

Understanding Women's Psychological Well-Being in Post-Natural Disaster Recovery

Andi Muthia Sari Handayani¹, Nurdin Nurdin²

¹Senior Lecturer Department of Islamic Counseling, Faculty of Philosophy, Humanities, and Communication,

²Professor Department of Islamic Economic and Business Institut Agama Islam Negeri (IAIN) Palu, Indonesia

Abstract

This study aims to understand psychological conditions of women during post-disaster recovery in Palu city Indonesia. The ethnic women in Palu city are known as the bulonggo (backbone), which describes their role, function, and position in the family. The focus of this study is to examine the psychological aspects of the wellbeing of Kailinese women, especially those who become victims of natural disasters and have lost their possessions. We conducted a survey on 200 women who live in two districts which experience severe earthquake and liquefaction. Through a psychological well-being scale adapted from Ryff and Keyes, the result was analyzed using factor analysis and interview methods. The findings indicate that among six dimensions of wellbeing proposed by Ryff and Keyes, personal growth and positive relationship are the most significant contributing factors to Kailinese women well-being during post-disaster recovery. The findings highlight the importance of building personal growth and positive relationship among women community to develop their ability to recover from natural disaster distress. More importantly, as the personal growth and positive relationship contribute to Kailinese women's well-being, their roles as family backbone (bulonggo) in economics and social is also strengthened.

Key Words: *women's psychological wellbeing, resilient, happiness, post-natural disaster*

Introduction

Reverberating mental and behavioral health consequences occur when the physical forces of natural disaster collide with a vulnerable human population. Women are often found the most vulnerable ones in many cases of natural disaster consequences in terms of physical, psychological, economic, and social, but the psychological impacts have been found as more expansive for women in terms of scope, more extended in time, and frequently more debilitating in severity than the injurious physical impacts of natural disaster¹. After a natural disaster, women psychological well-being is often lower than men due to the loss they experience². However, women are considered to have better ability to recover from psychological stress in particular when women get better social support and the sense of purpose^{3,5}. As such women better women psychological well-being increase their salience in facing social and economic challenges in supporting their family survival.

Previous studies argue that factors enhancing women mental well-being and resilience after natural disaster are mostly related to the natural environment, meaningful activities, social activities⁵, positive social interaction⁶, social integration⁷, family cohesion⁸, attention from friends⁹. Vernon, Dillon, & Steiner¹⁰ also report that the ability to actively respond to disasters with positive forces such as gratitude and optimism can also prevent women from higher levels of trauma. Women are considered to have the strength and resilience to face all difficulties and develop positive meanings in life. In adverse conditions, such positive meaning of life can lead women to psychological wellbeing^{11,12}.

In this study, psychological wellbeing is understood in a broader context. The meaning of psychological wellbeing has been described as the ability of individuals to accept themselves as they are, form warm relationships with others, be independent of social pressures, control the external environment, have meaning in life, and realize their potential in an ongoing

way²⁷. Thus, individuals who can accept themselves as they are despite being affected by a disaster can get back up and independently achieve psychological wellbeing. Well-being is also considered linked to experiences in family life, to work and other community activities¹³, to religious involvement, spirituality and personal meaning for life^{14,15}, to a life rich in purpose and meaning, continued growth, and quality ties to others¹⁶.

The psychological impacts of natural disasters are widespread, expand across a spectrum of severity, extend along a range of duration, and relate to the nature of the disaster event. The psychological consequences of disasters are spawned by, and directly proportional to, the degree of exposure to hazards, loss, and change, the “forces of harm” that characterize natural disasters.¹

Studies on disaster impact to women life^{5,17,18} found that physical illness, loss of a family member, and pessimistic expectations were associated with adverse psychological sequelae. During post disaster period, women often experience to feel disappointment and other negative emotions in their lives, but their ability to manage distress is very important to feel mentally strong, which has an impact on the emergence of their positive emotions^{1,19}. Psychological wellbeing is also related to the ability of individuals to function properly and effectively, accompanied by good feelings, so that they can generate positive emotions²⁰.

Similarly, when women develop emotional potential, they can positively change their level of psychological wellbeing which means women who manage their positive emotions have better psychological wellbeing²¹. For example, maintaining a connection to others in the aftermath of disaster can be healing for individual woman and her community. In another word, avoiding isolation and increasing social support is an important factor in building women resilience.¹⁷

Even though, many studies to understand women psychological wellbeing have been conducted, but research related to the women psychological wellbeing post natural disaster is scarce, in particular studies related to women who play role as families backbone during post disaster recovery⁵.

This study, therefore, examines the psychological wellbeing of women in Kalinese tribe in Central

Sulawesi Indonesia after the natural disasters on September 28, 2018. Kalinese is the largest tribe in Central Sulawesi, and most of the victims come from this tribe. This research will provide an understanding of the psychological wellbeing of Kalinese women as families backbone (*bolongo*) who are strongly influenced by the natural disaster.

This study uses psychological and cultural perspectives as a theoretical lens. In this paper, the author will answer the following questions: *What are the dominant factors affecting the psychological wellbeing of Kalinese women in the aftermath of the disaster, and how significant the cultural and socio-cultural values of the tribe contribute to Kalines women's psychological wellbeing?*

This paper is structured as follows: after the introduction, a literature review will be presented. Then, in the third section, the methodology is discussed; subsequently, in the fourth section, the authors present the results, which are then followed by the discussion in the fifth section. Conclusions and limitations of the study will be presented in the sixth and final section.

Material and Method

The study involved 200 Kalinese women who were at refugee camps in Petobo and Balaroa districts. The Petobo and Balaroa districts are two districts that were swept away by liquefaction and killed more than four thousand people during a deadly earthquake on 28 September 2018. The process of selecting participants used purposive sampling, with subjects divided into 74 respondents in Balaroa and 126 women in the Petobo refugee camp. The age range of the subjects in this study was between 18 to 71 years old, where 56.4 percent of subjects were in the range of early adulthood, 39 percent in middle adulthood, and 4.5 percent elderly.

Other data collected was the education level of research subjects; the categorization of Kalinese women was as follows: 36 elementary school level, 60 junior high school level, 94 senior high school level, and ten bachelor's degree level. The explanation was stated in the graph as follow:

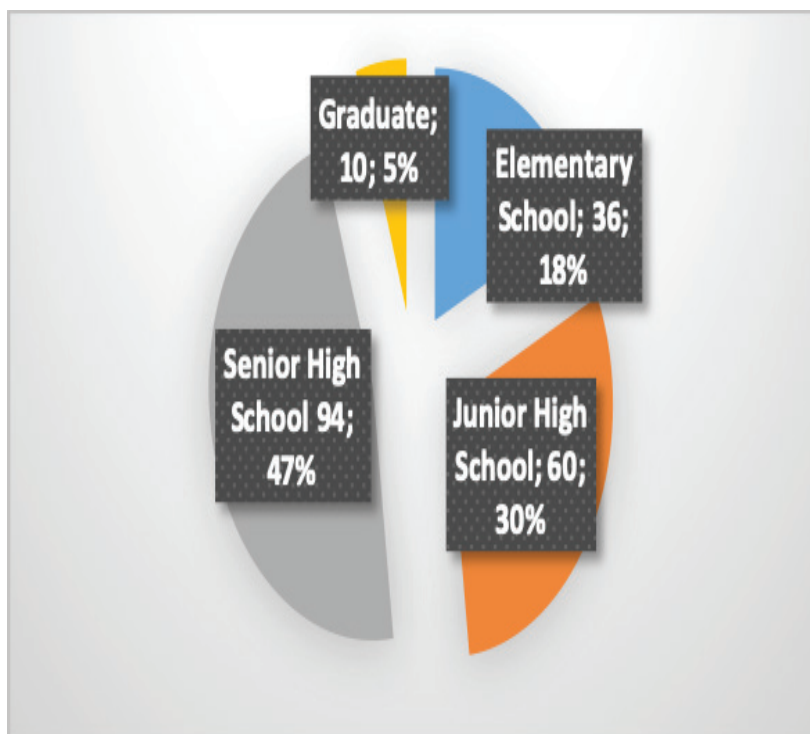


Figure 1: Categorization of Education Level of Research Subjects

Besides, data on Kalinese women who were working is 43 people, and who did not work is 157 people. An Explanation is illustrated through the following graph:



Figure 2: Categorization of Job Status of Research Subjects

The stages of data analysis used in this study began with the validity and reliability tests as prerequisite tests. Next, the researchers used exploratory factor analysis (EFA). The basic consideration of using this technique is that the researcher wants to know the dominance of psychological wellbeing factors that have appeared in Kalinese women since the disaster.

Results

Factor and Rotation Test

The core process of factor analysis to extract a set of variables that have been tested was carried out after Kaiser-Meyer-Olkin test (KMO) Measure of Sampling Adequacy (MSA). The results of the extraction are shown in the table 1 below:

Table 1: Results of Exploratory Factor Analysis Tests with Psychological Well-being Scale

Variables	Initial	Extraction
Independence	1,000	.427
Environmental Control	1,000	.541
Personal Growth	1,000	.546
Purpose of life	1,000	.532
Self-acceptance	1,000	.535
Positive relationship with other people	1,000	.690

Note communalities

The table 2 shows that the autonomy variable is 0.427 which means 42.7 percent of the variance of the autonomy variable cannot be explained in the factors formed. The environmental control variable is 0.541, or as much as 54.1 percent of the variance of this variable can be explained in terms of the factors formed. Furthermore, the variable personal growth with a value of 0.546 or 54.6 percent of the variance of the variable personal growth can be explained in the factors formed. The rest of the life purpose variable of 0.532 or 53.2 percent of the variance of this variable can be explained in terms of the factors formed. The self-acceptance variable is represented in the form of 0.535 or 53.5 percent, which can be explained in the factors formed. Meanwhile, the positive relationship of variable is indicated by 0.690 or 69.0 percent. The results of total variance test are depicted in the table 2 below:

Table 2. Total Variant Test Results

Variables	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	2,067	34,444	34,444	2,067	34,444	34,444	1,774	29,564	29,564
2	1,204	20677	54,510	1,204	20677	54,510	1,497	24,946	54,510
3	.786	13,099	67,609						
4	.743	12,390	79,999						
5	.710	11,827	91,826						
6	.490	8,174	100,000						

Data from the table 2 above show that six components represent variables, where the determination of values is based on the SPSS test > 1 . Then the variance that can be explained by factor 1 which is 2,064 divided by 6 components and multiplied by 100 percent, and the result obtained is 34,444, while factor 2 is 1,204 divided by 6 components and multiplied by 100 percent, and the

result obtained is 20,067, so the total of the two factors is $34,444 + 20,067 = 67,609$ percent. Thus, the total value to be taken is > 1 , namely factors 1 and 2.

The next stage is to determine each variable that is included in any factor. The rotation test results is presented in the table 3 below:

Table 3. Rotation Test Results

	Component	
	1	2
Independence	.581	.299
Environmental Control	.612	.407
Personal growth	.738	.023
Purpose of Life	.061	.727
Self-Acceptance	.715	-.155
Positive Relationship with Others	.043	.830

Note Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iterations

The table 3 above explains the determination of the variables included, in which factors are determined through the largest correlation value, which means the personal growth, self-acceptance, environmental control, and independence more correlated with factor 1. Meanwhile, the variable positive relationships with others and life goals are correlated at a factor of 2. This is shown in the table 4 below:

Table 4. Factor Forming Test Results

Factors	Variable
1	Personal growth
	Self-acceptance
	Environmental mastery
	Independence
2	Positive relationship with other people
	Purpose of life

The final stage to determine factors is to look at the values in the following component transformation matrix table:

Table 5. Component Change Test Results

Factors	1	2
1	.813	.583
2	-.583	.813

Note Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization

The table 5 shows that data in component 1, the correlation value is 0.813, this value being > 0.5 , and in component 2, the value is 0.813, being > 0.5 . It can be concluded that the two factors formed are feasible to summarize the six variables analyzed.

Discussion

The data obtained revealed that the six aspects; personal growth, self-acceptance, environmental control, and independence as well as positive relationships with others and life goals have influenced the formation of psychological well-being of Kalinese women. However, from the six variables, we found that variables personal growth and positive relationship with others play more significantly influence on the formation of the women psychological well-being.

The findings justify earlier studies^{1,2} that personal growth and positive relationship have become dominant factors affecting the psychological well-being of women. We found that Kailinese women build their well-being, mostly through building a positive relationship with one another during the post-disaster recovery process. However, in this study, the personal growth plays a more significant contribution to the development of Kalinese women's well-being. The finding high-lights that Kalinese women have strong personality in fighting life difficulties during post-disaster period.

More importantly, our study shows that Kailinese women characters are reinforced during the post period of disaster where they can determine their potential and develop their quality of life. A strong character base in growing their potential, in turn, makes Kalinese women resilient and still able to explore their potential despite natural disasters befalling them, destroying them and their environment.

Another manifestation of the aspects of Kalinese women's personal growth is the ability to immediately rise from the natural disasters. This fact was obtained from the results of further interviews with *the ina*¹, who dominated the trading process in traditional markets a week after the disaster. We identify the rise of entrepreneur motives, such as self-dependence and providing monetary support, to support family income as a medium to socially construct their gender roles²⁴. As a result, the roles improve their resilient towards pressures from natural disaster effects. In this regards, Sagone and Caroli²⁵ stated that resilient people not only easily rise from disaster, but also have psychological well-being.

The functioning aspect of personal growth in post-disaster Kalinese women is inseparable from their legacy philosophy that is believed to be hereditary in Kalinese culture. In an informal interview, we also found that the Kalinese tribe generally treats women as *bulonggo*, a philosophy that carries meaning as the backbone. Like the backbone, a true Kalinese woman is formed with a belief to keep growing stronger and develop to become strength for her family. This philosophy is in line with theories about aspects of personal growth in psychological well-being: personal growth associated with an individual's ability to grow²⁶. Feelings of being able to go through stages of development, be open to new experiences, realize their potential, and make improvements in life²⁷.

Our findings confirm Ryan and Deci²⁸ study, which states that one of the important aspects of improving well-being is being able to build positive relationships with others. In a study conducted by Keyes²⁷ found that age and education also become an indicator for well-being improvement. However, our study found that education has no relationship with psychological well-being. Most of The Kailinese women with lower education levels, even some of them have no formal education, can achieve psychological well-being during post-disaster recovery.

The ability of Kailinese women to build positive relationships with others and have a positive life purpose was not determined by their level of education, but it was determined by social support from their family, relatives, and people around them. The support encourages the women to be confident and establish

positive relationships with others. Walen and Lachman²⁹ said that positive social relationships built by individuals are strongly correlated with resilient psychological well-being.

Conclusion

As we found that the psychological well-being of Kailinese women during post natural disaster recovery was determined by personal growth, self-acceptance, environmental control, independence, positive relationships, and life goals. We recommend psychologists and government agents to support women psychological well-being building through creating the sense of personal growth, environmental control, independence, positive relationships, and life goals.

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