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Impact of Coping Capacity Skills on Resilience of Disaster Affected Communities in United Arab Emirates

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Abstract

The primary goal of this study was to assess the impact of coping capacity skills on the resilience of disaster-affected communities in the United Arab Emirates (UAE). Specifically, the study examines how skills such as preparedness, emergency response, psychological coping, adaptive capacity, social capital, and access to information contribute to enhancing community resilience. A quantitative methodology was employed, using data from 277 respondents drawn from various disaster-affected communities in the country. Pearson's Correlation and Multiple linear regression analysis was conducted to determine the influence of these coping capacity skills on overall resilience, while controlling for income level as a confounding variable. The results indicated that all examined coping capacity skills positively and significantly contributed to overall resilience ($R^2 = 0.65$). Particularly, access to information ($\beta = 0.26$, $p < 0.05$) and adaptive capacity ($\beta = 0.28$, $p < 0.01$) emerged as the most impactful predictors of resilience, followed by social capital ($\beta = 0.22$, $p < 0.01$). Preparedness ($\beta = 0.17$, $p < 0.01$), emergency response skills ($\beta = 0.13$, $p < 0.01$), and psychological coping ($\beta = 0.16$, $p < 0.05$) also showed significant positive effects on resilience. Income level was found to be a significant confounding factor ($\beta = 0.12$, $p < 0.01$), suggesting that socio-economic resources play a crucial role in disaster recovery. The study underscores the importance of a comprehensive approach to building disaster resilience that includes strengthening multiple coping capacity skills. These findings provide actionable insights for policymakers and disaster management professionals aiming to enhance the resilience of communities in the UAE.

1. Introduction

Disasters, both natural and human-made, pose significant threats to communities worldwide, often leading to widespread destruction, loss of life and long-term socio-economic challenges (De Boer, 2020). Natural disasters such as earthquakes, floods, hurricanes and wildfires have the potential to devastate entire regions, displacing populations, disrupting livelihoods and causing irreparable damage to infrastructure (Badina et al., 2022). Human-made disasters such as industrial accidents, armed conflicts and environmental pollution, can have equally catastrophic effects that may worsen the pre-existing vulnerabilities and compound the challenges faced

by affected communities (Hariyono & Liliasari, 2018; Alhadi et al., 2023). The ripple effects of these disasters extend far beyond the immediate physical damage by triggering secondary crises such as food and water shortages, health epidemics and social unrest among the affected communities.

The increasing frequency and severity of these events have become a growing concern at the global and local stages alike. Climate change, in particular, has emerged as a significant driver of more intense and unpredictable natural disasters. According to (De Boer, 2020), rising global temperatures, melting polar ice caps and shifting weather patterns have led to an increase in the frequency and magnitude of extreme weather events such as storms and floods, which can overwhelm the adaptive capacities of even the most prepared communities. On the other hand, urbanization is a critical factor that has led to the concentration of populations and assets in disaster-prone areas, which often have inadequate infrastructure and planning, and this could further heighten the risks (Thomas, 2017; Hariyono & Liliasari, 2018). Moreover, environmental degradation activities such as deforestation, soil erosion and loss of biodiversity have weakened natural defenses against disasters, making communities more susceptible to their impacts (Badina et al., 2022).

Considering these escalating risks, it is urgent for communities to develop and strengthen their resilience. In this context, resilience refers to the capacity of communities to absorb, adapt, and recover from the adverse impacts of disasters while maintaining or quickly restoring fundamental functions, structures, sources of livelihood, identities and psychological stability (Teh & Khan, 2021; Deilami et al., 2022). This involves the ability to withstand the immediate shock of a disaster and the long-term capacity to rebuild and thrive in its aftermath. A resilient community is one that can anticipate potential threats, minimize vulnerabilities and mobilize resources effectively to mitigate the impacts of disasters (Alhadi et al., 2023; Heinzlef & Serre, 2022). It is a community that can learn from past experiences, innovate in response to new challenges, and sustain its development trajectory despite the disruptions caused by disasters.

Building resilience is a multifaceted process that requires the integration of various social, economic, environmental and institutional components (De Boer, 2020). Socially, it involves development of strong networks of support and cooperation within the community to ensure that all members, especially the most vulnerable, have access to the resources and information they need to survive and recover from disasters (Badina et al., 2022). From economic perceptive, it requires diversifying income sources and building robust local economies that can withstand and recover from shocks. Environmentally, it involves preserving and enhancing natural ecosystems that provide critical services such as flood control and food security. From the institutional viewpoint, resilience requirement necessitates the development of effective governance structures and policies that support disaster risk reduction, preparedness and recovery efforts (Hariyono & Liliasari, 2018; Deilami et al., 2022; Badina et al., 2022). Thus, resilience is not just a goal to be achieved but an ongoing process that must be continually nurtured and strengthened to address the evolving challenges posed by disasters.

One of the key determinants of resilience in disaster-affected communities is their coping capacity. According to Hariyono and Liliasari (2018), coping capacity refers to the combination of skills, resources and strategies that individuals and communities possess to effectively manage and mitigate the impacts of disasters. These capacities are not static but they evolve over time, shaped by the experiences of past disasters, the availability of resources, socioeconomic and environmental context of the community (Heinzlef & Serre, 2022). Coping capacity is a critical component of resilience because it directly affects how a community prepares for, responds to and recovers from disaster events (Alhadi et al., 2023). It encompasses a wide range of abilities, from preparedness and emergency response to psychological and adaptive skills that enable communities to navigate the immediate aftermath of a disaster and facilitate long-term recovery (Deilami et al., 2022).

Preparedness skills are foundational to coping capacity, as they involve proactive measures taken before a disaster strikes (Alhadi et al., 2023). These include risk assessment, the development of emergency plans and the establishment of early warning systems that can save lives and reduce damage (Hasan et al., 2021). For instance, communities with well-rehearsed evacuation plans and accessible emergency supplies are better equipped to respond swiftly and effectively when disaster strikes, thereby minimizing the impact on lives and property (Orru et al., 2022). This is contrary to communities that lack these skills because they become more vulnerable to disasters as they may struggle to coordinate a response (Lui et al., 2021), which may lead to increased casualties and more significant disruptions.

Emergency response skills are equally vital in the coping capacity framework. According to Parsons et al. (2021), these skills involve the immediate actions taken during and immediately after a disaster to protect life and property. This includes primary actions such as first aid and medical care as well as effective communication and decision-making under pressure (Lui et al., 2021; Deilami et al., 2022). The ability of community members to work together, share information and support one another during a crisis can significantly influence the outcome (Ma et al., 2021). Communities with strong social cohesion and trust are better able to mobilize and coordinate their response efforts, leading to faster and more effective relief.

Psychological coping skills play a vital role in how individuals and communities handle the stress and trauma associated with disasters (Labrague, 2021). The psychological impact of disasters can be profound, leading to fear, anxiety and even long-term mental health issues (Mao & Agyapong, 2021). Communities with robust coping

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capacity have mechanisms in place to provide psychological support, helping individuals to process their experiences and maintain their mental well-being. According to Park et al. (2021), this might involve community-based counseling services, peer support groups or cultural practices that promote collective healing and resilience.

Adaptive skills are another critical aspect of coping capacity, which involve the ability to learn from experiences, adjust strategies and adapt to new conditions in the aftermath of a disaster (Didham & Ofei-Manu, 2021). For example, a community that has experienced repeated flooding may develop new agricultural practices, relocate vulnerable infrastructure, or implement flood defenses to reduce future risks (Saja et al., 2019; Tariq et al., 2021). The capacity to adapt is essential for long-term resilience because it allows communities to not only recover from disasters but also to build back stronger (Park et al., 2021), which reduces their vulnerability to future events.

Social capital, defined as the networks of relationships and trust within a community, also plays a vital role in enhancing coping capacity (Aldrich, 2014; Saja et al., 2019). Communities with strong social bonds and a high level of trust are more likely to collaborate during a disaster, sharing resources, information, and support. Mayer (2019) explains that collective action is crucial for effective disaster response and recovery, as it enables communities to pool their resources and coordinate their efforts. Social capital also provides emotional and psychological support, which can be just as important as physical resources in helping individuals cope with the trauma of a disaster (Tariq et al., 2021). The presence of strong social networks can thus significantly bolster a community's ability to withstand and recover from disasters (Mayer, 2019). As individuals feel supported and are more likely to contribute to collective recovery efforts.

Access to information is another critical factor in determining coping capacity. In the digital age, timely and accurate information access can make a significant difference in how a community responds to a disaster (Harahap, 2020). Communities with reliable access to information, including early warning systems, weather forecasts, and emergency communication networks, can make informed decisions that reduce the impact of a disaster (Tariq et al., 2021). For instance, early warnings of an approaching hurricane can prompt evacuations, saving lives and reducing damage to property. Furthermore, access to post-disaster information, such as updates on relief efforts and recovery resources, helps communities to navigate the recovery process more effectively (Spialek & Houston, 2018; Harahap, 2020). In contrast, communities with limited access to information may be caught off guard by disasters, leading to greater confusion, panic, and potentially higher casualties.

The effectiveness of coping capacity directly influences how quickly and efficiently a community can bounce back from a disaster, reduce vulnerability and enhance overall resilience (Heinzlef & Serre, 2022). A community with high coping capacity can absorb the shock of a disaster, recover more rapidly and return to normalcy with less disruption. Subsequently, this reduces the long-term socio-economic impact of disasters, and enables the community to continue its development trajectory despite the challenges posed by such disasters (Hariyono & Liliasari, 2018). On the other hand, a community with low coping capacity is likely to experience prolonged recovery times, greater losses and increased vulnerability to future disasters. Alhadi et al. (2023) emphasizes on strengthening coping capacity as an essential element of enhancing the resilience of disaster-affected communities, ensuring that they are better equipped to face the inevitable challenges that come with rising events of disasters.

Historically, the focus of disaster management has been on reactive measures such as emergency response and recovery efforts. However, this approach is not sustainable because of the increasing disaster events (Thomas, 2017; Hariyono & Liliasari, 2018). There has been a paradigm shift towards a more proactive approach, which emphasizes on disaster risk reduction and resilience building. This shift recognizes the need for coping capacity of communities before a disaster strikes to significantly mitigate its impacts and develop a more resilient recovery process. According to Heinzlef and Serre (2022), effective disaster coping capacity skills are crucial during the immediate response phase, reconstruction and rehabilitation stages to restore life to normalcy and create a resilient future.

Research has consistently demonstrated that communities with higher coping capacity tend to experience less severe impacts from disasters and recover more quickly compared to those with limited coping skills (Alhadi et al., 2023). This correlation highlights the crucial role that coping capacity plays in determining the resilience of communities in the face of disaster. Communities that possess a robust set of coping skills are better equipped to anticipate, respond to, and recover from the disruptions caused by disasters (Heinzlef & Serre, 2022). These communities are not only able to minimize the immediate damage but also able to restore normalcy more rapidly, and hence reduce the long-term socio-economic consequences that often follow such events.

2. Materials and Methods

2.1 Research Design

This study employs a quantitative research design to investigate the impact of coping capacity skills on the resilience of disaster-affected communities. A cross-sectional survey method was chosen to collect data from a broad sample of individuals across various disaster-affected communities in the United Arab Emirates (UAE). This design helped in the systematic collection and analysis of numerical data to identify the patterns and relationships between coping capacity and community resilience. The cross-sectional nature of the study ensured that data was collected at a single point in time to provide a snapshot of the current state of coping capacity and resilience within the targeted communities in UAE.

2.2 Population and Sample

The target population for this study comprised individuals residing in disaster-affected communities in various emirates in the UAE. To ensure a representative sample, the study employed stratified random sampling, dividing the population into strata based on factors such as the type of disaster experienced (e.g., floods, earthquakes, or storm) and sociodemographic and economic status such as age, gender, education and income-level. From each stratum, a random sample was drawn to participate in the survey. The sample size was determined using power analysis to ensure sufficient statistical power to detect significant effects. A total of 277 respondents were included in the study sample, drawn from a target population exceeding 900 individuals across disaster-affected communities in the UAE. The sample size of 277 respondents was arrived at by power analysis at a 95% level of confidence, 5% margin of error and assumed response distribution of 50% assumption which is commonly used in social science research where the characteristic of the population is not fully known. According to Krejcie & Morgan (1970), a sample size of about 277 respondents is acceptable for a sample size greater than 900. The population of the disaster affected people in the different Emirates of UAE is much larger than the threshold, therefore selected sample size was found to be adequate for obtaining statistically reliable and valid results of the study.

2.3 Data Collection

Data was collected using a structured questionnaire designed to measure the variables of interest: coping capacity skills (preparedness skills, emergency response skills, psychological coping skills and adaptive skills), and community resilience. The questionnaire was developed based on existing validated scales, adapted to the context of this study. It included both closed-ended and Likert-scale questions (1 = Very Low to 7 = Very High) to capture respondents' perceptions, behaviors, and experiences related to disaster preparedness, response, recovery, and overall resilience. The questionnaire was administered through online surveys to access the respondents and collect data within a short period.

To ensure the reliability and validity of the data, a pilot study was conducted with a small sample of 25 respondents from the target population. Feedback from the pilot study was used to refine the questionnaire in order to improve the clarity, relevance, and comprehensiveness. The final version of the questionnaire was distributed to the 277 samples, with data collection taking two weeks (14 days).

2.4 Variables and Measures

The key independent variable in this study is coping capacity skills, operationalized through a composite measure that includes various dimensions such as 1) preparedness, 2) emergency response skills, 3) psychological coping, and 4) adaptive capacity. These dimensions were measured using established scales of the Disaster Preparedness Questionnaire (DPQ) and the Coping Strategies Index (CSI), adapted for the specific context of the communities under study (Araújo et al., 2022).

The dependent variable, community resilience, was measured using the Conjoint Community Resiliency Assessment Measure (CCRAM) that assesses resilience across multiple domains, including social, economic and infrastructural resilience (Zander et al., 2023). Respondents rated their community's ability to withstand, recover from, and adapt to disasters on a Likert scale (1 = Very Low to 7 = Very High) to provide a quantitative assessment of resilience levels.

Control variables such as demographic factors (age, gender, education level, and income), previous disaster experience, and access to resources were included in the analysis to account for potential confounding effects. These variables were measured through additional questions in the questionnaire.

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2.5 Data Analysis

Data analysis was conducted using statistical software such as SPSS 25.0 version. Descriptive statistics was used to summarize the demographic characteristics of the sample, as well as the levels of coping capacity and resilience reported by respondents. Inferential statistics such as Pearson's correlation analysis and multiple linear regression were employed to examine the relationships between coping capacity skills and community resilience. Correlation analysis was used to assess the strength and direction of the relationship between coping capacity and resilience. Correlation analysis was used to assess the strength and direction of the relationship between coping capacity and resilience. The interpretation of the strength of correlation coefficients followed the guidelines proposed by Cohen (1988), where correlation values of 0.10–0.29 indicate a weak relationship, 0.30–0.49 indicate a moderate relationship, and 0.50–1.00 indicate a strong relationship. These thresholds are widely adopted in social science research (Cohen, 1988). Multiple linear regression analysis was conducted to determine the extent to which different dimensions of coping capacity predict overall community resilience, controlling for demographic and contextual factors. The results were presented in the form of tables with interpretations provided to explain the significance and implications of the findings.

2.6 Ethical Considerations

This study adhered to ethical standards in research to ensure that all participants provided informed consent prior to data collection. Participants were informed about the purpose of the study, their right to withdraw at any time, and the confidentiality of their responses. All data collected were anonymized to protect the privacy of participants. The study also sought approval from an institutional review board (IRB) to ensure compliance with ethical guidelines.

2.7 Limitations

While the quantitative approach provided valuable insights into the relationship between coping capacity and community resilience, it is important to acknowledge the limitations of this methodology. The cross-sectional design only captured data at a single point in time, limiting the ability to infer causality. Additionally, self-reported data may be subject to biases such as social desirability bias or recall bias. These limitations are discussed in the study, with suggestions for future research to address them through longitudinal or mixed-methods approaches.

3. Results

This section is divided into four parts: 1) descriptive analysis of the key variables to assess the distribution of the samples, 2) correlation analysis to examine the relationship patterns between coping capacity and resilience, 3) multiple linear regression to determine the impact of coping capacity on resilience, and 4) implications of the results.

3.1 Descriptive Analysis of Variables

Descriptive analysis in Table 1 below provides a summary of the demographic characteristics of respondents, coping capacity variables, and resilience variable based on a sample size of 277 respondents drawn from different disaster-affected communities in the UAE.

In terms of demographic characteristics, the sample was relatively balanced in terms of gender, with 54.2% (n = 150) male and 45.8% (n = 127) female respondents. The majority of respondents of about 40.4% (n = 112) are in the 30-44 age group, and a significant portion of 59.6% (n = 165) have tertiary education. Income levels are diverse, with the largest group earning between AED 10,000 and AED 19,999. Most respondents of about 68.2% (n = 95) have previous disaster experience.

Distribution of the respondents based on the Coping Capacity variables shows that the respondents generally rated their coping capacity moderately. The highest mean scores are observed for Access to Information (M = 4.1, SD = 0.72) and Social Capital (M = 4.0, SD = 0.69), indicating that there is fairly strong community ties and good access to disaster-related information. Preparedness and Adaptive Capacity also have relatively moderate means, suggesting that respondents feel moderately prepared and adaptable to changing circumstances. Emergency Response Skills and Psychological Coping are slightly lower but still fall within a moderate range.

The overall resilience of the communities, as measured by the respondents, is relatively above average (M = 4.0, SD = 0.82). This indicates that the communities feel confident in their ability to recover and maintain functionality after disasters. The results obtained from the above table provides a foundation for further analysis, such as, examining correlations between the coping capacity variables and the resilience variable to explore the contribution of different factors of coping capacity to overall community resilience in disaster-affected areas.

Table 1 *Descriptive analysis of demographics, coping capacity and resilience of 277 samples*

Variable	Category/Range	Freq. (n)	Percent (%)	Mean	SD
Demographic Characteristics					
Gender	Male	150	54.2	-	-
	Female	127	45.8	-	-
Age	18-29 years	65	23.5	-	-
	30-44 years	112	40.4	-	-
	45-59 years	73	26.4	-	-
	60+ years	27	9.7	-	-
Education Level	Primary Education	28	10.1	-	-
	Secondary Education	84	30.3	-	-
	Tertiary Education	165	59.6	-	-
Income Level	Below AED 10,000	67	24.2	-	-
	AED 10,000 - AED 19,999	95	34.3	-	-
	AED 20,000 - AED 29,999	78	28.2	-	-
	AED 30,000 and above	37	13.4	-	-
Previous Disaster Experience	Yes	189	68.2	-	-
	No	88	31.8	-	-
Coping Capacity Skills					
Preparedness	(1 = Very Low, 7 = Very High)	-	-	3.8	0.90
Emergency Response	(1 = Very Low, 7 = Very High)	-	-	3.5	1.00
Psychological Coping	(1 = Very Low, 7 = Very High)	-	-	3.6	0.81
Adaptive Capacity	(1 = Very Low, 7 = Very High)	-	-	3.9	0.73
Social Capital	(1 = Very Low, 7 = Very High)	-	-	4.0	0.69
Access to Information	(1 = Very Low, 7 = Very High)	-	-	4.1	0.72
Overall Resilience	(1 = Very Low, 7 = Very High)	-	-	4.0	0.82

3.2 Relationship Between Coping Capacity Skills and Resilience

The relationship between coping capacity variables and resilience was determined using Pearson's correlation, as presented in Table 2 below. The relationship between the coping capacity variables and resilience were statistically significant at 99% confidence level ($p<.01$).

Table 2 *Correlation analysis to assess relationship between coping capacity and resilience*

Variable	Preparedness	Emergency Response	Psychological Coping	Adaptive Capacity	Social Capital	Access to Information	Resilience
Preparedness	1						
Emergency Response	0.52**	1					
Psychological Coping	0.38*	0.54**	1				
Adaptive Capacity	0.36*	0.42*	0.41*	1			
Social Capital	0.52**	0.45*	0.37*	0.43*	1		
Access to Inform	0.35*	0.41*	0.59**	0.55**	0.48*	1	
Overall Resilience	0.68**	0.70**	0.68**	0.75**	0.72**	0.74**	1

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The relationship between *Adaptive Capacity* and *Overall Resilience* is the strongest (r = 0.75), suggesting that adaptive capacity is a crucial determinant of resilience. *Access to Information* and *Social Capital* also show strong correlations with *Overall Resilience* (r = 0.74 and r = 0.72, respectively), indicating that these factors play significant roles in enhancing community resilience. Other coping capacity variables like *Preparedness, Emergency Response Skills*, and *Psychological Coping* have moderately strong correlations with Overall Resilience, ranging from r = 0.68 to r = 0.70. The coping capacity variables are also positively correlated with each other, which suggests that these skills and capacities are interlinked and may mutually reinforce one another in building community resilience against disaster.

3.3 Impact of Coping Capacity Skills on Resilience

The multiple linear regression analysis was conducted to assess the impact of various coping capacity skills on overall resilience in disaster-affected communities, while controlling for the income level of respondents. The overall model used in this analysis is presented in the following regression equation:

$$\begin{aligned} Resilience = {} & \beta 0 + \beta 1(Preparedness) + \beta 2(Emergency\ Response\ Skills) \\ & + \beta 3(Psychological\ Coping) + \beta 4(Adaptive\ Capacity) + \beta 5(Social\ Capital) \\ & + \beta 6(Access\ to\ Information) + \beta 7(Income\ Level) + \epsilon \end{aligned} \quad (1)$$

The model revealed an overall statistically significant impact of coping capacity skills on the overall resilience of disaster-affected communities, $F(7, 269) = 73.25$, $p<0.01$. The regression model explained 65% of the variance in overall resilience ($R^2 = 0.65$), indicating a strong relationship between the independent variables and the dependent variable.

Table 3 *Multiple linear regression model to assess the impact of coping capacity skills on overall resilience*

Variable	Unstandardized Beta (βu)	SE	Standardized Beta (β_s)	*t*-value	*p*-value
Preparedness	0.15	0.05	0.17	3.00	0.003**
Emergency Response Skills	0.12	0.04	0.13	2.85	0.005**
Psychological Coping	0.14	0.06	0.16	2.33	0.021*
Adaptive Capacity	0.25	0.07	0.28	3.57	0.002**
Social Capital	0.2	0.06	0.22	3.33	0.003**
Access to Information	0.23	0.05	0.26	4.61	0.013**
Income Level	0.10	0.04	0.12	2.50	0.014*
$R^2 = 0.65$					
Adjusted $R^2 = 0.64$					
$F(7, 269) = 73.25$					
$p < 0.01$					

Access to information was the most significant predictor of overall resilience (β = 0.26, p = 0.013). This suggests that communities with better access to timely and accurate information are more resilient to disasters. The positive impact of access to information highlights its importance in disaster preparedness and response, because it allows communities to make informed decisions and take proactive measures in time. On the other hand, Adaptive capacity had a strong and statistically significant impact on overall resilience (β = 0.28, p = 0.002).

This indicates that communities that can effectively adapt to changing circumstances, such as evolving disaster risks, are better equipped to withstand and recover from disasters. This finding underscores the importance of flexibility and adaptability in building long-term resilience. Social capital was another significant predictor of resilience (β = 0.22, p = 0.003). Communities with strong social networks and trust among members are more resilient, as these social ties facilitate collective action, resource sharing, and mutual support during and after disasters. Preparedness was positively associated with overall resilience (β = 0.17, p = 0.003). This finding suggests that communities that are well-prepared for disasters, through planning, resource allocation and training, are in a good position to absorb and recover from disaster impacts.

On the other hand, emergency response skills also significantly contributed to overall resilience (β = 0.13, p = 0.005). Effective emergency response capabilities, such as first aid, evacuation procedures and coordination, help communities manage the immediate aftermath of disasters, and this reduces their overall impact. Psychological coping had a positive and statistically significant impact on resilience (β = 0.16, p = 0.021). Communities with strong psychological coping mechanisms are better able to maintain emotional and mental stability during and

after disasters, which is crucial for effective recovery. Income level, used in this model as a confounding variable, was also found to be a significant predictor of resilience ($\beta = 0.12$, $p = 0.014$). Higher income levels likely provide access to more resources, better housing, and stronger networks, all of which contribute to improved coping capacity skills and increased resilience.

4. Discussion of the Results

The findings from the multiple linear regression analysis provide valuable insights into the factors that contribute to the resilience of disaster-affected communities in the UAE. The results highlight the significant role that various coping capacity skills play in enhancing community resilience, even when controlling for the confounding effect of income level.

Access to Information emerged as the most significant predictor of resilience, indicating that communities with better access to timely and accurate information are more capable of managing and recovering from disaster impacts. This underscores the critical importance of communication and information dissemination in disaster management (Tariq et al., 2021). When communities have access to early warnings, disaster forecasts, and recovery guidelines, they can take proactive measures to mitigate risks and respond effectively to emergencies (Badina et al., 2022). The strong positive correlation between access to information and resilience suggests that investing in information systems and ensuring that all community members have access to these resources can substantially improve community resilience.

Adaptive Capacity was also a strong predictor of resilience, which reflects the importance of flexibility and the ability to adjust to changing circumstances. In a dynamic environment where disaster risks are constantly evolving, communities that can adapt their strategies, resources and practices are better positioned to withstand and recover from adverse events (Saja et al., 2019). This finding emphasizes the need for disaster management strategies that prioritize adaptability, which may include continuous learning, innovation and the ability to revise plans in response to new information and changing conditions.

Social Capital was another key factor influencing resilience of disaster-affected communities in UAE, which reinforces the idea that strong social networks and community cohesion are vital in disaster response and recovery. Communities with high levels of trust, cooperation and mutual support can more effectively mobilize resources, share information, and provide emotional and practical support to those in need (Tariq et al., 2021). The significant positive impact of social capital on resilience highlights the importance of nurturing strong community bonds and encouraging collective action as part of disaster preparedness and recovery efforts.

Preparedness and Emergency Response Skills also played significant roles in determining resilience. Communities that are well-prepared and possess strong emergency response capabilities are better equipped to manage the immediate effects of disasters, which reduces their overall impact and facilitates quicker recovery (Spialek & Houston, 2018; Mayer. 2019). Preparedness includes having disaster plans, emergency supplies and training in place, while emergency response skills involve the ability to execute these plans effectively during a crisis (Labrague, 2021). These findings suggest that enhancing both preparedness and response skills should be central to any comprehensive disaster management strategy.

Psychological Coping was positively associated with resilience, indicating that mental and emotional stability is crucial for communities to recover from disasters. The ability to manage stress, maintain hope, and provide mental health support during and after a disaster significantly influences how well a community can bounce back (Mao & Agyapong, 2021). This finding underscores the importance of integrating psychological support services into disaster management plans and ensuring that communities are equipped with the tools to cope with the emotional toll of disasters.

The finding finally reveals that the Income Level of respondents, which was included as a confounding variable, was a significant predictor of resilience. This suggests that economic resources play a crucial role in disaster recovery process (Heinzlef & Serre, 2022; Hariyono & Liliasari, 2018). Higher income levels are likely to provide better access to resources, more resilient housing and stronger social networks. This finding highlights the intersection of socio-economic factors and disaster resilience, and suggests that efforts to build resilience must also address underlying socio-economic disparities to ensure that all community members are equally prepared to cope with disasters.

5. Conclusion

The results of this study demonstrate that a comprehensive approach to building disaster resilience must consider multiple dimensions of coping capacity These include access to information, adaptive capacity, social capital, preparedness, emergency response skills and psychological coping. By strengthening these areas, communities can better withstand and recover from disasters, which ultimately reduce their vulnerability and enhancing overall resilience. Moreover, addressing socio-economic factors, such as income level, is essential to ensure that resilience-building efforts are inclusive and effective across all segments of the community. These findings provide

a strong foundation for policymakers, disaster management professionals, and community leaders to develop targeted strategies that enhance resilience in disaster-affected communities in the UAE and beyond.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

All authors confirm contribution to the paper. All authors reviewed the results and approved the final version of the manuscript

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