

ORIGINAL ARTICLE

The Relationship Between Social Capital, Social Support, and Knowledge With Self-efficacy Towards Landslide Preparedness Among the Community in a Rural Area of West Java, Indonesia

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ABSTRACT

Introduction: Landslide is one of the disasters that claimed many lives. Community self-efficacy is needed in preparedness to face it. The purpose of this study was to analyze the effect of social capital, social support, and knowledge on community self-efficacy in dealing with landslides. **Methods:** This research is a cross-sectional study at Sukabumi, West Java, Indonesia, with a sample of 190 people. Respondents answered a questionnaire including socio-demographic, the multidimensional scale of perceived social support (MSPSS), Self-efficacy questionnaire using Generalized Self Efficacy Scale (GSE), social capital questionnaire using Likert scale, knowledge questionnaire with Guttman scale. Path analysis is used to determine the direct and indirect effect of the independent variable on the dependent variable. **Results:** Most of the respondents aged 25-59 years as many as 165 people (86.8%), male sex as many as 105 people (55.3%), elementary school education as many as 106 people (55.8%). Self-efficacy is directly influenced by social capital ($b=0.749$, $p=0.000$), social support ($b=0.109$, $p=0.018$), knowledge ($b=142$, $p=0.000$). Self-efficacy is influenced indirectly by social support through social capital and knowledge. Social capital has an indirect effect on self-efficacy through knowledge. **Conclusion:** Social support, social capital, and knowledge can improve self-efficacy.

Keywords: Self-efficacy, Social support, Social capital, Knowledge

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INTRODUCTION

Indonesia is an archipelago country located at the meeting point of the world's tectonic plates, particularly the Euro-Asia plate to the north, the Indo-Australian plate to the south, and the Philippine plate to the east. Indonesia is highly vulnerable to natural disasters as a result of its geographical location (1). Indonesia is prone to disaster due to several natural, non-natural, and human factors, whether environmental, demographic, geographic, geological, or hydrological. These catastrophic events include the loss of lives, property, environmental impact, and psychological strain and hinder economic development in certain instances (2). A total of 6,807 disasters occurred between 2018 and

2020, resulting in 5,223 deaths and missing persons, 23,003 injuries, 16,670,843 people suffering and evacuating, and 5,223 deaths and missing persons (2). Sukabumi, West Java Province, is a moderate to high-risk location for landslides. Landslides are the most common type of disaster in Sukabumi; from January to September 2019, 627 cases or natural disaster events were scattered over all sub-districts, with landslides accounting for the majority of occurrences, accounting for 176 incidents (2).

Landslides are unexpected collapses of the ground or significant movements of soil or rock in unstable steep regions. Landslides are often caused by heavy rain, earthquakes and volcanic activity, and human factors such as uncontrolled mining of soil, sand, and stones (3).

People amid landslides need to be ready to manage any potential additional hazards. Preparedness is a set

of actions taken to prepare for disasters (2). Community self-efficacy in preparing for landslides is a crucial aspect in improving community preparedness. Bandura (1997) defined self-efficacy as an individual's belief in his ability to accomplish particular goals (4). Social support, social capital, and knowledge all influence disaster self-efficacy (5,6).

Social support is critical for building self-efficacy in the community. Social assistance encompasses offering emotional comfort, tending to the needs of loved ones, and valuing them (7,8). Social support is vital in building community resilience to disasters. With proper social support, the community will feel supported and prepared to face landslide disasters. The presence of social capital in a community affects its self-efficacy. Social capital is a set of interdependent relationships backed by networks, norms, and social trust that enable efficient and effective coordination and collaboration for mutual gain. Moreover, the disaster paradigm presents social capital as a way to reduce disaster impact. People in disaster-prone locations frequently adapt to conditions by establishing survival strategies based on their resources, including social capital (9). High social capital will make parts of society strong in dealing with disasters, resulting in high self-confidence or self-efficacy.

Public knowledge is a factor that influences self-efficacy. Knowledge is the key to gaining public confidence in disaster response. Generally, knowledge acquired can impact attitudes and concerns about being prepared in the event of a disaster. Preparedness is a critical element of proactive disaster risk reduction preventative measures before a disaster happens (10). Having knowledge and understanding of disaster preparedness will instill confidence in individuals when coping with landslides. Although it has been identified as a landslide-prone area, the community and associated factors have not efficiently implemented landslide disaster mitigation strategies, particularly in terms of community self-efficacy in preparing for landslide disasters. However, study on exploring the association between social capital, social support, and knowledge on self-efficacy towards landslide preparedness among the community in Indonesia still limited. Thus, this study aimed to investigate the relationship between social capital, social support, and knowledge on self-efficacy towards landslide preparedness among the community in rural areas of West Java, Indonesia.

MATERIALS AND METHODS

Study Design

This study applied a cross-sectional design conducted at Sukabumi regency, West Java, Indonesia. This study was approved by Research Ethics Committee No. III/120/KEPK-SLE/STIKEP/PPNI/JABAR/X/2021

Sample

The population studied is 190 persons from Sukabumi district, West Java, Indonesia. Participants must be at least 17 years old and have good communication skills. Simple random sampling is used in the sampling process.

Instrument

The researcher met with potential sample subjects and obtained their consent. Participants completed a questionnaire to assess their demographic characteristics, social support, social capital, knowledge, and self-efficacy.

The instruments used in this study were a social support questionnaire based on the multidimensional scale of perceived social support (MSPSS) developed by Zimet et al (1988). The MSPSS has a 12-item questionnaire that assesses the perceived adequacy of social support from three sources: family, friends, and significant other. It employs a five-point Likert scale (0 = strongly disagree, 5 = strongly agree). The higher score indicated higher social support. In the current study, the Cronbach 'Alpha was 0.89, indicating satisfactory reliability.

A self-efficacy questionnaire based on the Generalized Self Efficacy Scale (GSE). The higher score indicated higher social support. In the current study, the Cronbach 'Alpha was 0.83, indicating satisfactory reliability.

A social capital questionnaire based on a 15-item Likert scale (1 to 5). It focusses on measurement at the micro level—that is, at the level of households and individuals. In the current study, the reliability score was 0.79, indicating satisfactory reliability.

Knowledge toward landslide preparedness was measured based on 20-item Guttman scale (True or false). The true answer was scored as 1 and false as 0, then all the items was summed up to obtain total score. Higher score indicated higher knowledge. In the current study, the reliability score was 0.77, indicating satisfactory reliability.

Data analysis

This study used descriptive statistics to describe each respondent's socio-demographics-demographic characteristics. Additionally, descriptive analysis is utilized to do univariate analyses on study variables such as social capital, social support, knowledge, and self-efficacy. Path analysis was performed using inferential statistical analysis.

RESULTS

Most of the respondents aged 25-59 years as many as 165 people (86.8%), male sex as many as

105 people (55.3%), elementary school education as many as 106 people (55.8%), working as self-employed as many as 96 people (50.5%), getting information through electronic media as many as 175 people (92.1%), never participating in organizations as many as 175 people (92.1%), length of stay >5 years as many as 185 people (97.4), 179 people (94.2%) never participated in the training, and 186 people (97.9%) (Table I).

The average value of social capital is 47.30 (5.57); on social support, the average value is 36.33 (4.26); on knowledge, the average value is 15.08 (3, 28), on self-efficacy obtained an average value of 46,71 (6,57) (Table II). Social capital has an indirect effect on self-efficacy through knowledge (b=0.026), social support (b=0.069), social support, and knowledge (0.020) (Table III).

Table I : Characteristics of respondents (n=190)

Characteristics	n	%
Age (year)		
17-24	19	10.0
25-59	165	86.8
>60	6	3,2
Gender		
Female	85	44.7
Male	105	55.3
Education		
Elementary school	106	55.8
Junior high school	70	36.8
Senior high school	14	7.4
Employment status		
Employed	119	62.6
Unemployed	71	37.4
Source of information		
Internet	4	2.1
Electronic media	175	92.1
Families or relatives	11	5.8
Disaster training		
No	179	94.2
Yes	11	5.8

Figure 1 shows that social capital has a direct effect on self-efficacy (b=0.749, p=0.000), knowledge (b=0.142, p=0.000), social support (r=0.632=0.109, p=0.000). Social support also directly affects self-efficacy (b=0.109, p=0.018), and knowledge (b=0.220, p=0.13). Meanwhile, knowledge directly affects self-efficacy (b=0.142, p=0.000).

DISCUSSION

The study's findings indicate that knowledge affects self-efficacy. These findings corroborate previous research indicating that knowledge might influence self-efficacy (11)(12). Knowledge is a collection of facts, theories, and understandings that serve as the foundation for one's decision-making (13). People with high knowledge have strong self-efficacy, which can help in disaster situations. Additionally, a person's

Table II : Univariate analysis of research variables

Variable	Mean	SD	Mini- mum	Maxi- mum
Social capital	47.30	5.57	27	59
Social support	36.33	4.26	21	43
Knowledge	15.08	3.28	10	20
Self-efficacy	46.71	6.57	25	60

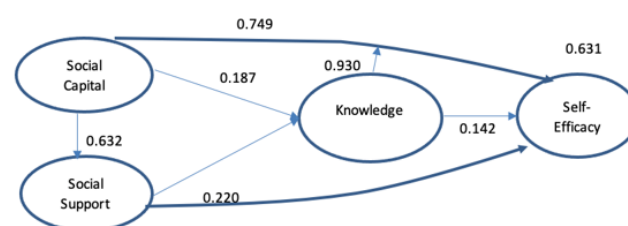


Figure 1 : Path analysis of determinant of self-efficacy towards disaster preparedness.

Table III : Direct effect, indirect effect and total effect of independent variables on self-efficacy

Variables	Direct Effect	p-value	Indirect Effect	Total Effect
Social capital	0,740	0.000	(0,187x0,142) +(0,632x-0,109) +(0,632x0,220x0,142)	0.115
Social support	0,109	0.018	(0,632x0,220x0,142)	0.020
Knowledge	0.142	0.000	-	0,142

self-efficacy enables him or her to be better prepared for disasters (14). Knowledge can be the basis for the community in determining their attitudes, behavior, and abilities. Good knowledge related to disasters is essential for the community to improve disaster preparedness (15).

The findings revealed that social capital affected self-efficacy. The findings of this study are consistent with the findings of Kannadhasan et al. (2018), who found that social capital plays a role in the development of self-efficacy. Moghadam et al. (2020) found a substantial relationship between social capital and self-efficacy (16). Social capital refers to an individual's capacity to mobilize resources through social connections. It is broadly described as a community asset that connects citizens and enables them to accomplish their objectives more effectively (17). Social capital is a valuable mechanism for people to increase knowledge (24). Someone with a solid social media network has a higher level of self-efficacy than someone with a weaker social network (18)(19).

Disaster-related social support is required for both emergency response and post-disaster preparedness (8). The tsunami disaster has had a significant impact physically, psychologically, and socially that those impacted need help from the environment, family, relatives, and friends (20,21). Social support contributes to knowledge since it is viewed as a supporting resource for disaster preparedness (25). The higher the social support, the higher the community's self-efficacy in dealing with disasters (22)(23). Social support from trusted groups or individuals has been demonstrated to increase community disaster knowledge. A supportive social context encourages people to share information about disasters, which increases knowledge and self-efficacy among those who already know a lot about them.

Limitation

There are several limitations to this study that must be acknowledged. First, because the data were cross-sectional, we cannot draw causal conclusions. While functional and physiological restrictions may limit involvement in disaster preparedness behaviors, all data must be taken as an association rather than causation. Future studies should examine how disability affects preparedness for certain natural and man-made disasters. Finally, instruments employed self-report assessments, which have shown in past research to be more biased when dealing with more abstract ideas. Future research should employ more objective measurements, such as medical chart data, to examine the various ways in which health can obstruct disaster preparation.

CONCLUSION

Social capital, social support, and knowledge can improve self-efficacy. This research has implications for attempts to improve community preparedness for landslide emergencies. Social capital, social support, knowledge, and community self-efficacy all play a critical role in disaster response activities. As a result, preparedness measures should be directed at this intermediate in order to affect behavioral change. For example, educational programs aimed at the community should use theory-based best practices for self-efficacy building.

ACKNOWLEDGEMENT

The author would like to thank STIKes Sukabumi for the encouragement and enthusiasm given during the research and the Sirnaresmi village community, Cisolok district, Sukabumi district for their participation in this study.

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