# Crisis Management, Preparedness and Challenges of Educators in Disaster Risk Reduction Management (DRRM) Implementation

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## ABSTRACT

This study examined crisis management, disaster preparedness, and the challenges encountered by public elementary school educators in Disaster Risk Reduction and Management (DRRM) implementation during the academic year 2025–2026. Employing a descriptive-correlational research design, the study involved 201 educators from seven public elementary schools in Bacolod City. Data were collected through a standardized questionnaire using a five-point Likert response format and analyzed with descriptive statistics, Mann–Whitney U, Kruskal–Wallis H, and Spearman's rho. Educators reported a very high level of crisis management, a high level of disaster preparedness, and a high overall level of challenges encountered. No statistically significant differences were found in crisis management or disaster preparedness when respondents were grouped according to age, sex, educational attainment, or length of service. For challenges encountered, no statistically significant differences were observed by age, sex, or length of service; however, a statistically significant difference emerged by educational attainment. Pairwise results indicate significant differences between bachelor's degree holders and the two master's-level groups, though the direction and adjusted significance of these comparisons require verification from the raw statistical output. The doctorate group included only three respondents, so comparisons involving this group warrant substantial caution. Crisis management and disaster preparedness were significantly and positively associated ($r_s = .642$, $p < .001$). No statistically significant association was observed between crisis management and challenges encountered ($r_s = -.113$, $p = .112$), nor between disaster preparedness and challenges encountered ($r_s = -.005$, $p = .945$). As the measures relied on educator self-reports, the findings reflect perceived experiences rather than independently verified school-level preparedness or crisis-management performance. This study contributes to the discourse on school DRRM implementation and educator preparedness in Philippine public elementary schools.

**Keywords:** Crisis Management, Preparedness, Challenges of Educators, Disaster Risk Reduction Management, Disaster Risk Reduction Management Implementation.

## INTRODUCTION

Disaster Risk Reduction and Management (DRRM) is a vital concern in education due to the increasing frequency of natural and human-induced disasters. Schools are vulnerable environments where disasters disrupt learning, threaten safety, and affect community well-being. In the Philippines, this risk is heightened by its location along the Pacific Ring of Fire and typhoon belt, exposing schools to earthquakes, typhoons, floods, and landslides. Institutions are therefore expected to strengthen preparedness and crisis management to ensure resilience (Dela Cruz & Ormilla, 2022).

Republic Act No. 10121, the Philippine Disaster Risk Reduction and Management Act of 2010, institutionalized DRRM practices nationwide. The Department of Education responded by integrating School DRRM (SDRRM) programs, requiring drills, contingency planning, and emergency response systems (Tolentino, 2021). These measures underscore the government's recognition of schools as frontline actors in disaster resilience.

Educators play a central role in DRRM implementation. They ensure learner safety, disseminate information, and assist in recovery efforts. Garcia and Espiritu (2025) emphasized that teachers and school heads with crisis management competencies significantly enhance school resilience. Crisis management involves planning, communication, coordination, and leadership during emergencies. Jauro, Siason, and Talaman (2023) found that schools with organized crisis systems are better able to reduce risks and sustain educational continuity.

Preparedness is equally critical. It refers to readiness, knowledge, and resources for effective response. Teachers with adequate preparedness can implement evacuation procedures and guide learners during emergencies. Berame, Bulay, and Mercado (2022) noted that preparedness strengthens school communities' resilience and response capabilities.

Despite these efforts, challenges remain. Schools often face insufficient training, limited resources, inadequate administrative support, and weak stakeholder coordination. Balanggoy (2024) observed that constrained budgets, lack of awareness, and difficulties in maintaining emergency equipment hinder effective DRRM implementation.

Recent studies affirm the importance of strengthening DRRM in schools. Luminarias and Liquido (2025) found that highly prepared schools demonstrated stronger resilience and emergency response. Similarly, Pattalitan (2026) highlighted that the preparedness of school managers and teachers directly influences DRRM effectiveness in public schools.

Given these realities, this study seeks to examine the crisis management practices, preparedness, and challenges faced by educators in DRRM implementation. The findings aim to guide administrators, policymakers, and educators in designing interventions, enhancing training, and improving preparedness measures to build safer and more resilient schools.

## METHODOLOGY

The study adopted a descriptive–correlational research design to assess the levels of crisis management, disaster preparedness, and challenges encountered by educators in Disaster Risk Reduction and Management (DRRM) implementation. Respondents were drawn from seven public elementary schools in Bacolod City, with a sample size of 201 determined from a population of 402 using Yamane's formula at a 95% confidence level and 5% margin of error. Stratified random sampling ensured proportional representation across schools, followed by simple random selection through the lottery method. Data were gathered using a standardized survey questionnaire adapted from established sources, namely the School Crisis Management Evaluation Tool (2021–2022), the Disaster Preparedness Evaluation Tool (2022–2025), and the DRRM Challenges Assessment Questionnaire (2025–2026). The instrument was structured into three domains—crisis management, preparedness, and challenges—each with four dimensions measured on a five-point Likert scale. Validity was established through Lawshe's Content Validity Ratio, yielding a CVI of 0.87, while reliability was confirmed through Cronbach's Alpha, with values of 0.91 for crisis management, 0.89 for preparedness, and 0.85 for challenges, all exceeding the 0.70 threshold for acceptable internal consistency.

Data analysis employed descriptive and nonparametric statistical techniques. Frequency and percentage distributions summarized demographic characteristics, while means and standard deviations described the levels of the three study variables. The Mann–Whitney U test was used for comparisons by sex, and the Kruskal–Wallis H test for age, educational attainment, and length of service. Associations among crisis management, preparedness, and challenges were tested using Spearman's rank-order correlation at a 0.05 significance level. Ethical clearance was secured from school authorities, with informed consent obtained from participants, who were assured of anonymity, confidentiality, and the right to withdraw without penalty. Limitations included reliance on self-reported data, potential clustering effects within schools, small subgroup sizes, and the absence of raw datasets for independent verification. These constraints highlight the need for future studies to triangulate survey findings with observational data, audits of DRRM plans, and performance assessments during actual emergency drills.

# RESULTS AND DISCUSSIONS

## Profile of the Respondents

**Table 1. Frequency and Percent Distribution of the Educators according to Profile.**

| Profile | Category | f | % |
|---|---|---|---|
| Age | | | |
| | 25 to 34 years old | 33 | 16.42 |
| | 35 to 44 years old | 67 | 33.33 |
| | 45 to 54 years old | 70 | 34.83 |
| | 55 years old and above | 31 | 15.42 |
| | Total | 201 | 100.00 |
| Sex | | | |
| | Male | 33 | 16.42 |
| | Female | 168 | 83.58 |
| | Total | 201 | 100.00 |
| Highest Educational Attainment | | | |
| | Bachelor's Degree | 108 | 53.73 |
| | Master's with Units | 39 | 19.40 |
| | Master's Degree | 51 | 25.37 |
| | Doctorate Degree | 3 | 1.49 |
| | Total | 201 | 100.00 |
| Length of Service | | | |
| | 1 to 10 years | 74 | 36.82 |
| | 11 to 20 years | 71 | 35.32 |
| | 21 to 30 years | 54 | 26.87 |
| | 31 years and above | 2 | 1.00 |
| | Total | 201 | 100.00 |

The demographic profile of the 201 educators reveals a workforce largely concentrated in the mid-career stage, with 34.83% (f = 70) aged 45–54 and 33.33% (f = 67) aged 35–44, while younger educators (25–34 years old) account for only 16.42% (f = 33). This suggests that teaching is dominated by experienced professionals rather

than early-career entrants, implying that school's benefit from seasoned expertise but may face challenges in attracting younger talent for long-term sustainability.

The data also show a female majority (83.58%, f = 168), reflecting the continuing feminization of the teaching profession, with males comprising only 16.42% (f = 33). This implies that gender representation remains uneven, which could influence perspectives in policy-making and classroom dynamics.

In terms of educational attainment, more than half of the respondents (53.73%, f = 108) hold a bachelor's degree, while 25.37% (f = 51) have completed a master's degree, and only 1.49% (f = 3) hold a doctorate. This indicates that while graduate studies are pursued, doctoral-level qualifications remain rare, implying a need for stronger institutional support and incentives to encourage advanced research and leadership training among educators.

Regarding length of service, most educators fall within 1–20 years of teaching experience (72.14%, f = 145), suggesting a stable workforce with moderate retention, while only 1% (f = 2) have served beyond 31 years. This implies that while retention is relatively strong, long-term career sustainability and succession planning may require attention to ensure continuity of expertise in the profession.

This conforms with the result of the present study, as Pablo et al. (2025) reported that Filipino educators are predominantly female and concentrated in their mid-career stages, with most holding bachelor's or master's degrees. Their findings emphasize that professional development through graduate studies remains a critical pathway for career progression, which aligns with the current data showing a majority of bachelor's degree holders and a significant proportion with master's units. Similarly, Gacusan and Calangi (2022) highlighted that educational qualifications strongly influence teacher performance and promotion, supporting the importance of graduate studies in shaping career trajectories.

On the other hand, this contradicts the findings of Reyes and Santos (2023), who argued that younger educators are increasingly entering the profession due to expanded teacher education programs, whereas the present study shows limited representation of younger age groups. Likewise, Villanueva (2024) noted that doctoral attainment among educators has been gradually increasing in recent years, a trend not reflected in the current data where only 1.49% hold a doctorate. These contrasting findings suggest that while the present study reflects stability and maturity in the teaching workforce, it may also highlight gaps in recruitment of younger teachers and advancement toward doctoral-level qualifications.

**Crisis Management among Educators in DRRM Implementation**

**Table 2. Level of Crisis Management among Educators in DRRM Implementation.**

| Statements | Mean | SD | Interpretation |
|---|---|---|---|
| **DISASTER PLANNING** | **4.23** | **0.68** | **Very High** |
| The school has a clear crisis management plan. | 4.09 | 0.83 | High |
| Disaster response procedures are properly established. | 4.20 | 0.75 | Very High |
| School personnel are informed about crisis protocols. | 4.27 | 0.76 | Very High |
| e school regularly reviews crisis management plans. | 4.21 | 0.75 | Very High |
| saster preparedness activities are included in school programs. | 4.37 | 0.70 | Very High |
| **EMERGENCY RESPONSE** | **4.42** | **0.63** | **Very High** |
| Educators respond immediately during emergencies. | 4.42 | 0.74 | Very High |

| | | | |
|---|---|---|---|
| Emergency evacuation procedures are properly implemented. | 4.38 | 0.68 | Very High |
| The school conducts regular emergency drills. | 4.50 | 0.63 | Very High |
| Teachers know how to assist learners during disasters. | 4.46 | 0.70 | Very High |
| Emergency response teams function effectively in school. | 4.36 | 0.75 | Very High |
| **COMMUNICATION AND COORDINATION** | **4.33** | **0.62** | **Very High** |
| Communication systems are effective during emergencies. | 4.23 | 0.74 | Very High |
| Coordination among school personnel is well organized. | 4.26 | 0.68 | Very High |
| Disaster-related information is communicated promptly. | 4.28 | 0.70 | Very High |
| School officials coordinate with local DRRM agencies. | 4.47 | 0.65 | Very High |
| Teachers receive timely updates during emergencies. | 4.42 | 0.71 | Very High |
| **DECISION - MAKING DURING CRISIS** | **4.30** | **0.65** | **Very High** |
| School administrators make timely decisions during crises. | 4.25 | 0.76 | Very High |
| Crisis situations are handled systematically. | 4.26 | 0.72 | Very High |
| Teachers participate in crisis-related decision-making. | 4.28 | 0.76 | Very High |
| School leaders provide clear directions during emergencies. | 4.34 | 0.66 | Very High |
| Decisions during disasters prioritize learner safety. | 4.37 | 0.70 | Very High |
| **CRISIS MANAGEMENT As a Whole** | 4.32 | 0.60 | **Very High** |

Legend: (4.21-5.00)-Very High; (3.41-4.20)-High; (2.61-3.40)-Moderate; (1.81-2.60)-Low; (1.00-1.80)-Very Low

Table 2 indicates that educators reported a very high level of crisis management across all four dimensions—disaster planning, emergency response, communication and coordination, and decision-making during crises. The overall reported level was very high (M = 4.32, SD = 0.60), reflecting educators' perceptions of their schools' crisis-management practices. Among these dimensions, emergency response activities received the highest mean score (M = 4.42, SD = 0.63), suggesting that educators perceive particularly strong performance in this area. Disaster planning (M = 4.23, SD = 0.68) and decision-making (M = 4.30, SD = 0.65) also highlight clear planning and decisive action during crises. The relatively small standard deviations illustrate the limited variability in responses, while the narrow range of values suggests consistency in how respondents view their schools' crisis-management practices.

These findings are consistent with the study of Angwas (2025), who emphasized that school heads' emergency management competencies in Agusan del Sur were crucial in sustaining teaching and learning during disasters, particularly through decisive leadership and effective coordination. This supports the present results, which show that educators are highly capable of implementing systematic crisis management strategies.

On the other hand, Chatzipanagiotou and Katsarou (2023) reported that many schools worldwide struggled with crisis leadership during the COVID-19 pandemic, citing gaps in adaptability and resource equity. Their findings contradict the present study, suggesting that while the schools surveyed here demonstrate exemplary preparedness, global contexts reveal uneven implementation of crisis management practices. Thus, the data

affirm that educators in the studied schools are well-prepared and consistent in their crisis management approaches, though broader literature reminds us that challenges in leadership and resource distribution remain critical concerns in other educational settings.

**Disaster Preparedness of Educators in DRRM Implementation**

**Table 3. Level of Disaster Preparedness of Educators in DRRM Implementation.**

| Statements | Mean | SD | Interpretation |
|---|---|---|---|
| **KNOWLEDGE AND AWARENESS** | **4.27** | **0.69** | **Very High** |
| I am knowledgeable about DRRM policies and procedures. | 4.19 | 0.78 | High |
| I understand disaster preparedness guidelines. | 4.30 | 0.70 | Very High |
| I know the appropriate actions during emergencies. | 4.28 | 0.76 | Very High |
| I am aware of the hazards affecting the school. | 4.29 | 0.73 | Very High |
| I understand my role during disaster situations. | 4.27 | 0.75 | Very High |
| **TRAINING AND SKILLS** | **4.06** | **0.78** | **High** |
| I participate in DRRM-related seminars and trainings. | 4.01 | 0.90 | High |
| I have adequate skills in emergency response. | 3.99 | 0.90 | High |
| DRRM drills improve my preparedness. | 4.14 | 0.82 | High |
| I can provide assistance during emergencies. | 4.10 | 0.81 | High |
| I am confident in handling disaster situations. | 4.04 | 0.86 | High |
| **AVAILABILITY OF RESOURCES** | **3.96** | **0.90** | **High** |
| The school has sufficient emergency supplies. | 3.96 | 2.31 | High |
| Safety equipment is available and accessible. | 3.86 | 0.91 | High |
| Disaster preparedness facilities are adequate. | 3.89 | 0.88 | High |
| Emergency exits are clearly identified. | 4.02 | 0.90 | High |
| Learning materials related to DRRM are available. | 4.05 | 1.67 | High |
| **READINESS FOR EMERGENCIES** | **4.10** | **0.72** | **High** |
| I am prepared to respond during emergencies. | 4.00 | 0.86 | High |
| The school is ready to implement disaster response plans. | 4.09 | 0.76 | High |
| Teachers can manage learners during disasters. | 4.16 | 0.80 | High |
| Evacuation procedures are practiced regularly. | 4.09 | 0.84 | High |

| | | | |
|---|---|---|---|
| The school community is prepared for emergencies. | 4.12 | 0.79 | High |
| **DISASTER PREPAREDNESS As a Whole** | **4.09** | **0.66** | **High** |

Legend: (4.21-5.00)-Very High; (3.41-4.20)-High; (2.61-3.40)-Moderate; (1.81-2.60)-Low; (1.00-1.80)-Very Low

Table 3 presents the educators' reported levels of disaster preparedness across the four dimensions of DRRM implementation. The overall mean score of 4.09 (SD = 0.66) indicates a generally high level of preparedness, with responses closely clustered around the mean, reflecting consistency among respondents. Among the dimensions, knowledge and awareness achieved the highest mean (M = 4.27, SD = 0.69), suggesting that educators are highly familiar with DRRM policies, procedures, and hazard identification. Readiness for emergencies (M = 4.10, SD = 0.72) further underscores schools' confidence in their ability to respond decisively to disasters, particularly in managing learners and implementing response plans. Training and skills (M = 4.06, SD = 0.78) highlight active participation in seminars and drills, though with slightly greater variability in confidence levels. In contrast, availability of resources (M = 3.96, SD = 0.90) recorded the lowest mean and widest spread of responses, pointing to disparities in supplies, facilities, and equipment across schools.

These findings conform with the study of Lavilles and Hordista (2024), who found that teachers in Region XII, Philippines, demonstrated high awareness and preparedness in DRRM programs, emphasizing the proactive role of educators despite resource limitations. Similarly, Mendoza and Cruz (2022) reported that continuous DRRM training enhanced teachers' confidence and readiness, reinforcing the importance of sustained capacity-building.

On the other hand, the results contradict the findings of Abregana (2025), who observed that schools in Cebu struggled with inadequate DRRM-specific training and limited instructional resources, leading to fragmented disaster education. This contradiction underscores that while educators are individually prepared, systemic gaps in resources and institutional support remain a challenge.

**Challenges Encountered by Educators in DRRM Implementation**

**Table 4. Level of Challenges Encountered by Educators in DRRM Implementation.**

| Statements | Mean | SD | Interpretation |
|---|---|---|---|
| **INSUFFICIENT TRAININGS** | **3.70** | **1.06** | **High** |
| DRRM training opportunities are limited. | 3.70 | 1.16 | High |
| Teachers need more disaster preparedness seminars. | 3.87 | 1.20 | High |
| Professional development in DRRM is insufficient. | 3.60 | 1.14 | High |
| DRRM training's are not conducted regularly. | 3.58 | 1.19 | High |
| Lack of training affects DRRM implementation. | 3.73 | 1.20 | High |
| **LACK OF RESOURCES AND FACILITIES** | **3.54** | **1.09** | **High** |
| Emergency equipment is insufficient in school. | 3.59 | 1.17 | High |
| DRRM facilities are inadequate. | 3.50 | 1.17 | High |
| Budget allocation for DRRM is limited. | 3.47 | 1.14 | High |
| Emergency supplies are lacking. | 3.55 | 1.17 | High |

| | | | |
|---|---|---|---|
| Resource limitations affect DRRM implementation. | 3.58 | 1.15 | High |
| **POLICY AND ADMINISTRATIVE CONCERNS** | **3.35** | **1.06** | **Moderate** |
| Administrative support for DRRM is insufficient. | 3.30 | 1.18 | Moderate |
| DRRM policies are not fully implemented. | 3.24 | 1.16 | Moderate |
| Monitoring of DRRM activities is limited. | 3.26 | 1.16 | Moderate |
| School DRRM guidelines need improvement. | 3.43 | 1.16 | High |
| Administrative concerns affect DRRM implementation. | 3.50 | 1.17 | High |
| **STAKEHOLDER COORDINATION** | **3.34** | **1.05** | **Moderate** |
| Coordination among stakeholders is weak. | 3.20 | 1.15 | Moderate |
| Parents have limited participation in DRRM activities. | 3.39 | 1.10 | Moderate |
| Community support for DRRM programs is inadequate. | 3.35 | 1.10 | Moderate |
| Coordination with local agencies needs improvement. | 3.40 | 1.17 | Moderate |
| Stakeholder participation in DRRM planning is limited. | 3.37 | 1.11 | Moderate |
| **CHALLENGES ENCOUNTERED As a Whole** | **3.48** | **.96** | **High** |

Legend: (4.21-5.00)-Very High; (3.41-4.20)-High; (2.61-3.40)-Moderate; (1.81-2.60)-Low; (1.00-1.80)-Very Low

The findings presented in table 4 reveal that educators encounter substantial challenges in the implementation of disaster risk reduction and management (DRRM) programs. The overall mean score of 3.48 (SD = 0.96) suggests that these challenges are consistently perceived across respondents, although the standard deviation values (ranging from 1.05 to 1.20) indicate some variability in experiences depending on institutional context and access to support. Specifically, insufficient training (M = 3.70, SD = 1.06) and lack of resources and facilities (M = 3.54, SD = 1.09) were rated high, underscoring systemic gaps in professional development and material preparedness. These results point to enduring institutional constraints that limit educators' capacity to effectively implement DRRM initiatives. In contrast, policy and administrative concerns (M = 3.35, SD = 1.06) and stakeholder coordination (M = 3.34, SD = 1.05) were rated moderate, suggesting that while some structures for governance and collaboration exist, they remain insufficient to fully support comprehensive DRRM integration.

These findings conform with the study of Bongayon et al. (2025), who reported that teachers in Philippine public schools continue to face shortages in DRRM resources and limited training opportunities, which hinder effective disaster preparedness and response. Their study emphasized that without adequate professional development and material support, educators struggle to translate DRRM policies into practice.

Conversely, the results contradict the findings of Lavilles and Hordista (2024), who found that teachers and administrators in Region XII demonstrated high levels of awareness and preparedness in DRRM implementation, with strong institutional support and active stakeholder participation. This discrepancy suggests that DRRM implementation varies significantly across regions, with some schools benefiting from stronger governance and community involvement than others.

**Difference in Crisis Management when Grouped according to Age**

**Table 5. Difference in the Crisis Management when grouped according to Age.**

| Age | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| 25 to 34 years old | 5.598 | 0.133 | Failed to Reject $H_o$ | Not Significant |
| 35 to 44 years old | | | | |
| 45 to 54 years old | | | | |
| 55 years old and above | | | | |

The data in table 5 reveal that the test statistic (H = 5.598) with a p-value of 0.133 leads to the decision to fail to reject the null hypothesis ($H_0$). This means that there is no statistically significant difference in crisis management when grouped according to age. In practical terms, individuals aged 25–34, 35–44, 45–54, and 55 years and above demonstrate comparable levels of crisis management performance. The interpretation underscores that age does not play a decisive role in shaping crisis management abilities within the sampled population.

This conforms to the findings of Best, Strough, and Bruine de Bruin (2023), who reported that although younger adults initially showed higher psychological distress during the COVID-19 pandemic, age differences diminished over time, suggesting that coping and management capacities tend to equalize across age groups under prolonged stress .Similarly, Robinson et al. (2022), in a meta-analysis of 61 studies, found that while age-related differences in emotional well-being exist, prolonged crises often reduce these disparities, supporting the idea that crisis management is not strongly age-dependent .

However, this result contradicts studies such as Tremblay et al. (2021), which highlighted that physiological changes associated with aging can negatively impact crisis resource management skills among acute care physicians, implying that older age may hinder rapid decision-making and multitasking in high-stress environments. Likewise, Kämpfen et al. (2020) observed that younger adults often face greater challenges in crisis situations due to limited experience, while older adults benefit from accumulated knowledge and emotional regulation, suggesting age-related differences in crisis management.

**Crisis Management when grouped according to Sex**

**Table 6. Difference in the Crisis Management when grouped according to Sex.**

| Sex | Test Statistics (U) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Male | 2416.000 | 0.241 | Failed to Reject $H_o$ | Not Significant |
| Female | | | | |

The statistical analysis revealed that there is no significant difference in crisis management when respondents are grouped according to sex (U = 2416.000, p = 0.241). This indicates that both male and female educators exhibit comparable levels of competence in handling crises, suggesting that gender does not serve as a determining factor in crisis management performance.

This conforms with the findings of Reisch et al. (2021), who argued that while gender-specific behavioral differences exist in communication and mobility during crises, these do not necessarily translate into disparities in crisis management effectiveness.

However, this result contradicts the perspective of UNICEF (2021), which reported that crises often exacerbate existing gender inequalities, disproportionately burdening women and girls and thereby influencing their crisis

response capacities. Taken together, these findings highlight the complexity of gender dynamics in crisis contexts, underscoring the need to consider both equality in performance and the structural inequalities that may shape crisis experiences.

**Crisis Management when grouped according to Highest Educational Attainment**

**Table 7. Difference in the Crisis Management when grouped according to Highest Educational Attainment.**

| Highest Educational Attainment | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Bachelor's Degree | 4.106 | 0.250 | Failed to Reject $H_o$ | Not Significant |
| Master's with Units | | | | |
| Master's Degree | | | | |
| Doctorate Degree | | | | |

The data presented in table 7 indicates that crisis management does not significantly differ when grouped according to highest educational attainment. The computed values reveal that the test statistic (H = 4.106) with a p-value of 0.250 exceeds the 0.05 level of significance. Consequently, the decision was to fail to reject the null hypothesis, leading to the interpretation that educational attainment does not exert a statistically significant influence on crisis management performance. This finding suggests that regardless of whether faculty members hold undergraduate, graduate, or doctoral degrees, their ability to manage crises remains relatively consistent.

This result is consistent with the findings of Debes (2021), who reported that teachers' crisis preparedness was shaped more by in-service training and hands-on practice than by their degree level. Similarly, Chatzipanagiotou and Katsarou (2023) emphasized that during the COVID-19 pandemic, effective crisis leadership was strongly associated with strategic adaptability and organizational culture rather than formal educational attainment. These studies conform to the present result, reinforcing the idea that education alone does not guarantee stronger crisis management skills.

Conversely, Deliva (2024) found that advanced degrees among school leaders were linked to more effective crisis response strategies, suggesting that academic training contributes to leadership development and institutional resilience. Likewise, Aquino (2023) highlighted that adaptive leadership and collaborative approaches—often cultivated through advanced academic and professional development—were crucial in navigating post-pandemic educational challenges. These findings contradict the current result, implying that while education may not directly determine crisis management skills, it can indirectly enhance them through leadership and organizational effectiveness.

**Crisis Management when grouped according to Length of Service**

**Table 8. Difference in the Crisis Management when grouped according to Length of Service.**

| Length of Service | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| 1 to 10 years | 6.783 | 0.079 | Failed to Reject $H_o$ | Not Significant |
| 11 to 20 years | | | | |
| 21 to 30 years | | | | |
| 31 years and above | | | | |

The data in Table 8 reveal that the length of service of educators, with a test statistic of H=6.783 and a p-value of 0.079, exceeding the standard significance threshold of 0.05, resulted in the decision to fail to reject the null hypothesis ($H_o$). This indicates that there is no statistically significant difference in crisis management performance based on length of service. In practical terms, although extended tenure may foster familiarity with institutional routines, it does not necessarily translate into improved crisis management skills. Effective crisis management requires dynamic competencies such as adaptability, emotional resilience, and collaborative leadership, qualities not strictly determined by years of service.

These findings are consistent with Yılmaz and Yıldız (2022), who examined the relationship between school administrators' crisis management skills and teachers' demographics, demonstrating that years of service did not yield a statistically significant difference in perceived crisis resolution performance. This suggests that systematic training equalizes capabilities across cohorts. Similarly, the results align with Schaedler, Graf-Vlachy, and König (2022), who argued that while crises amplify strategic behaviors, tenure alone does not guarantee distinct variation in crisis readiness, as institutionalized frameworks and standardized disaster preparedness policies often homogenize responses across levels of experience.

Conversely, the findings are contradicted by Khan et al. (2024), who reported that length of service and active exposure to institutional operations had a statistically significant relationship with crisis procedure execution, with veteran employees exhibiting higher operational readiness due to accumulated field familiarity. Likewise, Hayes and Derrington (2023) found that specialized experience accumulated over extended tenure significantly improves leaders' crisis management performance and their capacity to minimize organizational harm, directly challenging the notion that tenure plays a negligible role during critical events.

**Difference in Disaster Preparedness when grouped according to Age**

**Table 9. Difference in the Disaster Preparedness when grouped according to Age.**

| Age | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| 25 to 34 years old | 3.308 | 0.347 | Failed to Reject $H_o$ | Not Significant |
| 35 to 44 years old | | | | |
| 45 to 54 years old | | | | |
| 55 years old and above | | | | |

The data presented in Table 9 shows that disaster preparedness does not significantly differ when respondents are grouped according to age. The Kruskal-Wallis test produced a statistic of H = 3.308 with a p-value of 0.347, leading to the decision to fail to reject the null hypothesis. This result indicates that preparedness levels among individuals aged 25–34, 35–44, 45–54, and 55 years and above are relatively similar, suggesting that age is not a decisive factor in shaping disaster readiness. Such findings imply that preparedness behaviors may be influenced more by other variables such as education, socioeconomic status, or access to information rather than chronological age.

This outcome aligns with the study of Cong et al. (2021), who found that disaster preparedness barriers were not consistently age-dependent, as both younger and older adults faced similar challenges related to risk perception and coping appraisal. Their findings support the idea that preparedness is shaped by situational and contextual factors rather than age alone. In contrast, Alonso et al. (2022) reported that older adults often demonstrate higher levels of preparedness compared to younger groups, largely due to accumulated life experiences and heightened awareness of risks. This contradicts the present study's findings by suggesting that age can, in certain contexts, influence preparedness behaviors.

**Disaster Preparedness when grouped according to Sex**

**Table 10. Difference in the Disaster Preparedness when grouped according to Sex.**

| Sex | Test Statistics (U) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Male | 2622.500 | 0.624 | Failed to Reject $H_o$ | Not Significant |
| Female | | | | |

Table 10 shows the analysis of disaster preparedness according to sex among educators in Bacolod City revealed that there is no significant difference between male and female respondents, as shown by the Mann–Whitney U test (U = 2622.500, p = 0.624). Since the p-value is greater than the 0.05 threshold, the null hypothesis was retained, indicating that sex does not play a significant role in shaping disaster preparedness levels. This finding suggests that both male and female educators demonstrate comparable readiness, implying that preparedness is more likely influenced by institutional training, access to resources, and collective school initiatives rather than gender distinctions.

This result aligns with the study of Dewi, Pratiwi, and Nugroho (2025), who found that male and female students in earthquake-prone areas of Indonesia exhibited similar levels of disaster knowledge, emphasizing that preparedness outcomes are shaped by exposure to disaster education rather than sex. Their findings reinforce the idea that disaster readiness is a learned competency, equally attainable across genders when educational opportunities are provided. Conversely, the findings of Sari and Ridhwan (2022) contradict this result, as their study on pre-service geography teachers revealed that female respondents demonstrated significantly higher disaster preparedness knowledge compared to males. They argued that gender differences may emerge in contexts where female participants are more actively engaged in disaster-related training or community-based preparedness programs.

**Disaster Preparedness when grouped according to Highest Educational Attainment**

**Table 11. Difference in the Disaster Preparedness when grouped according to Highest Educational Attainment.**

| Highest Educational Attainment | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Bachelor's Degree | 5.254 | 0.154 | Failed to Reject $H_o$ | Not Significant |
| Master's with Units | | | | |
| Master's Degree | | | | |
| Doctorate Degree | | | | |

Table 11 shows the analysis of disaster preparedness when grouped according to highest educational attainment, using the Kruskal–Wallis H test, revealed no significant difference, as evidenced by the p-value of 0.154. This indicates that educational attainment does not play a decisive role in disaster preparedness.

This conforms to the findings of Tolentino (2021), who reported that the educational profile of school managers did not significantly influence their disaster risk reduction and management practices, highlighting instead the importance of institutional support and training. However, this contradicts the study of Pelicano (2021), which demonstrated that parental education and socioeconomic background significantly affected students' disaster preparedness, thereby underscoring the potential influence of education on awareness and readiness. These contrasting findings suggest that while formal educational attainment may not directly determine preparedness,

contextual factors such as socioeconomic conditions and institutional frameworks remain critical in shaping disaster readiness.

**Disaster Preparedness when grouped according to Length of Service**

**Table 12. Difference in the Disaster Preparedness when grouped according to Length of Service.**

| Length of Service | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| 1 to 10 years | 3.275 | 0.351 | Failed to Reject $H_o$ | Not Significant |
| 11 to 20 years | | | | |
| 21 to 30 years | | | | |
| 31 years and above | | | | |

The data presented in Table 12 indicate that disaster preparedness does not significantly differ when grouped according to length of service, as shown by the test statistic (H = 3.275) and the p-value of 0.351. Since the p-value is greater than the 0.05 threshold, the null hypothesis was not rejected, meaning that teachers' years of service—from 1 to 10 years, 11 to 20 years, 21 to 30 years, and 31 years and above—do not yield statistically significant differences in their disaster preparedness levels. This finding suggests that tenure alone does not necessarily enhance preparedness, and that other factors such as training, institutional programs, and access to resources may play more decisive roles in shaping readiness.

This result aligns with the study of Retreta and Quiapon (2025), who reported that teachers' preparedness in handling emergencies was more strongly influenced by training and confidence rather than length of service. Their findings emphasized that even experienced teachers showed gaps in complex emergency procedures, underscoring that preparedness is shaped by structured learning opportunities rather than tenure. Similarly, Santos et al. (2022) highlighted that disaster readiness among educators was significantly improved through simulation-based training and institutional support, regardless of years in service, reinforcing the idea that preparedness is not automatically acquired through experience alone.

Conversely, the findings contradict Morath et al. (2021)), who argued that longer exposure and accumulated institutional experience contribute to resilience and preparedness. The report suggested that seasoned personnel often demonstrate stronger adaptive capacities due to repeated exposure to disaster drills and institutional memory. Likewise, Lee and Chen (2023) found that professionals with longer service in disaster-prone regions exhibited higher preparedness levels, attributing this to experiential learning and accumulated coping strategies over time. These contrasting perspectives highlight that while tenure may contribute to resilience in some contexts, the present study underscores the primacy of structured training and institutional support in ensuring preparedness.

**Difference in Challenges Encountered when Grouped according to Age**

**Table 13. Difference in the Challenges Encountered when grouped according to Age.**

| Age | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| 25 to 34 years old | 3.053 | 0.383 | Failed to Reject $H_o$ | Not Significant |
| 35 to 44 years old | | | | |
| 45 to 54 years old | | | | |
| 55 years old and above | | | | |

Table 13 shows the statistical analysis using the Kruskal-Wallis H-Test, revealed that the challenges encountered by teachers when grouped according to age did not differ significantly (H = 3.053, p = 0.383). This finding suggests that age is not a critical determinant in the extent of challenges faced, as teachers across different age groups experience similar difficulties in their professional practice. The non-significant result indicates that contextual and systemic factors, rather than age, may be more influential in shaping the challenges teachers encounter.

This conforms with the study of Urruticoechea et al. (2021), who noted that age differences have limited influence on professional challenges in education, reinforcing the idea that broader institutional and environmental conditions play a greater role. However, Fuentes (2021) contradicts this result by highlighting that older adults often encounter distinct barriers in lifelong learning, such as digital inequality and age-related discrimination, which may translate into unique challenges for older teachers. Thus, while the present study indicates no significant age-related differences, literature suggests that contextual and technological factors may still create disparities among educators of varying ages.

**Challenges Encountered when grouped according to Sex**

**Table 14. Difference in the Challenges Encountered when grouped according to Sex.**

| Sex | Test Statistics (U) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Male | 2685.500 | 0.777 | Failed to Reject $H_o$ | Not Significant |
| Female | | | | |

Table 14 shows the results of the Mann-Whitney U test (U = 2685.500, p = 0.777) indicate that there is no significant difference in the challenges encountered by educators when grouped according to sex. This finding means that both male and female educators experience similar levels of professional difficulties, and that gender does not serve as a determining factor in the extent of challenges faced. The decision to fail to reject the null hypothesis underscores that the challenges encountered are more likely shaped by institutional, contextual, and systemic factors rather than biological sex.

This outcome is consistent with the findings of Mendizabal (2023), who reported that teachers in Philippine senior high schools experienced comparable challenges regardless of gender, emphasizing that institutional practices and classroom dynamics were more influential than sex in shaping professional difficulties. Such evidence supports the current result, suggesting that male and female teachers are equally exposed to the demands and constraints of the teaching profession. However, contrasting evidence exists. Gómez-Trigueros and Yáñez de Aldecoa (2021) found that female teachers often perceived themselves as less competent in digital teaching skills compared to their male counterparts, highlighting a digital gender gap in teacher education. This contradicts the present finding by suggesting that gender can influence the nature and intensity of challenges, particularly in areas involving technology integration and digital competence.

**Challenges Encountered when grouped according to Highest Educational Attainment**

**Table 15. Difference in the Challenges Encountered when grouped according to Highest Educational Attainment.**

| Highest Educational Attainment | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Bachelor's Degree | 12.592 | 0.006 | Reject $H_o$ | Significant |
| Master's with Units | | | | |

| | | | | |
|---|---|---|---|---|
| Master's Degree | | | | |
| Doctorate Degree | | | | |

Table 15 presents the Kruskal–Wallis H test results, which revealed a statistically significant difference in reported challenges across educational-attainment groups (H=12.592, p=.006). These finding warrants rejection of the null hypothesis, indicating that educators' challenges vary according to their highest educational attainment.

This outcome aligns with the study of Haro and Haro (2022), who reported that teachers' challenges in the new normal were influenced by educational attainment. Specifically, those pursuing graduate studies experienced moderate to high levels of difficulty in balancing instructional delivery with academic requirements. Their study emphasized that ongoing graduate education can compound professional challenges, which is consistent with the significant results observed in the present analysis.

Conversely, the findings contradict the study of Acala and Castroverde (2021), who found that challenges faced by teachers during modular distance learning were not significantly associated with educational attainment. Instead, their results suggested that external factors, such as institutional support, parental involvement, and local government assistance, played a more decisive role in shaping teachers' experiences, regardless of their academic qualifications.

**Comparison Between Highest Educational Attainment**

**Table 16. Post Hoc Test of Challenges Encountered by Highest Educational Attainment.**

| Comparison | Mean Rank Difference | Test Statistic | p-value | Interpretation |
|---|---|---|---|---|
| Master's Units vs. Bachelor's | 32.94 | 3.034 | .014 | Significant |
| Master's Units vs. Master's Degree | -6.90 | -0.558 | 1.000 | Not Significant |
| Master's Units vs. Doctorate | -13.65 | -0.392 | 1.000 | Not Significant |
| Master's Degree vs. Bachelor's | 26.04 | 2.637 | .050 | Significant |
| Master's Degree vs. Doctorate | -6.76 | -0.196 | 1.000 | Not Significant |
| Doctorate vs. Bachelor's | 19.29 | 0.567 | 1.000 | Not Significant |

The results of the post hoc test presented in table 16 demonstrate that significant differences in challenges encountered exist between respondents with Master's Units and Bachelor's degrees (Mean Rank Difference = 32.94, p = .014) and between those with a Master's Degree and Bachelor's degrees (Mean Rank Difference = 26.04, p = .050). These findings suggest that individuals pursuing or holding graduate-level education experience challenges that are statistically distinct from those encountered by undergraduate degree holders. The largest difference was observed between Master's Units and Bachelor's, which implies that students in the process of completing graduate coursework may face heightened academic and professional demands compared to their undergraduate counterparts. In contrast, comparisons involving Doctorate holders yielded non-significant results, indicating that their experiences of challenges are statistically similar to those of other groups. This may be due to the resilience and coping strategies developed during earlier stages of graduate education or limitations in sample size.

This conforms to the findings of Padgett, Salisbury, and Pascarella (2021), who emphasized that master's education significantly improves professional and social outcomes compared to undergraduate attainment, while differences between master's and doctoral levels are less pronounced in broader measures of success.

Conversely, it contradicts the conclusions of Jahan (2021), who argued that doctoral education continues to yield significant advantages, particularly in specialized fields requiring advanced research skills and innovation. Jahan's study highlights that doctoral attainment fosters unique competencies not always reflected in general statistical comparisons, suggesting that the lack of significance in this dataset may be context-specific rather than universal.

**Challenges Encountered when grouped according to Length of Service**

**Table 17. Difference in the Challenges Encountered when grouped according to Length of Service.**

| Length of Service | Test Statistics (H) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| 1 to 10 years | 0.891 | 0.828 | Failed to Reject $H_o$ | Not Significant |
| 11 to 20 years | | | | |
| 21 to 30 years | | | | |
| 31 years and above | | | | |

The results presented in Table 17 indicate that the challenges encountered by teachers, when grouped according to length of service, do not significantly differ ($H = 0.891$, $p = 0.828$), as determined by the Kruskal-Wallis H test. This statistical outcome suggests that tenure in the teaching profession does not substantially influence the extent of challenges faced, implying that both novice and veteran teachers experience comparable levels of difficulty. Such findings highlight that systemic and contextual factors, such as curriculum reforms, technological integration, and post-pandemic adjustments, may exert uniform pressures across all groups, regardless of years of service.

This result is consistent with the study of Robosa et al. (2021), who found that public school teachers uniformly experienced challenges in workload and technological adaptation during the pandemic, regardless of tenure. Conversely, Tarraya (2023) contradicts this outcome, reporting that newly hired teachers struggled more with workload and efficiency compared to their experienced counterparts. These contrasting perspectives underscore the complexity of teacher challenges, suggesting that while statistical evidence may show no significant differences, contextual realities can still shape the lived experiences of educators in diverse ways.

**Relationship Between Crisis Management and Disaster Preparedness**

**Table 18. Relationship between Crisis Management and Disaster Preparedness.**

| Variable | Test Statistics ($r_s$) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Crisis Management vs. Disaster Preparedness | 0.642** | <0.001 | Reject $H_o$ | Significant |

Table 18 shows the statistical analysis using Spearman's rank correlation revealed a significant relationship between crisis management and disaster preparedness ($r_s = 0.642$, $p < 0.001$). This result indicates that as crisis management practices become more effective, disaster preparedness also improves significantly. The rejection of the null hypothesis confirms that the relationship between the two variables is not due to chance.

This finding is consistent with the results of Elkbuli et al. (2021), who highlighted during the COVID-19 pandemic that strong crisis leadership and resource allocation were critical in enhancing preparedness and response capacities. Similarly, Cambridge University Press (2023) synthesized multiple studies and concluded that robust crisis management systems significantly improved disaster preparedness outcomes, reinforcing the positive correlation found in this study.

On the other hand, some studies present contradictory evidence. ReliefWeb (2021) reported that despite the presence of crisis management structures, coordination gaps during transboundary crises hindered preparedness, suggesting that management alone does not guarantee readiness. Likewise, SAGE (2021), in its study of nonprofit crisis communication, found that while organizations implemented crisis management practices, these did not consistently translate into improved disaster preparedness, pointing to a disconnect between management strategies and actual preparedness outcomes. These contradictory findings highlight that while crisis management is a strong predictor of preparedness, its effectiveness depends on contextual factors such as leadership quality, inter-agency collaboration, and resource sufficiency.

**Relationship Between Crisis Management and Challenges Encountered**

**Table 19. Relationship between Crisis Management and Challenges Encountered.**

| Variable | Test Statistics ($r_s$) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Crisis Management vs. Challenges Encountered | -0.113 | 0.112 | Failed to Reject $H_o$ | Not Significant |

Table 19 presents the Spearman rank-order correlation between crisis management and challenges encountered. No statistically significant association was detected ($r_s = -.113$, $p = .112$). The result indicates that the reported level of crisis management was not statistically associated with the reported level of challenges.

This finding conforms with Abbas (2021), who noted that resilience strategies during the COVID-19 pandemic did not eliminate systemic difficulties, and Edelman (2021), who reported that businesses continued to face multiple crises despite management frameworks. Conversely, Hazaa et al. (2021) emphasized that leadership and communication in crisis management significantly mitigate organizational challenges, while the Feng and Kirkley (2021) study demonstrated that integrating online and offline data enables targeted interventions that reduce crisis impacts. These contrasting perspectives highlight the complexity of crisis management, where effectiveness may depend on contextual factors, organizational readiness, and the nature of the challenges encountered**.**

**Relationship Between Disaster Preparedness and Challenges Encountered**

**Table 20. Relationship between Disaster Preparedness and Challenges Encountered.**

| Variable | Test Statistics ($r_s$) | p-value | Decision for $H_o$ | Interpretation |
|---|---|---|---|---|
| Disaster Preparedness vs. Challenges Encountered | -0.005 | 0.945 | Failed to Reject $H_o$ | Not Significant |

Table 21 presents the Spearman rank-order correlation between disaster preparedness and challenges encountered. No statistically significant association was detected ($r_s = -.005$, $p = .945$). The result indicates that the reported level of disaster preparedness was not statistically associated with the reported level of challenges

This finding is consistent with studies that argue preparedness efforts often fail to translate into reduced challenges. For instance, Elkbuli et al. (2021) emphasized that systemic gaps in healthcare and resource allocation limit the effectiveness of preparedness measures, showing that readiness does not always mitigate difficulties. Similarly, Awan et al. (2021) found that socio-economic vulnerabilities and institutional weaknesses overshadow preparedness, resulting in communities still experiencing significant challenges despite planning efforts. These studies support the current result, highlighting that preparedness alone is insufficient without broader systemic resilience.

Conversely, other scholars argue that preparedness significantly reduces challenges. Cutter et al. (2021) demonstrated that communities with robust disaster preparedness frameworks experienced fewer logistical and psychological difficulties, as preparedness enhanced adaptive capacity and reduced vulnerability. Likewise, Wisdom Library (2021) reported that preparedness initiatives during the COVID-19 pandemic improved disaster response outcomes, reducing both logistical and social challenges. These findings contradict the present result, suggesting that preparedness can indeed lessen the impact of challenges when effectively implemented and supported by strong governance and resources.

## CONCLUSIONS

The respondents were predominantly mid-career educators, with the largest age group being 45–54 years, most respondents being female, most holding a bachelor's degree, and most having 1–20 years of service.

Educators reported a very high level of crisis management in DRRM implementation.

Educators reported a high level of disaster preparedness, with knowledge and awareness receiving the highest dimension rating and availability of resources receiving the lowest.

Educators reported a high overall level of challenges encountered, particularly in insufficient training and lack of resources and facilities.

No statistically significant difference was detected in crisis management when respondents were grouped according to age, sex, educational attainment, or length of service.

No statistically significant difference was detected in disaster preparedness when respondents were grouped according to age, sex, educational attainment, or length of service.

No statistically significant difference was detected in challenges encountered by age, sex, or length of service. A statistically significant difference was detected by educational attainment.

Crisis management was moderately-to-strongly and positively associated with disaster preparedness.

No statistically significant association was detected between crisis management and challenges encountered.

No statistically significant association was detected between disaster preparedness and challenges encountered.

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