THESIS

ANALYSIS OF FACTORS RELATED TO THE ROLE OF EMERGENCY NURSES IN EARTHQUAKE DISASTER MANAGEMENT PREPAREDNESS BASED ON PROTECTION MOTIVATION THEORY

DESCRIPTIVE ANALYTICAL RESEARCH

RENATA ELIZABETH BERLIANA KURNIAWAN

NURSING STUDY PROGRAM
FACULTY OF NURSING, AIRLANGGA UNIVERSITY
SURABAYA
2025

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To obtain a Bachelor of Nursing (S.Kep) degree in the Nursing Study Program,
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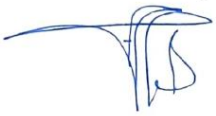

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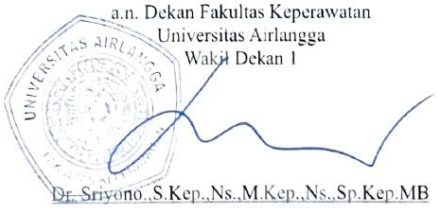

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MOTTO

“For I know the plans I have for you,” declares the Lord. “Plans to prosper you and not to harm you, plans to give you hope and a future.”

Jeremiah 29:11

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ABSTRACT

ANALYSIS OF FACTORS RELATED TO THE ROLE OF EMERGENCY NURSES IN EARTHQUAKE DISASTER MANAGEMENT PREPAREDNESS BASED ON PROTECTION MOTIVATION THEORY

Descriptive Analytic Research on HIPGABI Nurses in East Jawa

By: Renata Elizabeth Berliana Kurniawan

Introduction: Indonesia lies at the convergence of four major tectonic plates, making it highly vulnerable to disasters, particularly earthquakes that pose significant risks in East Java. Emergency department nurses, as frontline healthcare providers, are expected to demonstrate strong preparedness. However, previous studies indicate that their readiness remains low due to limited experience, training, and understanding of disaster management, which can lead to ineffective responses during disaster events. This study analyzes factors associated with the preparedness of emergency nurses in managing earthquake disasters. **Methods:** This study employed a descriptive analytic design with a cross-sectional approach. Data were collected using consecutive sampling, involving 85 HIPGABI nurses in East Java. Independent variables included threat appraisal (perceived vulnerability and perceived severity) and coping appraisal (self-efficacy, response efficacy, and response cost). The dependent variables were protection motivation and earthquake disaster management preparedness. A structured questionnaire was used to measure all study variables. Data analysis was conducted using Spearman's Rho test ($\alpha < 0.05$). **Results:** All PMT variables showed significant associations with protection motivation, including perceived vulnerability ($p = 0.008$), perceived severity ($p = 0.001$), self-efficacy ($p = 0.000$), response efficacy ($p = 0.000$), and response cost ($p = 0.049$). Protection motivation was also significantly associated with earthquake disaster preparedness ($p = 0.000$). **Discussion:** Motivation plays a crucial role in transforming cognitive evaluations into preparedness actions. Although higher motivation enhances readiness, various barriers may prevent intentions from becoming actual behavior. Therefore, strengthening motivation and providing clear preparedness plans are essential to improving disaster readiness.

Keywords: disaster preparedness, earthquake, motivation, nurses, protection motivation theory

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LIST OF ABBREVIATIONS

BNPB	: Badan Nasional Penanggulangan Bencana
BPBD	: Badan Penanggulangan Bencana Daerah
WHO	: World Health Organization
HIPGABI	: Himpunan Perawat Gawat Darurat dan Bencana Indonesia
PMT	: Protection Motivation Theory
DEPKES RI	: Departemen Kesehatan Republik Indonesia
LIPI	: Lembaga Ilmu Pengetahuan Indonesia
UNESCO	: United Nations Educational, Scientific and Cultural Organization
ISDR	: International Strategy for Disaster Reduction

CHAPTER 1

INTRODUCTION

1.1 Background

Indonesia is located at the meeting point of four major tectonic plates, namely the Eurasian, Indo-Australian, Philippine, and Pacific plates. This position makes Indonesia prone to natural disasters. One of the provinces in Indonesia that has a high disaster risk index and a high number of people exposed to disasters is East Java Province (BNPB, 2021). The Head of the East Java Regional Disaster Management Agency (BPBD), Gatot Soebroto, said that as of December 15, 2023, there had been 116 disaster events in East Java (Aprianto, 2023). Earthquakes are one of the disasters that are a top priority for disaster management because the potential for widespread danger and risk in East Java is classified as high (BNPB, 2021; BPBD, 2023). Therefore, disaster preparedness is necessary to minimize the impact of disasters (Riandi Setiawan et al., 2025).

Nurses are the largest group among health workers who are often at the forefront of disaster management (Seniwati, Ode and Sabriyati, 2023). Nurses working in emergency units play a crucial role in disaster response teams (Holifatus Su et al., 2022). This role is very important because the preparedness of nurses in dealing with disasters determines the success of disaster management efforts (Ihsan et al., 2022). However, previous research conducted at Sumbawa Regional General Hospital revealed that some emergency room nurses are still not fully prepared for disaster management (Farilya, 2024). Nurses in Indonesia validate that they are not fully prepared to handle real disaster situations due to a lack of experience and understanding of their role in disaster preparedness

(Martono et al., 2019). Therefore, a study entitled “Analysis of Factors Related to the Role of Emergency Nurses in Earthquake Disaster Management Preparedness” was conducted in an effort to analyze factors that are significantly related to the preparedness of emergency nurses.

According to the World Health Organization, the majority of deaths caused by disasters occur in health care facilities that are not prepared to deal with emergency situations (Lin et al., 2024). Qualitative research conducted by Farokhzadian et al (2024) describes the various conditions experienced by nurses during disasters as a result of a lack of preparedness for disasters. In the study, nurses revealed that their experiences during disasters were filled with confusion and uncertainty, mainly due to the lack of clarity about when the disaster would end. This situation exacerbated the mental and cognitive stress of nurses while performing their duties. As a result, they provided nursing services accompanied by doubts about the effectiveness of the actions taken (Farokhzadian et al., 2024)

Holifatus Su et al (2022) mention several factors related to the preparedness of emergency nurses in disaster management, including disaster training, self-efficacy, infrastructure, and family support. The unpreparedness of nurses in disaster management is exacerbated by limited access to international literature on disaster preparedness. Minimal access to international publications, especially in developing countries, can have a significant impact on the effectiveness of disaster preparedness and management (Setyawati et al., 2020). Nurses admit that they still need assistance in understanding information and knowledge about disasters (Kosasih et al., 2024). These limitations indirectly affect the quality of nurses' responses in disaster situations. The lack of proper

disaster management processes creates chaotic and ineffective responses and care actions (Al Harthi et al., 2020).

The problem-solving concept in this study uses Protection Motivation Theory (PMT) as its theoretical basis. This theory explains that nurses' preparedness is the result of a cognitive process in responding to threats. Based on this theoretical concept, preparedness is influenced by two main processes, namely threat appraisal and coping appraisal. These assessments are formed from various factors sourced from information sources, cognitive mediating processes, and coping responses. The results of understanding threat appraisal (perceived vulnerability and perceived severity) and coping appraisal (self-efficacy, response efficacy, and response cost) form protection motivation, which is the motivation to take protective actions. This motivation serves as the conceptual basis for analyzing factors related to the preparedness of emergency nurses in earthquake disaster management (Bubeck et al 2018; Janmaimool 2017).

1.2 Problem Statement

The research question is: What factors are associated with the preparedness of emergency nurses in earthquake disaster management?

1.3 Research Objectives

1.3.1 General Objectives

The general objective of this study is to analyze factors related to the preparedness of emergency nurses in earthquake disaster management.

1.3.2 Specific Objectives

The specific objectives of this study are as follows:

1. To explain the relationship between threat appraisal: perceived vulnerability and protection motivation

2. To explain the relationship between threat appraisal: perceived severity and protection motivation
3. To explain the relationship between coping appraisal: self-efficacy and protection motivation
4. To explain the relationship between coping appraisal: response efficacy and protection motivation
5. To explain the relationship between coping appraisal: response cost and protection motivation
6. To explain the relationship between protection motivation and the preparedness of emergency nurses in earthquake disaster management

1.4 Benefits of Research

1.4.1 Theoretical benefits

The theoretical benefit of this research is to increase knowledge and development of disaster nursing related to earthquake disaster management based on Protection Motivation Theory. In addition, this research is also useful for adding to the academic literature on disaster preparedness in the health sector.

1.4.2 Practical benefits

The practical benefits of this research are as follows:

1. For emergency nurses

Motivating themselves to improve preparedness in earthquake disaster management.

2. For HIPGABI East Java

Providing an overview of the level of preparedness of members of the nursing profession association in earthquake disaster management.

3. For Researchers

Expanding scientific knowledge and understanding of factors related to the role of emergency nurses in earthquake disaster management preparedness

CHAPTER 2

LITERATURE REVIEW

2.1 Concept of Disaster

2.1.1 Definition of Disaster

A disaster is an event or series of events that poses a threat and disruption to the livelihood and survival of the community. These events can be caused by natural, non-natural, or human factors, which ultimately result in loss of life, environmental damage, material losses, and psychological distress for the individuals and communities affected (BNPB, 2021).

2.1.2 Classification of natural disasters

According to Chaudhary and Piracha (2021), natural disasters are classified into six types, as follows:

1. Geophysics (geology) originates from the solid earth's crust. These hazards include events such as earthquakes, volcanic eruptions, and dry land mass movements.
2. Hydrology relates to the existence, movement, and distribution of water both fresh and salt above and below the earth's surface. Examples of events included in this category are floods, landslides, and erosion or the impact of water waves.
3. Meteorological hazards include short-duration atmospheric events, ranging from minutes to several days, occurring on a micro scale (<1 km) to a very large scale (2–2000 km), and can be exacerbated by global climate change. These types of hazards include convective storms (such as tornadoes), tropical and extratropical storms, fog, and sudden extreme temperature fluctuations.
4. Climatology deals with long-term climate variations, ranging from inter-seasonal to several decades, and occurring on a medium to large scale (>2000 km). Events that fall into this category include droughts, forest fires, glacier movements, and floods caused by glacial lake outbursts.
5. Biological hazards originate from biological agents such as toxins, fungi, or vectors carrying disease-causing organisms, which can harm living creatures, including humans. Examples of biological hazards include infectious disease outbreaks such as malaria, dengue fever, COVID-19, algal blooms, locust swarms, and venomous animal infestations.

6. Extraterrestrial hazards include hazards originating outside Earth's atmosphere, such as asteroid fragments, meteorites, comets, or man-made space debris that enter the atmosphere or collide with the Earth's surface. In addition, interplanetary phenomena such as solar flares can also disrupt Earth's magnetosphere, thermosphere, or ionosphere.

2.2 The Concept of Earthquakes

2.2.1 Definition of Earthquakes

Earthquakes are vibrations that occur on the earth's surface due to geological processes such as tectonic plate shifts, active fault activity, volcanic eruptions, and rockfalls beneath the surface (BNPB, 2021). According to Hasriwiani Habo Abbas and Asrina (2022), an earthquake is a vibration or tremor that occurs in the earth's crust, the intensity of which can vary from very weak to strong enough to shake the ground surface. This event occurs due to the release of tension in the earth's crust, which then triggers the emergence of elastic waves that propagate through various layers of the earth. Karakteristik gempa bumi

The Indonesian Ministry of Health Depkes (2007) lists the following characteristics of earthquakes:

1. No warning signs
2. Disasters occur suddenly
3. The impact is caused by fault movement
4. The result is damage to buildings and other infrastructure

2.2.2 Classification of earthquake types

Based on their origin, mechanism, and characteristics, earthquakes are divided into several main types, as follows:

1. Tectonic earthquakes
   Tectonic earthquakes are the most common and dangerous type of earthquake, occurring as a result of the movement of tectonic plates, such as collisions, shifts, or separations. The energy released at the plate boundary generates seismic waves. The strength and impact depend on the depth and speed of the plate

movement. These earthquakes often cause extensive damage and loss of life (Erkinovna, 2025).

2. Vulcanic earthquakes
   Volcanic earthquakes occur due to magma activity inside volcanoes, such as the movement or rise of magma to the surface. These earthquakes are usually weaker than tectonic earthquakes, but they are often an early sign of a volcanic eruption. Therefore, these earthquakes are important in monitoring volcanic activity (Erkinovna, 2025).

3. Artificial earthquakes
   These earthquakes are caused by human activities, such as mining explosions, large-scale construction, or nuclear testing. They are generally low in intensity, but can cause local damage. This type of earthquake is easier to predict and control (Erkinovna, 2025).

2.2.3 Impact of Earthquakes

1. Impact of Earthquakes on the Environment

A literature study by Khan et al (2023) states that buildings are highly vulnerable to structural damage and are at risk of collapse during an earthquake. The rumbling sound during an earthquake is caused by the movement of seismic waves through rock layers. Generally, these seismic events occur around geological fault zones, when rock masses shift against each other. These conditions can cause severe damage to buildings, emphasizing the importance of earthquake-resistant design and construction. To that end, experts have developed various methods for strengthening and repairing reinforced concrete structures, one of which is through the use of Carbon Fiber Reinforced Polymer (CFRP)

materials. These materials have advantages such as being easy to apply, resistant to corrosion, and having a high strength-to-weight ratio, thereby contributing to the increased strength of building structures.

Earthquakes have an impact on the quality of air, groundwater, and surface water. To minimize these risks, a well-planned and effective preparedness strategy is needed. It should also be noted that human activities, such as the disposal of wastewater from industrial processes such as hydraulic fracturing, can trigger artificial earthquakes. This occurs due to high pressure and underground fluid movement caused by the injection of waste into underground cavities, resulting in additional hazardous seismic activity (Khan et al., 2023).

2. The Impact of Earthquakes on Health

Earthquakes cause various secondary phenomena that have a major impact on the natural and built environment. Earthquakes also affect the lives of people living in the affected area. Earthquake victims are classified as immediate, rapid, and delayed victims, based on the time of death and the cause. Immediate victims generally die from severe crushing injuries or drowning due to tsunamis. Early casualties die within minutes or hours due to asphyxia, shock, or exposure to extreme environments. Meanwhile, delayed casualties die within a few days due to complications such as dehydration, infection, or crush syndrome. The main causes of fatalities in earthquakes include building collapse, drowning due to tsunamis, post-earthquake fires, and slope movements (Mavrouli et al., 2023). Injuries caused by earthquakes vary greatly, ranging from minor injuries to severe injuries such as broken bones, crush injuries, burns, and asphyxia due to debris or dust. These injuries are generally caused by building collapses, landslides, strong

tsunami currents carrying debris, and hazardous chemical spills. In addition to physical impacts, earthquakes also have a significant impact on the mental health of survivors. The most common psychological disorders are PTSD (Post-Traumatic Stress Disorder) and severe depression (Mavrouli et al., 2023).

Earthquakes can trigger various conditions that endanger public health, including an increased risk of sporadic cases, outbreaks, and epidemics of infectious diseases. Infectious diseases that emerge after an earthquake can be transmitted through water, air, vectors, or contaminated wounds. Transmission generally occurs during the post-impact phase, which lasts from 4 days to 4 weeks. Meanwhile, symptoms of latent infections or those with long incubation periods may appear during the recovery phase, which lasts more than 4 weeks. During this period, newly introduced diseases and local endemic diseases have the potential to develop into epidemics (Mavrouli et al., 2023).

2.3 The Concept of Disaster Management

2.3.1 Definition of disaster management

Disaster management is an important strategy in minimizing the impact of various types of disasters, both natural and man-made. This process involves planning and implementing systematic measures to protect vital assets from major damage (Oktari et al., 2020). Disaster management is an effort to manage the risks and impacts caused by a disaster. This process includes a series of important stages, namely mitigation, preparedness, emergency response, and recovery (Khan et al., 2023).

2.3.2 Stages of disaster management

Disaster management consists of three main stages, namely before, during, and after a disaster occurs. In the pre-disaster stage, the main focus is on

mitigation and preparedness. Mitigation is carried out through various efforts such as developing disaster-resistant infrastructure, raising public awareness, and strengthening capacity to deal with risks. Meanwhile, preparedness involves developing emergency response plans, training, and organizing resources appropriately and efficiently in order to be ready to face potential disasters (Oktari et al., 2020).

When a disaster occurs, the emergency response phase becomes the main focus with the aim of reducing the immediate adverse effects. Activities in this phase include evacuating victims, protecting property, meeting basic needs, managing refugees, and making initial repairs to damaged infrastructure. After the emergency response phase ends, disaster management continues to the post-disaster phase, which consists of recovery and reconstruction. Recovery aims to restore public services and social life to a stable condition. Meanwhile, reconstruction involves the comprehensive rebuilding of all infrastructure and essential facilities so that the affected area can recover and carry out government activities and community life normally and be better prepared to face future disasters (Oktari et al., 2020).

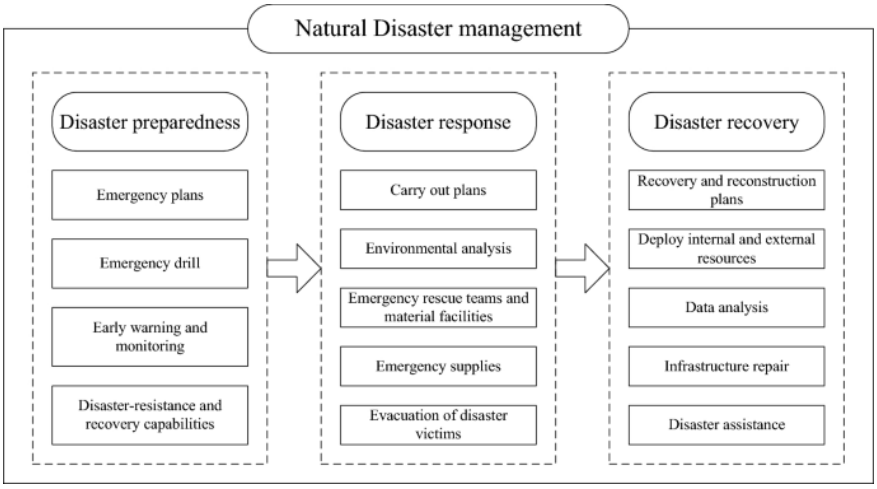


Figure 2.1 Natural disaster management (Tan et al., 2020)

2.3.3 Disaster management efforts

According to Depkes (2007), various disaster management efforts can be carried out at each stage of the disaster cycle, including the following:

1. Prevention and mitigation

   These efforts aim to prevent disasters and reduce the risks and impacts that may arise. The steps that can be taken at this stage are as follows:

   1) Developing policies, laws, regulations, guidelines, and standards related to disaster management
   2) Developing maps of disaster-prone areas and mapping health issues in those areas
   3) Creating educational media such as brochures, leaflets, and posters to raise public awareness
   4) Conducting disaster risk analysis to identify potential hazards and their impacts
   5) Forming a disaster management team at the regional or institutional level
   6) Conducting basic training on disasters for relevant personnel and the community
   7) Developing a health crisis response system based on community participation

2. Preparedness

   Preparedness efforts aim to anticipate the possibility of disasters and are implemented when the potential for disaster begins to be detected. Steps that can be taken include developing contingency plans, conducting preparedness simulations or training, providing supporting resources, and developing information and communication systems

3. Emergency response

   Emergency response efforts in the health sector are aimed at saving lives and preventing disability. Activities carried out include rapid assessment of health conditions, provision of first aid and evacuation of victims to health

facilities, fulfillment of basic health needs, and special protection for groups with high health risks..

4. Recovery

Post-disaster recovery efforts include rehabilitation and reconstruction, which aim to restore the affected areas to normal and better conditions. Rehabilitation focuses on general recovery, while reconstruction focuses on rebuilding damaged facilities and infrastructure. The steps taken include improving the environment and sanitation, repairing health care facilities, restoring psychosocial conditions, and improving health care services.

2.3.4 The role of nurses in disaster management

In various clinical and community service contexts, as well as throughout all stages of a disaster, nurses play an important role alongside doctors and other health teams in responding to disasters. Before, during, and after a disaster, nurses are involved in education, community empowerment, health promotion, and the implementation of interventions to maintain community welfare. Nurses are tasked with providing first aid, advanced clinical care, and life-saving treatment. In addition, nurses also assess and treat victims based on priority (triage), manage limited resources, and continuously monitor physical and mental health needs. On the other hand, they also support the logistical aspects of the organization through the development of operational protocols, safety measures, and statistical analysis of individual and community data (Mary K. Wakefield et al., 2021).

Based on Law of the Republic of Indonesia Number 24 of 2007, disaster management consists of three stages, namely pre-disaster (pre-event), during disaster (event), and post-disaster (post-event). Nurses constitute the largest part

of the health workforce in Indonesia, so their role is very much needed in all phases of disaster management. Basic competencies in nursing practice include providing services for injuries and illnesses, supporting individuals and families experiencing physical and emotional distress, and promoting the overall health of individuals and communities (Kurniadi, 2021).

1. The role of nurses in the pre-disaster stage
   Nurses play a significant role in pre-disaster management, including in the formulation of regulations related to nurse preparedness and community involvement in pre-disaster efforts. In addition, nurses also play a role in educating the community about the importance of prevention and mitigation, as well as disaster preparedness(Rozani et al., 2023).

2. The role of nurses during disasters
   Nurses need to understand the contents of Law of the Republic of Indonesia Number 24 of 2007 regarding the stages of disaster emergency response. In this stage, nurses are expected to: (1) pay attention to early warning information issued by the district/city or provincial government; (2) mobilize from the disaster location to the designated command post; (3) evacuate victims and property; (4) assess the impact of the disaster and compile a list of the basic needs of the affected community; (5) prevent and handle refugees; and (6) assist in the restoration of damaged facilities and infrastructure. In addition, nurses can also compile data on casualties and submit it to the Regional Disaster Management Agency (BPBD) or related agencies such as the Social Service (Kurniadi, 2021).

3. The role of nurses in the post-disaster recovery phase

In the recovery phase, nurses play an important role in assisting communities to return to normal life through consultation and education activities. Nurses also play a role in restoring the physical condition of victims who require long-term healing, and in some cases even face permanent disability. During this phase, many victims lose the ability to meet their own needs independently. Therefore, nurses are also responsible for providing medical and nursing support until victims can resume their social and economic functioning (Kurniadi, 2021).

2.4 The Concept of Nurse Preparedness

2.4.1 Definition of preparedness

Preparedness is an important part of disaster management. In the current development of disaster management concepts, increasing preparedness has become one of the main elements in proactive risk reduction efforts before a disaster occurs. Preparedness encompasses various activities aimed at anticipating the possibility of a disaster, where strengthening this aspect plays a significant role in minimizing the impact of disasters in various situationsLIPI-UNESCO/ISDR 2006 dalam Muctharom (2023). Preparedness is a decision-making process that involves the utilization of various resources, increasing knowledge, strengthening skills, and implementing concrete steps to respond and recover effectively from disasters (Pelupessy and Silverman, 2024).

Based on the disaster management cycle model, improving preparedness is part of the risk management process, which focuses on strengthening the capacity to respond to emergencies quickly and appropriately (Ministry of Health, 2007). In the context of earthquakes, preparedness includes all actions taken before an earthquake occurs and after the recovery process from a previous disaster. These

efforts aim to reduce vulnerability, minimize losses, and prevent damage to property, as part of the stages in the disaster management cycle (Pelupessy and Silverman, 2024).

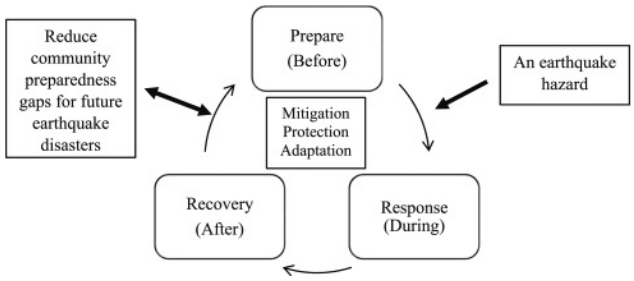


Figure 2. 2 Mitigation protection adaption (Pelupessy and Silverman, 2024)

2.4.2 Preparedness parameters

According to (LIPI-UNESCO/ISDR 2006 dalam Muctharom (2023), the level of preparedness can be measured through five main parameters, namely:

1. Knowledge and attitudes towards disaster risk
2. Availability of policies
3. Regulations and guidelines
4. Planning for emergency situations
5. Existence of early warning systems
6. Ability to mobilize resources

2.4.3 The role of nurses in disaster preparedness

Nurses are the largest group of health professionals. Nurses working in emergency units are the first responders who receive, assess, and provide initial care to disaster victims. The ability of nurses to accurately assess their competence, knowledge gaps, and needs is very important in determining the outcome of patient care (Murphy et al., 2021). According to International Council of Nurses (2019), in the preparedness stage, nurses are required to be ready to design procedures aimed at saving lives and reducing the impact of damage when an emergency occurs.

The role of nurses in the disaster management preparedness stage is as follows:

1. Disaster educator
   Nurses have a crucial role in pre-disaster management, including in designing rules that support nurse preparedness and encourage community participation. The duties of nurses include providing education on the importance of disaster prevention, preparedness, and mitigation (Rozani et al., 2023). Nurses play a role in educating the community about potential disaster hazards and providing disaster simulation exercises (Budiana, Patmawati and Sekunda, 2024). In addition, nurses also play a role in forming community organizations, drafting disaster prevention regulations, preparing food logistics, educating the community on rescue and self-protection procedures, and determining evacuation routes and safety points for the community (Rozani et al., 2023).

2. Disaster coordinator
   Nurses play a role in conveying instructions to their colleagues. A lead nurse is appointed based on their level of experience and critical thinking skills. This nurse is tasked with giving instructions regarding evacuation locations and first aid measures, while field nurses report on the current conditions and situation. The entire nursing team must work collaboratively to identify the needs for administering first aid (team readiness, medical equipment) (Dwitanta and Dahlia, 2020).

3. Disaster policy planner
   Nurses play a significant role in pre-disaster management, including in formulating policies or guidelines related to nurse preparedness (Rozani et

al., 2023). Nurses play a role in identifying actions that are in accordance with ethics and the law, understanding professional responsibilities, mastering communication skills and sharing information effectively, and developing emergency response plans for implementation in the field (Alfred et al., 2015).

2.4.4 Factors related to the preparedness of emergency nurses in disaster management

According to Holifatus Su et al (2022), there are several factors related to the preparedness of nurses in disaster management. These factors are as follows:

1. Disaster training

A qualitative study conducted by Farokhzadian et al (2024), states that nurses highlight the importance of having adequate competence and preparedness to respond to disasters safely and efficiently, especially in rescue and victim care efforts. They believe that targeted, continuous, and effective training is needed to improve their ability to manage disaster risks.

2. Self-efficacy

Based on Protection Motivation Theory, self-efficacy is an individual's belief in their ability to carry out protective behaviors, such as preventive, protective, or adaptive actions. In the context of disasters, self-efficacy assesses the extent to which a person is able to initiate and complete these actions, while response effectiveness measures how useful and effective these actions are in dealing with threats (Qiu et al., 2023). According to Zeth et al (2022), self-efficacy is one of the important elements that influence an individual's intention to prepare. A person tends to have a

high level of self-efficacy if they have previous experience or have received training.

3. Infrastructure
The availability of adequate facilities and infrastructure is one of the key elements that support preparedness in disaster prevention and mitigation (Holifatus Su et al., 2022).

4. Family support
Nurses need family support in disaster management. Support is defined as the perception or belief that someone receives or has access to help from family. This support can come from those closest to them, such as family members, spouses, or friends (Holifatus Su et al., 2022).

2.5 Protection Motivation Theory

2.5.1 Concept of the theory

Protection Motivation Theory (PMT) was first introduced by Rogers in 1975, then revised in 1985 to describe how individuals make decisions in adopting protective behaviors to reduce the threats they perceive (Tang and Feng 2018; Tasantab, Gajendran and Maund 2022) Motivation Theory is one of the most popular theories in explaining and identifying individual behavior in reducing risk, particularly in the context of disasters. In addition, this theory also provides a more comprehensive approach to disaster management (Gumasing and Sobrevilla, 2023)

Protection Motivation Theory suggests that individuals will tend to take adaptive actions if they perceive a risk as serious. This is especially true when: (1) the risky event is expected to cause significant losses, (2) concrete measures are available to reduce the impact of these losses, and (3) individuals feel capable of

implementing these measures (Hu et al., 2022). This theory explains that cognitive processes play a role in determining self-protection measures against danger and can be used to analyze maladaptive behavior and adaptive responses (Tang and Feng, 2018).

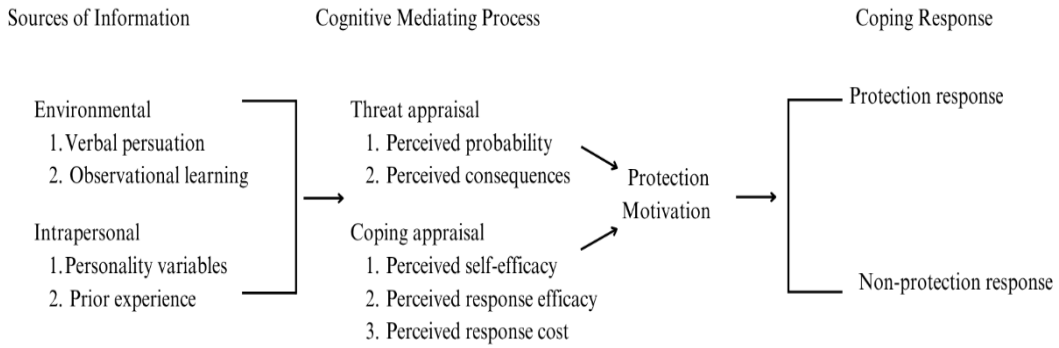


Figure 2.3 A schematic overview of protection motivation theory (Bubeck et al., 2018)

Based on the Protection Motivation Theory model, the conceptual framework of Protection Motivation is divided into three main components, namely source of information, cognitive mediating process, and coping response (Liu et al., 2024). Initially, Protection Motivation Theory focused on fear appeals in the form of information about threats and ways to avoid them. In the revised version, Rogers added two types of information sources, namely environmental and intrapersonal. Environmental includes verbal persuasion and learning through observation of others, such as friends or family. Meanwhile, intrapersonal includes personality and past experiences related to similar threats, as well as socioeconomic characteristics such as age, gender, and income (Bubeck et al., 2018). Among the three main components of protection motivation theory, cognitive mediation is at the core of this theory, which includes two important processes, namely threat appraisal and coping appraisal (Liu et al., 2024).

Threat appraisal includes perceived vulnerability and perceived severity. Meanwhile, coping appraisal includes three elements, namely self-efficacy (belief in one's ability to deal with threats), response efficacy (belief in the effectiveness of protective measures taken), and response cost (consideration of an individual's ability to carry out these measures) (Eze, Petersen and Siegmund, 2024).

2.5.2 Threat Appraisal

Threat appraisal is a cognitive process undertaken by an individual to assess the extent to which a threat could harm them. This process consists of two main components, namely perceived vulnerability and perceived severity. Perceived vulnerability is an assessment of the level of vulnerability to a threat, while perceived severity is an assessment of the perceived severity of the impact of a threat (Janmaimool, 2017).

Perceived vulnerability describes an individual's belief in the likelihood of experiencing such danger. Meanwhile, perceived severity refers to the extent to which a person considers the potential danger to be serious (Janmaimool, 2017). In addition, research conducted by (Eze, Petersen and Siegmund, 2024) adds the variable of fear in threat appraisal. Fear is the third component that plays an indirect role in assessing threats by influencing how the severity of the danger is estimated (Grothmann and Reusswig, 2006). According to Tannenbaum et al 2015; Eze, Petersen and Siegmund (2024), fear is a form of persuasive message intended to induce fear by highlighting the risks or threats that could occur if a person does not follow the recommended actions. Threat appraisal also includes an individual's view of reward, namely the perceived benefits of maintaining risky behavior.

Perceived vulnerability dan perceived severity can motivate individuals to take adaptive responses, such as disaster preparedness (Janmaimool, 2017). The greater an individual's perception of the threat and awareness of their vulnerability to natural disasters, as well as their increased fear of the possibility of such disasters occurring, the greater their motivation to protect themselves and others through preventive measures to minimize the destructive impact of disasters (Far et al., 2020). Conversely, if the perception of rewards from current behavior is higher, this can hinder risk prevention efforts (Janmaimool, 2017).

2.5.3 Coping Appraisal

Coping appraisal is an individual's assessment of their ability to engage in risk prevention behaviors, which plays a role in influencing protection motivation. Coping appraisal includes perceptions of self-efficacy and response efficacy. Self-efficacy refers to an individual's belief in their ability to engage in a behavior. Meanwhile, response efficacy refers to the extent to which individuals believe that the recommended risk prevention behaviors will be effective. In addition, coping appraisal also considers response cost, which is the sacrifice or burden that must be borne to carry out the recommended behavior. The high cost of carrying out preventive measures can be an obstacle for individuals to engage in such behaviors. Overall, coping appraisal is the result of a combination of self-efficacy and response efficacy, which is then reduced by the amount of response cost that must be incurred to carry out preventive behavior. This model states that the higher the perception of self-efficacy and response efficacy, and the lower the response cost, the more likely a person will choose to engage in adaptive behavior (Janmaimool, 2017).

2.5.4 Results of threat appraisal and coping appraisal

Based on the results of threat appraisal and coping appraisal, individuals will respond to the threat. Protection Motivation Theory identifies two types of responses. Protection response is an action aimed at preventing physical or financial loss if the threat actually occurs, and is usually carried out when individuals have a high assessment of threat appraisal and coping appraisal. Meanwhile, a non-protection response is a denial of the threat, excessive expectations of positive outcomes, and a resigned attitude of not preventing physical or financial loss, but only alleviating the negative emotional impact of the perceived threat, such as fear. Non-protection responses are more likely to occur when the perception of threat appraisal is high, but the perception of coping appraisal to overcome it is low (Grothmann and Reusswig, 2006).

When someone chooses to respond protectively, the first step taken is to form a decision or desire to act, known as protective motivation. However, this motivation does not always lead to actual action, as there may be concrete barriers, such as limited time, funds, knowledge, or lack of social support, which were not considered when the intention was formed. Therefore, protection motivation theory clearly distinguishes between intention and actual behavior (Grothmann and Reusswig, 2006).

2.6 Originality of Research

This research began with a literature review of articles in Indonesian and English. The articles were obtained from Google Scholar, Science Direct, Scopus, and PubMed. The search was conducted using keywords such as “kesiapsiagaan” OR “preparedness” AND “perawat” OR ‘nurse’ AND “manajemen bencana” OR “disaster management” AND “gempa bumi” OR “earthquake”, with publication

years limited to between 2020 and 2025. From the search results, 165 articles relevant to the research topic were obtained. Based on this number, 11 articles that were most relevant and directly related to the focus of this study were selected. These articles were used as references for previous research data as well as a basis for developing new research ideas that had not been studied before.

Table 2.1 Originality of Research

No	Article Title	Research Method	Research Results
1.	Analysis of Factors Related to the Preparedness of Community Health Center Nurses in Facing Haze Disasters (Nurdin and Amandaty, 2023)	**D:** Analytical survey with a cross-sectional approach **S:** All public health center nurses in the Pontianak City working area, totaling 90 nurses **V:** 1. Independent variables: Gender, education, disaster management preparedness, skills, health service atmosphere 2. Dependent variables: Preparedness of public health center nurses in facing haze disasters **I:** This study used the Emergency Preparedness Information Questionnaire (EPIQ) with scientific scoring using a Likert scale **A:** In this study, correlation analysis used the Spearman's rank correlation test and multivariate analysis used multiple logistic regression testing	The results of this study show that there is a significant correlation between skills and readiness in disaster management and the preparedness of community health center nurses in dealing with haze disasters. Of these two factors, skills are the aspect that has the greatest influence on the preparedness of community health center nurses in Pontianak City. Therefore, mastery of skills by nurses is a key element in enabling them to play an active role as first responders at the forefront of handling emergency situations, especially during haze disasters.
2.	Overview of	**D:** This study used a	The findings show

No	Article Title	Research Method	Research Results
	Nurse Preparedness in Disaster Management at the Padang City Health Center (Oktarina, Fiziola and Mailani, 2024)	descriptive design with a quantitative approach. **S:** A total of 138 nurses working at the Padang City Health Center **V:** 1. Independent variables: Knowledge, attitude, and practice 2. Dependent variables: Nurses' preparedness in disaster management **I:** This study uses instruments adapted from the Knowledge, Attitude, and Practice (KAP) questionnaire in Disaster Management **A:** This study was analyzed using descriptive statistical analysis methods	that 58% of nurses are in the high preparedness category. Specifically, 58% of respondents have good knowledge of disaster management, 74.6% show a positive attitude, and 68.8% have implemented good disaster management practices. This data indicates that community health center nurses in Padang City generally have adequate preparedness in terms of knowledge, attitude, and action. However, improvement efforts are still needed, including increasing the number of trained nurses and conducting regular disaster training to strengthen preparedness for future emergencies.
3.	Overview of Nurses' Knowledge and Attitudes Regarding Health Service Preparedness in Facing Floods (Setiawati, Utami and Sabrian, 2020)	**D:** This study uses a descriptive design with a quantitative approach. **S:** A total of 42 nurses working in health centers in flood-affected areas. **V:** 1. Independent variables: Age, education, gender, length of service, experience in	The results of the study show that most nurses working in community health centers have poor knowledge of health service preparedness in dealing with floods, namely 22 people (52.4%). Meanwhile, 20 nurses (47.6%) were recorded as having good knowledge. In

No	Article Title	Research Method	Research Results
		emergency training, and disasters 2. Dependent variables: Nurses' preparedness in facing floods **I:** Data collection in this study used a questionnaire method **A:** Data were analyzed using univariate analysis	terms of attitude, the majority of respondents also showed a poor attitude, namely 24 people (57.1%), while only 18 people (42.9%) had a good attitude. These findings indicate that in terms of both knowledge and attitude, the preparedness of nurses in community health centers in facing flood disasters still needs to be improved through continuous training and education.
4.	Readiness of Diploma III Nursing Students in Facing Earthquake Disasters (Darmareja, Widianti Kuswara and Taufik Ismail, 2022)	**D:** The design of this study is non-experimental with a quantitative descriptive approach. **S:** 213 students enrolled in the diploma III nursing program at a private university in Cimahi City, West Java. **V:** 1. Independent variables: Gender, age, education, experience, and knowledge. 2. Dependent variables: Preparedness of nursing students. **I:** This study uses a standardized instrument developed by LIPI in collaboration with UNESCO, and supported by the	The results of research on the preparedness of Diploma III Nursing students in facing earthquakes show that most respondents (68.1%) are in the very prepared category, with an index of 80–100. However, there are still a number of students who fall into the not ready to almost ready category, with a preparedness index below 64. Researchers recommend that the development of nursing science in the field of disaster management continue to be improved

No	Article Title	Research Method	Research Results
		International Strategy for Disaster Risk Reduction (ISDR) since 2006. **A:** The study was analyzed using univariate analysis with additional analysis using cross tabulation.	through various efforts, such as providing education, simulation training, forming disaster response teams, and establishing cooperation with disaster agencies at both the local and national levels.
5.	Preparedness of Nurses on the South Coast of Jember in Facing Earthquakes and Tsunamis (Adi et al., 2023)	**D:** This study used a mixed-methods sequential explanatory design. **S:** 144 nurses working in community health centers in eight subdistricts potentially affected by earthquakes and tsunamis. **V:** 1. Independent variables: Age, gender, education level, experience as a registered nurse, experience as a public health nurse, disaster participation, courses to meet preparedness needs 2. Dependent variables: Nurse preparedness in facing earthquakes and tsunamis **I:** This study uses the DPET as the basis for the questionnaire. Qualitative data was obtained through observation and interviews **A:** This study was analyzed using univariate analysis	Based on the results of the assessment using the Disaster Preparedness Evaluation Tool (DPET), the level of preparedness of Puskesmas nurses in the South Coast region of Jember Regency was in the moderate category in three main domains, namely knowledge, skills, and disaster management. In the knowledge domain, most nurses had moderate preparedness with a median score of 4.76 and an IQR of 4.23–5. In the skills domain, the level of preparedness was also moderate with a median score of 4.5 and an IQR of 4.00–5. Meanwhile, in the disaster management domain, nurses' preparedness is in the same category with a median score of 4.47 and an IQR of 3.89–5. Overall, the

No	Article Title	Research Method	Research Results
			preparedness level of Puskesmas nurses is in the moderate category with a median score of 4.55 and an IQR of 4.13–4.9.
6.	Individual and Organizational Factors Associated With Disaster Preparedness and Resilience Among Indonesian Hospital Nurses: A Cross-Sectional Study (Winarti et al., 2024)	**D:** The design of this study is descriptive with a cross-sectional approach. **S:** A total of 390 registered nurses and permanent employees with at least one year of professional work experience. **V:** 1. Independent variables: Gender, education, place of work, emergency training experience, disaster training experience, disaster task experience. 2. Dependent variables: Nurse preparedness. **I:** This study used the Disaster Preparedness Evaluation Tool (DPET) questionnaire to evaluate nurses' perceptions of disaster preparedness and the Connor-Davidson Resilience Scale (CD-RISC) to evaluate nurses' perceptions of disaster resilience **A:** The study was analyzed using non-parametric tests, namely the Mann-Whitney U-test and Kruskal-Wallis H-test to analyze numerical variables. The researchers used Spearman's correlation	The results of the study show that the majority of participants (79.7%) were female, but male nurses consistently scored higher on preparedness (DPET) and resilience (CD-RISC) assessments. The average DPET score was 172.29 and the average CD-RISC score was 27.34. This study shows that self-regulation and perceptions of work culture are the most significant factors in improving these two scores. The study highlights the importance of demographic factors, such as gender and education, as well as the role of disaster training and direct experience in improving nurses' preparedness and resilience. A supportive work environment and self-regulation skills have also been shown to be crucial in responding to disasters.

No	Article Title	Research Method	Research Results
		test to examine the relationship between nurses' perceptions and self-regulation, work culture, DPET scores, and CD-RISC scores. In addition, a generalized linear model was also used to evaluate the factors that influence nurses' perceptions of DPET and CD-RISC scores.	
7.	Determinants of Nurses' Readiness for Disaster Response: A Cross-Sectional Study (Lin et al., 2023)	**D:** This study used a cross-sectional design **S:** A total of 365 nurses working at a medical center in northern Taiwan **V:** 1. Independent variables: Age, gender, marital status, education level, length of service, nursing position (military nurse, civilian nurse, nursing leader), work unit, previous disaster training, and previous disaster nursing experience 2. Dependent variables: Nurse preparedness on four scales (personal preparedness, self-protection, emergency response, and clinical management) **I:** This study used the Readiness for Disaster Responses Scale questionnaire to measure nurses' preparedness in responding to disasters.	This study shows that the longer the length of service of nurses, the higher their level of preparedness in responding to disasters ($\beta = 0.28$; $p < 0.001$). Nurses with a master's degree who work in units such as the ICU or emergency room tend to have higher preparedness than those with only a bachelor's degree who work in other units such as outpatient care or operating rooms ($\beta = 0.13$; $p = 0.032$ and $\beta = 0.14$; $p = 0.02$). In addition, nurses who had participated in disaster training also showed higher levels of preparedness ($\beta = 0.24$; $p < 0.001$). Overall, factors such as length of service, educational level, work unit, direct experience related to disasters, and previous training were found to influence nurses'

No	Article Title	Research Method	Research Results
		A: The researchers used Pearson's correlation test and general linear models to analyze the relationship between demographic characteristics and nurses' preparedness in facing disasters, including the four domains, through univariate analysis. Furthermore, several linear regression models were conducted to evaluate the effect of demographic characteristics (as independent variables) on nurses' preparedness (as dependent variables), taking into account covariates found to be significant in univariate analysis. All analyses were two-tailed, and p-values < 0.05 were considered statistically significant.	preparedness.
8.	Factors Influencing Disaster Response Self-Efficacy Among Registered Nurses in Bangladesh (Hasan et al., 2024)	**D:** The design of this study is descriptive cross-sectional **S:** 560 registered nurses from 12 public and private hospitals in Bangladesh **V:** 1. Independent variables: Gender, age, marital status, district, nursing education qualifications, type of hospital, nursing position, nursing experience, work unit, disaster experience, experience working in emergency units, participation in disaster training 2. Dependent variables: Nurses' disaster	This study found that registered nurses had high levels of disaster response self-efficacy (M = 3.96). However, their levels of knowledge, skills, and preparedness were still moderate. There was a low to moderate correlation between self-efficacy and the three variables. Factors such as age, position, experience in the emergency unit, and disaster knowledge significantly influenced self-efficacy. Nevertheless, nurses felt less confident in certain aspects such

No	Article Title	Research Method	Research Results
		response self-efficacy **I:** This study used a self-administered questionnaire in Bengali that included the Disaster Response Self-Efficacy Scale (DRSES), a scale measuring knowledge, skills, and disaster preparedness **A:** This study used SPSS 26 and Jamovi 2.3.21 to analyze the data. Descriptive statistics were used to describe sociodemographics and disaster experience. T-tests and ANOVA were used to examine differences in DRSES scores. Pearson and Spearman correlations were used to measure relationships between variables. Multivariate linear regression was used to identify factors affecting DRSES, testing for multicollinearity through VIF and TV. Cronbach's alpha was calculated to measure scale reliability, and significance was set at $p \leq 0.05$.	as hazard assessment, triage, and response to psychological conditions and post-disaster epidemics. Therefore, more targeted training is needed.
9.	Disaster Preparedness and Core Competencies Among Emergency Nurses: A Cross-Sectional Study (Chegini et al., 2022)	**D:** The design of this study is descriptive cross-sectional **S:** 271 emergency unit nurses working in 6 hospitals in Qazvin, Iran **V:** 1. Independent variables: Gender, age, marital status, education level, nursing experience, role in disaster management, disaster experience,	The average disaster preparedness score for nurses was 6.75 out of 10, and core disaster competency was 2.88 out of 5. Of the subscales measured, technical skills had the highest score (average = 3.24), while communication skills had the lowest (average = 2.57). The study shows a significant

No	Article Title	Research Method	Research Results
		2. 2. Dependent variables: Preparedness of nursing students **I:** This study used the Nurses' Perception of Disaster Core Competencies (NPDCC) scale to determine nurses' core competencies in disaster management. **A:** Data were processed using SPSS 22.0. Descriptive statistics were used to describe participant characteristics. Pearson's correlation analyzed the relationship between preparedness and core disaster competencies. t-tests and ANOVA tested differences in competencies based on demographics, with Tukey's test as a post hoc test. Multiple linear regression was used to examine the influence of demographic variables on core competencies, with significance set at $p < 0.05$. Additionally, cross tabulation was used.	relationship between preparedness and core disaster competency ($p < 0.001$). Regression analysis results show that core disaster competency is better perceived by older nurses, those with experience in disaster stages, experience in responding to disasters, and those with less professional work experience. Nurses with postgraduate and bachelor's degrees showed lower perceptions of core competencies compared to nurses with master's or doctoral degrees.
10.	Determinants of Nurse Preparedness in Disaster Management: A Cross-Sectional Study Among the Community Health Nurses in Coastal Areas (Emaliyawati et al., 2021)	**D:** The design of this study was cross-sectional. **S:** 142 nurses working in six community health centers in Pangandaran, West Java, Indonesia **V:** 1. Independent variables: Age, education level, gender, length of service as a nurse,	Of the 142 respondents, 54.24% of nurses had a high level of disaster preparedness. Multivariate analysis showed that nurses who had worked between 6 and 10 years were more likely to be prepared for disasters (AOR: 12.755; CI 95%: 2.653–61.314).

No	Article Title	Research Method	Research Results
		disaster training, sources of disaster preparedness knowledge, disaster volunteerism, and disaster management experience 2. Dependent variable: Nurse preparedness in disaster management **I:** The study used the Emergency Preparedness Information Questionnaire (EPIQ) **A:** The researchers used STATA/MP version 16.1 (Mac) to manage and analyze the data. Chi-Square tests and Binary Logistic Regression were also used to analyze factors related to nurses' disaster management preparedness among public health nurses from coastal areas.	Conversely, nurses who had never received disaster training tended to be unprepared (AOR: 4.631; CI 95%: 1.604–13.367), and those who had never volunteered in disaster relief were also less likely to be prepared (AOR: 0.18; CI 95%: 0.053–0.616). Nearly half of the study participants had low levels of disaster preparedness, even though the study was conducted in a disaster-prone area. Therefore, serious attention is needed, especially from the government and community health centers, to improve nurses' capacity through disaster training and volunteer opportunities.
11.	Disaster management competence, disaster preparedness belief, and disaster preparedness relationship: Nurses after the 2023 Turkey earthquake (Şermet Kaya and Erdoğan, 2025)	**D:** This study used a cross-sectional design. **S:** 207 nurses selected from primary, secondary, and tertiary care institutions. **V:** 1. Independent variables: Age, education, disaster-related work, knowledge of disaster approaches, disaster education, desire to become a disaster volunteer.	This study confirms that the level of disaster preparedness plays an important role in improving nurses' task competencies and responsibilities in disaster management. Good preparedness helps reduce barriers to the development of core competencies. Disaster training has been shown to have a positive impact on nurses' abilities, while

No	Article Title	Research Method	Research Results
		2. Dependent variables: **I:** This study used questionnaire instruments, namely the General Disaster Preparedness Belief Scale (GDPBS), Disaster Preparedness Scale (DPS), and Competencies for Disaster Nursing Management Questionnaire (CDNMQ) **A:** Data analysis was performed using the Mann–Whitney U and Kruskal–Wallis tests, Spearman's regression coefficient, and multiple linear regression analysis	only having partial knowledge has a negative effect. Unfortunately, nurses' disaster management competencies are currently still inadequate and have not reached the expected standards.

The synthesis of various studies shows that the factors most consistently associated with preparedness include knowledge, skills, disaster training, direct experience, and active participation as volunteers (Emaliyawati et al 2021; Nurdin and Amandaty 2023; Hasan et al 2024). Disaster training has been shown to increase preparedness (Şermet Kaya and Erdoğan, 2025). Demographic factors such as age, gender, education level, and length of employment also play an important role (Lin et al 2023; Chegini et al 2022). However, studies have found that although nurses have sufficient basic knowledge, their core competencies in disaster management are still not at an optimal level (Emaliyawati et al 2021); Adi et al 2023; Seniwati et al 2023).

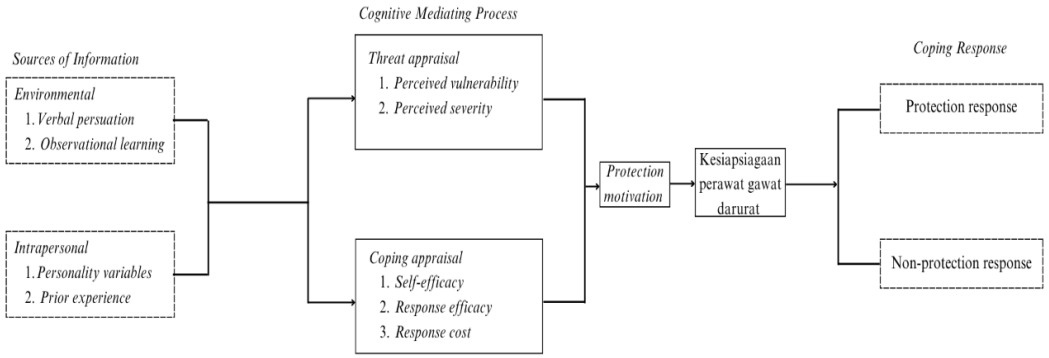
Based on the results of the study, researchers are interested in raising the topic of “Analysis of Factors Related to the Preparedness of Emergency Nurses in Earthquake Disaster Management.” The research respondents will be specified as

nurses who are members of HIPGABI (Indonesian Association of Emergency and Disaster Nurses) in East Java, a professional association that actively treats patients in crisis and disaster situations. This study targets a group of nurses who are functionally at the forefront of treating earthquake victims. This provides a new dimension to the study of preparedness because it considers nursing specialization, direct exposure to actual disaster situations, and professional capacity in the context of emergency response team-based work. Thus, this study is expected to contribute to enriching the understanding of factors related to the role of emergency nurses in preparedness for earthquake disasters.

CHAPTER 3

CONCEPTUAL FRAMEWORK AND HYPOTHESES

3.1 Research Conceptual Framework



: Researched

: Not researched

Figure 3.1 Conceptual framework for analyzing the preparedness of emergency nurses in earthquake disaster management based on Protection Motivation Theory (Bubeck et al., 2018)

The conceptual framework in Figure 3.1 illustrates a model that explains the factors related to the preparedness of emergency nurses in earthquake disaster management using Protection Motivation Theory (PMT) as a theoretical approach. The conceptual framework of Protection Motivation Theory in the context of earthquake disasters is divided into three main components, namely information source, cognitive mediating process, and coping response. Among the three, cognitive mediation is the core of this theory, which includes two important processes, namely threat appraisal and coping appraisal. In threat appraisal, individuals assess the magnitude of the threats they face based on two main aspects, namely perceived vulnerability and perceived severity. Meanwhile, coping appraisal involves an evaluation of the ability to cope with threats, which includes self-efficacy, response efficacy, and response cost. The results of these

two assessments form protection motivation, which is the motivation to take protective action. This motivation will determine the preparedness of emergency nurses in earthquake management, which is classified into two final outcomes, namely protective response or non-protective response.

3.2 Hypotheses
H1:

1. There is a relationship between threat appraisal: perceived vulnerability and protection motivation.
2. There is a relationship between threat appraisal: perceived severity and protection motivation.
3. There is a relationship between coping appraisal: self-efficacy and protection motivation.
4. There is a relationship between coping appraisal: response efficacy and protection motivation.
5. There is a relationship between coping appraisal: response cost and protection motivation.
6. There is a relationship between protection motivation and the preparedness of emergency nurses in earthquake disaster management.

CHAPTER 4

RESEARCH METHOD

4.1 Research Design Used

This study uses a descriptive analytical design with a cross-sectional approach. In this type of study, independent and dependent variables are measured at the same time without further monitoring. Research subjects do not have to be observed on the same day or at the same time, but assessments of independent and dependent variables are conducted only once for each subject (Nursalam, 2015). This study analyzes factors related to the role of emergency nurses in earthquake disaster management preparedness based on protection motivation theory. This study took HIPGABI nurses in East Java as research respondents.

4.2 Population, Sample (inclusion and exclusion criteria), Sample Size, and Sampling Techniques

4.2.1 Research population

The population in a study consists of subjects, such as humans or clients, who meet predetermined criteria (Nursalam, 2015). The population in this study consisted of nurses who are members of the East Java emergency and disaster nursing professional association, HIPGABI. The population size in this study was 300 nurses.

4.2.2 Sample

A sample is a portion of the accessible population selected as research subjects through a sampling process (Nursalam, 2015). The researchers established the following sample criteria:

1. Inclusion criteria

Inclusion criteria are general characteristics of research subjects in the target population that can be reached and will be used as research objects. The following are the inclusion criteria in this study:

1) Nurses who are members of the HIPGABI WhatsApp group in East Java
2) Nurses who have participated in emergency training
3) Nurses who have experience with disasters

2. Exclusion criteria

Exclusion criteria are conditions for not including subjects who actually meet the inclusion criteria in the study, due to certain reasons (Nursalam, 2015). The following are the inclusion criteria in this study:

1) Nurses are on long leave or inactive during the study period

4.2.3 Sample size

The sample size in this study was determined using the Krejcie and Morgan formula as follows:

$$n = \frac{N.z^2p.q.}{d\,(N-1) + z^2.p.q}$$

$$= \frac{300(1.96)^2.0,5.0,5}{(0,05)\,(300-1) + (1,96)^2.0,5.0.5}$$

= 168,7

= 169 respondents

Explanation:

n = Sample size estimate

N = Estimated population size

z = Standard normal value for α= 0,05 (1,96)

p = Estimated proportion, if unknown assume 50%

q = 1-p (100%-p)

d = Selected margin of error (d=0,05)

Thus, the sample size in this study was 169 respondents. However, based on the data collection period of one month, the sample size in this study was 85 respondents. The researcher was unable to reach the initial sample size because most of the prospective respondents did not meet the inclusion criteria specified in the study.

4.2.4 Sampling technique

Sampling technique is the process of selecting a portion of the population to represent the population (Nursalam, 2015). This study used consecutive sampling. Sampling was carried out by including subjects who met the inclusion criteria in the study sequentially until the specified period so that the required number of participants could be achieved (Nursalam, 2015). At the beginning of its implementation, this consecutive sampling technique was carried out with reference to the target number of respondents, but because this number was difficult to achieve, the sampling process was then adjusted using a time-based approach for a period of 1 month.

4.3 Variabel Research Variables and Operational Definitions of Variables

4.3.1 Research variables

Variables are concepts with varying levels of abstraction, which are used as tools for measurement or manipulation in a study. The concepts used in the study are real and can be measured directly (Nursalam, 2015). The research variables are as follows:

1. Independent variables

Independent variables are variables that influence or have values that determine changes in other variables (Nursalam, 2015). The independent variables in this study are threat appraisal (perceived vulnerability and perceived severity) and coping appraisal (self-efficacy, response efficacy, and response cost).

2. Dependent variables

Dependent variables are variables that undergo changes or whose changes are determined by other variables (Nursalam, 2015). The dependent variables in this study are protection motivation and the preparedness of emergency nurses in earthquake disaster management.

4.3.2 Definisi operasional variabel

Table 4.1 Operational definitions of factor analysis variables related to the role of emergency nurses in earthquake disaster management preparedness based on protection motivation theory

Variable	Operational Definition	Parameters	Measuring Instruments	Data Scale	Score
Independent:					
Threat Appraisal : Perceived Vulnerability	Perceptions of emergency nurses who estimate their own risk of experiencing an earthquake disaster.	1. Perception of vulnerability among nurses 2. Perception of vulnerability among communities 3. Perception of residential areas 4. Perception of increased threat of earthquake disasters	Questionnaire	Ordinal	High = 21-28 Moderate = 14-20 Low = ≤ 13

Variable	Operational Definition	Parameters	Measuring Instruments	Data Scale	Score
Threat Appraisal : Perceived Severity	The perception of emergency nurses who consider earthquakes to be a danger	1. Perception of the impact of earthquakes 2. Perception of the severity of earthquakes 3. Perception of awareness and preparedness for earthquakes between regions	Questionnaire	Ordinal	High = 24-32 Medium = 16-23 Low = ≤ 15
Coping Appraisal : Self-Efficacy	Emergency nurses' confidence in their ability to manage earthquake disasters	1. Confidence in nurses' abilities in earthquake disaster management 2. Nurses' readiness in implementing management procedures	Questionnaire	Ordinal	High = 18-24 Medium = 12-17 Low = ≤ 11
Coping Appraisal : Response Efficacy	Emergency nurses' confidence in the effectiveness of their earthquake disaster management	1. Special knowledge response 2. Patient management during the response process	Disaster Preparedness Evaluation Tool (DPET)	Ordinal	High = 46-60 Medium = 31-45 Low = ≤ 30
Coping Appraisal : Response Cost	The burden that emergency nurses must bear in order	1. Perceptions of financial barriers to earthquake disaster	Questionnaire	Ordinal	High = ≤ 5 Medium = 6-8

Variable	Operational Definition	Parameters	Measuring Instruments	Data Scale	Score
	to manage earthquake disasters	preparedness and response 2. Perceptions of operational risks before and during an earthquake disaster			Low = 9-12
Dependent:					
Protection Motivation	The result of threat appraisal and coping appraisal, namely the urge to take protective action	1. Nurses' perceptions of preparedness in earthquake disaster management 2. Nurses' perceptions of preparedness in social coordination 3. Nurses' preparedness through social participation in raising public awareness	Questionnaire	Ordinal	High = 27-36 Moderate = 18-26 Low = ≤ 17

Variable	Operational Definition	Parameters	Measuring Instruments	Data Scale	Score
Emergency Nurse Preparedness in Earthquake Management	A decision-making process carried out by emergency nurses involving the utilization of various resources, knowledge enhancement, skill strengthening, and the implementation of concrete steps to respond effectively to earthquake disasters.	1. Disaster knowledge 2. Disaster Skills 3. Family Preparedness for Disasters	Disaster Preparedness Evaluation Tool (DPET)	Ordinal	High = 75-100 Moderate = 50-74 Low = ≤ 49

4.4 Research Tools and Materials

This study required supporting media to assist researchers in collecting data. The tool needed in this study was a smartphone, which functioned as a device for filling out questionnaires.

4.5 Research Instruments

Data collection in this study was conducted using a questionnaire. The research instrument was developed by the researcher by modifying instruments from previous studies conducted by Flores et al (2024); Gumasing and Sobrevilla (2023); Kurata et al (2023); Martono et al (2019), and was based on the Protection Motivation Theory. The questionnaire administered in this study consisted of the following sections:

1. Demographic Data Questionnaire

The demographic data questionnaire was included to obtain general information about the respondents. It consisted of several questions related to the respondents, including name initials, gender, age, highest educational attainment, length of work experience as a nurse, duration of membership in HIPGABI, and current workplace.

2. Threat Appraisal Questionnaire: Perceived Vulnerability

The threat appraisal questionnaire on perceived vulnerability was developed based on studies by Flores et al (2024); Gumasing and Sobrevilla (2023); Kurata et al (2023) which were originally used in the context of community flood preparedness research. Several statement items were modified by the researcher to suit the context of this study, namely emergency nurses' preparedness in earthquake disaster management. The questionnaire was measured using a 4-point Likert scale with response options ranging from strongly disagree (SD), disagree (D), agree (A), to strongly agree (SA). Favorable statements consisted of items numbered 1, 2, 3, 4, 5, 6, and 7. The scoring for favorable items was as follows: SD = 1, D = 2, A = 3, and SA = 4. The results were interpreted into three categories: high (21–28), moderate (14–20), and low (≤13).

Table 4.2 Blue print Questionnaire threat appraisal: perceived vulnerability

No.	Parameter	Statement Items
1.	Nurses perceived vulnerability	1,7
2.	Community perceived vulnerability	6
3.	Perceived vulnerability of the residential area	5
4.	Perceived increase in the threat of earthquake disasters	2,3,4

3. Threat Appraisal Questionnaire: Perceived Severity

The threat appraisal questionnaire on perceived severity was developed based on studies by Flores et al (2024); Gumasing and Sobrevilla (2023); Kurata et al (2023), which were originally used in the context of community flood preparedness research. Several statement items were modified by the researcher to align with the focus of this study, namely the preparedness of emergency nurses in earthquake disaster management. The questionnaire was measured using a 4-point Likert scale with response options ranging from strongly disagree (SD), disagree (D), agree (A), to strongly agree (SA). Favorable statements consisted of items numbered 1, 2, 3, 4, 5, 6, 7, and 8. The scoring for favorable items was as follows: SD = 1, D = 2, A = 3, and SA = 4. The results were interpreted into three categories: high (24–32), moderate (16–23), and low (≤15).

Table 4.3 Blue print Questionnaire threat appraisal: perceived severity

No.	Parameter	Statement Items
1.	Perceived impact of earthquake disasters	1,2,3,5,6
2.	Perceived severity of earthquake disasters	3,4,8
3.	Perceived inter-regional awareness and preparedness for earthquake disasters	7

4. Coping appraisal questionnaire: self-efficacy

The coping appraisal questionnaire on self-efficacy was developed based on studies by Flores et al (2024); Gumasing and Sobrevilla (2023), which were originally applied in the context of community flood preparedness research. Several statement items were modified by the researcher to suit the focus of this study, namely the preparedness of emergency nurses in earthquake disaster management. The questionnaire was measured using a 4-

point Likert scale with response options ranging from strongly disagree (SD), disagree (D), agree (A), to strongly agree (SA). Favorable statements consisted of items numbered 1, 2, 3, 4, 5, and 6. The scoring for favorable items was as follows: SD = 1, D = 2, A = 3, and SA = 4. The results were interpreted into three categories: high (24–32), moderate (16–23), and low (≤15).

Table 4.4 Blue print questionnaire coping appraisal:self-efficacy

No.	Parameter	Statement Items
1.	Confidence in nurses' ability to manage earthquake disasters	1,2,6
2.	Nurses' readiness to implement management procedures	3,4,5

5. coping appraisal questionnaire:response efficacy

The coping appraisal questionnaire on response efficacy used the Disaster Preparedness Evaluation Tool (DPET) to measure the response capabilities of emergency nurses in earthquake disaster management. The questionnaire, which had been adapted into Indonesian by Martono et al (2019), was further modified by the researcher to suit the context of this study. The original instrument consisted of 46 statement items; however, only the items specifically designed to measure response capability were selected, resulting in a total of 15 statement items. The questionnaire was measured using a 4-point Likert scale with response options ranging from strongly disagree (SD), disagree (D), agree (A), to strongly agree (SA). All statements were considered favorable. The scoring for favorable items was as follows: SD = 1,

D = 2, A = 3, and SA = 4. The results were interpreted into three categories: high (46–60), moderate (31–45), and low (≤30).

Table 4.5 Blue print coping appraisal questionnaire: response efficacy

No.	Parameter	Statement Items
1.	Special knowledge response	1-3
2.	Patient management during the response process	4-15

6. coping appraisal questionnaire: response cost

The coping appraisal questionnaire on response cost was developed based on studies by Flores et al (2024); Gumasing and Sobrevilla (2023), which were originally used in the context of community flood preparedness research. Several statement items were modified by the researcher to suit the context of this study, namely the preparedness of emergency nurses in earthquake disaster management. The questionnaire was measured using a 4-point Likert scale with response options ranging from strongly disagree (SD), disagree (D), agree (A), to strongly agree (SA). Unfavorable statements consisted of items numbered 1, 2, and 3. The scoring for unfavorable items was reversed as follows: SD = 4, D = 3, A = 2, and SA = 1. The results were interpreted into three categories: high (12–16), moderate (8–11), and low (≤7).

Table 4.6 Blue print questionnaire coping appraisal: response cost

No.	Parameter	Statement Items
1.	Perceived financial barriers in earthquake disaster preparedness and response	1,2
2.	Perceived operational risks before and during an earthquake disaster	3

7. protection motivation questionnaire

The protection motivation questionnaire was developed based on studies by Flores et al (2024); Gumasing and Sobrevilla (2023), which were originally applied in the context of community flood preparedness research. Several statement items were modified by the researcher to suit the focus of this study, namely the preparedness of emergency nurses in earthquake disaster management. The questionnaire was measured using a 4-point Likert scale with response options ranging from strongly disagree (SD), disagree (D), agree (A), to strongly agree (SA). Favorable statements consisted of items numbered 1 to 9. The scoring for favorable items was as follows: SD = 1, D = 2, A = 3, and SA = 4. The results were interpreted into three categories: high (27–36), moderate (18–26), and low (≤17).

Table 4.7 Blue print protection motivation questionnaire

No.	Parameter	Statement Items
1.	Perceived preparedness of nurses in earthquake disaster management	1,2,3,4
2.	Persepsi kesiapsiagaan perawat dalam koordinasi sosial	5
3.	Nurses preparedness through social participation in enhancing public awareness	6,7,8, 9

8. Earthquake Disaster Management Preparedness Questionnaire

This study used the Disaster Preparedness Evaluation Tool (DPET) to measure the preparedness of emergency nurses in earthquake disaster management. DPET is a widely used instrument that was first developed by Bond and Tichy in 2009 in the United States. It was designed to assess the knowledge and skills of practicing nurses in disaster preparedness, including their ability to respond to and manage disaster situations. The development of

DPET was based on disaster preparedness competencies outlined in the Essentials of Master's Education released by the American Association of Colleges of Nursing in 1996 (Elshami et al., 2025). The questionnaire, which had been adapted into Indonesian by Martono et al (2019), was further modified by the researcher to suit the context of this study. The original instrument consisted of 46 statement items; however, only the items specifically designed to measure preparedness were selected, resulting in a total of 25 statement items. The questionnaire was measured using a 4-point Likert scale. All statements were classified as favorable. The response options for each item were strongly disagree (SD), disagree (D), agree (A), and strongly agree (SA). The scoring for favorable items was as follows: SD = 1, D = 2, A = 3, and SA = 4. The results were interpreted into three categories: high (75–100), moderate (50–74), and low (≤49).

Table 4.8 Blue print of the Emergency Nurses Preparedness Questionnaire in Earthquake Disaster Management

No.	Parameter	Statement Items
1.	Disaster knowledge	1-16
2.	Disaster Skills	17-23
3.	Family Preparedness for Disasters	24,25

4.6 Validity and Reliability Testing

Validity and reliability testing were conducted because the instruments used in this study were modified to suit the context of earthquake disaster management in Indonesia. The research instruments were adapted from previous studies conducted by Flores et al (2024); Gumasing and Sobrevilla (2023); Kurata et al. (2023); Martono et al (2019). Instrumen berupa kuesioner threat appraisal (perceived vulnerability dan perceived severity), coping appraisal (self-efficacy,

response efficacy, dan response cost), protection motivation, dan kesiapsiagaan perawat gawat darurat dalam manajemen bencana gempa bumi.

The validity test in this study was conducted using Pearson's correlation by correlating the score of each item with the total score of the variable, which represents the sum of all items within that variable. The obtained correlation coefficient (calculated r) was then compared with the critical r value (r table) at a significance level of 0.05 using a two-tailed test. An item was considered valid if the calculated r value was greater than or equal to the critical r value, whereas an item was deemed invalid if the calculated r value was less than the critical r value (Wahyuni, 2020). Furthermore, the reliability test in this study was performed using Cronbach's Alpha.

The validity and reliability tests were conducted on respondents outside the research sample, namely emergency nurses in East Java. The initial validity and reliability testing was carried out with 10 respondents; however, the results of the first test indicated that many items were not valid. Therefore, the researcher revised the questionnaire and conducted a second round of testing. The second test involved 30 respondents. At this stage, all instruments were declared valid, with a total of 71 valid statements out of 73 statements. However, the questionnaire for the coping appraisal variable, specifically the response cost dimension, was found to be valid for only one statement. Following further revisions, the improved questionnaire was re-tested on 7 respondents outside the research sample. The results of the third test indicated that this variable met the requirements for validity and reliability, with three statements deemed suitable for use in the study.

The following table presents the results of the validity and reliability tests for each research variable:

Table 4.9 Validity and Reliability Assessment of the Threat Appraisal Dimension: Perceived Vulnerability

No.	Statement	Bivariate Pearson	Result	Alpha Cronbach
1.	I believe that I am vulnerable to the impacts of earthquake disasters.	0.897	Valid	α= 0.921 N=7
2.	In my opinion, recent earthquake disasters have been more severe compared to previous ones.	0.680	Valid	
3.	I feel that earthquake disasters occur more frequently now than they did several years ago.	0.780	Valid	
4.	I believe that the impacts of earthquake disasters in my area have increased over the past few years.	0.870	Valid	
5.	I live in an area that is close to and vulnerable to earthquake disasters.	0.900	Valid	
6.	The community where I work is vulnerable to earthquake disasters.	0.889	Valid	
7.	I have previously experienced the impacts of an earthquake disaster.	0.819	Valid	

Table 4.10 Validity and Reliability Results of the Threat Appraisal Questionnaire: Perceived Severity

No.	Statement	Bivariate Pearson	Result	Alpha Cronbach
1.	I feel that the impacts resulting from earthquake disasters may threaten my quality of life.	0.746	Valid	α= 0.847 N=8
2.	I feel that earthquake disasters may disrupt my daily life.	0.780	Valid	
3.	I believe that earthquake disasters cause severe impacts.	0.639	Valid	
4.	I believe that the severity of earthquake disasters in East Java has increased over the past few years.	0.828	Valid	
5.	I believe that earthquake disasters can result in a large number of casualties.	0.754	Valid	
6.	I believe that earthquake disasters in my area are more severe compared to	0.696	Valid	

No.	Statement	Bivariate Pearson	Result	Alpha Cronbach
	other regions.			
7.	I am prepared and alert for earthquake disasters because I am aware of their warning signs.	0.538	Valid	
8.	I feel that earthquake disasters pose a serious threat to human life.	0.589	Valid	

Table 4.11 Results of the Validity and Reliability Testing of the Coping Appraisal: Self-Efficacy Questionnaire

No.	Statement	Bivariate Pearson	Result	Alpha cronbach
1.	I am confident that I can take appropriate measures for preparedness and mitigation of earthquake disaster impacts in my area.	0.811	Valid	
2.	I am confident that I can efficiently handle unexpected earthquake events.	0.921	Valid	
3.	I feel prepared to participate in emergency response protocols specifically designed for earthquake disasters.	0.924	Valid	α= 0.810 N=6
4.	I know the safety procedures to follow during an earthquake disaster.	0.8895	Valid	
5.	I am able to prepare emergency supplies prior to an earthquake disaster.	0.833	Valid	
6.	I am able to protect myself and others from the threats posed by earthquake disasters.	0.787	Valid	

Table 4.12 Results of the Validity and Reliability Testing of the Coping Appraisal: Response Efficacy Questionnaire

No.	Statement	Bivariate Pearson	Result	Alpha cronbach
1.	I am able to describe my role in managing disaster phases within the contexts of the workplace, public settings, media, and personal contacts.	0.446	Valid	
2.	I understand logistical coordination and organizational roles among local, provincial, and national agencies during emergency response situations.	0.769	Valid	

No.	Statement	Bivariate Pearson	Result	Alpha cronbach
3.	I am knowledgeable about psychological interventions, behavioral therapy, cognitive strategies, support groups, and accident debriefing for patients experiencing emotional and physical trauma.	0.819	Valid	
4.	I am able to manage common symptoms and reactions of disaster survivors, including affective, behavioral, cognitive, and physical responses.	0.749	Valid	
5.	I feel confident in providing education related to stress and trauma-related psychological disorders to patients.	0.633	Valid	
6.	I am able to identify indicators of potential mass exposure, as evidenced by groups of patients presenting similar symptoms.	0.843	Valid	α= 0.944 N=15
7.	As an emergency and disaster nurse, I am confident in assuming the role of a rescue manager or coordinator.	0.817	Valid	
8.	I am confident in my ability to provide patient care independently without physician supervision in disaster situations.	0.536	Valid	
9.	I would feel confident working as a triage nurse and establishing temporary clinics during earthquake disaster situations.	0.849	Valid	
10.	As an emergency nurse, I am confident in my abilities as a frontline and specialized healthcare provider during earthquake disaster situations.	0.757	Valid	
11.	I feel confident in implementing emergency response plans, evacuation procedures, shelter management, and other related functions.	0.850	Valid	
12.	As an emergency nurse, I am highly confident in my ability to serve as a member of a decontamination team.	0.814	Valid	
13.	I understand the main categories (A, B, and C) of biological agents (such as anthrax, plague, botulism, and smallpox), including their signs and symptoms, as well as effective treatment options.	0.819	Valid	
14.	I am confident that I am able to identify various deviations in health assessments that indicate potential exposure to	0.836	Valid	

No.	Statement	Bivariate Pearson	Result	Alpha cronbach
	biological agents.			
15.	In the event of bioterrorism or a biological attack, I know how to document health histories and conduct focused health assessments, particularly in relation to the biological agent involved.	0.816	Valid	

Table 4.13 result of the validity and reliability testing of the coping appraisal: response cost questionnaire

No.	Statement	Bivariate Pearson	Result	Alpha cronbach
1.	Installing disaster early warning systems in my area requires substantial financial costs.	0.936	Valid	α= 0.844 N=3
2.	Purchasing emergency supplies and disaster safety equipment requires substantial financial costs.	0.915	Valid	
3.	Distributing relief supplies and evacuation equipment during earthquake disasters involves considerable risk.	0.760	Valid	

Table 4.14 Results of the Validity and Reliability Testing of the Protection Motivation Questionnaire

No.	Pertanyaan	Bivariate Pearson	Hasil	Alpha Cronbach
1.	I am motivated to learn more about the potential risks and impacts of earthquake disasters.	0.715	Valid	α= 0.937 N=9
2.	I have prepared myself for possible future earthquake disasters.	0.787	Valid	
3.	I am seeking guidance to prepare for earthquake emergencies and to organize evacuation route plans for the entire population.	0.847	Valid	
4.	Saya sudah ambil bagian dalam pelatihan yang berfokus pada persiapan untuk gempa bumi.	0.912	Valid	
5.	Saya akan berkoordinasi dengan rekan sejawat lain terkait prosedur tanggap	0.831	Valid	

No.	Pertanyaan	Bivariate Pearson	Hasil	Alpha Cronbach
	darurat gempa bumi sebagai persiapan bencana gempa bumi di daerah saya.			
6.	Saya melindungi diri saya dari dampak bencana gempa bumi dengan berbagi ilmu dan pengalaman dari bencana sebelumnya.	0.841	Valid	
7.	Saya melindungi diri dari dampak bencana gempa bumi dengan berpartisipasi dalam kampanye sadar terhadap bencana gempa bumi.	0.849	Valid	
8.	Saya melindungi diri saya dari dampak bencana gempa bumi dengan menyadari pentingnya mempersiapkan diri terhadap bencana gempa bumi dengan yang lain.	0.856	Valid	
9.	Saya melindungi diri dari saya dari dampak bencana gempa bumi dengan mengetahui daerah rentan gempa di komunitas saya.	0.724	Valid	

Table 4.15 Results of the Validity and Reliability Testing of the Earthquake Disaster Preparedness Management Questionnaire

No.	Pertanyaan	Bivariate Pearson	Hasil	Alpha cronbach
1.	I am interested in participating in classes (training) on earthquake disaster preparedness that are directly relevant to situations in my community.	0.692	Valid	
2.	I am interested in classes regarding earthquake disaster preparedness and mitigation offered, for example, in my workplace, university, or community.	0.745	Valid	
3.	In my opinion, published research on earthquake disaster preparedness is easy to understand.	0.857	Valid	
4.	I know the limits of my knowledge, skills, and authority as an emergency nurse to act in earthquake disaster situations, and I am aware when I exceed those limits.	0.847	Valid	
5.	Seeking relevant information on earthquake disaster preparedness related to the needs of my surrounding community poses a barrier to my level of preparedness.	0.814	Valid	

No.	Pertanyaan	Bivariate Pearson	Hasil	Alpha cronbach
6.	I pay attention to potential earthquake disaster vulnerabilities in my surrounding community.	0.884	Valid	α= 0.979 N=25
7.	In my opinion, if an earthquake disaster occurs, there is adequate support from local or central officials at the district or national level.	0.672	Valid	
8.	I know where to find relevant research or information related to earthquake disaster preparedness and mitigation to fill gaps in my knowledge.	0.844	Valid	
9.	I have a contact list of personnel in the medical or health sector at my workplace and know whom to contact in the event of an earthquake disaster (e.g., health department/unit).	0.857	Valid	
10.	In my opinion, published research on earthquake disaster preparedness and mitigation is easily accessible.	0.846	Valid	
11.	I participate in educational activities, such as continuing education classes, seminars, or conferences related to disaster preparedness, on a regular basis.	0.880	Valid	
12.	I understand the local disaster emergency response system.	0.876	Valid	
13.	I know the authorities to contact (chain of command) during an earthquake disaster in my community.	0.729	Valid	
14.	I read journal articles related to earthquake disaster preparedness.	0.838	Valid	
15.	I participate/have participated in developing guidelines, emergency response plans, or advocacy efforts for progress at the local or national level.	0.815	Valid	
16.	I have participated in developing emergency response plans and disaster preparedness planning for earthquake situations in my community.	0.869	Valid	
17.	I know the principles of triage used in earthquake disaster situations.	0.756	Valid	
18.	I regularly participate in simulations or exercises on earthquake disaster management at my workplace (e.g., clinic, hospital).	0.888	Valid	
19	In my opinion, I am prepared to respond to earthquake disasters.	0.917	Valid	

No.	Pertanyaan	Bivariate Pearson	Hasil	Alpha cronbach
20.	In the event of bioterrorism or a biological attack, I know how to properly use personal protective equipment (PPE).	0.760	Valid	
21.	I would be trusted as a key leadership figure in my community during earthquake disaster situations.	0.863	Valid	
22.	In the event of bioterrorism or a biological attack, I know how to carry out isolation procedures to minimize exposure risks to the community.	0.817	Valid	
23.	In the event of bioterrorism or a biological attack, I know how to perform decontamination procedures.	0.715	Valid	
24.	I have a personal/family emergency response plan in place for earthquake disaster situations.	0.917	Valid	
25.	I have a personal/family emergency response plan in place for earthquake disaster situations. (duplicate—may need removal or merging in the final questionnaire)	0.680	Valid	

4.7 Research Location and Time

This study was conducted online via the HIPGABI East Java WhatsApp group. Data collection took place from October 31, 2025, to December 1, 2025.

4.8 Data Collection Procedure

4.9.1 Preparation

Data collection began with submitting a research data collection permit addressed to the Chairperson of HIPGABI (Indonesian Association of Emergency and Disaster Nurses) East Java Regional Board. After obtaining approval, the researcher coordinated to determine the schedule for the study.

4.9.2 Implementation

Data collection was carried out in accordance with the approval procedure set by the HIPGABI East Java Regional Board. Once granted access, the researcher was added to the internal HIPGABI WhatsApp group to distribute the

questionnaire link directly to the nurses in the group. Additionally, the questionnaire link was sent via private messages to each respondent.

At the beginning of the questionnaire, respondents were presented with a research information page and informed consent form, explaining the study objectives, data collection procedures, confidentiality assurances, and a statement that participation was voluntary without any consequences. Respondents could proceed with the questionnaire only after indicating consent by selecting the “agree” option at the end of the informed consent section. The questionnaire was administered online to facilitate access for HIPGABI nurses across East Java. All collected data were kept confidential and used solely for academic purposes, following ethical research principles.

4.9 Data Analysis

Data analysis is a crucial stage aimed at answering the research questions and uncovering the studied phenomena (Nursalam, 2015).

4.9.1 Descriptive Analysis

Descriptive analysis is a method for systematically summarizing and presenting data, typically in tables or graphs. Information includes frequency counts, proportions, ratios, and measures of central tendency such as mean, median, and mode. It also includes measures of dispersion, such as standard deviation, variance, range, and quartiles. A key focus is the interpretation of frequency tables, which display counts and percentages for each observed category (Nursalam, 2015). This analysis was used to describe each independent variable, including threat appraisal (perceived vulnerability and perceived severity), coping appraisal (self-efficacy, response efficacy, and response cost),

and dependent variables, namely protection motivation and earthquake disaster preparedness management.

4.9.2 Inferential Analysis

Analisis penelitian ini menggunakan analisis bivariat, yaitu uji Spearman Rho (≤ 0,05). Metode ini dipakai untuk menguji korelasi atau hubungan signifikan antara dua variabel berskala ordinal yang datanya berasal dari sumber yang tidak sama (Dodiet Aditya Setyawan, 2022) . The interpretation is based on comparing the p-value with α (0.05):

1. If $p < \alpha$, H1 is accepted, indicating a significant relationship between the variables tested
2. If $p > \alpha$, H1 is rejected, indicating no significant relationship between the variables tested

4.10 Operational Framework

The operational framework of this study is as follows:

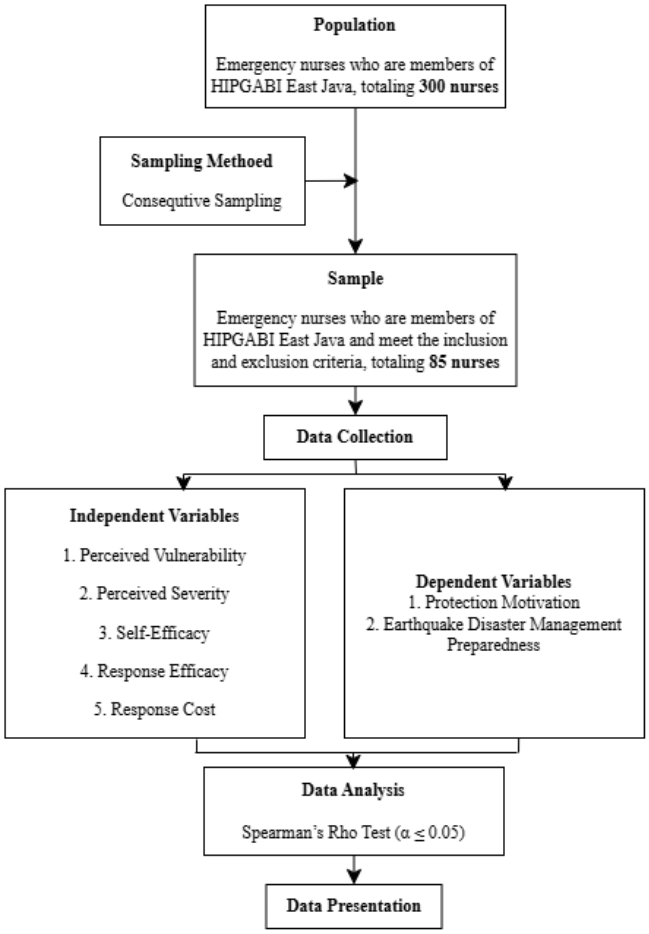


Figure 4.1 Research Operational Framework

4.11 Research Ethics

The researcher obtained ethical approval from the Health Research Ethics Committee (KEPK) of the Faculty of Nursing, Universitas Airlangga, under approval number 3854-KEPK, valid from October 7, 2025. The study was conducted following a series of stages that adhere to ethical principles in research, as described below:

4.11.1 Informed consent

The researcher explained the purpose and objectives of the study, as well as any potential impacts that could arise during data collection. Respondents who agreed to participate were asked to provide written consent. Participation was entirely voluntary, and respondents' rights to decline without any consequences were fully respected.

4.11.2 Anonymity

Anonymity was ensured by not including respondents' names on the research instruments. Instead, unique codes were assigned to each participant in the data collection sheets to maintain privacy.

4.11.3 Confidentiality

Confidentiality emphasizes the protection of all personal and sensitive information collected during the study. All data obtained were securely maintained by the researcher, and only relevant information necessary for reporting the research results was presented in the final report.

CHAPTER 5

RESULTS AND DISCUSSION

5.1 Results

5.1.1 Overview

Himpunan Perawat Gawat Darurat dan Bencana Indonesia (HIPGABI) is a professional organization focused on the development of nurses' competencies in emergency care and disaster management in Indonesia. HIPGABI serves as a platform for collaboration, education, training, and the development of emergency nursing standards aimed at quality and patient safety. Structurally, HIPGABI has both national and regional boards across multiple provinces. The organization actively conducts seminars, workshops, and training programs such as Basic Trauma Cardiac Life Support (BTCLS), Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), and code blue training. HIPGABI also provides training to volunteers in disaster-prone areas. In addition, HIPGABI implements disaster response programs, including donation activities and deployment of volunteer teams. Donations are used to meet the needs of disaster victims, while volunteer teams are deployed directly to provide emergency health services.

HIPGABI collaborates with various healthcare institutions, universities, and other nursing professional organizations to enhance the professionalism of Indonesian nurses. Selecting HIPGABI as the research site is highly appropriate because the organization functions as a national competence hub for nurses in disaster management. With its widespread and active membership in disaster response activities, HIPGABI provides a comprehensive overview of nurses' preparedness in responding to earthquake disasters.

5.1.2 Respondent Demographic Characteristics

This section describes the characteristics of 85 respondents, including gender, age, highest level of education, duration of work as emergency nurses, length of membership in HIPGABI, and current workplace.

Tabel 5.1 Distribution of Demographic Data of HIPGABI Nurses in East Java, October 31 – December 1, 2025

Respondent Characteristics	Category	Frequency	Percentage
Gender	Male	67	78,8%
	Female	18	21,2%
Age	26-35 years	15	17,65%
	36-45 years	48	56,47%
	46-55 years	17	20,0%
	56-65 years	5	5,88%
Highest Education	D3	16	18,8%
	S1	40	47,1%
	S2	24	28,2%
	S3	3	3,5%
	Spesialist	2	2,4%
Years of Work as Emergency Nurse	< 5 years	6	7,1%
	5-10 years	23	27,1%
	>10 years	56	65,9%
Duration of Membership in HIPGABI	< 6 months	8	9,4%
	6 months - < 1 years	4	4,7%
	1 yeyearsrs– 5 years	36	42,4%
	6-10 years	28	32,9%
	>10 years	9	10,6%
Current workplace	Hospital	64	75,3%
	Educational Institution	17	20,0%
	Community Health Center	2	2,4%
	Clinic	2	2,4%

The analysis of Table 5.1 regarding respondent characteristics indicates that the majority of respondents were male (78.8%), suggesting that the composition of HIPGABI members involved in this study was predominantly male emergency nurses. In terms of age, most respondents were between 36 - 45 years old

(56.47%), indicating that the majority of participants were in their productive adult years with relatively substantial professional experience. Regarding the highest level of education, nearly half of the respondents held a Bachelor's degree (S1, 47.1%), while a significant proportion had a Master's degree (S2, 28.2%). Overall, the majority of respondents had attained higher education (S1 and S2), reflecting a generally high educational level among HIPGABI members, which is relevant to the competencies required in emergency nursing.

Based on professional experience as emergency nurses, most respondents had worked for more than 10 years (65.9%), indicating long-term engagement in emergency care and strong professional competence in the field. Regarding membership duration in HIPGABI, almost half of the respondents had been members for 1–5 years (42.4%), and a significant portion for 6–10 years (32.9%), demonstrating sustained involvement in the organization. Berdasarkan tempat bekerja, sebagian besar responden bekerja di hospital (75,3%). Concerning the current workplace, the majority of respondents were employed in hospitals (75.3%). Overall, the characteristics of the respondents suggest that this study involved experienced, highly educated, and actively engaged emergency nurses, ensuring that the data collected reflect the perspectives and professional experiences of competent practitioners in emergency nursing.

5.1.3 Distribution of Research Variables

Tabel 5.2 Distribution of Measured Variables among HIPGABI Nurses in East Java (October 31 – December 1, 2025)

Measured Variable	**Category**	**Frequency**	Precentage
Threat Appraisal: Perceived Vulnerability	Low	1	1,2%
	Medium	53	62,4%
	High	31	36,5%
Total		85	100,0%

Threat Appraisal: Perceived Severiy	Low	0	0%
	Medium	2	2,4%
	High	83	97,6%
Total		85	100,0%
Coping Appraisal: Self-Efficacy	Low	0	0%
	Medium	72	84,7%
	High	13	15,3%
Total		85	100,0%
Coping Appraisal: Response Efficacy	Low	0	0%
	Medium	63	74,1%
	High	22	25,9%
Total		85	100,0%
Coping Appraisal: Response Cost	Low	6	7,1%
	Medium	61	71,8%
	High	18	21,2%
Total		85	100,0%
Protection Motivation	Low	0	0%
	Medium	7	8,2%
	High	78	91,8%
Total		85	100,0%
Emergency Nurse Preparedness in Earthquake Disaster Management	Low	0	0%
	Medium	28	32,9%
	High	57	67,1%
Total		85	100,0%

The analysis of Table 5.2 indicates that, for the Threat Appraisal variable, the Perceived Vulnerability dimension was predominantly classified as medium (62.4%), followed by high (36.5%), with a very small proportion falling into the low category (1.2%). This distribution suggests that most respondents perceive themselves as having a moderate to high level of vulnerability to earthquake hazards. Regarding Perceived Severity, almost all respondents rated the threat of earthquakes as very serious, with 97.6% in the high category. This proportion reflects a strong risk perception regarding the potential impacts of earthquake disasters.

In the Coping Appraisal variable, the data pattern indicates that respondents' self-assessment of preparedness actions is at a moderate level. For Self-Efficacy, the majority of respondents were classified in the medium category (84.7%),

while the remainder fell into the high category, suggesting that most participants feel adequately capable of performing preparedness actions, though not yet fully confident at an optimal level. A similar pattern was observed for Response Efficacy, with most respondents in the medium category (74.1%), indicating that their evaluation of the effectiveness of preparedness actions is also at a moderate level. Regarding Response Cost, most respondents rated the costs or barriers associated with preparedness as medium (71.8%), suggesting that the majority do not perceive significant burden, although a small proportion still experiences high obstacles.

Overall, the Protection Motivation and Disaster Management Preparedness variables exhibited a strong positive tendency. Almost all respondents demonstrated high protection motivation (91.8%), reflecting that a combination of high perceived vulnerability and threat, along with adequate self-efficacy, can stimulate an internal drive to engage in protective behaviors. Furthermore, the majority of respondents were also in the high category for disaster management preparedness (67.1%), indicating that their practical readiness aligns well with their threat appraisal, coping appraisal, and protection motivation.

5.1.4 Hypothesis Test Analysis

The Relationship between Threat Appraisal: Perceived Vulnerability and Protection Motivation

Tabel 5.3 Relationship between Threat Appraisal: Perceived Vulnerability and Protection Motivation among HIPGABI East Java Nurses, October 31 – December 1, 2025

Perceived Vulnerability	**Protection Motivation**						**Total**	**%**
	Low		Medium		High			
	Frequency	%	Frequency	%	Frequency	%		

Low	0	0 %	0	0%	1	1,2%	1	1,2%
Medium	0	0 %	4	4,7%	49	57,6 %	53	62,4 %
High	0	0 %	3	3,5%	28	32,9 %	31	36,5 %
Total	0	0 %	7	8,2%	78	91,8 %	85	100%
p= 0,008								
Correlation Coefficient= 0,288								

Based on Table 5.3, the analysis shows that the significance value (p = 0.008) is below the α level of 0.05, indicating a significant relationship between perceived vulnerability and protection motivation. The correlation coefficient r = 0.288 suggests a moderate positive relationship, meaning that the higher an individual's awareness of perceived vulnerability, the higher their protection motivation. Therefore, H1 is accepted.

1. Hubungan antara threat appraisal: perceived severity dengan protection motivation

Tabel 5.4 Relationship between Threat Appraisal: Perceived Vulnerability and Protection Motivation among HIPGABI East Java Nurses, October 31 – December 1, 2025

Perceived Severity	**Protection Motivation**						**Total**	**%**
	Low		Medium		High			
	Frequency	%	Frequency	%	Frequency	%		
Low	0	0 %	0	0%	0	0%	0	0%
Medium	0	0 %	0	0%	2	2,4%	2	2,4%
High	0	0 %	7	8,2%	76	89,4 %	83	97,6 %
Total	0	0 %	7	8,2%	78	91,8 %	85	100%
p= 0,001								
Correlation Coefficient= 0,352								

The results of the analysis presented in Table 5.4 indicate that the significance value (p = 0.001) is below the threshold of α = 0.05, suggesting a statistically significant relationship between perceived severity and protection

motivation. The correlation coefficient (r = 0.352) indicates a moderate positive relationship, meaning that higher levels of perceived severity awareness are associated with higher levels of protection motivation. Therefore, H1 is accepted.

2. Relationship between coping appraisal (self-efficacy) and protection motivation

Tabel 5.5 Relationship between coping appraisal (self-efficacy) and protection motivation among HIPGABI nurses in East Java, October 31 – December 1, 2025

Self-efficacy	**Protection Motivation**						**Total**	**%**
	Low		Medium		High			
	Frequency	%	Frequency	%	Frequency	%		
Low	0	0 %	0	0%	0	0%	0	0%
Medium	0	0 %	2	2,4%	70	82,4 %	72	84,7 %
High	0	0 %	5	5,9%	8	9,4%	13	15,3 %
Total	0	0 %	7	8,2%	78	91,8 %	85	100%
p= 0,000								
Correlation Coefficient = 0,423								

The results of the analysis presented in Table 5.5 show that the significance value (p = 0.000) is below the threshold of α = 0.05. This indicates a statistically significant relationship between self-efficacy and protection motivation. The correlation coefficient (r = 0.423) suggests a moderate positive relationship, indicating that higher levels of self-efficacy are associated with higher levels of protection motivation. Therefore, H1 is accepted.

3. Relationship between coping appraisal (response efficacy) and protection motivation

Tabel 5.6 Relationship between coping appraisal (response efficacy) and protection motivation among HIPGABI nurses in East Java, October 31 – December 1, 2025

Response	**Protection Motivation**	**Tot**	**%**

Efficacy	Low		Medium		High		**al**	
	Frequency	%	Frequency	%	Frequency	%		
Low	0	0 %	0	0%	0	0%	0	0%
Medium	0	0 %	1	1,2%	62	72,9 %	63	74,1 %
High	0	0 %	6	7,1%	16	18,8 %	22	25,9 %
Total	0	0 %	28	8,2%	57	91,8 %	85	100%
p= 0,000								
Correlation Coefficient= 0,553								

The analysis of Table 5.6 indicates that the significance value (p = 0.000) is below the threshold of α = 0.05. This finding demonstrates a statistically significant relationship between response efficacy and protection motivation. The correlation coefficient (r = 0.553) indicates a moderately strong positive relationship, suggesting that higher confidence in the effectiveness of the response is associated with higher levels of protection motivation. Therefore, H1 is accepted.

4. Relationship between coping appraisal (response cost) and protection motivation

Tabel 5.7 Relationship between coping appraisal (response cost) and protection motivation among HIPGABI nurses in East Java, October 31 – December 1, 2025

Response Cost	**Protection Motivation**						**Total**	**%**
	Low		Medium		High			
	Frequency	%	Frequency	%	Frequency	%		
Low	0	0 %	1	1,2%	5	5,9%	6	7,1%
Medium	0	0 %	1	25,9 %	60	70,6 %	61	71,8 %
High	0	0 %	5	5,9%	13	15,3 %	18	21,2 %
Total	0	0 %	7	32,9 %	78	91,8 %	85	100%
p= 0,049								
Correlation Coefficient= -0,214								

Based on Table 5.7, the analysis shows that the significance value (p = 0.049) is below the threshold of α = 0.05, indicating a statistically significant relationship between response cost and protection motivation. The correlation coefficient (r = −0.214) reflects a weak negative relationship, suggesting that higher perceived response costs are associated with lower levels of protection motivation. Therefore, H1 is accepted.

5. Hubungan antara protection motivation dengan kesiapsiagaan perawat gawat darurat dalam manajemen bencana gempa bumi.

Tabel 5.8 Relationship between protection motivation and emergency nurses' preparedness for earthquake disaster management among HIPGABI nurses in East Java, October 31 – December 1, 2025

Protection Motivation	**Preparedness in Earthquake Disaster Management**						**Total**	**%**
	Low		Medium		High			
	Frequency	%	Frequency	%	Frequency	%		
Low	0	0 %	0	0%	0	0%	0	0%
Medium	0	0 %	0	0%	7	8,2%	7	8,2%
High	0	0 %	28	32,9 %	50	87,7 %	78	91,8 %
Total	0	0 %	28	32,9 %	57	67,1 %	85	100%
p= 0,000								
Correlation Coefficient = 0,758								

Based on Table 5.8, the results of the analysis indicate that the significance value (p = 0.000) is below the threshold of α = 0.05, demonstrating a statistically significant relationship between protection motivation and preparedness for earthquake disaster management. The correlation coefficient (r = 0.758) indicates a strong positive relationship, suggesting that higher levels of protection motivation are associated with higher levels of preparedness in earthquake disaster management. Therefore, H1 is accepted.

5.2 Discussion

5.2.2 Relationship between Threat Appraisal (Perceived Vulnerability) and Protection Motivation

The findings of this study indicate that threat appraisal, specifically perceived vulnerability, has a significant relationship with protection motivation. The positive direction of this relationship suggests that the higher the level of perceived vulnerability experienced by respondents, the greater their motivation to engage in protective actions. Data distribution shows that most respondents with high levels of protection motivation were found among those with moderate to high perceived vulnerability.

These findings are consistent with previous studies demonstrating a significant relationship between threat appraisal (perceived vulnerability) and protection motivation, reinforcing the critical role of individuals' perceptions of vulnerability to disaster threats in shaping their readiness to undertake actions aimed at reducing risk and potential impacts. (Flores et al., 2024).

Based on the data distribution, one respondent exhibited low perceived vulnerability while demonstrating high protection motivation. This condition may be explained by the presence of other motivating factors, such as personal experience, prior training, or higher educational background. As a result, despite a low perception of vulnerability, the individual may still maintain a high level of vigilance and preparedness. This finding suggests that protection motivation is not solely influenced by perceived vulnerability but may also be shaped by experience, knowledge, and overall individual preparedness (Tang and Feng, 2018).

5.2.3 Relationship between Threat Appraisal (Perceived Severity) and Protection Motivation

The findings of this study indicate that threat appraisal, specifically perceived severity, has a significant relationship with protection motivation. The positive direction of this relationship suggests that higher perceptions of the severity of disaster threats are associated with greater motivation to engage in protective actions. Data distribution shows that nearly all respondents were classified within the high perceived severity category. Among this group, most respondents demonstrated high levels of protection motivation, while a smaller proportion exhibited moderate protection motivation. Notably, no respondents were classified in the low perceived severity category. Overall, this distribution pattern further reinforces the presence of a positive relationship between perceived severity and protection motivation.

Previous studies have reported that threat appraisal, particularly perceived severity, is associated with protection motivation. However, perceived severity does not necessarily exert a direct influence on actual disaster preparedness behaviors. These studies suggest that although individuals may perceive disaster threats as severe and this perception may shape their intention to prepare, risk awareness alone is insufficient to drive concrete protective actions. Nevertheless, perceived severity remains an essential initial stage in the pathway toward preparedness (Tang and Feng, 2018). Other research has emphasized the importance of understanding the potential impacts of disaster risks. Knowledge of local risk information, exposure levels, and potential hazards plays a crucial role in shaping accurate threat appraisal. Addressing these factors is therefore essential to enhance preparedness and encourage individuals' willingness to participate in disaster preparedness efforts (Flores et al., 2024).

The high levels of perceived severity and protection motivation observed among respondents may be associated with their disaster-related experiences and educational background. Most respondents were emergency nurses with extensive work experience, increasing the likelihood that they had been directly involved in, or at least exposed to, emergency and disaster situations. Such experiences may foster a more concrete understanding of the serious consequences of earthquakes, affecting patient safety, healthcare workers, and healthcare facilities. Consequently, earthquake threats may be perceived not as abstract possibilities but as real risks that can occur at any time. In addition, the predominantly higher educational background of the respondents may further strengthen their perceptions of disaster severity. Higher education typically equips nurses with knowledge related to disaster management, emergency risks, and the clinical and systemic consequences of natural disasters. This knowledge enables respondents to conduct more rational and in-depth threat appraisals.

5.2.4 Relationship between Coping Appraisal (Self-Efficacy) and Protection Motivation

The analysis indicates that coping appraisal, specifically self-efficacy, has a significant relationship with protection motivation. The direction of this relationship is positive with a moderate strength, suggesting that higher levels of self-efficacy are associated with higher levels of protection motivation. This relationship highlights the important role of individuals' confidence in their own abilities in enhancing protective motivation, particularly in engaging in preventive actions or safe health behaviors. These findings are consistent with previous studies indicating that individuals' beliefs in their ability to perform disaster-

related tasks can increase their intention to prepare for disasters (Tang and Feng, 2018).

Based on the data distribution, nearly all respondents demonstrated high levels of protection motivation. This finding suggests that adequate self-efficacy, whether at moderate or high levels, tends to align with strong protection motivation, as expected within the framework of Protection Motivation Theory. Nurses who feel confident in their skills such as providing first aid or managing patient evacuation are more likely to exhibit higher motivation to act during disaster emergencies (Chasanah, Kurniawati and Tristiana, 2025).

5.2.5 Relationship between Coping Appraisal (Response Efficacy) and Protection Motivation

The data analysis shows that coping appraisal, particularly response efficacy, has a significant relationship with protection motivation. This relationship is positive and falls within the strong category, indicating that greater confidence in the effectiveness of the responses or actions taken to prevent risks is associated with higher motivation to engage in protective or preventive behaviors. This finding aligns with previous research suggesting that nurses with higher levels of response efficacy—defined as confidence in the effectiveness of recommended actions—tend to demonstrate stronger motivation for disaster preparedness (Chasanah, Kurniawati and Tristiana, 2025).

B Based on the data distribution, no respondents were classified as having low response efficacy. Most respondents were categorized as having moderate response efficacy. Within this group, nearly all exhibited high protection motivation, with only a small proportion demonstrating moderate protection

motivation. Similarly, among respondents with high response efficacy, the majority also showed high levels of protection motivation, although a small number remained in the moderate category. Overall, the predominance of high protection motivation among respondents suggests that adequate response efficacy is generally aligned with strong protection motivation.

According to Protection Motivation Theory, response efficacy strengthens coping appraisal, which directly enhances motivation to engage in protective actions (Mirzaei et al., 2019). Nurses who believe that actions such as managing evacuations, conducting triage, and providing first aid can effectively reduce disaster impacts are more likely to be proactive. Continuous training and education play a crucial role in enhancing skills and confidence, whereas insufficient training may lead to uncertainty and reduced motivation. Therefore, disaster management programs that emphasize preparedness should be prioritized to strengthen nurses' response efficacy, particularly in disaster-prone areas (Chasanah, Kurniawati and Tristiana, 2025).

5.2.6 Relationship between Coping Appraisal (Response Cost) and Protection Motivation

The analysis indicates that coping appraisal, specifically response cost, has a relationship with protection motivation. The strength of this relationship is weak and negative, suggesting that higher perceptions of the costs or sacrifices required to engage in protective actions tend to be associated with lower levels of protection motivation.

These findings are consistent with the conceptual framework of Protection Motivation Theory (Bubeck et al., 2018). According to this framework, the

relationship between response cost and protection motivation is inherently negative; in other words, high perceived costs may act as barriers to the development of strong protective motivation (Janmaimool, 2017). High response costs may reflect individuals' perceptions that preparedness actions require substantial time investment, physical effort, or lack sufficient institutional support (Chasanah, Kurniawati and Tristiana, 2025).

Data distribution shows that no respondents were classified as having low response cost. Most respondents were categorized as having moderate response cost. Within this group, nearly all respondents demonstrated high protection motivation, while only a small proportion exhibited moderate protection motivation. Similarly, among respondents with high response cost, the majority also showed high protection motivation, with only a few displaying moderate motivation. Overall, nearly all respondents demonstrated high levels of protection motivation.

These findings suggest that, despite moderate to high perceived response costs, respondents' protection motivation remained high. This indicates that perceived barriers or costs associated with protective actions did not substantially diminish respondents' motivation to remain prepared for disasters. This phenomenon may be attributed to the characteristics of the study population, which consisted of highly educated and experienced nurses with prior exposure to disaster situations. As a result, response costs may not be perceived as obstacles but rather as challenges inherent in disaster preparedness efforts. Furthermore, professional values and moral obligations likely play a role in reinforcing their motivation to maintain disaster preparedness.

5.2.7 Relationship between Protection Motivation and Emergency Nurses Preparedness for Earthquake Disaster Management

The results of this study indicate that protection motivation has a significant relationship with emergency nurses' preparedness for earthquake disaster management. The relationship between these variables is strong and positive, suggesting that higher levels of protection motivation are associated with higher levels of earthquake disaster preparedness. Data distribution shows that nearly all respondents were categorized as having high protection motivation. Among this group, most respondents demonstrated high levels of earthquake disaster preparedness, while nearly half were classified at a moderate level. Meanwhile, among respondents with moderate protection motivation, all exhibited high levels of preparedness. No respondents were classified as having low protection motivation. This pattern illustrates that high protection motivation tends to coincide with better disaster preparedness, with a distribution that is consistent with the expected direction of the relationship.

Motivation has been shown to play a crucial role in transforming cognitive appraisals into preparedness actions. Nurses with higher levels of motivation tend to demonstrate proactive attitudes and readiness to act when facing disaster situations (Chasanah, Kurniawati and Tristiana, 2025). Tang and Feng (2018) suggested that before engaging in protective actions, individuals first develop an intention, referred to as protection motivation. However, some individuals may still fail to undertake disaster preparedness actions due to various barriers that hinder the execution of these decisions, resulting in intentions that do not translate into actual behavior. In other words, motivation to protect oneself may be constrained by obstacles encountered during behavioral change. Therefore, efforts

to enhance preparedness should emphasize the importance of developing clear and actionable preparedness plans.

5.3 Research Limitations

This study has several limitations that should be considered. Due to field conditions, many potential respondents did not meet the established inclusion criteria, resulting in a prolonged recruitment process and a sample size that did not reach the originally planned target. Consequently, the sampling procedure was modified. The consecutive sampling technique initially applied with a predetermined target number of respondents was adjusted to a time-based approach, with data collection conducted over a one-month period.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Based on the findings of this study, the following conclusions can be drawn:

1. Threat appraisal, specifically perceived vulnerability, has a significant relationship with protection motivation.
2. Threat appraisal, specifically perceived severity, has a significant relationship with protection motivation.
3. Coping appraisal, particularly self-efficacy, has a significant relationship with protection motivation.
4. Coping appraisal, specifically response efficacy, has a significant relationship with protection motivation.
5. Coping appraisal, particularly response cost, has a significant relationship with protection motivation.
6. Protection motivation has a significant relationship with emergency nurses preparedness for earthquake disaster management.

6.2 Recommendations

1. Recommendations for HIPGABI Nurses in East Java
    1) HIPGABI nurses are encouraged to actively participate in disaster simulation training to enhance their self-confidence and competence in managing earthquake-related emergencies.

2. Recommendations for HIPGABI
    1) HIPGABI is encouraged to increase the frequency and regularity of disaster preparedness training programs for its members in order to strengthen their readiness for earthquake disaster management
3. Recommendations for Future Researchers
    1) Future studies may be conducted in other regions to examine the level of earthquake disaster management preparedness among emergency nurses in different geographical settings.
    2) Additionally, future researchers are advised to ensure the availability of eligible respondents from the early stages of the study to facilitate a smoother and more efficient data collection process.

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APPENDICES

Appendix 1

LETTER OF REQUEST FOR RESEARCH DATA COLLECTION

UNIVERSITAS AIRLANGGA
FAKULTAS KEPERAWATAN
Kampus C Jl. Mulyorejo, Surabaya 60115 Telp. (031) 5913756 Fax (031) 5911752
Laman : https://ners.unair.ac.id, e-mail : humas@fkp.unair.ac.id

Nomor : 7859/B/UN3.FKp/I/PT.01.04/2025 21 November 2025
Hal : Permohonan Fasilitas
Pengambilan Data Penelitian

Yth. Ketua
Himpunan Perawat Gawat Darurat dan Bencana Indonesia (HIPGABI)
Provinsi Jawa Timur
di tempat

Sehubungan dengan akan dilaksanakannya penelitian bagi mahasiswa Program Studi Keperawatan Fakultas Keperawatan Universitas Airlangga Semester Gasal Tahun Akademik 2025/2026, maka kami mohon kesediaan Bapak memberikan kesempatan kepada mahasiswa kami di bawah ini untuk mengambil data penelitian sebagai bahan penyusunan skripsi.

Nama	:	Renata Elizabeth Berliana Kurniawan
NIM	:	132221065
Judul skripsi	:	Analisis Faktor yang Berhubungan dengan Peran Perawat Gawat Darurat dalam Kesiapsiagaan Manajemen Bencana Gempa Bumi Berdasarkan *Protection Motivation Theory*
Data yang diperlukan	:	Data *Perceived Vulnerability*, *Perceived Severity*, *Self-Efficacy*, *Response Efficacy*, *Response Cost*, dan *Protection Motivation* pada Kesiapsiagaan Manajamen Bencana Gempa Bumi
Dosen Pembimbing	:	Erna Dwi Wahyuni S.Kep., Ns., M.Kep.

Atas perhatian dan kerja sama Bapak, kami sampaikan terima kasih.

Wakil Dekan I,

Dr. Sriyono, S.Kep.Ns., M.Kep., Ns.Sp.Kep.MB
NIP 197011202006041001

Appendix 2

RESEARCH ETHICS

KOMISI ETIK PENELITIAN KESEHATAN
HEALTH RESEARCH ETHICS COMMITTEE

FAKULTAS KEPERAWATAN UNIVERSITAS AIRLANGGA
FACULTY OF NURSING UNIVERSITAS AIRLANGGA

KETERANGAN LOLOS KAJI ETIK
DESCRIPTION OF ETHICAL APPROVAL

"ETHICAL APPROVAL"
Nomor: 3854-KEPK

Komite Etik Penelitian Kesehatan Fakultas Keperawatan Universitas Airlangga dalam upaya melindungi hak asasi dan kesejahteraan subyek penelitian kesehatan, telah mengkaji dengan teliti protokol berjudul:

The Committee of Ethical Approval in the Faculty of Nursing Universitas Airlangga, with regards of the protection of Human Rights and welfare in health research, carefully reviewed the research protocol entitled:

"ANALISIS FAKTOR YANG BERHUBUNGAN DENGAN PERAN PERAWAT GAWAT DARURAT DALAM KESIAPSIAGAAN MANAJEMEN BENCANA GEMPA BUMI BERDASARKAN *PROTECTION MOTIVATION THEORY*"

Peneliti utama *Principal Investigator*	: **Renata Elizabeth Berliana Kurniawan**
Nama Institusi *Name of the Institution*	: Fakultas Keperawatan, Universitas Airlangga
Unit/Lembaga/Tempat Penelitian *Setting of research*	: Himpunan Perawat Gawat Darurat dan Bencana Indonesia Jawa Timur

Dan telah menyetujui protokol tersebut di atas melalui Dipercepat
And approved the above-mentioned protocol with Expedited

Surabaya, 7 Oktober 2025
Ketua, (*CHAIRMAN*)

Nuzul Qur'aniati, S.Kep.Ns.,M.Ng.,PhD
NIP. 1978 0208 2014 09 2001

*** Masa berlaku 1 tahun**
1 year validity period

Appendix 3

RESEARCH COMPLETION LETTER

SURAT KETERANGAN

Yang bertanda tangan di bawah ini:
Nama : Dr. Sriyono.,S.Kep., Ns., M.Kep., Ns., Sp.Kep.MB
Jabatan : Ketua HIPGABI wilayah Jawa Timur

Dengan ini menerangkan bahwa:
Nama : Renata Elizabeth Berliana Kurniawan
NIM : 132221065
Prodi : Keperawatan

Telah melakukan penelitian di HIPGABI Jawa Timur pada tanggal 31 Oktober - 1 Desember 2025 dengan judul:

"Analisis Faktor yang Berhubungan dengan Peran Perawat dalam Kesiapsiagaan Manajemen Bencana Gempa Bumi Berdasarkan *Protection Motivation Theory*"

Demikian surat keterangan ini dibuat untuk sebagaimana mestinya.

Surabaya, 9 Januari 2026
Ketua HIPGABI wilayah Jawa Timur

Dr. Sriyono.,S.Kep., Ns., M.Kep., Ns., Sp.Kep.MB

Appendix 4

RESEARCH INFORMATION FOR PARTICIPANTS

I, the undersigned:

Name : Renata Elizabeth Berliana Kurniawan

Institution : Bachelor of Nursing Program, Universitas Airlangga

Supervisor : Erna Dwi Wahyuni, S.Kep., Ns., M.Kep.

This research entitled "Analysis of Factors Associated with the Role of Emergency Nurses in Earthquake Disaster Management Preparedness Based on Protection Motivation Theory" is conducted as a requirement for completing the undergraduate thesis in the Bachelor of Nursing Program at Universitas Airlangga.

Before you decide to participate in this study, please allow me to explain the following information:

4. Research Title
Analysis of Factors Associated with the Role of Emergency Nurses in Earthquake Disaster Management Preparedness Based on Protection Motivation Theory

5. Research Objectives
6. General Objective
The general objective of this study is to analyze factors associated with emergency nurses' preparedness for earthquake disaster management.

7. Spesific Objectives
8. To explain the relationship between threat appraisal (perceived vulnerability) and protection motivation.
9. To explain the relationship between threat appraisal (perceived severity) and protection motivation.
10. To explain the relationship between coping appraisal (self-efficacy) and protection motivation.
11. To explain the relationship between coping appraisal (response efficacy) and protection motivation.
12. To explain the relationship between coping appraisal (response cost) and protection motivation.
13. To explain the relationship between protection motivation and emergency nurses' preparedness for earthquake disaster management

14. Benefits of the Study
The benefit of this study for participants is to increase awareness and self-motivation regarding preparedness for earthquake disaster management.

15. Potential Risks
This study does not pose any potential risks to participants, as it does not involve any intervention and only requires participation through questionnaire completion.

16. Right to Withdraw
Participation in this study is entirely voluntary. Participants have the right to withdraw from the study at any time without any negative consequences.

17. Confidentiality
All data and information related to participants' identities will be kept strictly confidential. Personal identifiers will not be disclosed, and participants' names will be replaced with codes in all research reports.

18. Incentives
As a form of appreciation, the researcher will provide a souvenir to participants who take part in this study.

19. Questionnaire Completion
Participants are expected to participate by completing questionnaires. This study consists of 8 questionnaires with a total of 74 questions. The estimated time required to complete all questionnaires is 20–25 minutes.

20. Additional Information
If participants have any questions regarding this study, they may contact the researcher at:

Name : Renata Elizabeth Berliana Kurniawan

Whatsapp : 089667993879

Email : renataelizaa@gmail.com

Surabaya, October 7, 2025

Researcher

Renata Elizabeth Berliana Kurniawan

Appendix 5

REQUEST FOR PARTICIPATION AS A RESEARCH RESPONDENT

Respectfully,
Dear Sir/Madam, I, the undersigned:
Name : Renata Elizabeth Berliana Kurniawan
: 132221065

I am a student of the Faculty of Nursing, Universitas Airlangga, who will be conducting a study entitled “Analysis of Factors Associated with the Role of Emergency Nurses in Earthquake Disaster Management Preparedness Based on Protection Motivation Theory.”

In relation to this study, I hereby kindly request your willingness to participate as a respondent. All information and personal data provided by respondents will be kept strictly confidential and used solely for research purposes. I kindly ask you to answer all questions in the questionnaire honestly and to the best of your knowledge.

If at any point during the study you feel uncomfortable with any of the questions, you have the right to withdraw from participation without any consequences.

Thank you for your time, attention, and willingness to participate in this study.

Surabaya, 2025
Researcher

Renata Elizabeth Berliana Kurniawan

Appendix 6

INFORMED CONSENT

I, the undersigned, hereby declare that I voluntarily agree to participate as a respondent in the research conducted by Renata Elizabeth Berliana Kurniawan, an undergraduate student of the Faculty of Nursing, Universitas Airlangga, entitled:
“Analysis of Factors Associated with the Role of Emergency Nurses in Earthquake Disaster Management Preparedness Based on Protection Motivation Theory.”

I confirm that this consent is given voluntarily, with full awareness, and without any coercion from any party. I understand that my participation is entirely voluntary and that I have the right to withdraw from this study at any time without any consequences. This statement is made truthfully to be used as appropriate. I hereby state that I AGREE / DO NOT AGREE (please cross out what is not applicable).

Researcher Participant

Renata Elizabeth Berliana Kurniawan (.....)

Witness

(.....)

Appendix 7

PERMISSION TO USE THE RESEARCH INSTRUMENTS

1. Permission to use the research instruments developed by Flores et al. (2024); Gumasing and Sobrevilla (2023) has been obtained.

Permission Request to Use and Modify Disaster Preparedness Instrument
4 messages

Renata Elizabeth <renataelizaa@gmail.com> Fri, Aug 1, 2025 at 10:47
To: ma.janice.gumasing@dlsu.edu.ph

I hope this message finds you well.

My name is Renata Elizabeth, and I am a nursing student at Airlangga University. I am currently conducting a research study for my undergraduate thesis regarding nurses' preparedness in earthquake disaster management.

I came across your instrument based on the Protection Motivation Theory, and I found it highly relevant and well-constructed. With your kind permission, I would like to request the use of your questionnaire as the primary research instrument in my study.

In addition, I would also like to request your approval to modify certain items in order to better align with the context of earthquake preparedness among nurses, while still maintaining the theoretical constructs and original structure.

Proper credit and citation will be fully provided in my research.

I would be truly grateful for your permission and guidance regarding this matter.

Thank you very much for your time and consideration.

Best regards,
Renata Elizabeth
Airlangga University
renataelizaa@gmail.com

Ma. Janice Gumasing <ma.janice.gumasing@dlsu.edu.ph> Fri, Aug 1, 2025 at 10:52
To: Renata Elizabeth <renataelizaa@gmail.com>

Yes, of course you can.
[Quoted text hidden]

DISCLAIMER AND CONFIDENTIALITY NOTICE
The information contained in this e-mail, including those in its attachments, is confidential and intended only for the person(s) or entity(ies) to which it is addressed. If you are not an intended recipient, you must not read, copy, store, disclose, distribute this message, or act in reliance upon the information contained in it. If you received this e-mail in error, please contact the sender and delete the material from any computer or system. Any views expressed in this message are those of the individual sender and may not necessarily reflect the views of De La Salle University.

Renata Elizabeth <renataelizaa@gmail.com> Fri, Aug 1, 2025 at 10:59
To: Ma. Janice Gumasing <ma.janice.gumasing@dlsu.edu.ph>

Thank you very much for your kind response and permission.

I truly appreciate your generosity in allowing me to use and modify your instrument for my research.

I will make sure to give proper credit to your work in all parts of my thesis and any related presentations or publications.

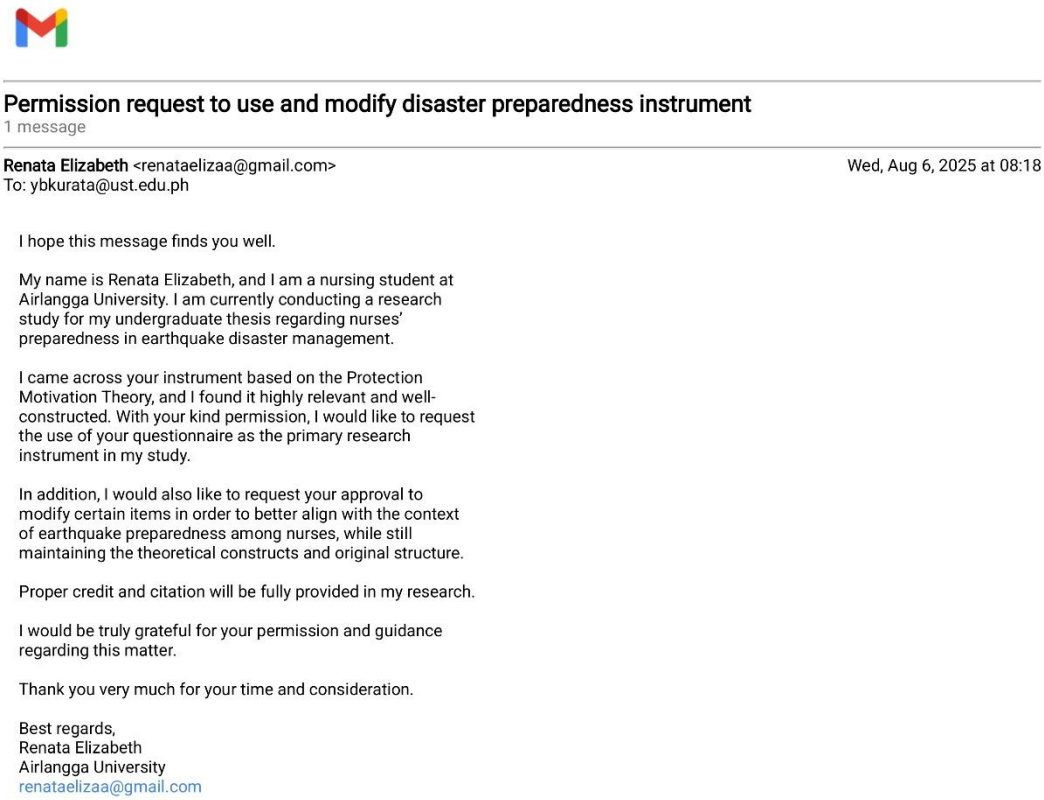
Once again, thank you for your support.

Best regards,
Renata Elizabeth
[Quoted text hidden]

Ma. Janice Gumasing <ma.janice.gumasing@dlsu.edu.ph> Fri, Aug 1, 2025 at 11:00
To: Renata Elizabeth <renataelizaa@gmail.com>

Good luck on your reserch journey!
[Quoted text hidden]

2. Permission to use the research instruments developed by Kurata et al. (2023) has been obtained.



Permission request to use and modify disaster preparedness instrument
1 message

Renata Elizabeth <renataelizaa@gmail.com> Wed, Aug 6, 2025 at 08:18
To: ybkurata@ust.edu.ph

I hope this message finds you well.

My name is Renata Elizabeth, and I am a nursing student at Airlangga University. I am currently conducting a research study for my undergraduate thesis regarding nurses' preparedness in earthquake disaster management.

I came across your instrument based on the Protection Motivation Theory, and I found it highly relevant and well-constructed. With your kind permission, I would like to request the use of your questionnaire as the primary research instrument in my study.

In addition, I would also like to request your approval to modify certain items in order to better align with the context of earthquake preparedness among nurses, while still maintaining the theoretical constructs and original structure.

Proper credit and citation will be fully provided in my research.

I would be truly grateful for your permission and guidance regarding this matter.

Thank you very much for your time and consideration.

Best regards,
Renata Elizabeth
Airlangga University
renataelizaa@gmail.com

3. Permission to use the research instruments developed by Martono et al. (2019) has been obtained.

Permohonan Izin Penggunaan dan Modifikasi Instrumen DPET

5 messages

Renata Elizabeth <renataelizaa@gmail.com> Fri, Aug 1, 2025 at 11:28
To: ferry-e@fkp.unair.ac.id

Yth. Pak Ferry Efendi,
di Tempat

Dengan hormat,
Perkenalkan, saya Renata Elizabeth Berliana Kurniawan, mahasiswa Program Studi keperawatan di Universitas Airlangga, yang saat ini sedang menyusun proposal skripsi dengan judul : "Analisis faktor kesiapsiagaan perawat gawat darurat dalam manajemen bencana gempa bumi berdasarkan protection motivation theory".

Dalam penelitian ini, saya bermaksud menggunakan instrumen yang telah Bapak adaptasi dalam bahasa Indonesia bersama dengan rekan-rekan Bapak, yaitu Disaster Preparedness Evaluation Tool (DPET). Saya menilai bahwa instrumen tersebut sangat relevan dan sesuai dengan fokus penelitian saya.

Sehubungan dengan itu, saya memohon izin kepada Bapak untuk:
1. Menggunakan instrumen tersebut dalam penelitian saya, dan
2. Melakukan beberapa penyesuaian atau modifikasi agar lebih sesuai dengan konteks dan kebutuhan penelitian saya.

Selain itu, saya juga memohon kesediaan Bapak untuk membagikan salinan instrumen DPET yang telah diadaptasi dalam bahasa Indonesia agar saya dapat memahami struktur dari setiap item pernyataan sebelum saya melakukan modifikasi pada instrumen tersebut.

Demikian permohonan ini saya sampaikan. Atas perhatian, bantuan, dan izin yang diberikan, saya ucapkan terima kasih yang sebesar-besarnya.

Hormat saya,
Renata Elizabeth Berliana Kurniawan
132221065
Keperawatan, Fakultas Keperawatan Universitas Airlangga
renataelizaa@gmail.com
089667993879

ferry efendi <ferry-e@fkp.unair.ac.id> Fri, Aug 1, 2025 at 11:34
To: Renata Elizabeth <renataelizaa@gmail.com>

Ok silahkan

Prof. Ferry Efendi, S.Kep.Ns., MSc., PhD
Top 2% World Scientist 2022-2024 https://topresearcherslist.com/Home/Profile/953073
Department of Advanced Nursing, Faculty of Nursing
Universitas Airlangga Surabaya
Adjunct Position, School of Nursing & Midwifery, La Trobe University, Melbourne (https://scholars.latrobe.edu.au/fefendi)
[Quoted text hidden]

Renata Elizabeth <renataelizaa@gmail.com> Fri, Aug 1, 2025 at 12:03
To: ferry efendi <ferry-e@fkp.unair.ac.id>

Baik, terima kasih banyak Bapak.

Mohon izin bertanya Bapak, apakah berkenan untuk memberikan salinan instrumen DPET-nya dalam bahasa Indonesia nggih? Saya hendak memahami struktur setiap item pernyataannya dalam bahasa Indonesia terlebih dahulu sebelum memodifikasinya agar sesuai dengan konteks penelitian saya, terima kasih🙏
[Quoted text hidden]

ferry efendi <ferry-e@fkp.unair.ac.id> Fri, Aug 1, 2025 at 17:51
To: Renata Elizabeth <renataelizaa@gmail.com>

silahkan

Appendix 8

RESEARCH INSTRUMENT
ANALYSIS OF FACTORS ASSOCIATED WITH THE ROLE OF EMERGENCY NURSES IN EARTHQUAKE DISASTER MANAGEMENT PREPAREDNESS BASED ON PROTECTION MOTIVATION THEORY

General Respondent Information

Name (initials):

Gender: ☐ Male ☐ Female

Age: ..... years

4. Demographic Questionnaire
5. Highest level of education:
   ☐ D3 ☐ S1 ☐ S2 ☐ S3 ☐ Spesialist
6. Length of work experience as an emergency nurse
   ☐ <5 years ☐ 5-10 years ☐ >10 years
7. Lenght of membership in HIPGABI
   ☐ 6 months– <1 years ☐ 1-5 years ☐ 6-10 years ☐ >10 years
8. Current workplace
   ☐ Hospital ☐ Primary health center ☐ Clinic ☐ Educational institution
9. Perceived Vulnerability Questionnaire

Instructions for Completing the Questionnaire:

1. Please read each statement carefully before answering.
2. Choose the response that best reflects your role as an emergency nurse.
3. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I believe that I am vulnerable to being affected by an earthquake disaster.				
2.	In my opinion, recent earthquake disasters have been stronger than those in the past.				
3.	I feel that earthquake disasters occur more frequently now compared to several years ago.				
4.	I believe that the impact of earthquake disasters in my area				

	has increased over the past few years.				
5.	I live or work in an area that is close to and vulnerable to earthquake disasters.				
6.	The community where I work is vulnerable to earthquake disasters.				
7.	I have previously experienced the impact of an earthquake disaster.				

3. Perceived Severity Questionnaire

1. Instructions for Completing the Questionnaire:
2. Please read each statement carefully before answering.
3. Choose the response that best reflects your role as an emergency nurse.
4. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I believe that the impacts of an earthquake disaster could threaten my quality of life.				
2.	I believe that earthquake disasters can disrupt my daily life activities.				
3.	I believe that earthquake disasters can result in severe impacts.				
4.	I believe that the severity of earthquake disasters in East Java has increased over the past few years.				
5.	I believe that earthquake disasters can cause a large number of casualties.				
6.	I believe that earthquake disasters in my area are more severe than those in other regions.				
7.	I feel prepared and alert for earthquake disasters because I am aware of their warning				

	signs.	
8.	I believe that earthquake disasters pose a serious threat to human life.	

4. Self-Efficacy Questionnaire

Instructions for Completing the Questionnaire:

1. Please read each statement carefully before answering.
2. Choose the response that best reflects your role as an emergency nurse.
3. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I am confident that I can take appropriate actions to prepare for and manage the impacts of earthquake disasters in my area.				
2.	I am confident that I can efficiently manage unexpected earthquake events.				
3.	I feel prepared to be involved in emergency response protocols specifically designed for earthquake disasters.				
4.	I am knowledgeable about safety procedures during earthquake disasters.				
5.	I am able to prepare emergency supplies before an earthquake occurs.				
6.	I am able to protect myself and others from the threats posed by earthquake disasters.				

5. Response Efficacy Questionnaire

Instructions for Completing the Questionnaire:

1. Please read each statement carefully before answering.

2. Choose the response that best reflects your role as an emergency nurse.
3. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I am able to describe my role in managing disaster phases within the workplace, public settings, media, and personal contacts.				
2.	I am knowledgeable about logistical coordination and organizational roles among local, provincial, and national agencies during emergency situations.				
3.	I am knowledgeable about psychological interventions, behavioral therapy, cognitive strategies, support groups, and debriefing for patients experiencing emotional and physical trauma.				
4.	I am able to manage common symptoms and reactions of disaster survivors, including affective, behavioral, cognitive, and physical responses.				
5.	I am confident in providing education on stress and trauma-related psychological disorders to patients.				
6.	I am able to identify indicators of potential mass exposure, evidenced by groups of patients presenting with similar symptoms.				
7.	As an emergency and disaster nurse, I am confident in my ability to serve as a rescue manager or coordinator.				
8.	I am confident that I can provide independent patient care without direct physician supervision in disaster situations.				
9.	I feel confident working as a triage nurse and establishing				

	temporary clinics during earthquake disaster situations.	
10.	As an emergency nurse, I am confident in my ability to function as a direct care provider and first responder during earthquake disaster situations.	
11.	I am confident in implementing emergency response plans, evacuation procedures, shelter management, and other related functions.	
12.	As an emergency nurse, I am highly confident in my ability to function as a member of a decontamination team.	
13.	I understand the major categories (A, B, and C) of biological agents (e.g., anthrax, plague, botulism, smallpox), including their signs, symptoms, and effective treatments.	
14.	I am confident in recognizing deviations in health assessments that indicate potential exposure to biological agents.	
15.	In the event of bioterrorism or a biological attack, I know how to document health histories and conduct focused health assessments, particularly related to the biological agents involved.	

6. Response Cost Questionnaire

Instructions for Completing the Questionnaire:

1. Please read each statement carefully before answering.
2. Choose the response that best reflects your role as an emergency nurse.
3. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options

		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Installing a disaster early warning system in my area requires a substantial financial cost.				
2.	Purchasing emergency supplies and disaster safety equipment requires a high financial cost.				
3.	Distributing relief supplies and evacuation equipment during an earthquake disaster involves significant risk.				

4. Protection Motivation Questionnaire
   Instructions for Completing the Questionnaire:

1. Please read each statement carefully before answering.
2. Choose the response that best reflects your role as an emergency nurse.
3. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I am motivated to learn more about the potential risks and impacts of earthquake disasters.				
2.	I have prepared myself for potential earthquake disasters that may occur in the future.				
3.	I am seeking guidelines to prepare for earthquake emergencies and to organize evacuation route plans for the community.				
4.	I have participated in training programs focused on earthquake preparedness.				
5.	I will coordinate with colleagues regarding earthquake emergency response procedures as part of disaster preparedness in my area.				
6.	I protect myself from the				

	impacts of earthquake disasters by sharing knowledge and experiences from previous disasters.	
7.	I protect myself from the impacts of earthquake disasters by participating in earthquake disaster awareness campaigns.	
8.	I protect myself from the impacts of earthquake disasters by recognizing the importance of collective preparedness with others.	
9.	I protect myself from the impacts of earthquake disasters by being aware of earthquake-prone areas within my community.	

8. Role of Emergency Nurses in Earthquake Disaster Preparedness Management Questionnaire

Instructions for Completing the Questionnaire:

1. Please read each statement carefully before answering.
2. Choose the response that best reflects your role as an emergency nurse.
3. There are no right or wrong answers. All responses will be valuable for this research.

No.	Statement	Response Options			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I am interested in attending training programs on earthquake disaster preparedness that are directly related to conditions in my community.				
2.	I am interested in classes or training on earthquake disaster preparedness and management offered in workplaces, universities, or community setting.				
3.	In my opinion, published				

	research findings on earthquake disaster preparedness are easy to understand.	
4.	I am aware of the limits of my knowledge, skills, and authority as an emergency nurse in earthquake disaster situations, and I recognize when those limits are exceeded.	
5.	I seek relevant information on earthquake disaster preparedness based on the needs of my surrounding community.	
6.	I pay attention to potential earthquake disaster risks in my surrounding community.	
7.	In my opinion, adequate support from local or national authorities is available during earthquake disaster situations.	
8.	I know where to find relevant research or information related to earthquake disaster preparedness and management to address my knowledge gaps.	
9.	I have a list of contact persons within medical or healthcare settings at my workplace and know appropriate referral contacts in the event of an earthquake disaster (e.g., health departments).	
10.	In my opinion, published research on earthquake disaster preparedness and management is easily accessible.	
11.	I regularly participate in educational activities such as continuing education classes, seminars, or conferences related to disaster preparedness.	
12.	I understand the local disaster emergency response system.	
13.	I know whom to contact (chain of command) during an earthquake disaster situation in	

	my community.	
14.	I read journal articles related to earthquake disaster preparedness.	
15.	I have participated or am currently participating in developing guidelines, emergency response plans, or advocating for disaster preparedness improvements at the local or national level.	
16.	I have participated in the development of emergency response plans and preparedness planning for earthquake disaster situations in my community.	
17.	I understand the triage principles used in earthquake disaster situations.	
18.	I regularly participate in earthquake disaster simulations or drills at my workplace (e.g., clinics or hospitals).	
19.	In my opinion, I am prepared to manage earthquake disaster situations.	
20.	In the event of bioterrorism or a biological attack, I know how to use personal protective equipment appropriately.	
21.	I would be trusted as a key leadership figure in my community during an earthquake disaster situation.	
22.	In the event of bioterrorism or a biological attack, I know how to perform isolation procedures to minimize exposure risks within the community.	
23.	In the event of bioterrorism or a biological attack, I know how to perform decontamination procedures.	
24.	I have a personal or family emergency preparedness plan for earthquake disaster	

situations.

Appendix 9

VALIDITY AND RELIABILITY TESTING OF DATA

1. Validity and Reliability Testing of perceived vulnerability

Correlations

		P01	P02	P03	P04	P05	P06	P07	TOTAL
P01	Pearson Correlation	1	.583**	.664**	.794**	.710**	.742**	.705**	.897**
	Sig. (2-tailed)		.001	.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30
P02	Pearson Correlation	.583**	1	.623**	.506**	.383*	.356	.283	.608**
	Sig. (2-tailed)	.001		.000	.004	.037	.054	.130	.000
	N	30	30	30	30	30	30	30	30
P03	Pearson Correlation	.664**	.623**	1	.644**	.638**	.593**	.477**	.780**
	Sig. (2-tailed)	.000	.000		.000	.000	.001	.008	.000
	N	30	30	30	30	30	30	30	30
P04	Pearson Correlation	.794**	.506**	.644**	1	.690**	.707**	.647**	.870**
	Sig. (2-tailed)	.000	.004	.000		.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30
P05	Pearson Correlation	.710**	.383*	.638**	.690**	1	.929**	.771**	.900**
	Sig. (2-tailed)	.000	.037	.000	.000		.000	.000	.000
	N	30	30	30	30	30	30	30	30
P06	Pearson Correlation	.742**	.356	.593**	.707**	.929**	1	.717**	.889**

	Sig. (2-tailed)	.000	.054	.001	.000	.000		.000	.000
	N	30	30	30	30	30	30	30	30
P07	Pearson Correlation	.705**	.283	.477**	.647**	.771**	.717**	1	.819**
	Sig. (2-tailed)	.000	.130	.008	.000	.000	.000		.000
	N	30	30	30	30	30	30	30	30
TOTAL	Pearson Correlation	.897**	.608**	.780**	.870**	.900**	.889**	.819**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.921	7

2. Validity and Reliability Testing of perceived severity

Correlations

		P01	P02	P03	P04	P05	P06	P07	P08	TOTAL
P01	Pearson Correlation	1	.890**	.159	.655**	.505**	.397*	.085	.212	.746**
	Sig. (2-tailed)		.000	.402	.000	.004	.030	.657	.260	.000
	N	30	30	30	30	30	30	30	30	30
P02	Pearson Correlation	.890**	1	.260	.593**	.470**	.509**	.178	.184	.780**
	Sig. (2-tailed)	.000		.165	.001	.009	.004	.346	.330	.000
	N	30	30	30	30	30	30	30	30	30
P03	Pearson Correlation	.159	.260	1	.482**	.490**	.335	.446*	.652**	.639**
	Sig. (2-tailed)	.402	.165		.007	.006	.070	.014	.000	.000
	N	30	30	30	30	30	30	30	30	30
P04	Pearson Correlation	.655**	.593**	.482**	1	.585**	.569**	.387*	.337	.828**
	Sig. (2-tailed)	.000	.001	.007		.001	.001	.035	.068	.000
	N	30	30	30	30	30	30	30	30	30
P05	Pearson Correlation	.505**	.470**	.490**	.585**	1	.372*	.410*	.443*	.754**
	Sig. (2-tailed)	.004	.009	.006	.001		.043	.024	.014	.000
	N	30	30	30	30	30	30	30	30	30
P06	Pearson Correlation	.397*	.509**	.335	.569**	.372*	1	.296	.275	.696**
	Sig. (2-tailed)	.030	.004	.070	.001	.043		.112	.142	.000
	N	30	30	30	30	30	30	30	30	30
P07	Pearson Correlation	.085	.178	.446*	.387*	.410*	.296	1	.464**	.538**
	Sig. (2-tailed)	.657	.346	.014	.035	.024	.112		.010	.002

	N	30	30	30	30	30	30	30	30	30
P08	Pearson Correlation	.212	.184	.652**	.337	.443*	.275	.464**	1	.589**
	Sig. (2-tailed)	.260	.330	.000	.068	.014	.142	.010		.001
	N	30	30	30	30	30	30	30	30	30
TOTAL	Pearson Correlation	.746**	.780**	.639**	.828**	.754**	.696**	.538**	.589**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.002	.001	
	N	30	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.847	8

3. Validity and Reliability Testing of self-efficacy

Correlations

		P01	P02	P03	P04	P05	P06	TOTAL
P01	Pearson Correlation	1	.729**	.714**	.644**	.538**	.558**	.811**
	Sig. (2-tailed)		.000	.000	.000	.002	.001	.000
	N	30	30	30	30	30	30	30
P02	Pearson Correlation	.729**	1	.843**	.854**	.656**	.656**	.921**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30
P03	Pearson Correlation	.714**	.843**	1	.778**	.681**	.751**	.924**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	30	30	30	30	30	30	30
P04	Pearson Correlation	.644**	.854**	.778**	1	.789**	.528**	.895**
	Sig. (2-tailed)	.000	.000	.000		.000	.003	.000
	N	30	30	30	30	30	30	30
P05	Pearson Correlation	.538**	.656**	.681**	.789**	1	.662**	.833**
	Sig. (2-tailed)	.002	.000	.000	.000		.000	.000
	N	30	30	30	30	30	30	30
P06	Pearson Correlation	.558**	.656**	.751**	.528**	.662**	1	.787**
	Sig. (2-tailed)	.001	.000	.000	.003	.000		.000
	N	30	30	30	30	30	30	30
TOTAL	Pearson Correlation	.811**	.921**	.924**	.895**	.833**	.787**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	

N	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.931	6

4. Validity and Reliability Testing of response efficacy

Correlations

		P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	P13	P14	P15	TOTAL
P01	Pearson Correlation	1	.514**	.433*	.632**	-.044	.075	.343	-.044	.493**	.430*	.567**	.304	.085	.176	.094	.446*
	Sig. (2-tailed)		.004	.017	.000	.817	.692	.064	.817	.006	.018	.001	.103	.655	.351	.621	.013
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P02	Pearson Correlation	.514**	1	.789**	.839**	.429*	.489**	.676**	.214	.664**	.683**	.509**	.604**	.451*	.429*	.422*	.769**

	Sig. (2-tailed)	.004		.000	.000	.018	.006	.000	.255	.000	.000	.004	.000	.012	.018	.020	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P03	Pearson Correlation	.433*	.789**	1	.819**	.459*	.661**	.569**	.338	.707**	.544**	.670**	.621**	.492**	.580**	.587**	.819**
	Sig. (2-tailed)	.017	.000		.000	.011	.000	.001	.067	.000	.002	.000	.000	.006	.001	.001	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P04	Pearson Correlation	.632**	.839**	.819**	1	.527**	.600**	.670**	.141	.552**	.529**	.636**	.394*	.414*	.398*	.384*	.749**
	Sig. (2-tailed)	.000	.000	.000		.003	.000	.000	.456	.002	.003	.000	.031	.023	.029	.036	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P05	Pearson Correlation	-.044	.429*	.459*	.527**	1	.747**	.667**	.195	.297	.483**	.478**	.345	.701**	.540**	.442*	.633**
	Sig. (2-tailed)	.817	.018	.011	.003		.000	.000	.301	.111	.007	.008	.062	.000	.002	.015	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P06	Pearson Correlation	.075	.489**	.661**	.600**	.747**	1	.760**	.485**	.608**	.550**	.700**	.640**	.799**	.747**	.761**	.843**
	Sig. (2-tailed)	.692	.006	.000	.000	.000		.000	.007	.000	.002	.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

P07	Pearson Correlation	.343	.676**	.569**	.670**	.667**	.760**	1	.232	.499**	.751**	.746**	.536**	.722**	.667**	.552**	.817**
	Sig. (2-tailed)	.064	.000	.001	.000	.000	.000		.217	.005	.000	.000	.002	.000	.000	.002	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P08	Pearson Correlation	-.044	.214	.338	.141	.195	.485**	.232	1	.534**	.190	.341	.561**	.459*	.540**	.781**	.536**
	Sig. (2-tailed)	.817	.255	.067	.456	.301	.007	.217		.002	.314	.065	.001	.011	.002	.000	.002
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P09	Pearson Correlation	.493**	.664**	.707**	.552**	.297	.608**	.499**	.534**	1	.730**	.728**	.854**	.582**	.653**	.682**	.849**
	Sig. (2-tailed)	.006	.000	.000	.002	.111	.000	.005	.002		.000	.000	.000	.001	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P10	Pearson Correlation	.430*	.683**	.544**	.529**	.483**	.550**	.751**	.190	.730**	1	.666**	.705**	.544**	.483**	.399*	.757**
	Sig. (2-tailed)	.018	.000	.002	.003	.007	.002	.000	.314	.000		.000	.000	.002	.007	.029	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P11	Pearson Correlation	.567**	.509**	.670**	.636**	.478**	.700**	.746**	.341	.728**	.666**	1	.598**	.670**	.751**	.650**	.850**

	Sig. (2-tailed)	.001	.004	.000	.000	.008	.000	.000	.065	.000	.000		.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P12	Pearson Correlation	.304	.604**	.621**	.394*	.345	.640**	.536**	.561**	.854**	.705**	.598**	1	.621**	.669**	.716**	.814**
	Sig. (2-tailed)	.103	.000	.000	.031	.062	.000	.002	.001	.000	.000	.000		.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P13	Pearson Correlation	.085	.451*	.492**	.414*	.701**	.799**	.722**	.459*	.582**	.544**	.670**	.621**	1	.943**	.826**	.819**
	Sig. (2-tailed)	.655	.012	.006	.023	.000	.000	.000	.011	.001	.002	.000	.000		.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P14	Pearson Correlation	.176	.429*	.580**	.398*	.540**	.747**	.667**	.540**	.653**	.483**	.751**	.669**	.943**	1	.894**	.836**
	Sig. (2-tailed)	.351	.018	.001	.029	.002	.000	.000	.002	.000	.007	.000	.000	.000		.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P15	Pearson Correlation	.094	.422*	.587**	.384*	.442*	.761**	.552**	.781**	.682**	.399*	.650**	.716**	.826**	.894**	1	.816**
	Sig. (2-tailed)	.621	.020	.001	.036	.015	.000	.002	.000	.000	.029	.000	.000	.000	.000		.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

TOTAL	Pearson Correlation	.446**	.769**	.819**	.749**	.633**	.843**	.817**	.536**	.849**	.757**	.850**	.814**	.819**	.836**	.816**	1
	Sig. (2-tailed)	.013	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.944	15

5. Validity and Reliability Testing of response cost

Correlations

		P01	P02	P03	TOTAL
P01	Pearson Correlation	1	.881**	.548	.936**
	Sig. (2-tailed)		.009	.203	.002
	N	7	7	7	7

P02	Pearson Correlation	.881**	1	.482	.915**
	Sig. (2-tailed)	.009		.273	.004
	N	7	7	7	7
P03	Pearson Correlation	.548	.482	1	.760*
	Sig. (2-tailed)	.203	.273		.047
	N	7	7	7	7
TOTAL	Pearson Correlation	.936**	.915**	.760*	1
	Sig. (2-tailed)	.002	.004	.047	
	N	7	7	7	7

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.844	3

6. Validity and Reliability Testing of protection motivation

Correlations

	P01	P02	P03	P04	P05	P06	P07	P08	P09	TOTAL

P01	Pearson Correlation	1	.528**	.515**	.587**	.443*	.757**	.443*	.641**	.443*	.715**
	Sig. (2-tailed)		.003	.004	.001	.014	.000	.014	.000	.014	.000
	N	30	30	30	30	30	30	30	30	30	30
P02	Pearson Correlation	.528**	1	.637**	.800**	.531**	.751**	.531**	.623**	.305	.787**
	Sig. (2-tailed)	.003		.000	.000	.003	.000	.003	.000	.101	.000
	N	30	30	30	30	30	30	30	30	30	30
P03	Pearson Correlation	.515**	.637**	1	.737**	.595**	.625**	.717**	.732**	.650**	.847**
	Sig. (2-tailed)	.004	.000		.000	.001	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30
P04	Pearson Correlation	.587**	.800**	.737**	1	.784**	.685**	.784**	.668**	.598**	.912**
	Sig. (2-tailed)	.001	.000	.000		.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30
P05	Pearson Correlation	.443*	.531**	.595**	.784**	1	.554**	.866**	.702**	.639**	.831**
	Sig. (2-tailed)	.014	.003	.001	.000		.001	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30
P06	Pearson Correlation	.757**	.751**	.625**	.685**	.554**	1	.554**	.764**	.562**	.841**
	Sig. (2-tailed)	.000	.000	.000	.000	.001		.001	.000	.001	.000

	N	30	30	30	30	30	30	30	30	30	30
P07	Pearson Correlation	.443*	.531**	.717**	.784**	.866**	.554**	1	.702**	.639**	.849**
	Sig. (2-tailed)	.014	.003	.000	.000	.000	.001		.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30
P08	Pearson Correlation	.641**	.623**	.732**	.668**	.702**	.764**	.702**	1	.551**	.856**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.002	.000
	N	30	30	30	30	30	30	30	30	30	30
P09	Pearson Correlation	.443*	.305	.650**	.598**	.639**	.562**	.639**	.551**	1	.724**
	Sig. (2-tailed)	.014	.101	.000	.000	.000	.001	.000	.002		.000
	N	30	30	30	30	30	30	30	30	30	30
TOTAL	Pearson Correlation	.715**	.787**	.847**	.912**	.831**	.841**	.849**	.856**	.724**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	30	30	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.937	9

7. Validity and Reliability Testing of Earthquake Disaster Management Preparedness

Correlations

		P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	TOTAL
P01	Pearson Correlation	1	.829**	.535**	.490**	.657**	.535**	.315	.484**	.523**	.625**	.623**	.551**	.625**	.681**	.427*	.484**	.512**	.573**	.535**	.625**	.681**	.535**	.749**	.535**	.113	.692**
	Sig. (2-tailed)		.000	.002	.006	.000	.002	.090	.007	.003	.000	.000	.002	.000	.000	.019	.007	.004	.001	.002	.000	.000	.002	.000	.002	.552	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

P02	Pearson Correlation	.829**	1	.594**	.697**	.584**	.594**	.538**	.438*	.456*	.518**	.796**	.610**	.518**	.728**	.515**	.584**	.558**	.604**	.594**	.518**	.728**	.745**	.657**	.594**	.250	.745**
	Sig. (2-tailed)	.000		.001	.000	.001	.001	.002	.016	.011	.003	.000	.000	.003	.000	.004	.001	.001	.000	.001	.003	.000	.000	.000	.001	.183	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P03	Pearson Correlation	.535**	.594**	1	.730**	.675**	.732**	.589**	.647**	.668**	.856**	.650**	.786**	.543**	.695**	.595**	.675**	.642**	.727**	.866**	.543**	.819**	.732**	.618**	.866**	.715**	.857**
	Sig. (2-tailed)	.002	.001		.000	.000	.000	.001	.000	.000	.000	.000	.000	.002	.000	.001	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P04	Pearson Correlation	.490**	.697**	.730**	1	.552**	.589**	.706**	.678**	.684**	.689**	.773**	.618**	.525**	.572**	.615**	.697**	.761**	.722**	.870**	.689**	.702**	.870**	.629**	.870**	.570**	.847**

	Sig. (2-tailed)	.006	.000	.000		.002	.001	.000	.000	.000	.000	.000	.000	.003	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P05	Pearson Correlation	.657**	.584**	.675**	.552**	1	.813**	.407*	.804**	.716**	.789**	.722**	.737**	.627**	.758**	.628**	.713**	.616**	.693**	.675**	.465**	.629**	.536**	.666**	.675**	.459*	.814**
	Sig. (2-tailed)	.000	.001	.000	.002		.000	.026	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.010	.000	.002	.000	.000	.011	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P06	Pearson Correlation	.535**	.594**	.732**	.589**	.813**	1	.589**	.776**	.784**	.699**	.769**	.933**	.699**	.819**	.839**	.813**	.642**	.842**	.732**	.543**	.695**	.598**	.618**	.732**	.564**	.884**
	Sig. (2-tailed)	.002	.001	.000	.001	.000		.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.001	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

P07	Pearson Correlation	.315	.538**	.589**	.706**	.407*	.589**	1	.678**	.440*	.525**	.523**	.618**	.525**	.442*	.487**	.552**	.596**	.361	.589**	.689**	.442*	.730**	.355	.589**	.570**	.672**
	Sig. (2-tailed)	.090	.002	.001	.000	.026	.001		.000	.015	.003	.003	.000	.003	.014	.006	.002	.001	.050	.001	.000	.014	.000	.054	.001	.001	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P08	Pearson Correlation	.484**	.438*	.647**	.678**	.804**	.776**	.678**	1	.788**	.756**	.689**	.712**	.605**	.599**	.708**	.804**	.610**	.665**	.776**	.756**	.599**	.647**	.630**	.776**	.584**	.844**
	Sig. (2-tailed)	.007	.016	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P09	Pearson Correlation	.523**	.456*	.668**	.684**	.716**	.784**	.440*	.788**	1	.781**	.697**	.726**	.781**	.734**	.737**	.716**	.760**	.865**	.784**	.644**	.626**	.551**	.666**	.784**	.508**	.857**

	Sig. (2-tailed)	.003	.011	.000	.000	.000	.000	.015	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000	.004	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P10	Pearson Correlation	.625**	.518**	.856**	.689**	.789**	.699**	.525**	.756**	.781**	1	.621**	.746**	.634**	.667**	.552**	.627**	.751**	.715**	.856**	.634**	.667**	.543**	.569**	.856**	.659**	.846**
	Sig. (2-tailed)	.000	.003	.000	.000	.000	.000	.003	.000	.000		.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000	.002	.001	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P11	Pearson Correlation	.623**	.796**	.650**	.773**	.722**	.769**	.523**	.689**	.697**	.621**	1	.698**	.482**	.837**	.745**	.846**	.571**	.849**	.769**	.621**	.837**	.769**	.780**	.769**	.367*	.880**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.003	.000	.000	.000		.000	.007	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.046	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

P12	Pearson Correlation	.551**	.610**	.786**	.618**	.737**	.933**	.618**	.712**	.726**	.746**	.698**	1	.746**	.751**	.784**	.737**	.666**	.779**	.786**	.574**	.751**	.639**	.526**	.786**	.610**	.876**
	Sig. (2-tailed)	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.003	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P13	Pearson Correlation	.625**	.518**	.543**	.525**	.627**	.699**	.525**	.605**	.781**	.634**	.482**	.746**	1	.667**	.552**	.465**	.751**	.581**	.543**	.634**	.522**	.543**	.569**	.543**	.306	.729**
	Sig. (2-tailed)	.000	.003	.002	.003	.000	.000	.003	.000	.000	.000	.007	.000		.000	.002	.010	.000	.001	.002	.000	.003	.002	.001	.002	.100	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P14	Pearson Correlation	.681**	.728**	.695**	.572**	.758**	.819**	.442*	.599**	.734**	.667**	.837**	.751**	.667**	1	.668**	.758**	.483**	.797**	.695**	.522**	.770**	.571**	.701**	.695**	.392*	.838**

	Sig. (2-tailed)	.000	.000	.000	.001	.000	.000	.014	.000	.000	.000	.000	.000	.000		.000	.000	.007	.000	.000	.003	.000	.001	.000	.000	.032	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P15	Pearson Correlation	.427*	.515**	.595**	.615**	.628**	.839**	.487**	.708**	.737**	.552**	.745**	.784**	.552**	.668**	1	.881**	.543**	.820**	.717**	.552**	.668**	.595**	.587**	.717**	.542**	.815**
	Sig. (2-tailed)	.019	.004	.001	.000	.000	.000	.006	.000	.000	.002	.000	.000	.002	.000		.000	.002	.000	.000	.002	.000	.001	.001	.000	.002	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P16	Pearson Correlation	.484**	.584**	.675**	.697**	.713**	.813**	.552**	.804**	.716**	.627**	.846**	.737**	.465**	.758**	.881**	1	.452*	.812**	.813**	.627**	.758**	.675**	.666**	.813**	.615**	.869**
	Sig. (2-tailed)	.007	.001	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.010	.000	.000		.012	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

P17	Pearson Correlation	.512**	.558**	.642**	.761**	.616**	.642**	.596**	.610**	.760**	.751**	.571**	.666**	.751**	.483**	.543**	.452*	1	.654**	.642**	.566**	.483**	.642**	.544**	.642**	.451*	.756**
	Sig. (2-tailed)	.004	.001	.000	.000	.000	.000	.001	.000	.000	.000	.001	.000	.000	.007	.002	.012		.000	.000	.001	.007	.000	.002	.000	.012	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P18	Pearson Correlation	.573**	.604**	.727**	.722**	.693**	.842**	.361	.665**	.865**	.715**	.849**	.779**	.581**	.797**	.820**	.812**	.654**	1	.842**	.581**	.797**	.612**	.745**	.842**	.475**	.888**
	Sig. (2-tailed)	.001	.000	.000	.000	.000	.000	.050	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000		.000	.001	.000	.000	.000	.000	.008	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P19	Pearson Correlation	.535**	.594**	.866**	.870**	.675**	.732**	.589**	.776**	.784**	.856**	.769**	.786**	.543**	.695**	.717**	.813**	.642**	.842**	1	.699**	.819**	.732**	.618**	1.000**	.715**	.917**

	Sig. (2-tailed)	.002	.001	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000 .000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30 30
P20	Pearson Correlation	.625**	.518**	.543**	.689**	.465**	.543**	.689**	.756**	.644**	.634**	.621**	.574**	.634**	.522**	.552**	.627**	.566**	.581**	.699**	1	.667**	.699**	.722**	.699**	.306 .760**
	Sig. (2-tailed)	.000	.003	.002	.000	.010	.002	.000	.000	.000	.000	.000	.001	.000	.003	.002	.000	.001	.001	.000		.000	.000	.000	.000	.100 .000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30 30
P21	Pearson Correlation	.681**	.728**	.819**	.702**	.629**	.695**	.442*	.599**	.626**	.667**	.837**	.751**	.522**	.770**	.668**	.758**	.483**	.797**	.819**	.667**	1	.819**	.822**	.819**	.392* .863**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.014	.000	.000	.000	.000	.000	.003	.000	.000	.000	.007	.000	.000	.000		.000	.000	.000	.032 .000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30 30

P22	Pearson Correlation	.535**	.745**	.732**	.870**	.536**	.598**	.730**	.647**	.551**	.543**	.769**	.639**	.543**	.571**	.595**	.675**	.642**	.612**	.732**	.699**	.819**	1	.748**	.732**	.413*	.817**
	Sig. (2-tailed)	.002	.000	.000	.000	.002	.000	.000	.000	.002	.002	.000	.000	.002	.001	.001	.000	.000	.000	.000	.000	.000		.000	.000	.023	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P23	Pearson Correlation	.749**	.657**	.618**	.629**	.666**	.618**	.355	.630**	.666**	.569**	.780**	.526**	.569**	.701**	.587**	.666**	.544**	.745**	.618**	.722**	.822**	.748**	1	.618**	.128	.785**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.054	.000	.000	.001	.000	.003	.001	.000	.001	.000	.002	.000	.000	.000	.000	.000		.000	.502	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P24	Pearson Correlation	.535**	.594**	.866**	.870**	.675**	.732**	.589**	.776**	.784**	.856**	.769**	.786**	.543**	.695**	.717**	.813**	.642**	.842**	1.000*	.699**	.819**	.732**	.618**	1	.715**	.917**

	Sig. (2-tailed)	.002	.001	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
P25	Pearson Correlation	.113	.250	.715**	.570**	.459*	.564**	.570**	.584**	.508**	.659**	.367*	.610**	.306	.392*	.542**	.615**	.451*	.475**	.715**	.306	.392*	.413*	.128	.715**	1	.608**
	Sig. (2-tailed)	.552	.183	.000	.001	.011	.001	.001	.001	.004	.000	.046	.000	.100	.032	.002	.000	.012	.008	.000	.100	.032	.023	.502	.000		.000
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
TOTAL	Pearson Correlation	.692**	.745**	.857**	.847**	.814**	.884**	.672**	.844**	.857**	.846**	.880**	.876**	.729**	.838**	.815**	.869**	.756**	.888**	.917**	.760**	.863**	.817**	.785**	.917**	.608**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Reliability Statistics

Cronbach's Alpha	N of Items
.979	25

Appendix 10

STATISTICAL ANALYSIS

Correlations

			Perceived Vulnerabilty	Protection Motivation
Spearman's rho	Perceived Vulnerabilty	Correlation Coefficient	1.000	.288**
		Sig. (2-tailed)	.	.008
		N	85	85
	Protection Motivation	Correlation Coefficient	.288**	1.000
		Sig. (2-tailed)	.008	.
		N	85	85

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			Perceived Severity	Protection Motivation
Spearman's rho	Perceived Severity	Correlation Coefficient	1.000	.352**
		Sig. (2-tailed)	.	.001
		N	85	85

	Protection Motivation	Correlation Coefficient	.352**	1.000
		Sig. (2-tailed)	.001	.
		N	85	85

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			Self-Efficacy	Protection Motivation
Spearman's rho	Self-Efficacy	Correlation Coefficient	1.000	.423**
		Sig. (2-tailed)	.	.000
		N	85	85
	Protection Motivation	Correlation Coefficient	.423**	1.000
		Sig. (2-tailed)	.000	.
		N	85	85

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			Response Efficacy	Protection Motivation
Spearman's rho	Response Efficacy	Correlation Coefficient	1.000	.553**

		Sig. (2-tailed)	.	.000
		N	85	85
	Protection Motivation	Correlation Coefficient	.553**	1.000
		Sig. (2-tailed)	.000	.
		N	85	85

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			Response Cost	Protection Motivation
Spearman's rho	Response Cost	Correlation Coefficient	1.000	-.214*
		Sig. (2-tailed)	.	.049
		N	85	85
	Protection Motivation	Correlation Coefficient	-.214*	1.000
		Sig. (2-tailed)	.049	.
		N	85	85

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

			Protection Motivation	Arthquake Disaster Management Preparedness
Spearman's rho	Protection Motivation	Correlation Coefficient	1.000	.758**
		Sig. (2-tailed)	.	.000
		N	85	85
	Arthquake Disaster Management Preparedness	Correlation Coefficient	.758**	1.000
		Sig. (2-tailed)	.000	.
		N	85	85

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 11

TABULATION OF DATA

Statistics

		Gender	Age	Riwayat Pendidikan	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace
N	Valid	85	85	85	85	85	85
	Missing	0	0	0	0	0	0

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	67	78.8	78.8	78.8
	Female	18	21.2	21.2	100.0
	Total	85	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Vali	26.00	1	1.2	1.2	1.2

d	30.00	1	1.2	1.2	2.4
	31.00	3	3.5	3.5	5.9
	32.00	3	3.5	3.5	9.4
	33.00	2	2.4	2.4	11.8
	34.00	1	1.2	1.2	12.9
	35.00	4	4.7	4.7	17.6
	36.00	4	4.7	4.7	22.4
	37.00	4	4.7	4.7	27.1
	38.00	8	9.4	9.4	36.5
	39.00	6	7.1	7.1	43.5
	40.00	9	10.6	10.6	54.1
	41.00	1	1.2	1.2	55.3
	42.00	5	5.9	5.9	61.2
	43.00	3	3.5	3.5	64.7
	44.00	2	2.4	2.4	67.1
	45.00	6	7.1	7.1	74.1
	46.00	3	3.5	3.5	77.6
	47.00	4	4.7	4.7	82.4
	48.00	2	2.4	2.4	84.7
	49.00	1	1.2	1.2	85.9
	50.00	4	4.7	4.7	90.6
	51.00	2	2.4	2.4	92.9
	52.00	1	1.2	1.2	94.1

	56.00	1	1.2	1.2	95.3
	57.00	1	1.2	1.2	96.5
	58.00	1	1.2	1.2	97.6
	59.00	2	2.4	2.4	100.0
	Total	85	100.0	100.0	

Education Background

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D3	16	18.8	18.8	18.8
	S1	40	47.1	47.1	65.9
	S2	24	28.2	28.2	94.1
	S3	3	3.5	3.5	97.6
	Spesialis	2	2.4	2.4	100.0
	Total	85	100.0	100.0	

Years of Experience as an Emergency Nurse

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	6	7.1	7.1	7.1
	> 10 years	56	65.9	65.9	72.9
	5-10 years	23	27.1	27.1	100.0
	Total	85	100.0	100.0	

Length of Membership in HIPGABI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 6 bulan	8	9.4	9.4	9.4
	> 10 years	9	10.6	10.6	20.0
	1-5 years	36	42.4	42.4	62.4
	6 bulan - < 1 years	4	4.7	4.7	67.1
	6-10 years	28	32.9	32.9	100.0
	Total	85	100.0	100.0	

Current Workplace

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Educational Institution	17	20.0	20.0	20.0
	Clinic	2	2.4	2.4	22.4
	Puskesmas	2	2.4	2.4	24.7
	Hospital	64	75.3	75.3	100.0
	Total	85	100.0	100.0	

Kat_Vulnarability * Kat_Protection Crosstabulation

			Kat_Protection		
			Medium	High	Total
Kat_Vulnarabil	Low	Count	0	1	1

ity		% within Kat_Vulnarability	0.0%	100.0%	100.0%
		% within Kat_Protection	0.0%	1.3%	1.2%
		% of Total	0.0%	1.2%	1.2%
	Medium	Count	4	49	53
		% within Kat_Vulnarability	7.5%	92.5%	100.0%
		% within Kat_Protection	57.1%	62.8%	62.4%
		% of Total	4.7%	57.6%	62.4%
	High	Count	3	28	31
		% within Kat_Vulnarability	9.7%	90.3%	100.0%
		% within Kat_Protection	42.9%	35.9%	36.5%
		% of Total	3.5%	32.9%	36.5%
Total		Count	7	78	85
		% within Kat_Vulnarability	8.2%	91.8%	100.0%
		% within Kat_Protection	100.0%	100.0%	100.0%
		% of Total	8.2%	91.8%	100.0%

Kat_Severity * Kat_Protection Crosstabulation

			Kat_Protection		
			Medium	High	Total
Kat_Severity	Medium	Count	0	2	2
		% within Kat_Severity	0.0%	100.0%	100.0%
		% within Kat_Protection	0.0%	2.6%	2.4%
		% of Total	0.0%	2.4%	2.4%
	High	Count	7	76	83
		% within Kat_Severity	8.4%	91.6%	100.0%
		% within Kat_Protection	100.0%	97.4%	97.6%
		% of Total	8.2%	89.4%	97.6%
Total		Count	7	78	85
		% within Kat_Severity	8.2%	91.8%	100.0%
		% within Kat_Protection	100.0%	100.0%	100.0%
		% of Total	8.2%	91.8%	100.0%

Kat_Self * Kat_Protection Crosstabulation

			Kat_Protection		
			Medium	High	Total
Kat_Self	Medium	Count	2	70	72
		% within Kat_Self	2.8%	97.2%	100.0%
		% within Kat_Protection	28.6%	89.7%	84.7%
		% of Total	2.4%	82.4%	84.7%
	High	Count	5	8	13
		% within Kat_Self	38.5%	61.5%	100.0%
		% within Kat_Protection	71.4%	10.3%	15.3%
		% of Total	5.9%	9.4%	15.3%
Total		Count	7	78	85
		% within Kat_Self	8.2%	91.8%	100.0%
		% within Kat_Protection	100.0%	100.0%	100.0%
		% of Total	8.2%	91.8%	100.0%

Kat_Response * Kat_Protection Crosstabulation

			Kat_Protection		
			Medium	High	Total
Kat_Response	Mediu	Count	1	62	63

	m	% within Kat_Response	1.6%	98.4%	100.0%
		% within Kat_Protection	14.3%	79.5%	74.1%
		% of Total	1.2%	72.9%	74.1%
	High	Count	6	16	22
		% within Kat_Response	27.3%	72.7%	100.0%
		% within Kat_Protection	85.7%	20.5%	25.9%
		% of Total	7.1%	18.8%	25.9%
Total		Count	7	78	85
		% within Kat_Response	8.2%	91.8%	100.0%
		% within Kat_Protection	100.0%	100.0%	100.0%
		% of Total	8.2%	91.8%	100.0%

Kat_Cost * Kat_Protection Crosstabulation

			Kat_Protection		
			Medium	High	Total
Kat_Cost	Low	Count	1	5	6

		% within Kat_Cost	16.7%	83.3%	100.0%
		% within Kat_Protection	14.3%	6.4%	7.1%
		% of Total	1.2%	5.9%	7.1%
	Medium	Count	1	60	61
		% within Kat_Cost	1.6%	98.4%	100.0%
		% within Kat_Protection	14.3%	76.9%	71.8%
		% of Total	1.2%	70.6%	71.8%
	High	Count	5	13	18
		% within Kat_Cost	27.8%	72.2%	100.0%
		% within Kat_Protection	71.4%	16.7%	21.2%
		% of Total	5.9%	15.3%	21.2%
Total		Count	7	78	85
		% within Kat_Cost	8.2%	91.8%	100.0%
		% within Kat_Protection	100.0%	100.0%	100.0%
		% of Total	8.2%	91.8%	100.0%

Kat_Protection * Kat_Kesiapsiagaan Crosstabulation

	Kat_Kesiapsiagaan		
	Medium	High	Total

Kat_Protection	Medium	Count	0	7	7
		% within Kat_Protection	0.0%	100.0%	100.0%
		% within Kat_Kesiapsiagaan	0.0%	12.3%	8.2%
		% of Total	0.0%	8.2%	8.2%
	High	Count	28	50	78
		% within Kat_Protection	35.9%	64.1%	100.0%
		% within Kat_Kesiapsiagaan	100.0%	87.7%	91.8%
		% of Total	32.9%	58.8%	91.8%
Total		Count	28	57	85
		% within Kat_Protection	32.9%	67.1%	100.0%
		% within Kat_Kesiapsiagaan	100.0%	100.0%	100.0%
		% of Total	32.9%	67.1%	100.0%

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
1	Male	46.00	S2	> 10 years	> 10 years	Educational Institution	Medium	High	Medium	Medium	Medium	High	Medium
2	Female	39.00	S2	> 10 years	1-5 years	Educational Institution	High	High	Medium	Medium	Medium	High	High
3	Male	26.00	S1	< 5 years	6 bulan - < 1 years	Educational Institution	High	High	Medium	Medium	Low	High	High
4	Male	31.00	S1	5-10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
5	Male	38.00	S2	5-10 years	6-10 years	Educational Institution	Medium	High	Medium	Medium	Medium	High	High
6	Male	48.	S1	> 10	1-5 years	Hospital	Medium	High	High	High	Mediu	Medium	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
		00		years							m		
7	Male	43.00	S1	> 10 years	< 6 bulan	Hospital	High	High	Medium	Medium	High	High	High
8	Male	40.00	D3	5-10 years	6 bulan - < 1 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
9	Male	41.00	S1	> 10 years	> 10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
10	Male	35.00	D3	> 10 years	< 6 bulan	Hospital	Medium	High	Medium	Medium	Medium	High	High
11	Male	47.00	S1	> 10 years	6-10 years	Hospital	High	High	Medium	High	Medium	High	High
12	Male	38.00	S1	5-10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
13	Male	42.00	D3	> 10 years	< 6 bulan	Hospital	Medium	High	Medium	Medium	High	High	Medium
14	Male	39.00	S2	> 10 years	6-10 years	Educational Institution	Medium	High	High	High	Medium	High	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
15	Male	40.00	D3	> 10 years	> 10 years	Hospital	Medium	High	Medium	Medium	High	High	High
16	Male	37.00	D3	> 10 years	6-10 years	Hospital	Medium	High	Medium	High	Medium	High	Medium
17	Female	42.00	S1	> 10 years	6 bulan - < 1 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
18	Male	33.00	S1	5-10 years	< 6 bulan	Hospital	High	Medium	Medium	Medium	Medium	High	High
19	Male	35.00	S1	5-10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
20	Male	40.00	S1	> 10 years	6-10 years	Hospital	Medium	Medium	Medium	Medium	Medium	High	Medium
21	Male	32.00	D3	5-10 years	6 bulan - < 1 years	Hospital	High	High	High	High	High	Medium	High
22	Male	52.00	D3	> 10 years	1-5 years	Hospital	High	High	Medium	Medium	Medium	High	Medium
23	Female	48.00	S1	> 10 years	1-5 years	Hospital	High	High	Medium	Medium	Medium	High	High
24	Male	36.	S1	5-10	6-10	Hospital	High	High	High	High	High	Medium	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
		00		years	years								
25	Male	45.00	S1	< 5 years	< 6 bulan	Hospital	High	High	Medium	Medium	High	High	High
26	Female	50.00	S2	5-10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
27	Male	38.00	S1	> 10 years	< 6 bulan	Hospital	Medium	High	Medium	Medium	High	High	Medium
28	Female	40.00	S2	> 10 years	1-5 years	Educational Institution	High	High	Medium	Medium	Medium	High	High
29	Male	38.00	S2	5-10 years	1-5 years	Hospital	Medium	High	High	High	High	High	High
30	Male	40.00	S2	> 10 years	6-10 years	Hospital	High	High	Medium	Medium	Medium	High	Medium
31	Female	36.00	D3	> 10 years	1-5 years	Hospital	High	High	Medium	Medium	Low	High	High
32	Male	42.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
33	Male	38.00	D3	5-10 years	6-10 years	Clinic	High	High	Medium	High	Medium	High	High
34	Male	34.00	S1	5-10 years	1-5 years	Hospital	Medium	High	Medium	High	High	Medium	High
35	Male	35.00	S1	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
36	Male	51.00	D3	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
37	Male	36.00	S2	> 10 years	6-10 years	Educational Institution	Medium	High	Medium	Medium	Medium	High	Medium
38	Female	56.00	S2	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
39	Male	46.00	S1	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
40	Male	38.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	High	High	Medium
41	Male	45.	D3	> 10	1-5 years	Hospital	Medium	High	Mediu	Mediu	Mediu	High	Medium

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
		00		years					m	m	m		
42	Male	50.00	Spesialis	5-10 years	6-10 years	Hospital	High	High	High	High	High	High	High
43	Male	40.00	D3	> 10 years	6-10 years	Hospital	High	High	Medium	High	High	High	High
44	Male	42.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Low	High	High
45	Male	45.00	S1	> 10 years	> 10 years	Hospital	High	High	High	High	High	Medium	High
46	Male	59.00	S1	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	High	High	Medium
47	Male	50.00	S2	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
48	Male	38.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
49	Male	46.00	S1	5-10 years	< 6 bulan	Hospital	Medium	High	High	High	Medium	High	High
50	Female	39.00	S2	5-10 years	1-5 years	Educational	Medium	High	Medium	Medium	High	High	Medium

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
						Institution							
51	Male	45.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	High	Medium	High	High
52	Male	47.00	S1	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
53	Male	39.00	S1	> 10 years	6-10 years	Hospital	High	High	Medium	Medium	Medium	High	High
54	Male	47.00	S1	> 10 years	6-10 years	Hospital	High	High	Medium	Medium	Medium	High	High
55	Male	45.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
56	Male	35.00	D3	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
57	Female	39.00	S2	5-10 years	1-5 years	Educational Institution	Medium	High	Medium	High	Low	High	High
58	Male	32.	S2	< 5	1-5 years	Educati	Low	High	Mediu	High	Mediu	High	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
		00		years		onal Institution			m		m		
59	Male	31.00	S1	5-10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
60	Female	44.00	S2	5-10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
61	Female	37.00	Spesialis	< 5 years	1-5 years	Educational Institution	High	High	Medium	Medium	Medium	High	High
62	Male	50.00	S2	> 10 years	> 10 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
63	Female	39.00	S2	> 10 years	6-10 years	Hospital	High	High	Medium	Medium	Medium	High	High
64	Male	40.00	S1	> 10 years	< 6 bulan	Hospital	Medium	High	Medium	Medium	Medium	High	Medium
65	Female	40.00	S3	< 5 years	1-5 years	Educational	High	High	Medium	Medium	Medium	High	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
						Institution							
66	Male	32.00	S1	> 10 years	6-10 years	Puskesmas	Medium	High	High	High	Medium	High	High
67	Male	37.00	S2	> 10 years	6-10 years	Educational Institution	Medium	High	High	High	Medium	High	High
68	Male	43.00	S3	> 10 years	> 10 years	Hospital	High	High	Medium	Medium	Medium	High	High
69	Female	59.00	S2	> 10 years	> 10 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
70	Female	43.00	S1	> 10 years	6-10 years	Hospital	High	High	Medium	Medium	High	High	High
71	Female	49.00	S1	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
72	Female	44.00	S2	< 5 years	1-5 years	Educational Instituti	Medium	High	Medium	High	Low	Medium	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
						on							
73	Male	31.00	S1	5-10 years	1-5 years	Clinic	High	High	High	High	Medium	High	High
74	Male	38.00	S1	> 10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Low	High	Medium
75	Male	42.00	S2	5-10 years	6-10 years	Educational Institution	Medium	High	Medium	Medium	Medium	High	High
76	Male	47.00	S3	> 10 years	1-5 years	Educational Institution	High	High	Medium	Medium	Medium	High	High
77	Male	57.00	S2	> 10 years	1-5 years	Hospital	High	High	Medium	Medium	Medium	High	High
78	Male	45.00	D3	> 10 years	1-5 years	Hospital	Medium	High	High	Medium	High	Medium	High
79	Female	51.00	S2	> 10 years	6-10 years	Educational	Medium	High	Medium	Medium	Medium	High	High

No.	Gender	Age	Highest Educational Attainment	Years of Experience as an Emergency Nurse	Length of Membership in HIPGABI	Current Workplace	Threat Appraisal: Perceived Vulnerability	Threat Appraisal: Perceived Severity	Coping Appraisal: Self Efficacy	Coping Appraisal: Response Efficacy	Coping Appraisal: Response Cost	Protection Motivation	Arthquake Disaster Management Preparedness
						Institution							
80	Male	36.00	S2	5-10 years	1-5 years	Hospital	High	High	Medium	Medium	Medium	High	High
81	Male	33.00	D3	> 10 years	6-10 years	Hospital	Medium	High	Medium	Medium	Medium	High	High
82	Male	58.00	D3	> 10 years	> 10 years	Hospital	High	High	Medium	High	Medium	High	High
83	Male	37.00	S1	> 10 years	> 10 years	Puskesmas	High	High	High	High	High	High	High
84	Male	30.00	S1	5-10 years	1-5 years	Hospital	High	High	Medium	Medium	Medium	High	High
85	Male	40.00	S1	5-10 years	1-5 years	Hospital	Medium	High	Medium	Medium	Medium	High	Medium