



## Disaster Risk Reduction Management and Students' Awareness

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### ABSTRACT

Published Online: September 16, 2024

Disasters are inevitable and result from either natural or man-made disasters that put communities in severe danger, resulting in the loss of lives and property, disrupting their social structures, and impairing all or some of the vital functions of affected communities. This study aims to measure the relationship between Disaster Risk Reduction Management and Students' Awareness. An online and face-to-face survey was distributed to 393 students in one of the universities in Davao City. The researchers used a correlational research design to determine the relationship between the two variables. The researchers utilized the quantitative approach that gathered and analyzed numerical data and a method of gathering quantifiable data and using statistical and mathematical approaches to investigate this phenomenon. The overall level of Disaster Risk Reduction Management is high which indicates that the students are knowledgeable and prepared about Disaster Risk Reduction Management. Also, the level of students' awareness of disasters is high. The results showed that there is a significant relationship between Disaster Risk Reduction Management and Students' Awareness. Thus, this indicates that Disaster Risk Reduction Management has contributed to the students' awareness of disasters. This study may also help contribute to the sustainable development goals set by the United Nations particularly, goal 4 which is quality education, and goal 11 sustainable cities and communities by highlighting the importance of educational initiatives in enhancing disaster preparedness and resilience among students, thereby fostering safer and more sustainable communities. Based on the result of this study, the mean score for False Disaster Awareness is low. The researchers suggest the need also for additional disaster education and awareness, specifically on False Disaster awareness.

### KEYWORDS:

disaster risk reduction management, students' awareness, descriptive-correlational, Davao City, SDG 4 and 1

### INTRODUCTION

Disasters are inevitable and result from either natural or man-made disasters that put communities in severe danger, resulting in the loss of lives and property, disrupting their social structures, and impairing all or some of the vital functions of affected communities (Pasion, 2020). Disasters can be in the form of explosions, earthquakes, floods, hurricanes, tornadoes, and flames (Rafferty, 2023). Consequently, people may experience the danger of developing mental and physical health issues as a result of exposure to disasters (U.S. Department of Veterans Affairs,

2022). Furthermore, most of the victims suffered mild stress and insomnia, and some experienced anxiety, depression, post-traumatic stress disorder, and alcoholism (American Psychiatric Association, 2023). As emphasized in the study of Patel et al. (2023), when natural or man-made calamities strike, students are often the most affected both physically and mentally. Notably, there were disruptions to campus activities, canceled courses, and damaged school buildings caused by such catastrophic events that made the students vulnerable to mental and physical stress. With that, universities have started to understand how important it is to be ready for emergencies and the hazards that go along with them in recent years, and students have gained more awareness of disasters through lectures, media, and personal experience. Disasters can be prevented, and their effects on communities are lessened by coordinated responses (Tulane University, 2022). Regardless of the risk and hazard protocols

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*\*Cite this Article: Princess Sarah C. Abas, Ydchel H. Babao, John Israel G. Cortal, Jonnel V. Campania (2024). Disaster Risk Reduction Management and Students' Awareness. International Journal of Social Science and Education Research Studies, 4(9), 1025-1035*

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and the rise in disaster awareness, still, a lot of universities lack proper preparation and mitigation plans.

According to the United Nations Office for Disaster Risk Reduction (n.d.), disaster risk management is the application of strategies and methods for reducing disaster risk to prevent new disaster risks, lower current disaster risks, and manage residual risks. In addition to that, since humans are unable to lessen the severity of natural hazards, lowering exposure and vulnerability is the primary way that risk can be reduced. The underlying drivers of risk which are primarily linked to poor economic and urban development decisions and practices, environmental degradation, poverty and inequality, and climate change, must be identified and reduced in order to reduce these two components of risk. These factors both create and exacerbate conditions of hazard, exposure, and vulnerability. By addressing these fundamental risk factors, disaster risk will be reduced, the effects of climate change will be mitigated, and development sustainability will be preserved (United Nations Office for Disaster Risk Reduction, 2021). Enhancing disaster mitigation capabilities requires public involvement in community-organized disaster mitigation projects (Que et al., 2022). Hence, people need awareness about disasters – identifying, understanding, and assessing the risk of disasters is important to reduce their effects (United Nations Office for Disaster Risk Reduction, 2021). Disaster awareness is how much people know about the risks associated with disasters and the causes of disasters have an impact on the steps that can be taken either individually or collectively to manage exposure and vulnerability to hazards (Patel et al., 2023). Awareness is the first step towards being prepared. When a disaster strikes, knowledge is the weapon against the unknown; it can speed up recovery, save lives, and lessen the financial and psychological damage (Chapman, 2022).

Globally, India is one of the countries that are most vulnerable to natural disasters worldwide. Its geography and geographic characteristics make it susceptible to various natural disasters, including earthquakes, landslides, avalanches, floods, and cyclones. In most of the places, three months of intense rainfall concentrated in one place results in major floods and massive runoff. Sixty-eight percent of the land mass is at risk of drought due to a lack of moisture for the majority of the year, especially in the dry and semi-arid regions. In terms of earthquakes, the Indian subcontinent is susceptible to regular earthquake disturbances due to its tectonic plate boundaries, which have resulted in significant loss of life and damage to infrastructure. With these, aside from developing efficient post-disaster management procedures, India has developed and implemented sector-specific development plans and pre-disaster mitigation initiatives to lessen the effects of natural disasters and lower socioeconomic vulnerabilities. The goal of reconstruction efforts following natural catastrophes like earthquakes and cyclones is to design structures that are resilient to future natural calamities (Asian Disaster Reduction Center, 2020).

Awareness of the procedures and methods involved in disaster preparation increases the level of disaster preparedness of an individual (Patel et al., 2023). Universities should initiate awareness campaigns emphasizing the value of disaster education. In addition to that, the study of Patel et al. (2023) showed that the university's Disaster Risk Reduction (DRR) curriculum significantly affects the students' level of disaster awareness, the university's, and the government's shared responsibility for students' safety and the establishment of emergency protocols directly influence students' preparedness levels. The study of Dariagan et al. (2020) stated that in disaster management, the Philippines scores poorly, notably in terms of cash usage, information management, leadership, monitoring, collaboration, and coordination with diverse stakeholders. Testing, such as practice drills, may be lacking in disaster preparations to assess their effectiveness before threats strike.

Butuan City, Philippines, is subject to recurring disasters due to its low-lying location, resulting in severe loss of life and property destruction, which has sparked national concern. A 2022 study revealed ongoing issues in the city's schools, such as inadequate entrance facilities for schoolchildren, a lack of building emergency evacuation plans, insufficient training for Disaster Risk Reduction and Management (DRRM) members, a lack of equipment, and inconsistencies in the School Disaster Risk Reduction and Management Program (SDRRM) components (Cubillas et al., 2022). Furthermore, while structural resilience and disaster preparedness training are adequate, risk information and monitoring systems remain inadequate, emphasizing the need for improved disaster risk reduction methods in schools (Galvizo, 2023). This research aims to determine if Disaster Risk Reduction Management contributed to the student's awareness of disasters. Although the students' awareness of disasters has been recognized in the literature, the researchers have not identified the utilization of the quantitative-correlational research design in this phenomenon, and the existing studies further focus on preparedness. Addressing this gap may have significant implications for determining the Universities' level of Disaster Risk Reduction Management and students' level of awareness towards disasters.

This study may also help contribute to the Sustainable Development Goals set by the United Nations, particularly, Goal 4 which is Quality Education, and Goal 11 Sustainable Cities and Communities by highlighting the importance of educational initiatives in enhancing disaster preparedness and resilience among students, thereby fostering safer and more sustainable communities. This research generally aims to determine the relationship between Disaster Risk Reduction Management and the Students' Awareness of disasters. Specifically, it aims to answer the following questions: (1) What is the level of Disaster Risk Reduction Management in one of the Universities in Davao City? (2) What is the level of Awareness of the University students towards disasters? (3) Is there a significant

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relationship between Disaster Risk Reduction Management and the Awareness of college students toward disasters? This research intends to provide data and information about Disaster Risk Reduction Management (DRRM) and Students' Awareness of Disasters at one of the Universities in Davao City.

Furthermore, this research may contribute its data to the following; First, the University students in one of the Universities in Davao City would benefit themselves, by understanding the risks associated with disasters and how to mitigate them, so they may become better equipped to protect themselves and their communities. Second is the academic institution. This study may provide valuable information to the university on how to effectively incorporate disaster risk reduction education into the curriculum and promote disaster awareness among students. Third, in the field of mental health advocates, this study may gain from the study's findings, as they provide insights into human behavior and decision-making in the context of disaster preparedness. Lastly, for future researchers, this study may contribute to the existing body of knowledge on the relationship between disaster risk reduction management and student awareness, thus providing valuable insights for future research.

This study is anchored in Emergency Management Theory by David McEntire in the year 2004, which indicates that calamities are unavoidable in society and tend to have a long-term effect unless they are addressed. Moreover, in terms of preventing, responding to, recovering from, and reducing the effects of these disasters, responsible, immediate, and urgent measures are taken (Ughulu & Igabor, 2021). Thus, Disaster Risk Reduction Management may play a big role in students' awareness about disasters, and that awareness may help to lessen or prevent the effects of disasters. In addition, that theory is supported by the Theory of Reasoned Action developed by Martin Fishbein in the year 1967. This theory predicts a person's intention to engage in a behavior at a particular time and location (LaMorte, 2022). When a disaster occurs, the students may execute the disaster management protocols with a reason to prevent and lessen the effects of a disaster. Therefore, the awareness that is given by Disaster Risk Reduction Management (DRRM) may encourage the students to apply the Disaster Risk Reduction Protocols, which are intended to prevent and lessen the effects of disasters. Since disasters are inevitable, could cause damage to properties and livelihood, and can put communities in severe danger that could lead to loss of lives, as stated by Pasion (2020), to prevent and lessen the effects of disasters, there is a need of application of disaster risk reduction management. Thus, to apply these disaster management protocols, education about disaster is needed. When the students know disaster management, they may know how to respond when a particular disaster occurs.

## METHOD

In this section, the research instrument, the data-gathering procedures, the statistical tools to be used for analyzing data, and the ethical considerations that were involved in this study are discussed.

### *Design and Procedure*

This study utilized a quantitative correlational research design. A correlational research design examines correlations between variables without allowing the researcher to control or manipulate them. A correlation's direction might be positive or negative (Bhandari, 2023). The researchers utilized this research design to determine the relationship between disaster risk reduction management and students' awareness.

The researchers developed a research proposal and presented it to the research coordinator to assess the research proposal to ensure it can contribute to the body of knowledge. After the making of the research proposal, the researchers sent a letter to the Dean's Office of the College of Arts and Sciences Education, signed by the researchers and the research coordinator. When the study was authorized, the researchers submitted a letter to the university requesting authorization to survey the specified subjects. When confirmation was given, the data gathering was then conducted. When the researchers gathered their respondents, they informed the participants about the study. The researchers employed a dual approach for survey administration, utilizing Google Forms for online respondents and conducting face-to-face interaction. In the face-to-face method, the participants were first presented with informed consent documents outlining the study's objective, significance, and procedures. Following the consent process, the researchers proceed to distribute the survey questionnaires.

In conducting a correlational research study on Disaster Risk Reduction Management (DRRM) and Students' Awareness, the researchers addressed several ethical considerations to maintain integrity and ethical standards. According to Bhandari (2024), these include obtaining informed consent by ensuring respondents, particularly students, are fully informed about the study's purpose, procedures, and potential risks and benefits before participating. Researchers also uphold privacy and confidentiality by anonymizing personal data, securely storing information, and assuring respondents that their identities and responses remain confidential. Additionally, the principle of beneficence was observed, ensuring that the study's benefits outweigh any potential risks or harm to participants, with the research contributing positively to understanding DRRM and enhancing students' awareness without causing unnecessary harm. Finally, researchers have an ethical obligation to report and disseminate results fairly and transparently, presenting findings clearly and accurately

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without misleading or biased interpretations, regardless of whether the results align with initial assumptions.

### Research Respondents

The qualifying respondents for this study were recruited from a broad student body at one of Davao City's institutions who participated gladly and voluntarily in this study. The researchers select enrolled students from one of the Universities in Davao City to act as their subject participants for the school year 2023-2024. The participants in this study must be at least 18 years old. The researchers surveyed 393 respondents using a probability sampling method known as stratified random sampling. According to Vaidya (2021), stratified sampling is a form of random sampling that divides the population into subgroups or strata and draws a random sample from each. This sampling approach decreases the risk of bias and allows for more accurate generalizations from the sample to the larger population. The students in one of the Universities in Davao City who are not enrolled in the school year 2023-2024 and do not meet the age requirements were opted out of the study. Furthermore, respondents have the right to withdraw their participation at any time.

### Research Materials and Instrument

Survey questionnaires were used and distributed to the respondents through face-to-face and online. The

researchers adapted and utilized the Reconfiguration of Disaster Risk Reduction Management questionnaire developed by Arciaga (2022) to determine the level of Disaster Risk Reduction Management. This questionnaire consists of six (6) indicators, and each indicator has ten (10) questions. To measure the student's level of awareness, the researchers also utilized the Development of Disaster Awareness Scale questionnaire developed by Dikmenli et al. in 2018. This questionnaire consists of four (4) indicators. The first indicator has thirteen (13) item questions, the second and third indicators have eight (8) item questions, and the fourth indicator has seven (7) item questions.

Respondents' answers to a specific topic were assessed using a five-point Likert scale. The scale that was used in preparedness for Disaster Risk Reduction Management is labeled from the lowest choice. A five-point Likert scale (1=Not Prepared) to the highest option (5=Highly Prepared). On the other hand, to assess the respondents' awareness towards disaster, the researchers adopted a Disaster Awareness scale from Orbe et al. (2022). The Disaster Awareness scale is a five-point Likert scale labeled from the lowest choice – (1=Very low) to the highest option (5= Very high).

Below is the scale used to assess the mean scores of the respondents to determine the level of disaster risk reduction management.

**Table 1: Rating Scale for Disaster Risk Reduction Management**

Scale	Mean Range	Description	Interpretation
5	4.20 - 5.00	Highly Prepared	The students are highly prepared for disaster risk reduction management.
4	3.40 - 4.19	Prepared	The students are prepared for disaster risk reduction management.
3	2.60 - 3.39	Moderately Prepared	The students are moderately prepared for disaster risk reduction management.
2	1.80 - 2.59	Less Prepared	The students are less prepared for disaster risk reduction management.
1	1.00 - 1.79	Not Prepared	The students are not prepared for disaster risk reduction management.

Below is the scale used to assess the mean scores of the respondents to determine their level of awareness towards disasters.

**Table 2: Rating Scale for Students' Awareness**

Scale	Mean Range	Description	Interpretation
5	4.21 - 5.00	Very high	The students have a very high level of awareness of disasters.
4	3.41 - 4.20	High	The students have a high level of awareness of disasters.
3	2.61 - 3.40	Moderate	The students have a moderate level of awareness of disasters.
2	1.81 - 2.60	Low	The students have a low level of awareness of disasters.

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1	1.00 - 1.80	Very low	The students have a very low level of awareness of disasters.
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Below is the scale used to determine the correlation between Disaster Risk Reduction Management and Students' Awareness.

**Table 3: Rating Scale for Correlation between Disaster Risk Reduction Management and Students' Awareness**

Scale	Mean Range	Description	Interpretation
6	±1.00	Perfect Correlation	There is a perfect relationship between DRRM and students' awareness, meaning they vary together exactly.
5	0.81 to 0.99	Very Strong Correlation	There is a very strong relationship between DRRM and students' awareness, indicating a very high degree of association.
4	0.71 to 0.80	Strong Correlation	There is a strong relationship between DRRM and students' awareness, indicating a significant degree of association.
3	0.41 to 0.70	Moderately Strong Correlation	There is a noticeable relationship between DRRM and students' awareness, suggesting a moderate degree of association.
2	0.21 to 0.40	Weak Correlation	There is a small relationship between DRRM and students' awareness, indicating a slight tendency for them to vary.
1	0.01 to 0.20	Very Weak Correlation	There is a very weak relationship between DRRM and students' awareness, which might be negligible or due to random chance.
0	0.00	No Correlation	There is no relationship between DRRM and students' awareness.

The researchers utilized the following statistical tools:

*Mean.* It is the sum of all values divided by the total number of values (Bhandari, 2020). This tool will determine the average results of the survey questionnaires conducted online. The mean determines the level of disaster risk reduction management as well as the level of awareness of the students.

*Pearson r.* It summarizes the characteristics of a dataset and describes the strength and direction of the linear relationship between the independent and dependent variables (Turney, 2022). It determines whether or not there

is a significant relationship between the level of disaster risk reduction management and students' awareness.

## RESULTS AND DISCUSSION

This section presents a thorough discussion of the data gathered, which was analyzed and interpreted by the statistician and the researchers using the survey questionnaire results given to the respondents. Data are presented in tabular form with verbal descriptions. The discussion includes the results of the relationship between the degree of Disaster Risk Reduction Management and students' awareness towards disasters.

**Table 4: Level of the University Students Disaster Risk Reduction Management**

Indicators	Mean	SD	Description
Extent of School Awareness and Preparedness along Disaster Risk Reduction Policies	3.90	.70871	The student is prepared for disaster risk reduction management.
Level of Preparedness of the Schools Common Occurrence of Disaster along Earthquake	4.00	.69552	The student is prepared for disaster risk reduction management.
Level of Preparedness of the Schools Common Occurrence of Disaster along Fire	3.97	.65467	The student is prepared for disaster risk reduction management.
Level of Preparedness of the Schools Common Occurrence of Disaster along Flooding	3.75	.74212	The student is prepared for disaster risk reduction management.
Level of Preparedness of the Schools Common Occurrence of Disaster along Diseases	4.02	.69482	The student is prepared for disaster risk reduction management.

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Disaster Risk Reduction along with Prevention and Management	3.94	.70522	The student is prepared for disaster risk reduction management.
Overall level of Disaster Reduction Management	3.93	.59502	The student is prepared for disaster risk reduction management.

The overall mean of Disaster Risk Reduction Management is 3.93 (SD = 0.60) which indicates that students are prepared for disaster risk reduction management.

Level of Preparedness of the Schools Common Occurrence of Disaster along Diseases resulted in the highest mean rating of 4.02 (SD=0.69) which means that student is prepared for disaster risk reduction management.

With a mean rating of 4.00 (SD = 0.70), Level of Preparedness of the Schools Common Occurrence of Disaster along Earthquake ranked second of the six indicators based on the result. This means that student is prepared for disaster risk reduction management.

With a mean rating of 3.97 (SD = 0.65), Level of Preparedness of the Schools Common Occurrence of Disaster along Fire ranked third of the six indicators based on the result. It means that student is prepared for disaster risk reduction management.

With a mean rating of 3.94 (SD = 0.71), Disaster Risk Reduction along with Prevention and Management ranked fourth of the six indicators based on the result. It means that student is prepared for disaster risk reduction management.

With a mean rating of 3.90 (SD=0.71) which means that student is prepared for disaster risk reduction management in terms of extent of school awareness and preparedness along disaster risk.

With a mean rating of 3.75 (SD = 0.74), Level of Preparedness of the Schools Common Occurrence of Disaster along Flooding ranked sixth of the six indicators based on the result. It means that student is prepared for disaster risk reduction management.

As shown in the table, the respondents gained the same descriptive interpretation of the prepared mean ratings of the six disaster risk reduction management indicators.

The study's findings reveal that students are generally equipped for disaster risk reduction management (DRRM) (mean = 3.93, SD = 0.60). This outcome is consistent with Patel et al. (2023)'s emphasis on disaster awareness campaigns and a solid DRR curriculum as critical components of student preparedness.

Breaking down the results by indicator yields some intriguing trends. The highest score (mean = 4.02, SD = 0.69) indicates illness readiness. This could be related to the recent COVID-19 pandemic heightening awareness of disease outbreaks, which is consistent with the findings of the United States. The Department of Veterans Affairs (2022) addresses the health hazards linked with catastrophes. Similarly, preparedness for earthquakes (mean = 4.00, SD = 0.70) and fires (mean = 3.97, SD = 0.65) reflects the incidence of these hazards in the Philippines, as well as the possibility of established emergency protocols.

Disaster Risk Reduction along with Prevention and Management (mean = 3.94, SD = 0.71) had a somewhat lower score, indicating that while overall readiness exists, there may be potential for improvement in integrating specific prevention and management techniques. This corresponds with Patel et al.'s (2023) suggestion that institutions effectively implement DRRM courses.

The score for extent of school awareness and preparedness (mean = 3.90, SD = 0.71) lends more credence to the possible efficacy of awareness initiatives (Patel et al., 2023). The standard deviation, however, indicates that there may be some variation in students' awareness levels, emphasizing the necessity of continued efforts.

Lastly, the lowest score was assigned to flood preparedness (mean = 3.75, SD = 0.74). This may be the case because, in comparison to other disasters, flooding may not be as regular a danger in the research area. Similar to the inadequacies in evacuation plans or training noted by Cubillas (2021), more research into flood preparedness methods may prove advantageous.

To sum up, the research indicates that students are generally prepared for DRRM. But the breakdown by indication shows where there is room for development, especially when incorporating specialized management and preventative techniques and flood readiness. As stressed by other studies, this emphasizes the significance of continuing efforts in DRRM teaching and resolving identified inadequacies (Dariagan et al., 2020; Cubillas, 2021).

**Table 5: Level of students' awareness towards disasters**

Indicators	Mean	SD	Description
Disaster Education Awareness	4.21	.50652	The student has a very high level of awareness of disasters.
Pre-Disaster Awareness	4.37	.61450	The student has a very high level of awareness of disasters.
False Disaster Awareness	2.72	1.15980	The student has a moderate level of awareness of disasters.

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After Disaster Awareness	3.83	.77251	The student has a high level of awareness of disasters.
Overall students' awareness towards disasters	3.73	.51610	The student has a high level of awareness of disasters.

Firstly, with the highest mean score of 4.37, the research table shows exceptionally high scores in pre-disaster awareness among students. The low standard deviation of 0.61 confirms a clear understanding and preparedness for potential disasters. This implies that students are well prepared and knowledgeable about actions to be taken before a disaster occurs, indicating a proactive approach to disaster management.

Secondly, a high level of awareness among students in items of disaster education initiatives with a mean score of 4.21 with a relatively low standard deviation of 0.621 suggests a consistent and widespread understanding of disaster education programs. This indicates that students are well informed about educational efforts and aim to enhance their knowledge and preparedness regarding disaster.

Then, the research portrays a commendable level of awareness among students regarding post-disaster response and recovery efforts. With a mean score of 3.83, which has a description of high, and a standard deviation of 0.77, students demonstrate a solid understanding of actions to be taken after a disaster occurs. This indicates that students are equipped with knowledge about post-disaster measures, which is essential for effective response and recovery.

Lastly, shown to have the lowest mean of the research reveals a moderate level of awareness regarding false disaster information with a mean score of only 2.72 with a wider standard deviation of 1.6 adjust variation among students in discerning accurate disaster-related information from false or misleading content. This indicates a need for further education and awareness efforts to improve students' ability to differentiate between credible and false disasters.

Overall, the combined analysis of these indicators reveals an average mean score of 3.73, reflecting a high level

of awareness among students towards disaster, this indicates that students have a high level of awareness of disaster.

The analysis of the university student's awareness towards disaster aligned closely with the literature reviewed in the paper, particularly regarding the significance of disaster education and preparedness initiative. The finding supports the assertion of Patel et al. (2023) that students are often significantly affected by disasters and emphasizes the importance of disaster education programs in mediating such impacts. The high means core for disaster education awareness and pre-disaster reflects the effectiveness of disaster education and initiatives implemented within the university. This alliance with the assertion that the university has increasingly recognized the importance of preparing students for emergencies Patel et al. (2023). The consistent understanding and preparedness demonstrated by students in this area suggest that efforts to incorporate disaster risk reduction management into the curriculum have been successful.

Also, in the further study of Patel et al. (2023), the study's findings further emphasize the critical importance of theoretical and practical disaster education for students. They revealed that more than half of the students recognize the necessity for practical training alongside theoretical knowledge to develop a comprehensive understanding of survival techniques and rescue skills required during disasters. Moreover, many respondents identify the lack of sufficient practical knowledge as a major barrier to effective disaster preparedness. With continuous efforts in improving students' awareness, these knowledge gaps may be overcome.

**Table 6: Relationship between Disaster Risk Reduction Management and Students' Awareness**

Variables	R-Value	p-value	Decision
Disaster Risk Reduction Management Students' Awareness	0.501	0.00	There is a significant relationship between Disaster Risk Reduction Management and Students' Awareness.

The Pearson correlation revealed a moderately strong correlation between Disaster Risk Reduction Management and Student Awareness ( $r=0.501$ ,  $p<0.05$ ). The results showed that the p-value was lower than the alpha, hence the null hypothesis was rejected. Thus, the association between Disaster Risk Reduction Management and Student Awareness is moderately strong. Since there is a strong positive correlation between the two variables, this suggests that as the level of disaster risk reduction management increases, so does the level of student awareness.

Nonetheless, as one variable drops, the other tends to decrease as well.

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**Table 7: Correlation Matrix of the Level of Disaster Risk Reduction Management and Students' Awareness**

Disaster Risk Reduction Management	Students Awareness					
	Disaster Education Awareness	Pre-Disaster Awareness	False Awareness	Disaster Awareness	After Disaster Awareness	Overall
Extent of School Awareness and Preparedness along Disaster Risk	.412**	.405**	.094		.461**	.461**
Level of Preparedness of the Schools Common Occurrence of Disaster along Earthquake	.415**	.398**	.041		.357**	.375**
Level of Preparedness of the Schools Common Occurrence of Disaster along Fire	.463**	.437**	-.007		.345**	.359**
Level of Preparedness of the Schools Common Occurrence of Disaster along Flooding	.384**	.411**	.117*		.426**	.459**
Level of Preparedness of the Schools Common Occurrence of Disaster along Diseases	.431**	.454**	.025		.374**	.403**
Disaster Risk Reduction along with Prevention and Management	.446**	.468**	.058		.501**	.492**
<b>Overall</b>	<b>.499**</b>	<b>.504**</b>	<b>.066</b>		<b>.485**</b>	<b>.501**</b>

\*p<0.05

\*\*p<0.01

The following correlation was found between the indicators of the independent variable, Disaster Risk Reduction Management, and the dependent variable, Student Awareness. The correlation coefficient between the indicator's extent of school awareness and preparedness for disasters and disaster education awareness was 0.412, indicating a moderately strong correlation. The extent of school awareness and preparedness along with disaster risk and pre-disaster awareness yielded a correlation of 0.405, indicating a moderately strong correlation. Furthermore, the extent of school awareness and preparedness along disasters risk and false disaster awareness had a correlation coefficient of 0.094, indicating a very weak correlation. Finally, the extent of school awareness and preparedness along disaster risk and after-disaster awareness yielded a correlation of 0.461, indicating a moderately strong correlation.

The next indicator, the level of preparedness of the school's common occurrence of disaster along with earthquake and disaster education awareness, had a correlation coefficient of 0.415, indicating a moderately strong correlation. Whereas, the level of preparedness of the school's common occurrence of disaster along with earthquake and pre-disaster awareness obtained a correlation

of 0.398, indicating a weak correlation. And the level of preparedness of the school's common occurrence of disaster along with earthquake and false disaster awareness, yielded a correlation of 0.041, indicating a very weak correlation. Furthermore, the level of preparedness of the school's common occurrence of disaster along with earthquake and after disaster awareness had a correlation of 0.375, indicating a weak correlation.

Furthermore, the level of preparedness of the school's common occurrence of disaster along with fire and disaster education awareness obtained a correlation of 0.463, indicating a moderately strong correlation. In contrast, the level of preparedness of the school's common occurrence of disaster along with fire and pre-disaster awareness had a correlation of 0.437, indicating a moderately strong correlation. And the level of preparedness of the school's common occurrence of disaster along with fire and false disaster awareness yielded a correlation of -0.007. It indicates a no correlation. The level of preparedness of the school's common occurrence of disaster along fire and after disaster awareness obtained a correlation of 0.345, indicating a weak correlation.



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Moreover, there was a weak correlation found between level of preparedness of the school's common occurrence of disaster along flooding and disaster education awareness, with a correlation of 0.384. Additionally, level of preparedness of the school's common occurrence of disaster along flooding and pre-disaster awareness obtained a correlation of 0.411 which indicates a moderately strong correlation. The correlation between the level of preparedness of the school's common occurrence of disaster along flooding and false disaster awareness was very weak, at 0.117. Also, in the level of preparedness of the school's common occurrence of disaster along flooding and after-disaster awareness obtained a correlation of 0.426 indicating a moderately strong correlation.

The last indicator showed a moderately strong correlation (0.431) between level of preparedness of the school's common occurrence of disaster along diseases and disaster education awareness. Pre-disaster awareness and level of preparedness of the school's common occurrence of disaster along with diseases had a moderately strong correlation of 0.454. The level of preparedness of the school's common occurrence of disaster along with diseases and false disaster awareness also showed a very weak correlation, at 0.025. The level of preparedness of the school's common occurrence of disaster along with diseases and after disaster awareness subsequently obtained a correlation of 0.374, indicating a weak correlation.

The results of this study provide evidence for the beneficial association between student awareness and disaster risk reduction management (DRRM). The total correlation coefficient ( $r = 0.501$ ) demonstrates a moderately strong relationship, implying that students at colleges with superior DRRM programs typically have greater levels of catastrophe awareness. This is consistent with earlier research by Patel et al. (2023), who discovered a noteworthy effect of a university's DRR program on student awareness. All DRRM indicators showed relatively substantial associations with student knowledge of disaster education, pre-disaster readiness, and post-disaster response, according to additional research. This is in keeping with the United Nations Office for Disaster Risk Reduction's (n.d.) definition of DRRM, which emphasizes a comprehensive strategy that includes mitigation, preparedness, and education.

Furthermore, Chapman (2022) emphasizes that information is a weapon against the unknown during catastrophes and that disaster awareness is the first step towards preparedness. This demonstrates how crucial DRRM courses are in providing students with the information they need to react to emergencies in a responsible manner. It is interesting to note that DRRM indicators and false disaster awareness turned out to have a weak or even negative link.

Thus, designed DRRM programs may help students become less confused and develop a more accurate understanding of disasters. This is consistent with McEntire's (2004) Emergency Management Theory, which highlights the

importance of education in reducing the effects of disasters (Ughulu & Iabor, 2021). As a result, institutions ought to give top priority to creating and executing strong DRRM programs that include instruction, practice drills, and mitigation techniques. Universities may promote a culture of safety and equip students to become responsible adults who can handle emergency circumstances and help create resilient communities by funding these kinds of activities.

## CONCLUSION AND RECOMMENDATIONS

The study aimed to determine the level of Disaster Risk Reduction Management and the Students' Awareness towards disasters and to identify if there is a significant relationship between the two variables.

### Conclusion

This research has provided valuable insights into disaster reduction management (DRRM) preparedness and students' awareness at one of the universities in Davao City. The findings indicate a commendable level of preparedness in disaster with reduction management across various indicators, with the overall mean, reflecting a state of preparedness among students. The overall mean of 3.39 with a standard deviation of 0.60 suggests that the university's DRRM is well-established, indicating that students are adequately prepared for disaster scenarios.

Furthermore, the study highlights the exceptional Pre-disaster Awareness among students, indicating a proactive approach towards disaster management. Students demonstrate a high level of disaster awareness, with the overall average mean score of 3.73. This high level of awareness encompasses pre-disaster awareness, disaster education initiatives, and post-disaster and recovery response, also demonstrating a strong understanding of disaster education initiatives, emphasizing the success of educational programs to enhance their knowledge and preparedness. However, there remains room for improvement, notably in discerning False Disaster information, where the mean score was comparatively lower, suggesting the need for additional education and awareness campaigns in this area.

Importantly, the research established a moderately strong correlation between DRRM and students' awareness, indicating that the DRRM preparedness level increases, as does the level of awareness among students. This underscores the interconnectedness of effective disaster management strategies and heightened awareness among the student population. Overall, these findings underscore the importance of continued efforts in strengthening the DRRM initiatives and disaster awareness programs in universities by fostering a culture of preparedness and knowledge dissemination, as it is the key factor for a more resilient community capable of responding to various disaster risks effectively. The findings resonate with Patel et al. (2023), affirming that comprehensive disaster education and preparedness

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initiatives significantly enhance student readiness for emergencies. This relationship is critical, as it illustrates that the implemented DRRM strategies contribute to heightened awareness and preparedness among students, ultimately fostering a more resilient academic community.

### Recommendations

The recommendations below are offered based on the findings and the data acquired:

To the university students, to participate in Disaster Risk Reduction Management symposiums to understand the effects of disasters and on how to mitigate them. It is significant to be aware of disaster management protocols, because as stated by Chapman (2022) when a disaster strikes, knowledge is our weapon against disasters; it can speed recovery, save lives, and lessen the financial and psychological damage brought by disasters.

To the academic institutions to conduct Disaster Risk Reduction Management Education for the students to understand the relevance of disaster management and to know and apply the proper safety protocols before, during, and after disasters. With that, it may increase their level of disaster awareness, and thus, reduce the effects of disasters. As stated by Chapman (2023), disaster losses can be mitigated through awareness, and preparedness begins with awareness. Thus, knowledge towards disasters can be our defense when disaster strikes – help to save lives, to speed up recovery, and reduce the financial and psychological effects of disasters. In addition to that, as mentioned in the conclusion above, the mean score for False Disaster Awareness is low. The researchers suggest the need also for additional disaster education and awareness, specifically on False Disaster awareness. According to the United Nations Office for Disaster Risk Reduction (2022), communicating information about disaster risk is relevant to reducing its effects. Therefore, when there is false information, it compromises the efforts to build awareness of the complex structures of risks – which can lead to loss of lives and misallocated resources.

In the field of psychology, the insights of this research may contribute to understanding how individuals perceive and respond to disasters. Psychologists can further investigate the psychological factors influencing individuals' preparedness behaviors, such as risk perception, attitude, and social norms. In addition, psychologists can utilize the findings from this study to inform the development of resilience-building and coping strategies tailored to students' needs. Disasters can have a significant psychological impact on individuals, including stress, anxiety, and trauma.

To the community, there should be efforts to implement effective disaster risk reduction management programs to enhance the capabilities of individuals within the community through disaster risk reduction management seminars and training – effective use of signages and enhancing better telecommunication in response to disasters.

To future researchers, since the respondents of this research are students from one of the universities in Davao City, the future research should also examine the Disaster Risk Reduction Management in a particular city or certain offices or establishments – it could be public or private and determine the residents' level of awareness towards disasters.

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