



Analysis of the Level of Resilience of Post Disaster Earthquake State High School Students in Pidie Jaya District

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Abstract

This article discusses the level of resilience of post-earthquake disaster high school students in Pidie Jaya District. Resilience is the ability of a person to adjust and survive even if someone faces a difficult and pressing situation. This study uses descriptive method and sampling using *cluster random sampling technique* from 9 public high schools in Pidie Jaya Regency so that two schools were obtained as research sites, namely high school (SMA) 1 Tringgadeng and high school (SMA) 2 Meureudu with a sample of 310 students. The data collection method used was using the TIR-I questionnaire (Taufik and Ifdil Resilience Inventory). The data obtained were analyzed using descriptive statistical analysis and T-test to see differences in the level of resilience in terms of gender with the help of SPSS version 20.0. The results showed that the level of resilience of public high school students after the earthquake in Pidie Jaya District was in the moderate category with a percentage of 48.4% totaling 150 students with an average value of 134. Furthermore, this study also examined in detail 7 aspects of resilience which showed the results of aspects emotion regulation in the low category (38%), impulse control aspects (59%), optimism (65%), empathy (64%), 56% self-efficacy and reaching out (65%) in the moderate category and causal analysis (69 %) in the high category. While the difference in the level of resilience in terms of sex for SMAN 1 Tringgadeng there are differences in the level of resilience where men are higher, with a value of 148,75 and lower women with a value of 123,74. While for SMAN 2 Meureudu there is a no different level of resilience between men and women.

Keywords: Earthquakes; Resilience; Students

1. Introduction

Indonesia is a country that has a high level of vulnerability to natural disasters seen from the geographical and geological aspects. Geographically Indonesia is on two continents and two oceans, in this case, Indonesia has a good and disaster-prone economy (Arif, 2010). Geologically it is located on 3 earth plates that move with each other causing earthquake pathways and active volcano sequences along the islands of Sumatra, Java, Bali and Nusa Tenggara (Amri et al., 2016). Earthquakes are the vibrational

events of the earth due to the sudden release of energy from the bowels of the earth creating seismic waves which are characterized by broken rock layers on the earth's crust (Supriyono, 2014)

Aceh Province is one of the regions on the island of Sumatra. active. The history of earthquakes that once damaged Aceh recorded 7 events since 1936- 2013. The activity of earthquakes in this region was influenced by active subduction and active faults along the island of Sumatra (Hiadayati, 2014). Pidie Jaya Regency is a region on the island of Sumatra which was rocked by a disaster on December 7, 2016, The earthquake at 5:35 a.m. WIB with an epicenter at 5.25 LU and 96.24 BT at a depth of 15 km measuring 6.5 on the Richter Scale (Study Pidie Jaya Earthquake in the Indonesian Province of Aceh, 2017). Material damage caused by this disaster was in the form of destruction of community houses as many as 18,744 units, 481 public facilities and 65 schools (35 elementary schools, 11 junior high schools, 13 high schools, 6 vocational schools, and 81 PAUD) and claimed 104 lives, 268 seriously injured, 127 minor injuries and 85. 133 souls displaced (BPBA data, 2016).

This earthquake disaster also left deep wounds that had a psychological impact on survivors. Physically the victims suffered injuries, the emergence of disease and the body became weak, while psychologically there was fear, anxiety, feeling guilty, sad, angry and feeling lost (Pulih Foundation and JICA, 2006). This also happened to students in Pidie Jaya District who felt they were still afraid, anxious and alert to the earthquake that hit their area. According to Fullerton and Unarso (2005) if such conditions are not addressed, the psychological impact that will seriously affect the psychological well-being of the victim in carrying out daily activities. If not handled properly there will be depression, acute anxiety, stress, post-disaster trauma (Norris, 2005). Children and adolescents are vulnerable to traumatic impacts of disasters. Adolescence is a period of *storm* and *stress*, namely a period that contains conflicts and mood swings so that traumatic symptoms of *helplessness and passivity, lack usual responsiveness, general fear, and confusion* are easily experienced (Vijaykumar, et al., 2006). The impact arose from their experience of living in refugee camps, they had to overcome obstacles such as without access to schools and playgrounds. This unpleasant condition must be passed by teenagers/students and used as a learning process to become better after the earthquake. Through these conditions, it is necessary to be able to anticipate the dangers that arise (disaster mitigation) and the ability to rise again, which is called resilience.

Resilience is an individual who has the capacity to respond positively to pressing conditions and is able to take advantage of these conditions to strengthen themselves so that they can change conditions to be a natural thing to overcome (Suwarjo, 2008 in Satria, 2017). Resilience is an important thing in developing adolescents for the better. Because adolescents who have the ability to resilience tend to be able to pass and overcome difficult living conditions in the developmental period. Individuals who have good resilience will avoid problems that are difficult in the future (Clauss-Ehler, 2008). Therefore, it is important to see an overview of the level of resilience in adolescents/students because of their vulnerability to trauma and their use for future development. Based on this background, it needs to be studied and conducted studies related to the analysis of the level of resilience of State High School students after the earthquake in Pidie Jaya Regency.

2. Research Methods

2.1 Type of Research

This type of research uses descriptive methods. According to Yusuf (2014), descriptive research is one type of research that aims to describe systematically, actually, and accurately about the facts and nature of a particular population or try to describe the phenomenon in detail.

2.2 Research Subjects

The subjects in this study were 310 students with cluster random sampling techniques from 9 public high schools in Pidie Jaya Regency. So that there were 2 state high schools, namely SMA 1

Tringgadeng with details of 183 students and 127 students from SMA Negeri 2 Meureudu. They are the people of Pidie Jaya Regency who live in earthquake-prone areas.

2.3 Data Collection Techniques

To measure the level of resilience of public high school students after the earthquake in Pidie Jaya District, the data collection techniques used in this study used the TIR-I questionnaire (Taufik and Ihdil Resilience Inventory) with reliability test results *Cronbach Alpha* of 0.824. This questionnaire consists of 43 items including 7 aspects of resilience, namely emotion regulation, impulse control, optimism, causal analysis, empathy, self-efficacy and Reaching out. The interval range of resilience scores is very high ≥ 182 , height 148 up to 181, moderate 113 up to 147, low 77 to 112 and very low ≤ 76 .

2.4 Data

Analysis Data analysis is one of the steps in research activities that very determine the accuracy and validity of the study (Yusuf, 2014). Analysis of the data used in this study by using a normal curve by determining the *mean* (average) and standard deviation of the hypothetical score, then created a category based on the score in the range of the number of average scores and deviations. Next, a T-test will be conducted to see the comparison of resilience based on sex from 2 different public high school schools.

3 Research Results and Discussion

3.1 Research Results

A. Level of Resilience of Post-Earthquake Public High School Students in Pidie Jaya District

Description of data in this study shows, in general, the level of resilience of post-earthquake high school students in Pidie Jaya Regency listed in Table 1 below:

Table 1 General Resilience Level of Public High School Students

No	Category	F	%
1	Very High	9	2.9
2	High	88	28.4
3	Medium	150	48.4
4	Low	58	18.7
5	Very Low	5	1.6
Total		310	100

Based on the table above can be seen in general the level of resilience of students from 310 students who are the most dominant in the medium category as many as 150 students with a percentage of 48.4%. Then 9 students were in the very high category with a percentage of 2.9% and 58 students in the low category with a percentage of 18.7%. The results of this study also found that 5 students had very low levels of resilience with a percentage of 1.6%.

Furthermore, in detail the description of student resilience based on 7 aspects of resilience can be seen in table 2 below;

Table 2 Description of resilience Students Based Aspects of Resilience (n-31,0)

No	ASPECTS OF resilience	SCORES							
		Ideal	Max	Min	Total		Mea	Sd	Ket
1	<i>Emotion Regulation</i>	0.146	5	1	5430	2.67	46	35	R
2	<i>Impulse Control</i>	30	5	1	5512	2,97	65	0.088	S
3	<i>Optimism</i>	30	5	1	6051	3.26	65	0.126	S
4	<i>Causal Analysis</i>	20	5	1	4154	3.43	69	0.072	T
5	<i>Empathy</i>	35	5	1	6634	3.21	64	0.08	S
6	<i>Self-Efficacy</i>	30	5	1	6011	2.78	56	4,925	S
7	<i>Reaching Out</i>	35	5	1	7332	3.38	65	0.085	S
	Overall (43)	215	210	74	41480	134	67	26.09	S

Based on the table above, as a whole the ideal statement items with a score of 215, the maximum answered by students with a score of 20 and a minimum score of 74 with a total number of answers of 4,480 and standard deviation of 26.09. The average value of the student resilience level is 134 with a percentage of 67% in the medium category.

B. Resilience Level of Meureudu 2 Public High School Students was reviewed by Gender

For testing the difference in resilience rates based on sex between men and women a T-test was conducted. The results of the analysis obtained the t-count coefficient of -, 358 with F table coefficient of 0.721 and greater than 0.05 ($0.721 > 0.05$), then there was no difference.

Furthermore, the description of the data related to the level of resilience between the more positive (high) and the negative (low) can be seen in table 3 below;

Table 3 Differences in Resilience Levels of Meureudu SMA 2 Students

Gender		N	Mean
Resilience	Male	52	134,83
	Women	75	132,98

In the table above shows that the level of male student resilience is 134,83 and female students are 132.98. Then it can be stated that there is no significant difference in the level of resilience between male and female students.

C. Resilience level students of SMA l Tringadeng be reviewed by Gender

To test the resilience level differences based on sex between men and women test the T-test. The results of the analysis obtained the t-count coefficient of -5,302 with F table coefficient of 0,000 and smaller than 0,05 and even 0,01 ($0,000 < 0,05$) so that there could be stated differences.

Furthermore, the description of the data related to the level of resilience between the more positive (high) and the negative (low) can be seen in table 4 below;

Table 4 Differences in the level of resilience of students of SMA Negeri I Tringadeng

Gender		N	Mean
Resilience of	Men	86	148.75
	Female	97	123.74

In the table above shows that the level of resilience of male students is higher at 148.75 compared to female students who are equal to 123.74. Then it can be stated that there are differences in the level of resilience between male and female students.

3.2 Discussion

A. Resilience Level of Post-Earthquake Disaster High School Students in Pidie Regency Jaya

Resilience is an individual's success in adjusting to traumatic events. Individuals who are able to adapt means having the capacity to build positive results from abnormal conditions. So that they are able to recover heat from environmental stressors (Ong., Et al. 2006 in Rinaldi (2010).

Based on the results of the study, 2.9% of students are in the very high category, 28.4%. Students are in the high category, 48, 4% of students are in the medium category, 18.7%. Students are in a low category and 1.6% of students are in the very low category. It can be concluded that Public High School students in Pidie Jaya District have the highest level of resilience are students who are in the category of moderate level of resilience, this means that Public High School students in Pidie Jaya District do not have the ability to resilience, which is quite good, and students who are in this category are able to survive in difficult conditions, try to rise from adversity, and help each other when in place refugees, but there are still conditions and conditions that cannot be traversed optimally, such as in controlling emotions when an earthquake occurs even though students ah try your best.

If students do not have the skills to remain calm and focus well, students do not have the ability to resilience. Some students in Pidie Jaya District still do not have these skills, this is obtained from the results of the percentage of students who are in the aspect of emotional regulation in the low category that is equal to 38%. According to Safarino (1994) states that 2 characteristics of students who have good resilience are; (a) have a quieter temperament, so that they are able to establish good relations with family and environment, (b) have the ability to be able to rise from the stresses experienced and try to overcome them.

Furthermore, this study examines in detail 7 aspects of resilience which show the results of the overall mean (mean) of students amounting to 134 with a percentage of 67%, which is in the medium category. For the ability of the causal aspect of analysis, students are in the category above average (high) means that students have the ability to identify problems from a disaster. Whereas in the aspect of impulse control, optimism, empathy, self-efficacy and reaching out are in the moderate category meaning that students do not yet have the ability to resilience are quite good. But at the time of the earthquake, they have tried to survive in a difficult situation, trying to learn and adapt to the situation and not drag on in sadness and rise from obedience to be better. In this case, the ability of resilience still needs to be

improved so that in the future students will be better able to survive optimally when earthquakes hit their area again.

Even so, from the weighting of resilience obtained, in general, it can be said that students affected by the earthquake in Pidie Jaya Regency lack the ability to regulate emotions (*regulation emotion*) which means that when struck by an earthquake it cannot remain calm and focused. Students are still low in regulating emotions so that they can lead to difficulties in building and maintaining relationships with others.

B. Resilience Levels of Meureudu 2 High School Students were reviewed based Gender

Based on data obtained in the field, found interesting facts regarding the level of resilience of Meureudu 2 Public High School students reviewed by sex, the results showed that there was no difference in the level of resilience of public high school students between male and female students. male and female. However, from the results of previous studies showing that male students have a level of resilience that is slightly higher than that of female students by male and female students 34.83 of 132.98 from these two results together that are in the medium category.

From the results above, it shows that in the region there were no severe psychological shocks when the earthquake in Pidie Jaya District occurred, so students here did not yet have a mature readiness. In this case, the resilience ability of both students is in the medium category.

This result is supported by Jude and Daniel's (2014) research on the Haiti earthquake in 2010 by looking at differences in resilience based on sex, age (children and adolescents) and residence. In this study, the level of adolescent resilience did not show a significant difference between men and women. The average male resilience score is 132.56 and the female score is 130.60. In this study, it has not shown a significant difference in the level of resilience between genders as a result of disasters.

C. Resilience Levels of Tringgadeng 1 Public High School Students are reviewed based Gender

Based on the data obtained in the field, it is found that the resilience level of SMA Negeri 1 Tringgadeng students is reviewed by sex, the results show that there are differences in the level of resilience of public high school students between male and female students. Where the male students higher degree of resilience that is equal to 147,75 and a lower female student that is equal to 123,74. Thus it can be stated there are different levels of resilience between male students and female students at SMA Negeri 1 Tringgadeng.

Gender is an individual factor that determines a person's level of resilience. According to Delgado in Irdil (2016), individual factors that influence the level of resilience one of them is gender. Risks to vulnerability to emotional stress, protection of situations that contain risks and responses to difficulties encountered are influenced by gender, however individual factors in the individual also determine the level of resilience. The individual factors include individual cognitive abilities, self-concept, self-esteem and social competence that is owned by individuals.

The results of this study indicate that men use a problem-solving approach and adjust optimism over women, while women put more on the affective aspect, namely feeling in taking action and also using patterns of powerlessness in the face of an event (Karanci. Et al. 1999). Furthermore, from the results of previous studies that have been carried out related to adolescent PTSD in the Wenchuan earthquake, China in 2008 which showed the results of women's resilience scores were lower than men.

Conclusion

Based on the results of the research conducted, it can be concluded that the level of resilience of post-earthquake high school students in Pidie Jaya District is generally in the medium category. Then the researchers also obtained a description of resilience level data based on 7 aspects of resilience, namely

aspects of impulse control, optimism, empathy, self-efficacy and reaching out in the medium category. While the causal analysis aspects in the high category and aspects of regulation emotion in the low category.

Furthermore, this study also examined the differences in the level of resilience based on sex obtained from 2 State High Schools in Pidie Jaya District, namely Meureudu 2 High School in a mildly damaged area and Tringgadeng State High School in areas with severe damage. The results showed that for the SMA 2 Meureudu there was no difference in the level of resilience between male and female students. While for SMA Negeri I Tringgadeng there are differences in resilience between men and women, where men have more ability to survive, which is higher than women.

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