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The Effect of Leadership Communication on Emergency Response Efficiency: The Mediating Role of Team Coordination

Authors

Mohamed Salem Ali Salem Haboush

Chief Executive Officer (CEO), National Ambulance UAE, Abu Dhabi

✉ m.haboush@nationalambulance.ae

Ahed M. Al-Najjar

Director of EMS Education & Research, National Ambulance LLC, United Arab Emirates

✉ ahed.alnajjar@nationalambulance.ae

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ABSTRACT

Effective emergency response management requires strong leadership, communication, and coordinated teamwork to ensure rapid decision-making, efficient resource allocation, and structured crisis intervention. This study examined the impact of leadership communication on emergency response efficiency, with team coordination as a mediating variable. Using a quantitative research approach, data were collected from 335 personnel working in emergency response units and security operations at King Abdullah University Hospital. The sample included a diverse group of emergency management professionals, ensuring a comprehensive representation of crisis response roles. Structural Equation Modeling (SEM) was applied to analyze the direct and indirect relationships among the study variables. The findings revealed that leadership communication significantly enhanced emergency response efficiency, confirming that clear, transparent, and frequent communication improved crisis response effectiveness. Additionally, leadership communication positively influenced team coordination, ensuring seamless information-sharing, task synchronization, and inter-agency collaboration. The study further demonstrated that team coordination significantly contributed to emergency response efficiency, highlighting the importance of structured teamwork in disaster management. The mediation analysis confirmed that team coordination partially mediated the relationship between leadership communication and response efficiency, reinforcing the need for strong leadership communication and well-coordinated teamwork in emergencies. These findings contribute to the theoretical understanding of leadership effectiveness in crisis settings and offer practical implications for emergency response organizations. The study recommended leadership training programs focused on crisis communication, enhanced coordination frameworks, and the integration of real-time communication technologies to optimize emergency response efficiency. The research underscores the importance of structured leadership strategies and coordinated team efforts in ensuring effective crisis management and disaster response outcomes.

Keywords: Leadership communication, emergency response efficiency, team coordination, crisis management, disaster response.

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1. Introduction

Effective emergency response is essential in high-stakes settings such as healthcare facilities, where timely interventions significantly affect patient outcomes, resource use, and operational efficiency (Paciarotti & Valiakhmetova, 2021; Jiang, Ritchie, & Verreynne, 2023). At King Abdullah University Hospital, rapid, coordinated responses are vital. Performance indicators—including response time, decision-making accuracy, coordination, and resource allocation—are commonly used to assess response efficiency (Guo, Song, & Zhang, 2025; Wardman, 2022).

Leadership communication is a critical determinant of emergency response efficiency. Clear, structured communication enhances situational awareness, decision-making, and team trust, while unclear messaging fosters delays and mismanagement (Arikawe, Edwards-Fapohunda, & Waite, 2024; Alsabri et al., 2022; Riggio & Newstead, 2023). The COVID-19 pandemic highlighted how inconsistent directives negatively affected healthcare responses (Sellnow-Richmond et al., 2021). Leadership styles also influence outcomes. Directive communication promotes swift compliance during urgent crises (Beilstein et al., 2021; Curado & Santos, 2022), participative communication supports interdisciplinary collaboration (Balasubramanian & Fernandes, 2022), and transformational communication helps maintain morale in prolonged emergencies (Madi Odeh et al., 2023).

Although leadership communication has been studied in broader organizational contexts, its direct effect on emergency response efficiency—particularly in hospital settings—remains underexplored (Paciarotti & Valiakhmetova, 2021). The

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role of team coordination as a mediator between leadership communication and emergency outcomes is similarly understudied (Guo et al., 2025). Emergency teams operate under high stress and require clear leadership and well-aligned coordination among medical and administrative personnel (Jiang et al., 2023; Wardman, 2022). Coordination ensures shared information flow and synchronized action across multidisciplinary teams, especially in complex crises (Brown, Power, & Conchie, 2021; Thielsch et al., 2021). Poor coordination leads to delays, redundancies, and inconsistent responses, as seen during the COVID-19 pandemic and in previous disaster relief efforts (García-Avilés et al., 2024; Maurer, Bach, & Oertel, 2022; Joniaková et al., 2021). Leadership enhances coordination by defining roles, guiding decision-making, and establishing operational structures (Phillips, Roehrich, & Kapletia, 2023). Centralized models offer consistency in hospital crises but may limit flexibility in fast-evolving situations (Stratone et al., 2022; Kim, 2021; Kashive, Khanna, & Powell, 2022). Decentralized approaches enable rapid, localized responses but require strong communication to avoid fragmentation (O'Donovan et al., 2021).

Several theories inform the relationship between leadership communication, coordination, and response efficiency. Situational Crisis Communication Theory (SCCT) emphasizes contextual adaptation of messaging (Kim, Meganck, & Basnyat, 2024), while Leader-Member Exchange (LMX) Theory links strong interpersonal communication to enhanced coordination and decision-making (Chegini et al., 2022). The Risk Communication Framework prioritizes transparency, and the Input-Process-Output (IPO) Model categorizes crisis

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management into inputs (leadership, resources), processes (communication, coordination), and outputs (efficiency, resilience) (Dick, Moodie, & Greiner, 2022; Brown et al., 2021; Thielsch et al., 2021). Shared Mental Models Theory also reinforces the need for aligned team understanding (Joniaková et al., 2021).

This study addresses a gap in the literature by exploring how leadership communication influences emergency response efficiency and the mediating role of team coordination, focusing on King Abdullah University Hospital. The findings aim to enhance both academic understanding and practical emergency management strategies. By identifying effective communication and coordination practices, the research supports the development of evidence-based training programs, crisis protocols, and strategic planning frameworks. These contributions are especially relevant given the increasing frequency and complexity of public health and disaster-related emergencies.

2. Literature Review

2.1 Leadership Communication in Crisis Situations

Leadership communication is central to effective crisis management, shaping organizational responses and mitigating risks. The transformational leadership model emphasizes vision, motivation, and emotional intelligence, fostering team morale and resilience during emergencies (Madi Odeh et al., 2023; Zhao & Huang, 2022). By clearly articulating strategic goals, transformational leaders help teams maintain focus during disruptions (Sellnow-Richmond et al., 2021).

Situational crisis leadership theory advocates for adaptable communication styles aligned with crisis severity and stakeholder needs (Riggio & Newstead, 2023).

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High-risk emergencies demand directive communication for swift protocol compliance, while extended crises benefit from participative communication that enhances collaboration (Chegini et al., 2022). Transparency and stakeholder engagement are also emphasized to prevent misinformation and foster trust in large-scale emergencies (Abdeen et al., 2021).

Leader-Member Exchange (LMX) Theory supports the idea that strong leader-team relationships improve communication, coordination, and decision-making under pressure (Chatzipanagiotou & Katsarou, 2023; Opatska et al., 2024). Studies from healthcare and education confirm that high-quality exchanges enhance crisis readiness and response (Urick et al., 2021). Adaptive leadership strategies, when paired with effective communication, strengthen organizational resilience (Mizrak, 2024).

Several traits and skills define effective crisis leaders. Decisiveness ensures prompt action and instills confidence in emergency teams (Belias et al., 2024; Kim et al., 2024). Clear, unambiguous messaging minimizes confusion and helps coordinate swift responses (Do-Duy et al., 2021). Emotional intelligence (EI) further improves communication by enabling leaders to manage stress and support team well-being (Angelakis et al., 2024). Leaders who communicate empathetically during crises have been shown to reduce burnout and sustain staff engagement (Kim, Lee, & Chung, 2024; Sellnow-Richmond et al., 2021). Transparency and credibility are also critical. Leaders must offer accurate and timely information to prevent confusion and resistance, as evidenced during the early COVID-19 response when inconsistent communication hindered public compliance (Rudenko, 2024; Opatska

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et al., 2024). Strategic yet open messaging helps maintain trust and promotes informed decision-making (Kurniawan et al., 2024). Adaptability allows leaders to revise their communication and response strategies as crises evolve. Those who base decisions on real-time data achieve better outcomes than those adhering to fixed protocols (Cun, 2024; Madi Odeh et al., 2023). This flexibility is particularly important in large-scale emergencies requiring inter-organizational coordination (Abdeen et al., 2021).

Collaborative leadership also enhances crisis communication. By encouraging stakeholder input and integrating diverse expertise, collaborative leaders improve emergency planning and multi-agency coordination (Riggio & Newstead, 2023; Dick et al., 2022). This inclusive approach has significantly strengthened preparedness and crisis response efforts (Chegini et al., 2022).

2.2 Emergency Response Efficiency

Emergency response efficiency is the ability of organizations to manage crises rapidly and effectively, minimizing risk and damage. It plays a critical role in disaster management, healthcare emergencies, and broader crisis interventions, directly influencing resource use, response speed, and control measures (Paciarotti & Valiakhmetova, 2021; Damaševičius, Bacanin, & Misra, 2023). Key determinants include communication clarity, prompt decision-making, leadership coordination, and access to adequate resources (Alsabri et al., 2022). The Internet of Emergency Services (IoES) enhances crisis response by integrating real-time data, automation, and predictive analytics, thereby improving situational awareness and risk assessment (Guo, Song, & Zhang, 2025; Jiang, Ritchie, & Verreynne,

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2023). However, technology alone is insufficient—efficient responses also require trained personnel, strong leadership, and streamlined procedures (Crain et al., 2021).

Multi-agency collaboration is essential for coordinated responses. Without it, efforts become fragmented, leading to mismanaged resources and inefficiencies (Abdeen et al., 2021). Disaster risk governance emphasizes the role of structured policies in supporting coordinated response systems (Alam & Ray-Bennett, 2021). Integration of technology, strategic planning, and cross-agency collaboration improves long-term response outcomes (Wardman, 2022).

Organizations use Key Performance Indicators (KPIs) to measure response efficiency. These include response time, resource allocation, decision-making quality, and overall crisis resolution effectiveness (Damaševičius et al., 2023). For instance, rapid response times indicate readiness and strong communication, while delays often point to logistical or coordination failures (Paciarotti & Valiakhmetova, 2021; Dwiedienawati et al., 2021). Efficient resource distribution prevents critical shortages and supports sustainability (Alsabri et al., 2022; Jiang et al., 2023), while accurate decision-making reduces casualties and economic loss (Curado & Santos, 2022). Inter-agency collaboration, transparency, and recovery speed are also key indicators. Effective coordination minimizes duplication and improves synchronization (Abdeen et al., 2021; Balasubramanian & Fernandes, 2022). Additionally, transparent leadership and ethical practices contribute to public trust and more effective recovery (Crain et al., 2021; Wardman, 2022).

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Organizations with robust crisis strategies consistently demonstrate faster recovery and better outcomes (Guo et al., 2025).

2.3 Team Coordination as a Mediator

Team coordination is a critical intermediary between leadership communication and emergency response efficiency. During crises, coordinated teams minimize redundancies, improve information flow, and respond more effectively (Brown, Power, & Conchie, 2021; Kim, Meganck, & Basnyat, 2024). Poor coordination results in miscommunication, delayed decisions, and ineffective resource deployment (Thielsch et al., 2021). Real-time information sharing and synchronized actions enhance adaptability to dynamic situations, enabling teams to prioritize resource allocation (Dwarakanath et al., 2021). Digital tools improve coordination by enabling rapid data analysis, but human factors—such as interpersonal communication and shared understanding—remain essential (García-Avilés et al., 2024; Maurer et al., 2022).

Interdisciplinary collaboration improves crisis outcomes. Teams using shared decision-making outperform those with rigid hierarchies (Bartsch et al., 2021). For example, healthcare teams with established coordination protocols responded more effectively during the COVID-19 pandemic (O'Donovan et al., 2021). Clear roles and continuous communication help teams adapt and avoid operational breakdowns (van den Oever & Schraagen, 2021).

Several theories support coordination's mediating role. The Input-Process-Output (IPO) Model conceptualizes coordination as a process that transforms leadership, training, and resources into effective outcomes (Brown et al., 2021; Thielsch et al.,

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2021). The Shared Mental Models Theory highlights the need for teams to maintain mutual understanding of roles and objectives, facilitating proactive and cohesive responses (Kurniawan et al., 2024; Kim, Lee, & Chung, 2024; Joniaková et al., 2021). Multi-Team Systems (MTS) Theory explains coordination in complex, multi-organizational crises. Success depends on unified structures across diverse entities such as government, NGOs, and private sectors (Kim et al., 2024; Belias et al., 2024). When coordination mechanisms are absent, responses become fragmented, leading to delays and resource waste (Angelakis et al., 2024; Qin et al., 2021). Finally, Crisis Coordination Frameworks underscore the importance of adaptive leadership, decentralized decision-making, and flexible communication. These factors are crucial in improving team performance across remote and hybrid environments, especially in digital-first crisis response systems (Stratone et al., 2022; Kim, S. J., 2021; Kashive, Khanna, & Powell, 2022).

3. Methodology

3.1 Research Design

This study adopted a quantitative approach to examine the effect of leadership communication on emergency response efficiency, with team coordination as a mediating variable. A deductive research strategy was employed, deriving hypotheses from established theories and validating them through empirical data (Creswell & Creswell, 2022). Grounded in a positivist research philosophy, the study emphasized objectivity, statistical testing, and measurable outcomes (Saunders, Lewis, & Thornhill, 2019), enabling generalization across diverse emergency organizations (Hair et al., 2022). Data were collected using a survey-

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based method, offering a structured format for gathering self-reported insights efficiently from a large sample (Bryman, 2021; Sekaran & Bougie, 2020). The study followed a cross-sectional design, collecting data at a single point in time to assess relationships among leadership communication, coordination, and emergency efficiency (Zikmund et al., 2021). While cross-sectional studies limit longitudinal analysis, this design provided a cost-effective, practical means of examining organizational behavior (Bell, Bryman, & Harley, 2022).

Structural equation modeling (SEM) and regression analysis were used to evaluate both direct and indirect relationships between the variables (Hair et al., 2022). These statistical tools enhanced the study's rigor and supported accurate testing of the mediation effects of team coordination (Saunders et al., 2019). The structured, replicable methodology ensures the relevance of findings for both theoretical advancement and practical application in crisis leadership strategies (Creswell & Creswell, 2022).

3.2 Population and Sampling

The study was conducted at King Abdullah University Hospital (KAUH), a critical facility for crisis management involving disaster response and security operations. The target population included professionals directly involved in emergency response, such as crisis managers, security personnel, emergency medical teams, and disaster relief coordinators—key stakeholders for evaluating leadership communication, team coordination, and emergency response efficiency (Paciarotti & Valiakhmetova, 2021). To ensure representativeness, the study used a stratified random sampling technique, selecting participants based on job roles and

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responsibilities. This approach provided balanced representation across leadership, security, and medical response functions while reducing sampling bias (Saunders, Lewis, & Thornhill, 2019; Creswell & Creswell, 2022). The sample size of 335 participants was determined using Krejcie and Morgan's (1970) formula for finite populations. An additional 15% was included to offset potential non-responses, enhancing the reliability of data for statistical testing and increasing the validity of the study's findings (Sekaran & Bougie, 2020; Creswell & Creswell, 2022). The distribution of participants across different emergency response units is presented in Table 1.

Table 1: Population and Sample Distribution at KAUH

Emergency Response Category	Total Population (N=1,210)	Sample Size (n=335)	Percentage (%)
Disaster Response Personnel	400	110	32.8%
Security Operations Teams	350	97	28.9%
Crisis Management Officials	250	69	20.6%
Emergency Medical Responders	210	59	17.7%
Total	**1,210**	**335**	**100%**

3.3 Data Collection Methods

Data were collected through a structured survey administered to professionals in disaster response and security operations at King Abdullah University Hospital (KAUH). A five-point Likert scale was used to assess leadership communication, team coordination, and emergency response efficiency (Saunders, Lewis, &

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Thornhill, 2019). All measurement items were adapted from previously validated scales to ensure reliability and consistency (Zikmund et al., 2021). To ensure broad participation and minimize bias, the survey was anonymous, self-administered, and distributed in both printed and digital formats. Ethical protocols—including informed consent, confidentiality, and voluntary participation—were followed throughout the six-week data collection period (Bell, Bryman, & Harley, 2022). Upon completion, responses were cleaned, coded, and analyzed using statistical software to test hypotheses and evaluate inter-variable relationships (Hair et al., 2022).

3.4 Measurement of Variables

The study measured three key variables using a structured questionnaire:

- **Independent Variable:** *Leadership communication*, assessed across clarity, frequency, transparency/trust, and balance between directive and participative styles.
- **Mediating Variable:** *Team coordination*, evaluated through information sharing, task synchronization, role clarity, and inter-agency collaboration.
- **Dependent Variable**: *Emergency response efficiency*, measured via response time, decision-making accuracy, resource allocation, and recovery speed.

Each sub-component included five specific items, yielding a total of 60 measurement items rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) (Saunders et al., 2019). This comprehensive design enabled precise statistical analysis of how leadership communication influences response efficiency through the mediating role of coordination (Creswell & Creswell, 2022). Table 2

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provides an overview of the measurement framework, outlining the number of items associated with each variable and its sub-components.

Table 2: Summary of Measurement of Variables

Variable Type	Main Variable	Sub-Variables	Number of Questions	Measurement Scale
Independent Variable (IV)	Leadership Communication	Clarity of communication	5	5-Point Likert Scale
		Communication frequency	5	5-Point Likert Scale
		Transparency and trust	5	5-Point Likert Scale
		Directive vs. participative communication	5	5-Point Likert Scale
Mediating Variable (MV)	Team Coordination	Information Sharing	5	5-Point Likert Scale
		Task synchronization	5	5-Point Likert Scale
		Role clarity	5	5-Point Likert Scale
		Inter-agency collaboration	5	5-Point Likert Scale
Dependent Variable (DV)	Emergency Response Efficiency	Response time	5	5-Point Likert Scale
		Decision-making accuracy	5	5-Point Likert Scale
		Resource utilization	5	5-Point Likert Scale
		Recovery speed	5	5-Point Likert Scale
Total	-	-	**60**	-

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Measurement Items				

3.5 Reliability and Validity Checks

To ensure the accuracy and consistency of the survey instrument, the study conducted comprehensive reliability and validity assessments. Reliability was tested using Cronbach's Alpha, with values ≥ 0.70 indicating acceptable internal consistency across items within each construct (Hair et al., 2022). Validity was assessed through Average Variance Extracted (AVE), which measures convergent validity. An AVE score ≥ 0.50 confirms that a construct explains at least half the variance in its measurement items, indicating sufficient validity (Fornell & Larcker, 1981; Hair et al., 2022). These tests confirmed that the instrument effectively measured the relationships among leadership communication, team coordination, and emergency response efficiency. The results of these assessments for each construct are presented in Table 3.

Table 3: Reliability and Validity Scores (Cronbach's Alpha, AVE)

Main Variable	Sub-Variables	Cronbach's Alpha	AVE
Leadership Communication	Clarity of communication	0.87	0.62
	Communication frequency	0.84	0.58
	Transparency and trust	0.89	0.65
	Directive vs. participative communication	0.81	0.55
Team Coordination	Information Sharing	0.85	0.60
	Task synchronization	0.86	0.61
	Role clarity	0.88	0.63
	Inter-agency collaboration	0.83	0.57
Emergency Response Efficiency	Response time	0.86	0.60
	Decision-making accuracy	0.89	0.64

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	Resource utilization	0.84	0.59
	Recovery speed	0.87	0.61

The study achieved high reliability across all constructs, with Cronbach's Alpha values ranging from 0.81 to 0.89, indicating strong internal consistency (Hair et al., 2022). These results confirm that the questionnaire items reliably measured leadership communication, team coordination, and emergency response efficiency. Convergent validity was supported by Average Variance Extracted (AVE) values between 0.55 and 0.65, exceeding the recommended 0.50 threshold (Fornell & Larcker, 1981). These scores demonstrate that each construct captured its intended theoretical concept. Together, the reliability and validity findings validate the survey instrument's methodological soundness and enhance the study's credibility.

3.7 Data Analysis Techniques

To test the study's hypotheses, data were analyzed using IBM SPSS and AMOS, applying techniques such as descriptive statistics, reliability and validity checks, regression analysis, and structural equation modeling (SEM) (Hair et al., 2022). SEM was used to evaluate both direct and indirect effects of leadership communication on emergency response efficiency. This multivariate method examined complex relationships among observed and latent variables and was assessed using model fit indices: CFI, RMSEA, and TLI (Byrne, 2016; Fornell & Larcker, 1981). Additionally, multiple regression analysis measured the direct influence of leadership communication on both team coordination and emergency efficiency, using β coefficients and p-values to assess relationship strength and significance (Field, 2018). Finally, the mediating effect of team coordination was tested through the bootstrapping method in AMOS, generating bias-corrected

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confidence intervals to determine the significance of indirect effects (Preacher & Hayes, 2008). This approach provided robust empirical insights into the mediation mechanism.

4. Results

4.1 Descriptive Statistics

This section summarizes the respondents' demographic characteristics and an overview of the key study variables. It outlines important participant attributes such as age, gender, job position, and years of experience in emergency response. Descriptive statistical measures, including mean, standard deviation, skewness, and kurtosis, are presented to help understand the study variables' distribution patterns and central tendencies. These statistical insights offer a foundational understanding of the dataset before further analysis.

4.1.1 Demographic Characteristics of Respondents

Table 4 summarizes the key demographic details of the study participants. The demographic analysis indicates that most respondents were male (64.2%), which aligns with the prevalent trend of male professionals occupying roles in security and disaster response. However, the study also included a substantial proportion of female respondents (35.8%), ensuring a balanced and inclusive representation of perspectives. Regarding age distribution, the largest group of respondents (35.8%) fell within the 31–40-year age range, followed by 26.9% in the 20–30-year bracket. This indicates that most participants were in their early to mid-career stages, contributing fresh insights and practical field experience. An analysis of job positions revealed that the highest representation came from emergency medical

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staff (28.4%) and crisis managers (25.4%), emphasizing the pivotal role of these professionals in emergency response coordination. Regarding years of experience, the largest portion of respondents (32.8%) had 5–10 years of professional experience, followed by 26.9% with 11–15 years in the field. This suggests that most participants had substantial hands-on experience in crisis management, while the presence of both seasoned professionals and early-career responders contributed to a well-rounded dataset.

Table 4: Demographic Characteristics of Respondents

Demographic Variable	Categories	Frequency (n)	Percentage (%)
Gender	Male	215	64.2%
	Female	120	35.8%
Age Group	20–30 years	90	26.9%
	31–40 years	120	35.8%
	41–50 years	80	23.9%
	51+ years	45	13.4%
Job Position	Crisis Manager	85	25.4%
	Emergency Medical Staff	95	28.4%
	Security Officer	80	23.9%
	Disaster Response Coordinator	75	22.4%
Years of Experience	Less than 5 years	70	20.9%
	5–10 years	110	32.8%
	11–15 years	90	26.9%
	More than 15 years	65	19.4%

4.1.2 Descriptive Statistics for Study Variables

Table 5 presents key descriptive statistics, including mean (M), standard deviation (SD), skewness, and kurtosis. The mean scores for all sub-variables ranged between

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4.0 and 4.3, indicating a high level of agreement among respondents regarding leadership communication, team coordination, and emergency response efficiency. These results reflect a favorable perception of leadership practices and coordination efforts at King Abdullah University Hospital (Saunders, Lewis, & Thornhill, 2019). Standard deviation (SD) values, ranging from 0.60 to 0.74, suggest moderate variability in responses. Lower SDs indicate consistency in views, while slightly higher SDs—particularly for leadership style preferences—suggest differing opinions on directive versus participative approaches (Field, 2018). These variations likely stem from respondents' diverse operational roles and crisis experiences. All variables exhibited negative skewness, showing that responses leaned toward higher agreement. This trend reinforces participants' positive perceptions of crisis leadership and coordination effectiveness (Hair et al., 2022). Kurtosis values (0.65–0.75) fell within the normality range (-1 to +1), confirming that response distributions were suitable for parametric tests such as regression and SEM (Byrne, 2016). The data followed a normal distribution, supporting robust inferential analysis.

High ratings on leadership communication highlight the importance of clarity, transparency, and frequency in guiding emergency teams. Respondents emphasized that timely communication enhances preparedness and minimizes crisis-related risks (Paciarotti & Valiakhmetova, 2021). Positive views on team coordination were most notable for role clarity (M = 4.2) and information sharing (M = 4.1), suggesting well-defined responsibilities and structured collaboration across teams (Zikmund et al., 2021). Emergency response efficiency received strong ratings,

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with response time (M = 4.3) and decision-making accuracy (M = 4.2) standing out as critical factors. Efficient resource utilization and recovery speed (M = 4.1–4.2) further highlight leadership's impact on operational readiness (Jiang, Ritchie, & Verreynne, 2023). Notably, directive vs. participative leadership styles showed the highest variation (SD = 0.72), reflecting mixed preferences among respondents. Some valued authoritative decision-making, while others favored collaborative approaches. These differences likely stem from varying situational demands and roles within emergency teams (Saunders et al., 2019).

Table 5: Descriptive Statistics for Study Variables

Main Variable	Sub-Variable	Mean (M)	Standard Deviation (SD)	Skewness	Kurtosis
Leadership Communication	Clarity of Communication	4.2	0.65	-0.45	0.75
	Communication Frequency	4.1	0.70	-0.50	0.68
	Transparency and Trust	4.3	0.60	-0.42	0.72
	Directive vs. Participative Communication	4.0	0.72	-0.55	0.65
Team Coordination	Information Sharing	4.1	0.68	-0.48	0.70
	Task Synchronization	4.0	0.74	-0.52	0.74
	Role Clarity	4.2	0.66	-0.44	0.69
	Inter-agency Collaboration	4.1	0.69	-0.47	0.71
Emergency	Response Time	4.3	0.61	-0.41	0.66

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Response Efficiency	Decision-Making Accuracy	4.2	0.63	-0.43	0.69
	Resource Utilization	4.1	0.67	-0.46	0.67
	Recovery Speed	4.2	0.64	-0.42	0.68

4.2 Correlation Analysis

A Pearson correlation analysis was conducted to examine the relationships among leadership communication, team coordination, and emergency response efficiency. This method assesses the strength and direction of linear associations between variables, with coefficients ranging from -1 to +1 (Field, 2018). The results revealed a strong, positive correlation between leadership communication and team coordination ($r = 0.72$, $p < 0.01$), indicating that clear, transparent, and frequent leadership communication significantly enhances coordination within emergency teams (Paciarotti & Valiakhmetova, 2021). A similarly strong correlation was found between team coordination and emergency response efficiency ($r = 0.75$, $p < 0.01$). This suggests that well-coordinated teams—with clear roles, effective information flow, and synchronized actions—are more capable of delivering efficient crisis responses (Jiang, Ritchie, & Verreynne, 2023). Leadership communication also showed a moderate to strong correlation with emergency response efficiency ($r = 0.68$, $p < 0.01$), supporting the notion that effective communication by leaders contributes to faster decision-making, better resource allocation, and improved organizational resilience (Saunders, Lewis, & Thornhill, 2019).

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Table 6: Pearson Correlation Matrix for Study Variables

Variable	Leadership Communication	Team Coordination	Emergency Response Efficiency
Leadership Communication	1.00	0.72**	0.68**
Team Coordination	0.72**	1.00	0.75**
Emergency Response Efficiency	0.68**	0.75**	1.00

The high correlation coefficients among leadership communication, team coordination, and emergency response efficiency indicate a strong interconnection between these variables. These findings support the study's theoretical framework, suggesting that leadership communication directly influences team coordination, enhancing emergency response efficiency. Given these significant relationships, further statistical analysis—such as regression and structural equation modeling (SEM)—is necessary to examine causal links and determine whether team coordination is a mediating factor in the relationship between leadership communication and emergency response efficiency. The results highlight that enhancing leadership communication can significantly improve team coordination, leading to more effective and timely emergency response operations.

4.3 Regression Analysis

The regression results, summarized in Table 7, revealed statistically significant direct effects of leadership communication on both team coordination ($\beta = 0.72$, $p < 0.001$) and emergency response efficiency ($\beta = 0.68$, $p < 0.001$). These findings confirm that effective leadership communication is key to team collaboration and

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emergency response operations' overall efficiency. Strong communication from leadership ensures that teams are well-informed, synchronized, and capable of making quick, coordinated decisions in crises.

Additionally, the analysis showed that team coordination significantly contributes to emergency response efficiency ($\beta = 0.75$, $p < 0.001$). This result reinforces the importance of well-structured coordination mechanisms in emergency management, demonstrating that teams can respond more effectively to crises in an organized and collaborative manner.

These regression findings provide further empirical evidence supporting the study's hypothesis that leadership communication enhances emergency response efficiency directly and indirectly through improved team coordination. The results highlight the critical role of clear and strategic leadership communication in ensuring that emergency response teams function optimally under high-pressure conditions.

Table 7: Regression Analysis Results

Dependent Variable	Independent Variable	Beta Coefficient (β)	Standard Error (SE)	t-Value	p-Value	R^2	Adjusted R^2
Emergency Response Efficiency	Leadership Communication	0.68	0.05	13.6	< 0.001	0.46	0.45
Team Coordination	Leadership Communication	0.72	0.04	18.0	< 0.001	0.52	0.51
Emergency Response Efficiency	Team Coordination	0.75	0.05	15.3	< 0.001	0.56	0.55

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Regression analysis revealed a significant positive effect of leadership communication on emergency response efficiency ($\beta = 0.68$, $p < 0.001$), indicating that transparent and frequent communication enhances decision-making, resource allocation, and crisis coordination (Paciarotti & Valiakhmetova, 2021). Leadership communication also had a strong impact on team coordination ($\beta = 0.72$, $p < 0.001$), demonstrating that clear and timely leadership improves collaboration within emergency teams. The R^2 value of 0.52 indicates that leadership communication explains 52% of the variance in team coordination (Jiang, Ritchie, & Verreynne, 2023). The strongest effect was observed between team coordination and emergency response efficiency ($\beta = 0.75$, $p < 0.001$), confirming that well-coordinated teams significantly improve response speed and accuracy. With an R^2 value of 0.56, team coordination accounts for over half of the variation in response efficiency (Saunders, Lewis, & Thornhill, 2019).

Overall, the findings confirm that leadership communication directly enhances both team coordination and emergency response efficiency, while coordination also serves as a key predictor of performance outcomes. These results provide a strong foundation for Structural Equation Modeling (SEM) to further examine team coordination as a mediator in the relationship between leadership communication and emergency efficiency.

4.4 Structural Equation Modeling (SEM) Analysis

To further evaluate the relationships among leadership communication, team coordination, and emergency response efficiency, a Structural Equation Modeling (SEM) analysis was conducted using AMOS. SEM enables the simultaneous testing

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of direct, indirect, and mediating effects while controlling for measurement errors (Hair et al., 2022). The analysis followed a two-step approach: model specification and fit assessment, followed by path analysis. Model fit was evaluated using standard indices: Chi-square (χ^2), CFI and TLI values > 0.90, RMSEA < 0.06, and SRMR < 0.08, which indicate a well-fitting model (Byrne, 2016). As shown in Table 8, all fit indices met recommended thresholds, confirming that the structural model aligns well with the observed data. These results validate the hypothesized relationships, reinforcing that effective leadership communication and structured team coordination significantly enhance emergency response efficiency within crisis settings.

Table 8: Model Fit Indices

Fit Index	Value	Threshold for Good Fit
Chi-Square (χ^2)	245.32	$p > 0.05$ (non-significant)
CFI (Comparative Fit Index)	0.96	≥ 0.90
TLI (Tucker-Lewis Index)	0.94	≥ 0.90
RMSEA (Root Mean Square Error of Approximation)	0.045	≤ 0.06
SRMR (Standardized Root Mean Square Residual)	0.038	≤ 0.08

The structural model demonstrated excellent fit, with the Comparative Fit Index (CFI = 0.96) and Tucker-Lewis Index (TLI = 0.94) exceeding the recommended threshold of 0.90. Additionally, the Root Mean Square Error of Approximation (RMSEA = 0.045) and the Standardized Root Mean Square Residual (SRMR = 0.038) fell well within acceptable ranges, indicating minimal residual error and

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strong alignment between the proposed model and the observed data. These findings, as presented in Table 8, confirm the model's adequacy in representing the relationships among leadership communication, team coordination, and emergency response efficiency (Byrne, 2016).

To evaluate the study's hypotheses, standardized path coefficients (β values), t-values, and p-values were analyzed. As shown in Table 9, all hypothesized relationships were statistically significant ($p < 0.001$), supporting both the direct and indirect effects proposed in the model. These results reinforce the theoretical framework, demonstrating that effective leadership communication directly enhances team coordination, which in turn significantly improves emergency response efficiency. The strength of these relationships highlights the critical role of structured leadership strategies in optimizing crisis management operations.

Table 9: Structural Path Coefficients and Hypothesis Testing Results

Hypothesis	Path	Standardized Coefficient (β)	t-Value	p-Value	Support for Hypothesis
H1	Leadership Communication → Emergency Response Efficiency	0.65	12.9	< 0.001	Supported
H2	Leadership Communication → Team Coordination	0.71	17.2	< 0.001	Supported
H3	Team Coordination → Emergency Response Efficiency	0.74	16.0	< 0.001	Supported

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H4	Leadership Communication → Team Coordination → Emergency Response Efficiency (Mediating Effect)	0.53	9.8	< 0.001	Supported

The study's findings confirm that leadership communication significantly and positively impacts emergency response efficiency ($\beta = 0.65$, $p < 0.001$), supporting H1. This result underscores the importance of clear and strategic communication in enhancing emergency response speed, accuracy, and overall effectiveness (Paciarotti & Valiakhmetova, 2021). Similarly, leadership communication strongly influenced team coordination ($\beta = 0.71$, $p < 0.001$), supporting H2. This suggests that when leaders communicate frequently and transparently, teams can coordinate more effectively, reducing delays and improving synchronization during crises (Jiang, Ritchie, & Verreynne, 2023).

The results further indicate that team coordination positively affects emergency response efficiency ($\beta = 0.74$, $p < 0.001$), supporting H3. This emphasizes the critical role of well-coordinated teams in ensuring rapid response, informed decision-making, and efficient resource management during emergencies (Saunders, Lewis, & Thornhill, 2019). Additionally, the study confirms that team coordination mediates the relationship between leadership communication and emergency response efficiency ($\beta = 0.53$, $p < 0.001$), supporting H4. This finding suggests that leadership communication directly affects response efficiency and indirectly enhances it by strengthening team coordination. The mediation analysis

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reinforces that effective leadership communication supports coordination mechanisms, leading to more efficient emergency responses (Hair et al., 2022).

The Structural Equation Modeling (SEM) analysis further validates the strong interconnections between leadership communication, team coordination, and emergency response efficiency. The model fit indices demonstrate a strong alignment between the theoretical model and observed data, confirming the reliability of the hypothesized relationships. The findings highlight that leadership communication is a key factor driving team coordination and emergency response efficiency, with team coordination as a significant mediator in improving response effectiveness. These results provide empirical support for the study's conceptual framework, paving the way for a deeper discussion of leadership communication's practical and theoretical implications in disaster and emergency management.

4.5 Mediation Analysis: The Role of Team Coordination

A mediation analysis was conducted using the bootstrapping method (5,000 resamples) in AMOS to examine whether team coordination mediates the relationship between leadership communication and emergency response efficiency (Preacher & Hayes, 2008). The analysis assessed direct, indirect, and total effects of leadership communication on emergency outcomes. As shown in Table 9, leadership communication had both a significant direct effect ($\beta = 0.42$, $p < 0.001$) and a strong indirect effect through team coordination ($\beta = 0.53$, $p < 0.001$). The reduction in the direct effect upon introducing the mediator confirmed partial mediation. Additionally, team coordination was a strong predictor of emergency response efficiency ($\beta = 0.74$, $p < 0.001$). These findings emphasize that while

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leadership communication directly improves emergency efficiency, its effect is substantially amplified through enhanced coordination. This underscores the value of structured, well-communicated coordination strategies in strengthening crisis response performance.

Table 10: Mediation Analysis Results (Direct, Indirect, and Total Effects)

Pathway	Standardized Coefficient (β)	Standard Error (SE)	Bootstrapped CI (Lower - Upper)	p-Value	Mediation Effect
Leadership Communication → Emergency Response Efficiency (Direct Effect)	0.42	0.06	0.30 - 0.55	< 0.001	Partial Mediation
Leadership Communication → Team Coordination	0.71	0.04	0.63 - 0.78	< 0.001	-
Team Coordination → Emergency Response Efficiency	0.74	0.05	0.66 - 0.81	< 0.001	-
Leadership Communication → Team Coordination → Emergency Response Efficiency (Indirect Effect)	0.53	0.05	0.45 - 0.61	< 0.001	Confirmed

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Leadership Communication → Emergency Response Efficiency (Total Effect)	0.68	0.06	0.60 - 0.75	< 0.001	-

The analysis confirmed that leadership communication has a significant direct effect on emergency response efficiency ($\beta = 0.42$, $p < 0.001$). However, introducing team coordination as a mediator reduced this direct effect, indicating partial mediation. This suggests that while leadership communication independently improves response efficiency, its impact is amplified through enhanced coordination mechanisms (Hair et al., 2022).

The indirect effect of leadership communication on response efficiency via team coordination was also significant ($\beta = 0.53$, $p < 0.001$), with a bootstrapped confidence interval of 0.45–0.61 that excluded zero, reinforcing the strength of the mediation (Preacher & Hayes, 2008). These results underscore the mediating role of team coordination, showing that leadership communication enhances performance primarily by fostering more cohesive and synchronized teams. The total effect of leadership communication on emergency response efficiency ($\beta = 0.68$, $p < 0.001$) further illustrates its substantial overall influence. A significant portion of this effect is attributed to its role in promoting coordination, aligning with prior findings that emphasize leadership's function in facilitating teamwork and improving crisis response outcomes (Jiang, Ritchie, & Verreynne, 2023).

Overall, the mediation analysis affirms that team coordination significantly mediates the relationship between leadership communication and emergency

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response efficiency. Leaders who communicate clearly and promote collaborative environments substantially enhance their organizations' crisis response capabilities, validating the study's conceptual model and highlighting key implications for emergency management practice.

5. Discussion

This study highlights the vital role of leadership communication in improving team coordination and the overall effectiveness of emergency response efforts. The findings align with prior crisis leadership and disaster management research, demonstrating that clear and consistent leader communication enhances response efficiency. This improvement occurs by facilitating structured decision-making, optimizing the use of resources, and minimizing delays. These results support existing studies that emphasize the importance of effective crisis communication in reducing uncertainty, improving awareness of the situation, and enabling faster response actions (Damaševičius, Bacanin, & Misra, 2023). Leaders who maintain open lines of communication ensure that essential information flows smoothly within teams, leading to greater preparedness and responsiveness in emergencies (Paciarotti & Valiakhmetova, 2021).

The study also reinforces the idea that leadership communication significantly strengthens team coordination. Leaders who clearly define goals, set expectations, and maintain continuous communication create an environment that fosters teamwork and collaboration. This finding aligns with prior research, emphasizing that structured communication is key to effective teamwork, particularly in high-pressure environments such as emergency response and disaster management

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(Arikawe, Edwards-Fapohunda, & Waite, 2024). Effective leadership communication enhances information-sharing processes, reduces ambiguity, and improves task synchronization among team members (Alsabri et al., 2022). These findings also align with transformational leadership theories, which suggest that leaders who provide clear direction and maintain active engagement build stronger and more adaptable teams capable of handling crises effectively (Curado & Santos, 2022).

Another significant conclusion from this study is that team coordination is crucial in improving emergency response efficiency. The results indicate that teams with well-defined roles, synchronized operations, and effective collaboration across agencies exhibit greater preparedness and a more effective response to crises. These findings support previous research identifying team coordination as a fundamental factor in determining success in disaster response efforts (Wardman, 2022). When multiple organizations must work together, efficient coordination helps allocate resources effectively, eliminates unnecessary redundancies, and speeds up decision-making (Abdeen et al., 2021). This is consistent with the Input-Process-Output (IPO) Model, which suggests that effective leadership, particularly through communication, strengthens team coordination and leads to better response outcomes (Jiang, Ritchie, & Verreynne, 2023).

The mediation analysis conducted in this study offers deeper insight into how leadership communication indirectly affects emergency response efficiency through its impact on team coordination. The findings suggest that team coordination partially mediates this relationship, meaning that while leadership communication

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has a direct positive effect, its impact becomes even stronger when it leads to a well-structured and coordinated team environment. This aligns with previous research identifying coordination as a key mechanism for translating leadership effectiveness into successful crisis management (Guo, Song, & Zhang, 2025). The partial mediation effect suggests that leaders who communicate effectively improve response efficiency, but their efforts are most effective when they also prioritize building strong coordination structures within their teams (Crain et al., 2021). Research on multi-agency disaster response further supports this, showing that teams perform significantly better when communication between leadership and operational units is seamless (Beilstein et al., 2021).

This study contributes to broader discussions on disaster risk governance and crisis leadership strategies. The findings reaffirm that leadership communication, directly and indirectly, enhances emergency response efficiency, emphasizing that effective crisis leadership is not solely about authority and control but also about fostering collaboration and trust among response teams (Balasubramanian & Fernandes, 2022). Managing crises effectively requires a comprehensive approach that includes proactive communication, adaptive decision-making, and well-coordinated teamwork (Geerts et al., 2021). These findings align with emerging leadership frameworks that stress the importance of structured communication and teamwork in achieving superior crisis management performance (Riggio & Newstead, 2023).

Additionally, the study has practical implications for emergency response agencies, policymakers, and crisis management professionals. The strong link between leadership communication and emergency response efficiency suggests that

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organizations should implement training programs focused on crisis communication strategies. Leaders should develop the ability to provide clear, concise, and timely information to ensure that response teams operate with a shared understanding of protocols and expectations (Dick, Moodie, & Greiner, 2022). Since team coordination also emerged as a key factor in response efficiency, organizations should invest in coordination frameworks that establish clear communication structures, clarify roles and responsibilities, and promote collaborative problem-solving (Dwiedienawati et al., 2021).

Moreover, the study highlights the increasing role of technology in improving leadership communication and coordination in emergency response settings. Digital crisis management platforms, real-time data-sharing systems, and AI-driven decision-support tools have significantly enhanced communication efficiency, improved coordination, and accelerated crisis resolution efforts (Guo, Song, & Zhang, 2025). Organizations should incorporate modern communication and coordination technologies into their emergency response strategies to ensure that leadership communication is data-driven, streamlined, and accessible to all key stakeholders in real-time (Damaševičius, Bacanin, & Misra, 2023).

6. Conclusion

This research examined how leadership communication influences emergency response efficiency, focusing on the mediating role of team coordination. The findings confirm that clear, transparent, and frequent communication from leadership plays a vital role in improving response efficiency by facilitating better decision-making, optimizing resource use, and ensuring smooth operations.

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Leadership communication also strengthens team coordination, enabling response teams to collaborate more effectively, share information efficiently, and execute tasks in a well-organized manner.

The study further demonstrates that team coordination is essential for optimizing emergency response efficiency. Teams with well-defined roles, structured coordination, and synchronized task execution are more effective in crises, reducing disruptions and enhancing overall response performance. The mediation analysis indicates that while leadership communication directly enhances response efficiency, its impact is significantly greater when it supports a strong team coordination structure.

Beyond theoretical contributions, this study offers practical recommendations for emergency response organizations and policymakers. The results highlight the need for structured leadership training programs focusing on crisis communication skills to ensure leaders can provide clear and timely information in emergencies. Additionally, organizations should establish coordination frameworks that clarify roles, responsibilities, and collaboration processes to enhance response efficiency. Integrating technology-driven communication tools can further strengthen real-time coordination and improve crisis response capabilities.

In conclusion, this research underscores the importance of leadership communication and team coordination in ensuring effective emergency response. By adopting structured communication strategies and strengthening coordination mechanisms, organizations can improve crisis preparedness, enhance response performance, and minimize the impact of emergencies on communities and

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stakeholders. These findings provide a foundation for future research on crisis leadership and offer practical guidance for strengthening emergency response systems.

References:

Abdeen, F. N., Fernando, T., Kulatunga, U., Hettige, S., & Ranasinghe, K. A. (2021). Challenges in multi-agency collaboration in disaster management: A Sri Lankan perspective. *International Journal of Disaster Risk Reduction*, *62*, 102399.

Alam, E., & Ray-Bennett, N. S. (2021). Disaster risk governance for district-level landslide risk management in Bangladesh. *International Journal of Disaster Risk Reduction*, *59*, 102220.

Alsabri, M., Boudi, Z., Lauque, D., Dias, R. D., Whelan, J. S., Östlundh, L., ... & Bellou, A. (2022). A systematic review of the impact of teamwork and communication training interventions on safety culture and patient safety in emergency departments. *Journal of Patient Safety*, *18*(1), e351-e361.

Angelakis, A., Inwinkl, P., Berndt, A., Ozturkcan, S., Zelenajova, A., & Rozkopal, V. (2024). Gender differences in leaders' crisis communication: a sentiment-based analysis of German higher education leaderships' online posts. *Studies in Higher Education*, *49*(4), 609-622.

Arikawe, O., Edwards-Fapohunda, M. O., & Waite, P. (2024). Strategies for Student Related Crisis Management in The Learning Environment in Further Education Colleges in UK. *Iconic Research And Engineering Journals*, *8*(2), 576-586.

Balasubramanian, S., & Fernandes, C. (2022). Confirmation of a crisis leadership model and its effectiveness: Lessons from the COVID-19 pandemic. *Cogent business & management*, *9*(1), 2022824.

Bartsch, S., Weber, E., Büttgen, M., & Huber, A. (2021). Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *Journal of service management*, *32*(1), 71-85.

Multi-Knowledge Electronic Comprehensive Journal For
Education And Science Publications (MECSJ)
Issues 83 (2025)
ISSN: 2616-9185

Beilstein, C. M., Lehmann, L. E., Braun, M., Urman, R. D., Luedi, M. M., & Stüber, F. (2021). Leadership in a time of crisis: Lessons learned from a pandemic. *Best Practice & Research Clinical Anaesthesiology*, *35*(3), 405-414.

Belias, D., Trihas, N., & Ntalakos, A. (2024). Crisis leadership, group dynamics, and change management: A literature review and future perspectives. In *International Conference of the International Association of Cultural and Digital Tourism* (pp. 225-244). Springer, Cham.

Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods* (6th ed.). Oxford University Press.

Brown, O., Power, N., & Conchie, S. M. (2021). Communication and coordination across event phases: A multi-team system emergency response. *Journal of Occupational and Organizational Psychology*, *94*(3), 591-615.

Bryman, A. (2021). *Social research methods* (5th ed.). Oxford University Press.

Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (3rd ed.). Routledge.

Chatzipanagiotou, P., & Katsarou, E. (2023). Crisis management, school leadership in disruptive times and the recovery of schools in the post COVID-19 era: A systematic literature review. *Education Sciences*, *13*(2), 118.

Chegini, Z., Arab-Zozani, M., Kakemam, E., Lotfi, M., Nobakht, A., & Aziz Karkan, H. (2022). Disaster preparedness and core competencies among emergency nurses: A cross-sectional study. *Nursing open*, *9*(2), 1294-1302.

Crain, M. A., Bush, A. L., Hayanga, H., Boyle, A., Unger, M., Ellison, M., & Ellison, P. (2021). Healthcare leadership in the COVID-19 pandemic: from innovative preparation to evolutionary transformation. *Journal of healthcare leadership*, 199-207.

Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Cun, W. (2024). Business simulation analysis based on leadership development with crisis management using gaming techniques and machine learning model. *Entertainment Computing*, *50*, 100698.

Curado, C., & Santos, R. (2022). Transformational leadership and work performance in health care: the mediating role of job satisfaction. *Leadership in Health Services*, *35*(2), 160-173.

Multi-Knowledge Electronic Comprehensive Journal For Education And Science Publications (MECSJ)
Issues 83 (2025)
ISSN: 2616-9185

Damaševičius, R., Bacanin, N., & Misra, S. (2023). From sensors to safety: Internet of Emergency Services (IoES) for emergency response and disaster management. *Journal of Sensor and Actuator Networks*, *12*(3), 41.

Dick, L., Moodie, J., & Greiner, A. L. (2022). Are we ready? Operationalising risk communication and community engagement programming for public health emergencies. *BMJ global health*, *7*(3), e008486.

Do-Duy, T., Nguyen, L. D., Duong, T. Q., Khosravirad, S. R., & Claussen, H. (2021). Joint optimisation of real-time deployment and resource allocation for UAV-aided disaster emergency communications. *IEEE Journal on Selected Areas in Communications*, *39*(11), 3411-3424.

Dwarakanath, L., Kamsin, A., Rasheed, R. A., Anandhan, A., & Shuib, L. (2021). Automated machine learning approaches for emergency response and coordination via social media in the aftermath of a disaster: A review. *Ieee Access*, *9*, 68917-68931.

Dwiedienawati, D., Tjahjana, D., Faisal, M., Gandasari, D., & Abdinagoro, S. B. (2021). Determinants of perceived effectiveness in crisis management and company reputation during the COVID-19 pandemic. *Cogent Business & Management*, *8*(1), 1912523.

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

García-Avilés, J. A., Arias-Robles, F., de Lara-González, A., Carvajal, M., Valero-Pastor, J. M., & Mondéjar, D. (2024). How COVID-19 is revamping journalism: newsroom practices and innovations in a crisis context. *Journalism Practice*, *18*(1), 181-199.

Geerts, J. M., Kinnair, D., Taheri, P., Abraham, A., Ahn, J., Atun, R., ... & Bilodeau, M. (2021). Guidance for health care leaders during the recovery stage of the COVID-19 pandemic: a consensus statement. *JAMA network open*, *4*(7), e2120295-e2120295.

Guo, Y., Song, Y., & Zhang, M. (2025). Value realization of intelligent emergency management: research framework from technology enabling to value creation. *Data Science and Management*, *8*(1), 11-22.

Multi-Knowledge Electronic Comprehensive Journal For Education And Science Publications (MECSJ)
Issues 83 (2025)
ISSN: 2616-9185

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2022). *Multivariate data analysis* (8th ed.). Cengage Learning.

Jiang, Y., Ritchie, B. W., & Verreynne, M. L. (2023). Building dynamic capabilities in tourism organisations for disaster management: Enablers and barriers. In *Knowledge Management, Organisational Learning and Sustainability in Tourism* (pp. 77-102). Routledge.

Jiang, Y., Ritchie, B. W., & Verreynne, M. L. (2023). Building dynamic capabilities in tourism organisations for disaster management: Enablers and barriers. In *Knowledge Management, Organisational Learning and Sustainability in Tourism* (pp. 77-102). Routledge.

Joniaková, Z., Jankelová, N., Blštáková, J., & Némethová, I. (2021, March). Cognitive diversity as the quality of leadership in crisis: Team performance in health service during the COVID-19 pandemic. In *Healthcare* (Vol. 9, No. 3, p. 313). MDPI.

Kashive, N., Khanna, V. T., & Powale, L. (2022). Virtual team performance: E-leadership roles in the era of COVID-19. *Journal of Management Development*, *41*(5), 277-300.

Kim, J., Lee, H. W., & Chung, G. H. (2024). Organizational resilience: leadership, operational and individual responses to the COVID-19 pandemic. *Journal of Organizational Change Management*, *37*(1), 92-115.

Kim, S. J. (2021). Crisis leadership: An evolutionary concept analysis. *Applied nursing research*, *60*, 151454.

Kim, Y., Meganck, S., & Basnyat, I. (2024). Effects of internal crisis communication during the COVID-19 pandemic: employee perceptions of communication quality, leadership and relational outcomes. *Corporate Communications: An International Journal*, *29*(4), 481-502.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607-610.

Kurniawan, D., Tambunan, D. B., & Dewi, G. C. (2024). Relationships Among Crisis Leadership, Innovation Capability, Implementation of Business Continuity Management, and Sustainable Performance in The Covid-19 Pandemic. *The South East Asian Journal of Management*, *18*(1), 130-155.

Madi Odeh, R. B., Obeidat, B. Y., Jaradat, M. O., Masa'deh, R. E., & Alshurideh, M. T. (2023). The transformational leadership role in achieving

Multi-Knowledge Electronic Comprehensive Journal For Education And Science Publications (MECSJ)
Issues 83 (2025)
ISSN: 2616-9185

organizational resilience through adaptive cultures: the case of Dubai service sector. *International Journal of Productivity and Performance Management*, *72*(2), 440-468.

Maurer, M., Bach, N., & Oertel, S. (2022). Forced to go virtual. Working-from-home arrangements and their effect on team communication during COVID-19 lockdown. *German Journal of Human Resource Management*, *36*(3), 238-269.

Mizrak, K. C. (2024). Crisis management and risk mitigation: Strategies for effective response and resilience. *Trends, challenges, and practices in contemporary strategic management*, 254-278.

O'Donovan, R., Rogers, L., Khurshid, Z., De Brún, A., Nicholson, E., O'Shea, M., ... & McAuliffe, E. (2021). A systematic review exploring the impact of focal leader behaviours on health care team performance. *Journal of nursing management*, *29*(6), 1420-1443.

Opatska, S., Johansen, W., & Gordon, A. (2024). Business crisis management in wartime: Insights from Ukraine. *Journal of Contingencies and Crisis Management*, *32*(1), e12513.

Paciarotti, C., & Valiakhmetova, I. (2021). Evaluating disaster operations management: An outcome-process integrated approach. *Production and operations management*, *30*(2), 543-562.

Paciarotti, C., & Valiakhmetova, I. (2021). Evaluating disaster operations management: An outcome-process integrated approach. *Production and Operations Management, 30*(2), 543-562.

Paciarotti, C., & Valiakhmetova, I. (2021). Evaluating disaster operations management: An outcome-process integrated approach. *Production and Operations Management, 30*(2), 543-562.

Phillips, W., Roehrich, J. K., & Kapletia, D. (2023). Responding to information asymmetry in crisis situations: innovation in the time of the COVID-19 pandemic. *Public Management Review*, *25*(1), 175-198.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891.

Multi-Knowledge Electronic Comprehensive Journal For Education And Science Publications (MECSJ)
Issues 83 (2025)
ISSN: 2616-9185

Qin, X., Yam, K. C., Chen, C., Li, W., & Dong, X. (2021). Talking about COVID-19 is positively associated with team cultural tightness: Implications for team deviance and creativity. *Journal of Applied Psychology*, *106*(4), 530.

Riggio, R. E., & Newstead, T. (2023). Crisis leadership. *Annual Review of Organizational Psychology and Organizational Behavior*, *10*(1), 201-224.

Rudenko, O. (2024). Leadership and anti-crisis management as factors of effective management. *Збірник наукових праць Черкаського державного технологічного університету. Серія: Економічні науки*, *25*(2 (73)), 42-50.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson Education.

Sekaran, U., & Bougie, R. (2020). *Research methods for business: A skill-building approach* (8th ed.). Wiley.

Sellnow-Richmond, D. D., Lukacovic, M. N., Sellnow-Richmond, S. A., & Kraushaar, L. (2021). Messages in conflict: Examining leadership communication during the COVID-19 pandemic in the US. *Journal of International Crisis and Risk Communication Research*, *4*(3).

Stratone, M. E., Vătămănescu, E. M., Treapăt, L. M., Rusu, M., & Vidu, C. M. (2022). Contrasting traditional and virtual teams within the context of COVID-19 pandemic: From team culture towards objectives achievement. *Sustainability*, *14*(8), 4558.

Thielsch, M. T., Röseler, S., Kirsch, J., Lamers, C., & Hertel, G. (2021). Managing pandemics—demands, resources, and effective behaviors within crisis management teams. *Applied Psychology*, *70*(1), 150-187.

Urick, A., Carpenter, B. W., & Eckert, J. (2021, March). Confronting COVID: Crisis leadership, turbulence, and self-care. In *Frontiers in education* (Vol. 6, p. 642861). Frontiers Media SA.

van den Oever, F., & Schraagen, J. M. (2021). Team communication patterns in critical situations. *Journal of Cognitive Engineering and Decision Making*, *15*(1), 28-51.

Wardman, J. K. (2022). Recalibrating pandemic risk leadership: Thirteen crisis ready strategies for COVID-19. In *COVID-19* (pp. 260-288). Routledge.

Zhao, W., & Huang, L. (2022). The impact of green transformational leadership, green HRM, green innovation and organizational support on the sustainable

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Issues 83 (2025)
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business performance: Evidence from China. *Economic research-Ekonomska istraživanja*, *35*(1), 6121-6141.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2021). *Business research methods* (10th ed.). Cengage Learning.