]. Sutton, Stephen. "RELIGIOUS PRACTICES AND COMMUNITY RESILIENCE Chapter 14 Disaster Resilience : An Integrated Approach . Douglas Paton & David Johnston (Eds)," no. August (2018).
- [29]. Widuri, E L. "Regulasi Emosi Dan Resiliensi Pada Mahasiswa Tahun Pertama Humanitas, Vol." *IX No. 2 Agustus 2012* (2012).