Research in Health Science
ISSN 2470-6205 (Print) ISSN 2470-6213 (Online)
Vol. 7, No. 3, 2022
www.scholink.org/ojs/index.php/rhs

Original Paper

Leaderships' Role in Managing Crisis in the Lebanese Health Sector: An Assessment of Influencing Factors

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Received: July 2, 2022 Accepted: July 20, 2022 Online Published: August 18, 2022

doi:10.22158/rhs.v7n3p54 URL: http://dx.doi.org/10.22158/rhs.v7n3p54

Abstract

This paper aims to assess the healthcare leadership's role in crisis management, examine, and investigate the influencing factors. A quantitative analysis approach with a positivism philosophy is adopted. Primary data are collected using a structured questionnaire distributed to a sample of hospital employees in Lebanon. Data analysis used IBM SPSS version 25; whereby descriptive statistics (i.e., frequencies, percentages, means, and standard deviations) and inferential statistics (i.e., factor analysis, multivariable linear regression) were obtained. Results revealed that leaders' traits and skills like proactivity and communication, gender, hospital location, organization's culture, and stakeholders' engagement influence the effectiveness of leaders' decision-making in a crisis management context. Also, the results confirmed the alternative hypotheses that the explanatory factors have a direct and statistically significant relationship with leaders' decision-making effectiveness. Outcomes of this research serve as an eye opener to policymakers, health care managers, and stakeholders that a fully integrated effort is a must to mitigate serious crisis consequences.

Keywords

Leadership, healthcare, crisis management, influencing factors

1. Introduction and Background

Figueroa, Harrison, Chauhan, and Meyer (2019) assert that the health care setting is complex and dynamic. Confirming the aforementioned, Martínez-García and Lemus (2013) contend that "Health systems are paradigmatic examples of human organizations that blend a multitude of different professional and disciplinary features within a critical performance environment" (p. 113). Nowadays, healthcare organizations that include hospitals face and experience a multitude of difficulties. Younis, Hejase, Dalal, et al. (2021) and Kelly, Gee, and Butler (2021) enumerate the difficulties and challenges including Internal pressure arising from the growing demands for better governance, increasing stakeholders' influence, insufficiency of health care specialized personnel due to low retention rate, duties overload, scarcity of resources, and the continuous demand for high-quality services, especially by patients. Needless to say, further pressures rise from external features, such as changing communities' demographics, socio-economic factors, globalization requirements, governmental regulations, and the salient dynamism in medical and information technologies, all exert a high impact on the health care sector where crises can occur at any time (Senkubuge, Modisenyane, & Bishaw, 2014).

Based on the above, the demand for leadership to exert effective crisis management is recognized to be crucial in crises, particularly within the healthcare sector. The COVID-19 crisis came to assert the aforementioned need for effective leadership capacity to meet the challenge. Researchers like Jankelová, Joniaková, Blštáková, Skorková, and Procházková (2021) contend that "Even though competencies of leaders in healthcare facilities have been the subject of a long professional discourse, legitimate fear, how the COVID pandemic crisis could be handled was justified" (p. 562). Current demands for effective healthcare leaders are focused on the exploration, recognition, and development of essential competencies in crises management; and the assessment of the moderating factors influencing such competencies. Accordingly, targeting the healthcare institutions is a must since these are subject to a very acute environment where their personnel needs to keep the pace for fast response to the various emergencies and crises daily. The healthcare personnel, in particular the nursing teams, the supporting technical medics, besides the professional medical staff suffer from frequent "work overload, poor management style, lack of empowerment and autonomy, absence of promotional chances, inflexible agendas, long working hours" (Martinelli, 2017, para 6-10), and risk of transmission of communicable diseases (Tsai & Liu, 2012). Adding to the above is Project Hope's statement (2021) that provides a real picture. It describes the healthcare work as follows: "From long hours to crisis scenarios to the dilemma of delivering quality care when resources are constrained, healthcare workers' jobs entail scenarios unthinkable to mundane people which can cause high levels of stress and affect mental health; even among the strongest and most resilient personalities" (Project Hope's statement, 2021, para 9).

Health crisis management implies that a systematic, coordinated, effective, and efficient operational action plan involving various groups of people exists. It is implemented in case of exogenous or endogenous threats to the population's health and health systems, regardless of cause and extent (Efstathiou, 2008; Efstathiou, Papafragkaki, Gogosis, & Manwlidou, 2009). Further, Efstathiou et al.

(2009) posit that the human factor is fundamental. People have a substantial role in health crisis management. In fact, the critical success factor of a preparedness system is the manager's personality, a person who must own qualities and characteristics to make things happen. Researchers agree that having a proper system in place to deal with a healthcare crisis requires the following: "Balanced distribution of resources, leaders' actions to be adequately coordinated, leader's expectations to be realistic, being flexible, having rapid decisions capacity, and being able to inspire the team" (Bossidy, 2007; Efstathiou, 2008; Kashyap, 2021).

1.1 Background

Many studies have exposed that poor leadership in the healthcare systems has caused many failures, especially in crises. Casida and Pinto-Zipp (2008) assert that research considered five main factors to describe the leaders' role efficiency during a crisis: their characteristics and traits, the crisis's attributes, the team's capabilities, and cohesiveness, and the operations eco-system. Also, Myer, Conte, and Peterson (2007) and Messick and Kramer (2004) posit that managers' and leaders' personalities and the abilities to react adequately, flexibly, fast, and deliberately are essential aspects in managing crisis. Moreover, Jankelová et al. (2021) have inferred in their research that "an important aspect of leadership is creating a sense of control over the situation, trust, and stability" (p. 569). Further, Casida (2007), Fischer, Jones, and Verran (2018), and Jankelová et al. (2021) study the effect of institutional background elements in a leadership role. They conclude that the most critical elements were the healthcare facility's culture, networks and communication, resources, management system, information sharing, feedback, and champions.

While other studies like the one for Paquin, Bank, Young, et al. (2018) conducted in different departments within different hospitals in Canada have shown that lacking clarity about leadership roles results in communication problems, mistakes, and unacceptable service quality for patients, and unsounded decisions. So, successful crisis intervention is enhanced with the leader's ability to adjust to different contexts, i.e., patient-, role-, experience-, and individual-based. Adding to the above, Jaques's (2007) propose "a relational model to handle a crisis, whereby the full scope of issue management situates in both crisis prevention and post-crisis management" (p. 151). Furthermore, Jaques (2007) asserts that the "Real cause of major crises identified is much more likely to be: poor maintenance practice, human error, bad planning, material failure, unethical or dishonest behavior, unresponsive culture, leadership failure, poor judgment, and insufficient training" (p. 151). In agreement, Schaninger, Simpson, Zhang, and Zhu (2020) contend that recommended features of effective crisis leadership include: "encouraging a culture of proactivity, establishing systemic and structured norms and processes, focused prioritization, and setting clear scenarios using limited data to identify risks, promoting flexible upward communication, allowing better bonding, readiness to manage with the media, inspiring a learning environment, and sharing experience through constructive documentation of the lessons learned from the crisis" (p. 15). The previously mentioned characteristics must be carried out "keeping acting in concert with the tenets of your organization's purpose will help balance these

perspectives and demonstrate confidence in your company's ability to deliver a good outcome" (p. 16).

1.2 Research Significance

The previous section addressed the impact of the healthcare sector's internal and external factors. So, facing the growing threats leads to the fact that there is a need to explore and study the significance of leadership in managing crises, in particular, because leaders play fundamental roles in creating behavioral readiness in managing the crises. Klann (2003) warns that "The crisis will affect employees' morale, attitudes, productivity, ability to focus, stress levels, relationships, and more. People are more apt to follow a leader who is reassuring and who can meet their primary needs—those needs they least want to give up" (p. 9). Most researchers have studied crisis management in several fields including: political (Sousa, 2013; Figueras, McKee, Cain, & Lessof, 2004), corporate (Correia de Lacerda, 2015; Bundy, Pfarrer, Short, & Coombs, 2017), and military (Zamoum & Gorpe, 2018); but few researchers studied the crisis management phenomenon in a healthcare context (Soussa, 2013; Haar, Read, Fast et al., 2021) specifically investigating the lack of leaders' characteristics. If the leader's qualifications are not adequate, will result in negatively affect the health and well-being of patients, employees, and the adjacent community. Consequences lead to defaming the institutions' reputation and image, which in turn threatens the institution's existence.

The primary importance of this study is in its first attempt to investigate and uncover how leadership competencies influence the alleged efficiency of crisis management in the context of healthcare. A skillful leader in crisis time would mitigate panic and help the institution's recovery from difficult conditions. On the other hand, in case such skills are missing may lead to crisis mismanagement resulting in loss of human life and properties. Murphy and Dunn (2012; cited in Brooks, 2014) assert that the "pattern of leadership failure is seldom of character, but inevitably a lack of preparation and understanding. Leaders and their teams fail to apply their knowledge and skills to a situation that is novel, or beyond their experience and conception (p. 2)… However, based on lessons learned, failure is due to lack of resources and insufficient attention given to training (p. 7)" (Brooks, 2014, pp. 171-172).

Therefore, this study is novel, actually the first in Lebanon and the region, and adds to the theoretical and empirical literature about the subject. Findings will act as an eye-opener and as an invitation for further in-depth work for researchers, healthcare professionals, and administrators as well as government officials.

1.3 Purpose of the Study

According to Klann (2003), "Nothing tests a leader like a crisis. There is an element of the leader's deepest character revealed during highly charged, dramatic events. A crisis can quickly expose a leader's hidden strengths and core weaknesses. It can show the world if the leader has what it takes to function effectively when the heat is on" (p. 1). Moreover, crises create an abnormal situation during which leaders have to take brave and productive decisions in critical conditions of time and information. Hence, to mitigate the degree of influence of such challenges, leaders having the appropriate competencies and skills enables them to act diligently during and after the crisis that helps work out the problem.

Nevertheless, leaders should concentrate on "three influencing skills most critical for crisis leadership, namely: Communication, clarity of vision and values, and caring for others" (Klann, 2003, p. 15).

For decades, the health sector in Lebanon had undergone various crises due to many aggressive happenings including recently the COVID-19 pandemic. These needed immediate attention and handling effectively and efficiently to overcome them. However, although research is rich on leadership roles in handling mostly the economic sector, rarely does one finds research on the role of crisis leadership in the health sector in particular. Therefore, this research aims to close such a gap and investigate the impact of healthcare organizations' contextual factors on leaders' ability to manage certain crises effectively and efficiently.

1.4 Research Objectives

The main objectives of this study are:

- Explore and assess the impact of leaders' traits and skills on leadership crisis management effectiveness.
- To assess the mediating effect of the organization's contextual factors on leadership crisis management effectiveness.
- To explore the influence of the organization's contextual factors on leadership crisis management effectiveness.

1.5 Research Problem

Lebanon, a small country in the Middle East and a strategic passage between Europe and Asia, has undergone major series of conflicts emanating from military, political, economic, and social struggles (Hubbard, 2021; Rkein et al., 2022) that had greatly impacted the Lebanese health care system and on its economic progress. Regional conflicts had their shares resulting in the hosting of millions of refugees from Armenia, Palestine, Iraq, and Syria. This population exodus has strained the limited resources that already overextended public services. This great pressure is seriously felt in the health care sector. In addition, amid current political, financial, economic, and social unrest hospitals warned that they will stop admitting patients due to the shortage of hard currency (US dollars) obstructing medicinal resources import. Therefore, the already strained multi-crises Lebanon and its surrounding areas put more stress on the medical system which requires high preparedness and emergency readiness.

Several scholars have exposed that most of the problems of health care systems are due to "outdated leadership practices, such as leader-centricity, linear thinking, and poor readiness for innovation" (Weberg, 2012, p. 268). Poor leadership in healthcare organizations (HCOs) could raise costs, diminish productivity and usefulness, and cause disappointment among staff, ultimately resulting in lower patient gratification and society health level (Rad & Yarmohammadian, 2006; Weberg, 2012; Ghiasipour, Mosadeghrad, Arab, & Jaafaripooyan, 2017). Nevertheless, leaders need to display necessary skills in times of crisis may help mitigate crisis outcomes by at least removing health staff's panic as well as their patients. The absence of crisis leadership negatively affects health institutions. Many examples abound worldwide describing poor managers' decision-making during crises. For example, the outcomes during

the catastrophic Hurricane Katrina whereby, there was a "lack of a clear directing authority" (Moynihan, 2009, p. 5). On the other hand, nationally the events in Lebanon during the Syrian crisis strained the health system causing it to break down due to the spreading of a wave of diseases and the sudden impact of hundreds of patients amid partial and unproductive management system to deal with such crisis "threatening continuity of service delivery, destabilizing governance and limiting access to care" (Ammar, Kdouh, Hammoud et al., 2016, p. 2). Therefore, this research aims to address the role of leadership in managing crises in the Lebanese health care sector. The leadership role is studied about organizational contextual factors as a mediator variable to clearly define effective crisis leadership.

The findings of this study provide primary knowledge for researchers, healthcare professionals, and healthcare's human resource departments to have a first look into the major factors that influence leaders' effective crisis management. Moreover, research outcomes serve Human Resources officers to target further relevant leaders' skills and traits to select the best candidate to fit leadership positions.

2. Literature Review

Aljuhmani & Emeagwali (2017) contend that "Crisis Management (CM) is the culling of an organized process, is plausibly cost efficacious, order to abate certain threats facing the organization or company" (p. 51). Crisis management is the set of tasks executed in a planned, methodical, and logical manner to remove the state defined as a crisis. Crisis management is predicated on the measurement and evaluation of threats, and then the development of strategies for management. In general, the strategies used include transferring threats somewhere else, evading the threats, or alleviating their negative impact (Al Hanafi, 2007). Moreover, "it is a process coupled with the principle of sustainability" Aljuhmani & Emeagwali, 2017, p. 51). Based on the aforementioned and the fact that crisis management is innate to planning and business continuity, then the leader's role is critical during highly charged and dramatic events. Consequently, if these aspects (threats or gaps) are properly identified then the outcome is a leader more prepared to handle the crisis, reclaims control of the situation, ensures the minimum amount of damage is done to the institution, and effectively avoids, neutralizing, and decreases the time of these extremely problematic circumstances.

"Krinein" is the Greeks' definition of crisis which means to decide. However, there are several used definitions of "A crisis is a situation in which something or someone is affected by one or more very serious problems." Or, "a crucial stage or turning point in the course of something, especially in a sequence of events,' and 'condition of instability or danger, as in social, economic, political, or international affairs, leading to a decisive change" (HarperCollins, 2021). Moreover, the word "crisis" originates from the Greek word "Krisis" - translated into English it would be similar to "decision" or "choice" (Paraskevas, 2006). Furthermore, Seeger et al. (2003) assert that crisis is "a specific, unexpected and non-routine organizationally based event or series of events which creates high levels of uncertainty and threat or perceived threat to an organization's high priority goals" (p. 7). In addition, Ulmer (2001), states that "crises are complicated and include diverse elements that leave long-term

effects and outcomes whether at the social, psychological, cultural, technical and structural levels".

2.1 Crisis Management

Simola (2003) posits "Corporate crisis management is concerned with managing organizations in such a way that potential crises can be averted, and that damage from the actual crises can be minimized" (p. 351). However, Simola's definition is not an easy task, simply because CM is a field that transects several disciplines (sociology, organization studies, and, notably, disaster studies) as noted by Gueben-Veni ère and November (2020). Moreover, Hagan and Long (2005) added that "During times of crisis, many facets work together to create an image of an efficient and stable organization including activities in public relations, issue management; marketing, identity, and crisis management" (p. 45). The aforementioned are labeled the necessary communicative methods in crisis management to maintain employee and consumer confidence in businesses and staff and patients' confidence in healthcare institutions.

2.2 Phases of Managing Crisis

Managing a crisis includes three different phases:

A. Pre-Crisis: In this phase, it is possible to prevent the occurrence of a crisis by first pre-identification the crisis through its signs, and properly analyzing it to respond efficiently and effectively (Petru, 2013). Moreover, Zakiri (2020) contends, "It also consists of scanning and analyzing the environment to systematically identify, assess, and quantify risks by the degree of importance" (p. 121). This phase entails the proper, educated, systematic, and proactive assessment of the internal and external environment to appreciate the scope and level of seriousness of the risks and how they interconnect, as well as comprehend the possibility of occurrence of the crisis, its consequences, and outcomes. Accordingly, the aforementioned help "prioritizing the respective environmental risks to the organization and estimating the probability of a particular crisis occurring, its expected frequency and its potential impact on operations" (Zakiri, 2020, p. 121).

B. During Crisis or Crisis Response: Proper crisis management requires gathering the most possible amount of relevant and reliable data in a short time. Followed by the crisis' scope identification being national, regional, or international. In addition, this phase entails recognizing the institutional aspects mostly affected by the crisis. Baubion (2012) posits that the aforementioned "activities are also carried out for stakeholders and other stages to fully comprehend a crisis to select the most appropriate mean to be mobilized in response to a crisis" (p. 6). Zakiri (2020) emphasizes that this "crisis mode is characterized by short decision time, complexity, and ambiguity since the risk of immediate damage is still present. Decisive action is needed, and efforts must be shifted into containing the crisis, minimizing damage, and bringing the situation under control as quickly as possible" (p. 121). The organization passes through a route of "observation, interpretation, choice, and dissemination—repeating the process steps numerous times" (Hale, Dulek, & Hale, 2005).

C. Post-crisis: At the final stage of a crisis, or the recovery phase, aims to return the various aspects of a community to the prior crisis's normal state. Lessons learned, insinuate that health care management

should keep alert and not abandon the fact that a crisis always may exist. All the dedicated resources and means to the crisis can be shifted from a response mode to a recovery mode, which addresses the need according to Coombs (2011) to "learn from the event internally and "handle" the event externally." This phase provides the opportunity to address and quantify the crisis's damages and at the same time collects all lessons learned and the experience accumulated to avoid and be ready for future repetitions. Furthermore, Zakiri (2020) asserts, "The post-crisis phase looks for ways to better prepare for the next crisis and fulfills commitments made during the crisis phase and also aims to repair any reputational damage sustained during the crisis" (p. 121).

2.3 Managing Crisis in Health Care Context

Efstathiou (2008) contends "Health crisis management is indispensable means to continue responding to the continuous threat in the health sector". Human resources have a significant role in managing the adequate response to crises. The success of managing a crisis and its consequences depends on the extent institutional managers are prepared, have contingency plans, and necessary resources. Jankelová et al. (2021) assert that crises managers are associated with specific competencies, requirements, and health sector-specific skills.

Dealing with crises necessitates a well-put plan based on preparedness and anticipation. Davoli (2007) posits "A pre-established plan of action in case of emergency, crisis, mass casualty incident or any other event that causes a consistent unbalance in the request for services of acute care compared to the actual capacities of the hospital" (p. 9). Therefore, the above requires the health care institutions are managed by highly qualified staff to ascertain proper preparedness based on approved standardized procedures within the planned system. On the other hand, Švarcova, Hošková-Mayerová, & Navrátil (2019) contend that the above "is correlated to how much the HR aspect is well-prepared" (p. 256). In addition, Fišer (2013) asserts that if the health care selected and hired personnel is qualified and skilled, a great deal of effort is saved and a much easier and faster response and crisis management can be achieved.

Unfortunately, staff nurses and emergency physicians are the first to suffer from crisis events. They are more vulnerable than other health-related personnel due according to Reith (2018), to "burnout caused by overworking and limited contribution to updating rules and policies in their working environment" (p. 1). Therefore, the first front liners need to be highly engaged in the pre-planned crisis strategy to be able to respond swiftly with the least possible damage to patient wellbeing and fulfillment of their needs until overcoming the crisis and reaching its recovery phase. According to Runciman et al. (2006), staff nurses and physicians should be continuously trained, educated, and capacitated to work with teams to reach the optimum conclusion of a crisis.

2.4 Crisis Leadership

Fener and Çevik (2015) assert that "Leadership comes the first among the achievement criteria in crisis management" (p. 698). Crises and leadership are closely interrelated. Leaders should be ready to deal with uncertainty and harsh crises that are uniquely characterized and must be managed well in terms of

time duration and resource requirements. Therefore, leaders are to be fully aware of what is happening to act proactively and to be able to predict future events accurately, precisely, and informatively starting from a set of relevant and reliable information collected. For example, Mitroff (2005) posits that "Innovative thinking is a key aspect of crisis leadership; the higher the severity of a crisis, the more leaders should think outside the box" (para 1).

2.4.1 Leaders' Traits & Skills

Concordia University Nebraska (2022) states that "in these challenging and turbulent times, a strong healthcare leadership is in need to influence and guide healthcare workers. Great leadership is exhibited by setting proper examples for employees to emulate. An effective leader should *walk the talk* and lead by example to gain respect in the workplace. A resilient leader in today's healthcare environment needs courage, teamwork, dedication to the staff, the healthcare system, and the will to win" (para 1). Crisis management in healthcare institutions requires leaders who have developed proper qualifications. The reported literature defined a large set of Leadership qualifications. This paper adopted two sets of skills since many specific traits coincide and get repeated. The traits identified in the crisis process by Fener and Çevik (2015) are: "Ability to catch the signals of crisis; preparation and protection; efficient decision-making, using appropriate power throughout the crisis management process, planning, organizing, and supervising the crisis management process, ensure efficient and agile communication and coordination throughout the crisis management process, ability to shift to a normal state, and learning and assessing throughout the crisis management process" (pp. 698-699). Also, the *Center for Creative Leadership*, through the research conducted by its Leading Effectively Staff (2021), identified and recommended ten different traits that include "Integrity, Delegation, Communication, Self-Awareness, Gratitude, Learning Agility, Influence, Empathy, Courage, and Respect" (para 3). Worth noting that empathy is highly stressed nowadays (Raina, 2022). In addition, proper crisis management entails open-mindedness and trying a diverse combination of approaches. Hence, having a full assessment before making any conclusive decisions is preferred and recommended (Pfeifer, 2013; Susman, 2020). Moreover, Zaccaro et al. (2012) recommend flexibility, i.e., having the readiness and ability to respond promptly in different situations. While Yukl (2008) stresses proactivity in taking actions to affect results. Van Wart and Kapucu (2011) stress that "Calmness in the face of adversity is a necessity no matter how inwardly challenged a leader may feel, while at the same time being able to have the ability to make authoritative decisions stick in stressful and chaotic conditions" (p. 506). Van Wart and Kapucu added that "Leaders must be able to engage in pragmatic decision-making under severe time and resource constraints. They must not let their 'strong' style impede the need for more 'routine' managerial coordination and reorganization" (p. 507). Furthermore, Seeger, Sellnow, and Ulmer (2003) emphasize four functions of crisis communication: contingent examination, crisis response, crisis resolution, and institutional learning. Also, upon rectifying a crisis, leaders utilize the appropriate communication perspective that fits the crisis setting.

2.4.2 Crisis Leadership Role and Influential Factors

Leaders' role is critical, as they have to supply information, authorize and facilitate the acquisition of needed resources, and coordinate responses on a large scale to resolve the crisis and address the critical health and safety needs. Susman (2020) posits that different factors influence the leaders' role.

A. Organization Culture

Different cultures trigger conflicts where stakeholders struggle as a result, especially if these cultures get intertwined and become mismatched. Every culture has a unique context to be respected; otherwise, conflicts may threaten the existing team members' harmony in the crisis. Driscoll and Morris (2001) posit that culture plays a main role in improving performance and efficiency within an institution. A healthcare culture emphasizes an integrated engagement to include teamwork, cooperation, collaboration, and coordination to save patients' life and deal with the job's hardships. Over and above that, Shortell, Jones, Rademaker et al. (2000) posit that "the relationships between individuals' professional skills and motivations, group and microsystem team processes are to be re-addressed constantly. In addition, top managers need to revisit continuously current tailored interventions, organization-wide culture, decision support processes, and the institutional incentives" (p. 207). Nevertheless, researchers like Scott, Mannion, Davies, and Marshall (2003) assert that "Culture is a complex and contested terrain; it is important to distinguish between different subcultures types. Also, there is a need to highlight the crucial leaders' role, outline common barriers to culture change, and suggest a variety of approaches to surmounting these barriers" (p. 117). Moreover, there is a relationship between the institutional culture and the leaders' ability to win or fail in managing a crisis (Veil, 2011; Broekema, van Kleef, & Steen, 2017).

B. Organizations' Stakeholders and Relationship

An organizational crisis and management crises differ in their approach regarding stakeholders; the first considers the stakeholders as targets, and the second considers them as a means or a tool to link the institution to exterior features in a crisis (Brunet & Houbaert, 2007). Many researchers stress the correlation between stakeholders' response and leadership's role in managing a crisis (Dowton, 2004, Doh & Quigley, 2013; McCullough, 2014; D'Auria, & Smet, 2020; Gibbons, 2020). Researchers like Acquier, Gand and Szpirglas (2008) contend that "leaders should identify clearly and adapt to stakeholders' needs and priorities. Both are engaged in a multi-actor feedback process" (p. 105). Leaders' decisions with no feedback from stakeholders might be insufficient, inapplicable, and miss critical inputs. Acquier et al. (2008) add that "The existence of intertwined levels of crises and stakeholders has led to propose the concept of 'stakeSholders' to underline the complexity of operational crisis management" (p. 112). The authors conclude that "the dynamics of mutual learning between these two kinds of actors play a key role in the recovery from the crisis" (p. 112). On the other hand, McCullough (2014) asserts that "To treat stakeholders ethically—and meet project goals—values and the treatment of stakeholders must be defined and used throughout the project to drive all leadership decisions" (para 1). Barger (2020) recommends that leaders should have a strong sense of

respect for stakeholders and need to show often specific characteristics, "visibility, caring, empathetic, calmness, and assertiveness" (para 9). And, D'Auria and Smet (2020) contend that "Leaders can better mobilize their organizations by setting clear priorities for the response and empowering others to discover and implement solutions that serve those priorities" (para 6). In conclusion, stakeholders and leaders who play complementary roles reach a more accurate understanding, better comprehension of the crisis conditions and behavior, and identify elements critical in the early stage of a crisis.

C. Organization Resources

Barney and Clark (2007) assert that an institution's success or failure during a crisis is due to its capacity to invest and use its current resources efficiently. In congruence, Smith (2012) and Donato (2022) stress institutional resources, while Lockwood (2005) and Gibbons (2020) emphasize institutional skills that are both considered as unique stable components compared to the uncertainty of the context, environment, and type of crisis. Grant (2003) contends that stable elements are used as inputs to draft policies and regulations within an institution. Such practice enhances an institution's survivability and continuity as well as "its elasticity regardless of the dynamic unknown environment and context" (Smith, 2012). And Lockwood (2005) stresses that "HR can take the lead by identifying key staff roles well in advance of a crisis" (p. 6). So, managing a crisis requires proper management of resources, establishing strong work teams, and improving coordination and collaboration skills to accommodate a crisis's dynamic, changing, and challenging context (Thielsch, Röseler, Kirsch et al., 2021). Such actions improve the leadership's performance at perception and interactive levels.

D. Contingency Plan

Skillful leaders can manage the process of making a contingency plan and be accountable (Eriksson & McConnell, 2011). The Leaders' success in efficiently managing a crisis depends on how appropriately the contingency plan was prepared and organized. Thus, the leaders and the crisis personnel can acquire the needed competencies, knowledge, and best practices to increase an institution's performance (Drennan & McConnell, 2007).

2.4.3 Research Questions

This paper aims to assess the healthcare leadership's role in crisis management and explore and investigate the influencing organizational factors in managing crises in the Lebanese health sector. Hence, the following research questions are proposed based on the literature review,

RQ1: What is the relationship between leaders' traits and skills and leadership crisis management effectiveness?

RQ2: How do organizational contextual factors affect the relationship between leaders' traits and skills and leadership crisis management effectiveness?

RQ3: What is the relationship between organizational contextual factors and leadership crisis management effectiveness?

2.4.4 Proposed Research Hypotheses

The following hypotheses are to test the relationships between the variables under study:

H_{01}: There is no relationship between leaders' traits and skills and leadership crisis management effectiveness.

H_{a1}: There is a relationship between leaders' traits and skills and leadership crisis management effectiveness.

H_{02}: Organizational contextual factors do not affect the relationship between leaders' traits and skills and leadership crisis management effectiveness.

H_{a2}: Organizational contextual factors affect the relationship between leader traits and skills and leadership crisis management effectiveness.

H_{03}: There is no relation between organizational contextual factors and leadership crisis management effectiveness.

H_{a3}: There is a relationship between organizational contextual factors and leadership crisis management effectiveness.

2.5 Suggested Conceptual Framework

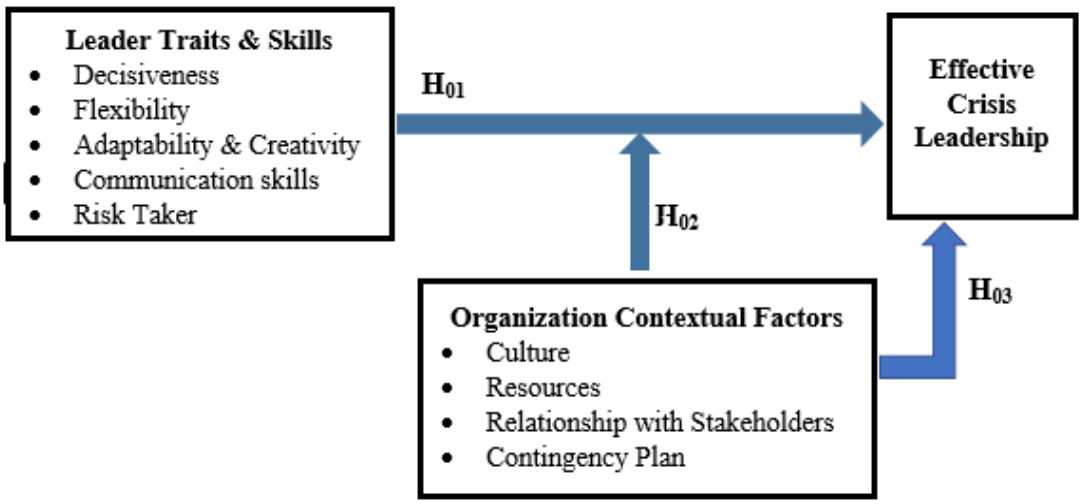

Figure 1. Conceptual Framework

3. Research Methodology

This study uses a positivist philosophy. Hejase and Hejase (2013) contend that "Positivism is when the researcher assumes the role of an objective analyst, is independent, and neither affects nor is affected by the subject of the research" (p. 77). Also, the study follows quantitative, deductive, and exploratory approaches. It is systematic with a series of interrelated research processes. It explains the causal relationships between intended variables and the application of mediating factors to ensure data validity. Primary data are collected using a survey strategy "commonly used with the deductive approach" (Hashem, Sfeir, Hejase, & Hejase, 2022). Therefore, the research tool consisted of a structured questionnaire administered to a sample of nurses and medical staff. Moreover, a cross-sectional time frame is used since the research is performed at a selected time.

3.1 Sampling and Sample Size

Sampling uses a non-probabilistic approach. However, convenient sampling of head nurses (Staff nurses) and emergency physicians in public and private Lebanese hospitals is used. Two hundred (200) survey questionnaires were collected from different private and public hospitals. Nevertheless, certain hospitals rejected the participation of their staff because of their high work demands and limited time. In addition that the survey was to be submitted only if the respondent answers all the questionnaire's questions and occupies an authority position at work. The early response rate was low (about 30%), leading to following a three-stage process to boost the rate. Consequently, special permission was authorized by the Lebanese Order of Physicians and the Order of Nurses in Lebanon to send an electronic version of the questionnaire to the registered staff nurses and physicians. After that, a link to the survey was made available to the willing participants. Secondly, the researchers approached several hospitals personally (whenever needed) and obtained the human resource heads' permission to share the survey with their employees within the specified target population. Thirdly, since one of the researchers was a staff nurse for several years, she made personal phone calls to her colleagues by providing a short briefing about this research and encouraging them to participate and share it with other colleagues.

Two hundred Lebanese nurses working in private and public hospitals in Lebanon willingly provided their consent to participate. As for the sample size convenience, the Order of Nurses in Lebanon (2021) reported that there are 12,173 nurses (78.52% Females and 21.48% males) in Lebanon with 82.48% working in hospitals reducing the number to 10,040 nurses. Then, Cochran's (1977) formula was used to find out the sample size:

$n = [Z^2 (P)(Q)/e^2]$. Where, Z = 1.96 (95% Confidence level), P = 78.52% female nurses, Q = 21.48% male nurses, and e = 6% error (due to the lack of precise numbers in Lebanese statistics, we opted for less than 10%). Therefore the sample size —n is 179.98 nurses or 180 nurses to be specific. Therefore, even if we perform the finite population size correction, we get a sample size of 176.85 or 177 participants, hence the achieved 200 sample size is satisfactory. Furthermore, to have a clear idea about the reliability of the sample size, Hardwick Research's (2022) published resources were reviewed. Table 1 shows that in the case of a population size of ~ 10,000, a confidence level of 95% [α=5%], and seeking acceptable reliability of 5% ±2%, the sample size would be 200. Therefore, the resultant sample size of 200 would be about ±6.9% at the 95% confidence level. This means in 93.1 out of 100 repetitions of the survey the results will not vary more than ±6.9%. Such reliability would be acceptable in exploratory research like this one.

Table 1. Statistical Reliability versus Sample Size at 95% Confidence

Statistical Reliability at the 95% Confidence Level
(50/50% proportion characteristic)

	Population						
Sample Size	100	500	1,000	5,000	10,000	100,000	1 Mill+
30	±14.7%	±17.1%	±17.3%	±17.6%	±17.7%	±17.8%	±17.9%
50	±9.7%	±13.1%	±13.5%	±13.8%	±13.9%	±14.0%	±14.1%
75	±5.6%	±10.4%	±10.9%	±11.3%	±11.4%	±11.5%	±11.6%
100		±8.8%	±9.3%	±9.7%	±9.8%	±9.9%	±10.0%
200		±5.4%	±6.2%	±6.8%	±6.9%	±7.0%	±7.1%
300		±3.6%	±4.7%	±5.5%	±5.6%	±5.7%	±5.8%
400		±2.2%	±3.8%	±4.7%	±4.8%	±4.9%	±5.0%
525			±3.0%	±4.1%	±4.2%	±4.3%	±4.4%
725			±1.9%	±3.4%	±3.5%	±3.6%	±3.7%
800			±1.6%	±3.2%	±3.4%	±3.5%	±3.6%

Source: Hardwick Research, 2022.

3.2 Survey Design

The research tool or the questionnaire is designed with multi-item measures using a 5-point Likert scale, dyadic, and multiple choice questions. The research instrument consists of four parts: The first has six participants' demographic questions and four more characterizing the hospitals. Part two has 15 questions measuring the leaders' skills and traits, part three with 35 questions including the organization's contextual factors, and the fourth with six questions measuring the effectiveness of the crisis leadership. A pre-test was performed to test validity with five (5) experts who recommended a few changes.

3.3 Data Analysis

Hejase et al. (2012) contend that "Informed-objective decisions based on facts and numbers, real, realistic and timely information" (p. 129). Moreover, "descriptive statistics deals with describing a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can provide a better understanding of the collected data" (Hejase & Hejase, 2013, p. 272). Hence, frequencies, percentages, means, and standard deviations were used and arranged in tables for clarity. The collected data will be analyzed using the 2009 IBM Statistical Product and Service Solutions, SPSS version 25.0. Other statistical analysis tools include the Cronbach Alpha for internal reliability testing, Confirmatory Factor Analysis (CFA), and Regression analysis.

4. Results and Discussion

4.1 Descriptive Statistics

4.1.1 Personnel Demographic Details

Results show that 36% of the respondents were males, and 64% (128) were females. The age factor is partitioned into three (3) ranges. 44% of the respondents were between 21 and 30 years old, 35% were 31 to 40 years, and 21% were more than 40 years old. Also, 47% were married with children, 38% were single, and the rest were divided into 4%, 6%, and 5% divorced, married without children, and widowed, respectively. In addition, 61% earned their bachelor's degree, 13.5% had their master's degree, 2% held a medicinal bachelor's degree, and 23% earned a technical baccalaureate. Moreover, 85% practiced nursing, 10% in medicine, 1% in nutrition and diet, 3% in health management, and 1% were lab technicians.

4.1.2 Compensation

Wages earned by the 200 respondents include 11% (22) more than 3 million Lebanese pounds, 12% earned between 2 and 3 million, 19% earned less than 1,200,000 Lebanese pounds, and 58% earned between 1,200,000 and 2 million Lebanese pounds. Worth to note that due to the economic and financial crisis one US dollar is equivalent to about 25,000 Lebanese pounds a fact that reflects the bad crisis the health care personnel is passing through as well as the Lebanese population in general.

4.1.3 Respondents' Attitude Analysis

The 5-point Likert scale results were grouped into three engagement components for simplicity of interpretation with "Agreement" being the sum of "SA: Strongly Agree," and "A: Agree," "N" standing for "Neutral," and disagreement as the sum of "D: Disagree" and "SD: Strongly Disagree." In addition, the mean represents the average of the answers to each question. While the standard deviation expresses the quantity by how much the answer differs from the mean value.

4.1.4 Hospitals Demographics

Table 2 shows that the health care personnel were divided into 37% in the northern part, 20% in the eastern region, 155 in the capital, 12% in Mount Lebanon, and 16% in the south.

Table 2. Hospital Location

		Frequency	Percent	Geographical Positioning
Valid	Akkar	14	7.0	Northern Lebanon
	Baalbeck-Hermel	12	6.0	Eastern Lebanon
	Beirut	30	15.0	Capital
	Bekaa	28	14.0	Eastern Lebanon
	Mount Lebanon	24	12.0	Mount Lebanon
	Nabatiyeh	22	11.0	Southern Lebanon
	North (other cities)	60	30.0	Northern Lebanon
	South (other cities)	10	5.0	Southern Lebanon
	Total	200	100.0	

4.1.5 Hospital Type

Hospitals are almost equally divided with 52% being in the private sector and 48% in the public sector.

4.1.6 Having a Crisis Management Plan in Place

74% (148 respondents) agreed they have a crisis management plan while 26% (52) do not.

4.2 Respondents' Attitude Analysis

The assessment of the leaders' traits and skills, crisis characteristics, followers' skills, organizational contextual factors, and effective role of crisis leadership components was based on the approach explained in section 4.1.3.

Table 3. Leaders' Traits and Skills in Managing Crisis Effectively

Statements	A	N	D	Mean	Std. Dev.
Decisiveness: The leader is able					
to develop clear & precise decisions	61	4	35	2.63	1.104
to make decisions independently under stress	37	16	47	3.11	1.050
to make decisions with a high self-confidence level	51	13	36	2.81	1.039
Average				**2.85**	
Flexibility: The leader is able					
to identify situations in which flexibility is/isn't a valuable resource.	46	11	43	2.97	1.007
to think about issues from different perspectives (Cognitive Flexibility).	46	12	42	2.95	1.045
to change behavior based on the situation (Behavioral Flexibility).	47	10	43	2.95	1.026
Average				**2.96**	
Adaptability & Creativity: The leader is able					
to adapt to different needs based on the crisis.	54	8	38	2.82	1.036
to implement idea generation activities such as brainstorming sessions, focus group discussions and strategic planning sessions, to come up with new innovative ideas.	28	15	57	3.32	1.041
to develop a creative & innovative environment by generating a systematic approach for managing a certain crisis.	26	19	55	3.30	1.027
Average				**3.15**	
Communication Skills: The leader is able					
T to choose adequate communication channels to transmit the message.	68	5	27	2.53	1.017
to communicate regularly with all stakeholders & share information transparently.	53	15	32	2.74	1.028
to develop an explicit communication plan to be used in times of crisis.	42	17	41	2.97	1.037
Average				**2.75**	

Risk Assessor & Risk Taker: The leader is able					
to assess the internal and external environment to identify any potential risk.	36	11	53	3.23	1.040
to identify the organization's weaknesses and find solutions to improve performance.	40	6	54	3.18	1.102
to take risks and consider new and untested approaches.	28	11	53	3.45	1.026
Average				**3.29**	
Overall				**3.00**	

Table 3 shows that respondents' overall assessment falls in the neutral or what is equivalent to neither agree nor disagree on all the leader's characteristics. However, the individual assessment by trait category shows that the respondents' leaders score higher as "risk assessor and risk taker" as asserted by Seeger et al. (2003) and Fener and Çevik (2015); and "adaptability & creativity" as recommended by Mitroff (2005) and Fener and Çevik (2015); followed by leaders having "flexibility," as recommended by Zaccaro et al. (2012); "Decisiveness," as contended by Pfeifer (2013) and Susman (2020); and "communication skills" emphasized by Seeger et al. (2003).

Table 4. Crisis Characteristics

Statements	A	N	D	Mean	Std. Dev.
Crisis Type					
The hospital is prepared to **deal with disasters** (life or death situations such as terrorism, workplace violence, a natural disaster that affects the building, bombing, etc.)	41	5	54	3.20	1.116
The hospital is prepared to **deal with personnel crises** (situations involving staff such as the death of a key employee (HIV-infected worker, mass illness in staff, etc.)	51	13	36	2.87	1.077
The hospital is prepared to deal with the **political crises** (situations caused by political forces such as privatization of the health dept., severe budget cuts, and lack of support from the ministry, etc.)	36	16	48	3.15	1.016
The hospital is prepared to deal with **quality assurance crises** (situations such as the focus on the delivery of poor or inadequate services such as wrong medications to a client, death of a client due to incompetence, poor response to public health problems, etc.)	52	15	33	2.81	.999
The hospital is prepared to deal with **public/public relations** (situations that focus on the relationship of the health departments to external groups such as mass media criticism, public anger at the health department, board	47	14	39	2.92	1.048

of health members arrested, etc.)					
Average				**2.99**	
Certainty / Uncertainty					
The information is available about crises and their impact at different levels.	56	15	29	2.72	.962
The information is collected from different sources to build a comprehensive understanding of the crisis.	54	14	32	2.80	.972
The information is shared from managers to personnel and vice versa.	62	7	31	2.63	1.077
Average				**2.72**	
Overall				**2.86**	

Table 4 provides a description of the crises that according to the respondents a neutral stance exist in the health care institutions they present. However, such an 'agreement rank' is skewed towards agreement even if 'very little' implies that respondents are worried more about quality assurance, dealing with personnel, and handling public relations crises as compared with dealing with political and disaster crises. Most possibly such a stance is a result of respondents' concerns first place with hospital accreditation issues, socio-economic conditions of the health care personnel coupled with losing key persons due to COVID-19, HIV, or other diseases, and dealing with the public to explain the handling of different crises. The aforementioned fits with several researchers' recommendations on how to deal with stakeholders (Acquier et al., 2008; McCullough, 2014; Barger, 2020; D'Auria, & Smet, 2020).

Table 5. The Followers' Skills

Statements	A	N	D	Mean	Std. Dev.
Education level & years of experience					
The staff is selected upon certain educational backgrounds.	70	9	21	2.43	.975
The staff selection depends on their years of experience and their skills.	55	11	34	2.70	1.21
The skilled and educated staff are part of the crisis response team.	60	6	34	2.64	1.112
Average				**2.59**	
Training					
The staff can select the needed training based on the potential risk factors.	32	13	55	3.33	1.061
The staff are trained in crisis management at a different level and how to handle it	54	8	38	2.83	1.023
The crisis management training is updated and modified regularly to meet the staff's needs.	36	18	46	3.12	1.054
Average				**3.09**	
Commitment & Loyalty					

The staff can feel belongingness to the hospital they work within	48	16	36	2.89	1.021
The staff is willing to support the hospital and recommend solutions to overcome the challenges during times of crisis.	54	12	34	2.80	1.012
Average				**2.85**	
Participation & Engagement					
The staff can participate in solving problems and their perspectives and ideas are taken into consideration during crises	31	15	54	3.29	1.035
The staff is informed about what is happening and what is expected to happen by the leader.	51	5	44	2.96	1.079
The staff engagement during crises is appreciated in a timely and appropriate manner.	31	15	54	3.24	1.004
Average				**3.16**	
Team Work					
The staff can work as a part of a multidisciplinary team to handle a certain crisis.	66	8	26	2.52	.997
The staff can understand the role and responsibility of each team member.	69	8	23	2.40	1.022
The staff can support each other to overcome any obstacles during a crisis.	65	8	27	2.53	1.017
Average				**2.48**	
Overall				**2.83**	

Table 5 shows that the overall average for the combined followers' (employees') skills is 2.83 implying that the respondents agreed to a low extent that their skills are adequate to deal with crises in their hospitals. However, looking as well into the details one finds that teamwork occupies a priority, followed by education level and experience at work, then being committed and loyal to the institution, and ending with receiving training and being engaged and participative. The actual requirement in time of crisis is to have all the above-mentioned characteristics rather than having sporadic differences among the characteristics. According to Runciman et al. (2006), "staff nurses and physicians continue to show in many cases that they are ill-equipped to properly respond and meet the expectations and any failure in responding might have disastrous outcomes". That is why they should be trained and well educated and capable to work with teams to reach the optimum conclusion of a crisis. Sriharan, Hertelendy, Banaszak-Holl, et al. (2021) and Jacobsson et al. (2022) stress that amid high pressures and burdens on healthcare services, leadership, human resources, and organizational resources among others are particularly important to adapt to the crisis.

Table 6. Organizational Contextual Factors

Statements	A	N	D	Mean	Std. Dev.
Culture					
The hospital can develop a comprehensive system and regulation in terms of managing crises.	50	11	39	2.89	1.001
The hospital can document employee & leader relations as a part of its culture	54	12	34	2.79	.995
The hospital can integrate the crisis management plan into the overall strategic planning process.	40	20	40	2.99	.977
The hospital can learn from past experiences through lesson-learned documentation.	44	16	40	2.92	1.009
Average				**2.90**	
Relationship with Stakeholders					
The hospital can develop long-term relationships with its stakeholders (investors, employees, customers, and suppliers).	52	18	30	2.79	.933
The hospital can constantly exchange information with its stakeholders through network channels.	56	12	32	2.78	.978
The hospital is open to stakeholders' involvement during crisis intervention.	45	19	36	2.93	.964
Average				**2.83**	
Resources					
The necessary human resources are available to deal with the crisis.	39	10	51	3.17	1.042
The necessary in-kind resources (equipment & materials) are available to deal with the crisis.	28	11	61	3.40	1.089
The necessary financial resources are available to deal with the crisis	23	14	63	3.53	1.046
Average				**3.37**	
Contingency Plan					
The hospitals' contingency plans are created to handle a variety of different crises.	51	13	36	2.85	.955
The hospitals' contingency plans are developed based on comprehensive data from staff & stakeholders.	42	17	41	2.97	.977
The hospitals' contingency plans are reviewed regularly and updated upon risk assessments.	36	21	43	3.06	.970
Average				**2.96**	
Overall				**3.02**	

Organizational contextual factors are assessed in Table 6. Results show that the overall assessment by the respondents falls in the neutral zone, i.e., neither agreeing nor disagreeing about the readiness of

Lebanese hospitals to manage crises effectively based on culture, relationship with stakeholders, having available resources, and being ready with contingency plans. Nevertheless, when looking at each factor independently one observes that Lebanese hospitals prioritize their relationships with stakeholders, followed by manifesting their cultural norms and policies in how they deal with crises while counting to a certain extent on their pre-planned contingency plans. The last factor or resource availability is considered very neutral and skewed towards disagreeing about the preparedness of hospitals in such domain. Researchers on the above-mentioned factors agree that dealing with institutional cultures is complex and having diversity among stakeholders may complicate things (Driscoll & Morris, 2001; Scott et al., 2003), also, Acquier et al. (2008) contend that leaders should adapt to stakeholders' needs and priorities to realize effective decision-making amid crisis. As for resources including existing skills, Grant (2003), Lockwood (2005), Smith (2012), Gibbons (2020), and Donato (2022) stress that "resources and skills are the only components that are stable compared to the uncertain context, environment, and type of crisis", therefore an institution uses these factors as inputs to draft policies and regulations. Consequently, if there are weaknesses in resources their impact on dealing with crises may lead to more stress and burnout for human resources, leaders will fall into more uncertainty, and the overall hospital stance amid crisis is not a happy ending. Finally, the last organizational contextual factor, having a contingency plan in place, is shown to have been managed by hospitals on the average well. Results show that Lebanese hospitals have created, developed, and reviewed their contingency plans but it seems not continuously, therefore, scoring an average grade or neutral. Along such a reality, Drennan and McConnell (2007) and Eriksson and McConnell (2011) assert that leaders' success in managing a crisis properly and efficiently depends on how well the contingency plan is prepared and organized.

Table 7. Effective Crisis Management Leadership

Statements: Effective crisis management leader is able	**A**	**N**	**D**	**Mean**	**Std. Dev.**
to facilitate crisis management functions (evacuation, warnings, communication plan, contingency plan)	57	6	37	2.81	.999
to promote an organizational culture of innovation and creativity by engaging their followers	39	11	50	3.11	1.001
to include needed emerging resources (physical & human) in the implementation of the crisis management plan.	42	17	41	3.01	.977
to identify adequate information processes in terms of communication tools and communication materials	57	8	35	2.79	.985
to engage different stakeholders in the crisis management plan.	47	16	37	2.92	.979
to overcome the operational disruption caused by the crisis.	52	12	36	2.86	.993
Overall Average				**2.92**	

Respondents were asked to assess the effectiveness of their leaders' crisis management practices and came to conclude that their leadership is on average effective, with an opportunity to learn from their mistakes and enrich their learning curves. Fener and Çevik (2015) assert "Leadership comes the first among the achievement criteria in crisis management" (p. 698). Respondents though have shown that their leaders can identify adequate information processes, can facilitate crisis management functions, and engage their stakeholders in their plans. However, the respondents also have shown that their leaders did less effective work in assuring emergency resources and promoting a more creative culture against what Mitroff (2005) recommends that crisis necessitates innovative leadership.

4.3 Internal Reliability

The Cronbach Alpha recorded 0.988 (with a number of items = 56), which means, according to the rule of thumb, such value is considered excellent, statistically significant, and reliable (Burns and Burns, 2008, p. 481). Moreover, Cronbach's Alpha, if item deleted, when performing an item-total statistics assessment, varies between 0.987 and 0.988 (see Table 8). In addition, when performing internal reliability per questionnaire section (sections 2 to 4) the minimum reliability recorded is 0.916 up to the maximum value of 0.980. While the range, if Item is deleted, is 0.905 to 0.980. Moreover, Chehimi et al. (2019) contend that the aforementioned indicates "an excellent strength of association and supports the suitability and selection of the questions for the questionnaire purpose" (p. 1915).

Table 8. Reliability Analysis

Reliability per Section	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Cronbach's Alpha if Item Deleted Range	N of Items
Section 2. Leaders' traits and skills in managing crises effectively	0.916	0.920	0.905 – 0.946	15
[1] Crisis characteristics	0.925	0.926	0.909 – 0.925	8
[2] The followers' skills	0.951	0.950	0.944 – 0.950	14
[3] Organizational Contextual Factors	0.961	0.961	0.956 – 0.960	13
Section 3. Overall Organizational Contextual Factors [1, 2, 3]	0.980	0.980	0.979 – 0.980	35
Section 4. Leadership Crisis Management Effectiveness	0.954	0.954	0.942 – 0.953	6
All Items	0.988	0.988	0.987 – 0.988	56
Section 1 consists of demographic factors.				

4.4 Factor Analysis

Initial testing was performed with Principal Component Analysis (PCA) with subsequent rotation. Results led to eight (8) factors out of the 60 questionnaire constructs (removing 6 demographic variables) with satisfactory results and total variance of 78.908%.

4.4.1 Principal Component Analysis with Promax Rotation

The correlation matrix was inspected concluding that the matrix is suitable for factoring. The approximate Chi-square for the Bartlett test of Sphericity is significant ($\chi 2 = 14922.587$, df = 1378, Sig. =0.000) and the Kaiser-Meyer-Olkin measure of sampling adequacy is equal to 0.865 considered excellent. Therefore, "the variables are correlated with each other, and the grouping of variables is possible" (Burns & Burns, 2008; Coakes, 2013). Moreover, upon assessing the resultant anti-image correlation matrix, it reveals that "all measures of sampling adequacy (MSA) are greater than the acceptable level of 0.5" (Coakes, 2013, p. 133) excluding Gender.

Factor analysis communalities ranged from 0.626 to 0.889, whereby according to Burns and Burns (2008) "Communalities show how much of the variances in each variable have been accounted for the extracted factors" (p. 455). Therefore, referring to Table 9, the statement "hospital type" accounted for 62.6% of the variance. While the statement "leaders have cognitive flexibility" accounted for 88.9% of the variance, among other examples. Also, Table 8 displays the total variance explained and the cumulative percentages. While Figure 2 shows the eigenvalue analysis. It shows that eight factors are extracted with eigenvalues greater than 1. Extracting the eight factors means that 78.908% of the variance would be explained. Also, Figure 2 illustrates the Scree plot with eight factors and suggests there is one predominant factor accompanying seven other factors whose eigenvalues are larger than 1, so the eight factors are retained, and this is consistent with Kaiser's Rule (Burns & Burns, 2008, p. 456).

Table 9. Total Variance Explained

Total Variance Explained							
Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**
1	29.537	55.731	55.731	29.537	55.731	55.731	21.360
2	3.715	7.009	62.739	3.715	7.009	62.739	17.618
3	1.977	3.730	66.469	1.977	3.730	66.469	16.540
4	1.691	3.190	69.659	1.691	3.190	69.659	19.005
5	1.442	2.720	72.379	1.442	2.720	72.379	18.912
6	1.286	2.427	74.806	1.286	2.427	74.806	21.242
7	1.101	2.078	76.884	1.101	2.078	76.884	3.853
8	1.073	2.024	78.908	1.073	2.024	78.908	1.958

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

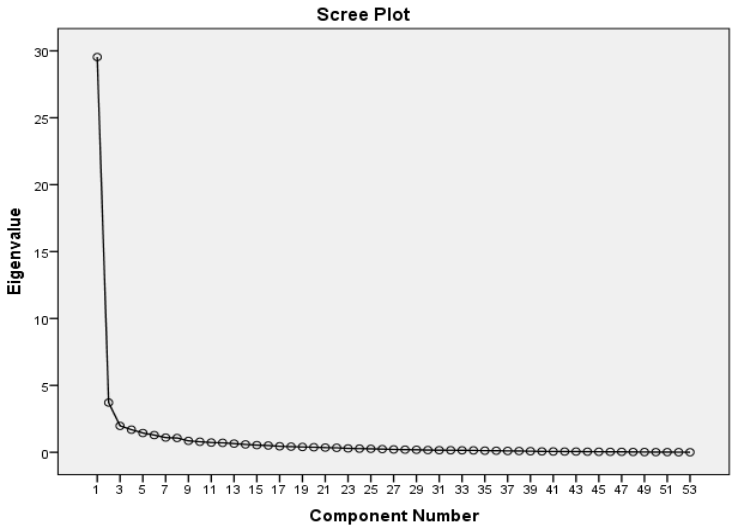

Figure 2. Eigenvalues Screen Plot

Hence, based on the above-mentioned statistics, one can proceed to assess more data to be able to explore variables' relationships. Therefore, rotation is needed. According to Hejase et al. (2014), "rotation reduces the number of complex variables and improves interpretation" (p. 1573). The researchers carried out the first rotation with Varimax and then used Direct Oblimin however data within the Pattern Matrix were still showing multiple weights among the factors and including negative sign weights. Therefore, one more rotation using Promax with Kaiser Normalization was performed leading to satisfactory findings with well-defined weights for the elements within the eight factors. Nevertheless, along such exploration, seven more elements were removed since these were not classified in either of the factors.

"*Hospitals are prepared to deal with a political crisis*

Skilled staff are part of the crisis response

Hospitals developed systems in terms of managing crises

Hospitals integrate the crisis management plan into strategies

Hospitals' contingency plans are created

Leaders facilitate crisis management functions

Leaders include needed emerging resources"

Table 10 shows the distribution of the resultant valid elements within the eight factors after Promax rotation is performed.

Table 10. Interpretation of Factors Components

Factors	Elements	Weights	% of Variance
1	Leaders choose adequate communication channels	0.864	**55.731**
(11 elements)	Leaders communicate regularly with stakeholders	0.728	
	Information is available about a crisis	0.602	
	Information is collected from different sources	0.428	
	Information is shared from managers to personnel	0.683	
	Staff is selected upon educational background	0.801	
	Staff is informed about what is happening	0.610	
	Hospitals document employee-leader relations in culture	0.580	
	Hospitals develop long-term relationships with stakeholders	0.812	
	Hospitals constantly exchanged information with stakeholders	0.844	
	Hospitals are open to stakeholder's involvement	0.813	
2	Leaders implement idea generation activities	0.707	**7.009**
(8 elements)	Leaders develop a creative environment	0.652	
	Leaders develop an explicit communication plan	0.540	
	Leaders identify any potential risk	0.851	
	Leaders identify the organization's weaknesses	0.869	
	Leaders can take risks	0.894	
	Leaders promote the organization's culture	0.544	
	Hospitals are prepared to deal with disasters	0.534	
3	Staff selects the needed training	0.465	**3.730**
(7 elements)	Training in crisis training is updated	0.474	
	Staff participates in solving problems	0.414	
	Staff engagement during a crisis is appreciated	0.564	
	Necessary human resources are available	0.582	
	Necessary in-kind (Equip. & Materials) resources are available	0.809	
	Necessary financial resources are available	0.835	
4	Hospital type	0.982	**3.190**
(8 elements)	Hospitals have a Crisis Management Plan	1.005	
	Hospitals are prepared to deal with a personnel crisis	0.439	
	Hospitals are prepared to deal with quality assurance crisis	0.649	
	Staff are trained in crisis management	0.488	
	The staff works as part of a multidisciplinary team	0.498	
	The staff understands the role and responsibility of a team	0.630	
	Staff supports each other to overcome obstacles	0.461	

5	Leaders develop clear decisions	0.612	**2.720**
(7 elements)	Leaders make decisions independently	0.582	
	Leaders make decisions with high self-confidence	0.463	
	Leaders identify when flexibility is a valuable resource	0.717	
	Leaders have Cognitive Flexibility	0.867	
	Leaders have Behavioral Flexibility	0.760	
	Leaders adapt to crises needs	0.411	
6	Hospital is prepared to deal with public-to-public relations	0.513	**2.427**
(10 elements)	Staff are selected depending on experience	0.584	
	Staff feel belongingness in the hospital	0.750	
	Staff willing to support hospital	0.579	
	Staff participates in solving problems	0.459	
	Hospitals' contingency plans based on comprehensive data	0.611	
	Hospitals' contingency plans are reviewed regularly	0.577	
	Leaders identify adequate information process	0.540	
	Leaders engage different stakeholders in the crisis management	0.465	
	plan	0.534	
	Leaders overcome the operational disruption during the crisis		
7 (1 element)	Income Status	1.054	**2.078**
8 (1 element)	Hospital Location	1.119	**2.024**

4.4.2 Interpretation of Factors

Table 9 shows the final step of the Factor analysis process. After rotating the variables, there are eight factors determined. Factor 1 (loaded with 11 items), and is labeled "Leaders/Organizational Communication," accounting for 55.731% of the total variance (see Tables 9 and 10). Factor 2 (loaded on 8 items) labeled "Leader's Proactivity" accounts for 7.009% of the total variance. The third factor (loaded with 7 items) was labeled "Human Resources," accounting for 3.730% of the total variance. The fourth factor (loaded with 8 items), labeled "Crises Preparedness" accounts for 3.190% of the total variance. The fifth factor (loaded with 7 items), labeled "Leaders' Decision-Making" accounts for 2.720% of the total variance. The sixth factor (loaded with 10 items), labeled "Culture & Engagement" accounts for 2.427% of the total variance. The seventh factor (loaded with 1 item), labeled "Income Status" accounts for 2.078% of the total variance. The eighth factor (loaded with 1 item), labeled "Hospital Location" accounts for 2.024% of the total variance.

Table 10 allows the generation of loads of the eight main variables of the research. Therefore, utilizing the Transform function in SPSS, it is possible to create weighted variables using factor analysis results, the following research variables are generated as shown in Table 11.

Table 11. Transformation of Variables to the Eight Research Variables

COMPUTE
ORGCOMM=SUM(LeaderChseAdeqComChan*0.864,LeaderComRegwStakeholders*0.728,InfoAvailCrisSitn*.602,InfoColDiffSources*0.428,InfoShrdManagPers*0.683,StaffSeldEducation*0.801,StaffInformWhtHap*0.610,HospDocEemplLdrRltnCulture*0.58,HospDevlplLngTrmReltnWStkhld*0.812,HospCstExchgeInfoWStkhld*0.844,HospOpnStkhdInvolv*0.813). EXECUTE.
COMPUTE
LeaderProactivity=SUM(LeadeImplIdeaGenAct*0.707,LeaderDevCreatEnv*0.652,
LeaderDevExplComPlan*0.54,LeaderIdentPotRisk*0.851,LeaderIdentOrganWeak*0.869,LeaderTakeRisks*0.894,
LeadrPromOrgCulture*0.544,HospPrepDealwDis*0.534). EXECUTE.
COMPUTE
HumanResources=SUM(StaffSelectNdTraining*0.465,CrisisMgtTtrainUpdat*0.474,
StaffParticSolvProb*0.414,StaffEngageDurCrisApptd*0.564,NecHRAvailable*0.582,NecInkndResAvlble*0.809,NecFinResAvlble*0.835). EXECUTE.
COMPUTE
CrisisPreparedness=SUM(Hospital.type*0.982,HospCrisisMgtPlan*1.005,HospPrepDealwPersCris*0.439,HospPrepDealwQCris*0.649,StaffTrainACrisMgt*0.488,StaffWorkMultidiscTeam*0.498,StaffUndersdRoleRespTeam*0.63,StaffSupEchOtrOvercmObcls*0.461). EXECUTE.
COMPUTE
DecisionMakingLeaders=SUM(LeaderDevClearDec*0.612,LeaderDecIndep*0.582,LeaderDecHSelfConf*0.463,
LeaderIdFflexValRes*0.717,LeaderCognFlex*0.867,LeaderBehFlex*0.76,LeaderAdaptCrisSitNeeds*0.411).
EXECUTE.
COMPUTE
CultureandEngagement=SUM(HospPrepDealwPubPubRelns*0.513,StaffSelctdonExp*0.584,
StaffBelongHosp*0.75,StaffWillSupHosp*0.579,StaffParticSolvProb*0.459,HospContPlnsComprData*0.611,HospContPlnsRevReg*0.577,LeadrIdenfyAdeqInfoPrcs*0.54,LeadeEngageDifStkhldCrisMgtPln*0.465,LeadrOvercmOperDisrptnDCris*0.534). EXECUTE.
COMPUTE
IncomeStatus=SUM(Income.Status*1.054). EXECUTE
COMPUTE
HospitalLocation=SUM(Hospital.Location*1.119). EXECUTE

Table 11, as explained earlier, records the transformation of collected data into new variables based on factor analysis. Consequently, a new modified conceptual framework is proposed depicted in Figure 4. The same variables proposed earlier in Figure 1 are shown in addition to demographic variables that may mediate the relationship between the 'leaders' traits and skills' variable and the 'leaders' crisis management effectiveness' variable represented by the 'leaders' decision-making' variable.

4.5 Suggested Modified Conceptual Framework

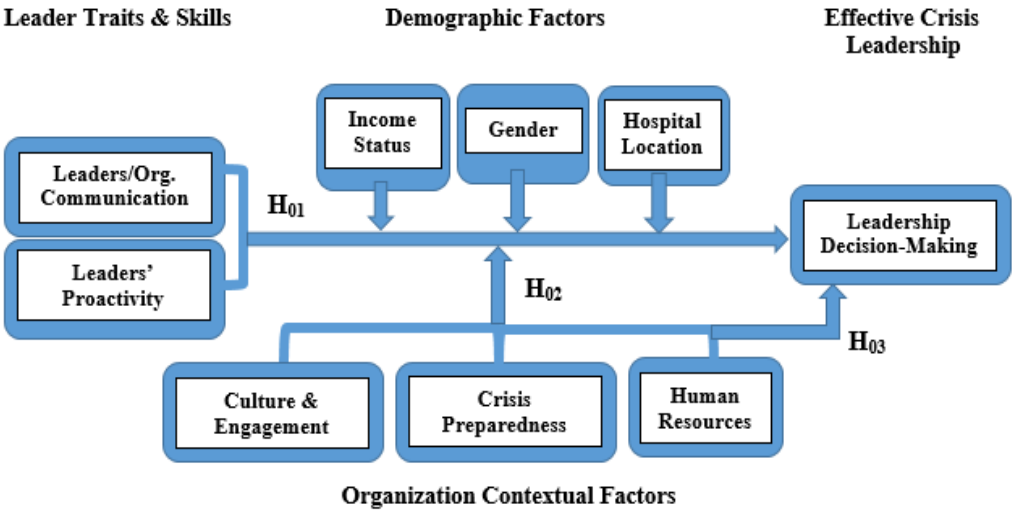

Figure 3. Proposed Modified Conceptual Framework

4.6 Regression Analysis

The eight factors illustrated in Figure 3 were tested using regression analysis. The dependent variable is the "Leaders' decision-making" and the remaining seven factors (leaders' proactivity, leaders/organ. communication, culture and engagement, crisis preparedness, human resources, hospital location, gender, and income status) as the independent variables. Results showed that the explanatory variables (independent variables) correlate with the dependent variable with Pearson's R=.882, the coefficient of determination (R^2) according to Field (2005), being "the measure of how much of the variability in the outcome is accounted for by the variability of the predictors" (p. 154) was 0.778, and Adj R^2 was 0.773; accordingly, the five statistically significant independent variables accounted for 77.3% of the variation in 'leaders' decision-making'. This reduction according to Hejase et al. (2014) means that if "the model was derived from the population rather than a sample, it would have accounted for approximately 0.5% less variance in the outcome" (p. 1578). Also, the Durbin-Watson statistic is 2.053 indicating no autocorrelation exists. In addition, the analysis of variance (ANOVA) shows F = 136.148, p=.000, which means the model has significantly improved its ability to predict the outcome variable. Therefore, according to the above results, the proposed model is adequate. Moreover, the Variance Inflation Factors (VIFs) from Table 13 show that there is no multicollinearity (VIFs < 5), and all the explanatory variables are appropriate to form a causal relationship using regression. Consequently, the results applied to the proposed hypotheses for this study as defined lead to rejecting their null hypotheses as shown in Table 15.

Table 12. Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
5	.882[e]	.778	.773	1.91253	.005	4.412	1	194	.037	2.053

e. Predictors: (Constant), Culture and Engagement, Leader Proactivity, ORGCOMM, Hospital Location, Sex

f. Dependent Variable: Decision Making Leaders

Table 13. Regression Model: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
5	Regression	2490.004	5	498.001	136.148	.000[f]
	Residual	709.610	194	3.658		
	Total	3199.614	199			

a. Dependent Variable: Decision Making Leaders

f. Predictors: (Constant), Culture and Engagement, Leader Proactivity, ORGCOMM, Hospital Location, Sex

Table 14. Regression Model: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.637	.808		2.027	.044		
Culture and Engagement	.303	.059	.372	5.151	.000	.219	4.569
Leader Proactivity	.256	.041	.313	6.217	.000	.450	2.223
ORGCOMM	.163	.038	.259	4.341	.000	.321	3.111
Hospital Location	-.188	.060	-.107	-3.104	.002	.960	1.042
Sex	-.594	.283	-.071	-2.100	.037	.993	1.007

a. Dependent Variable: Decision Making Leaders

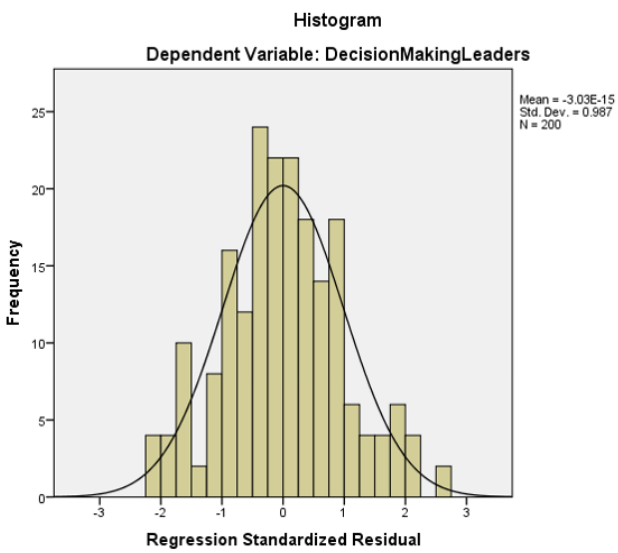

Figure 4. Histogram

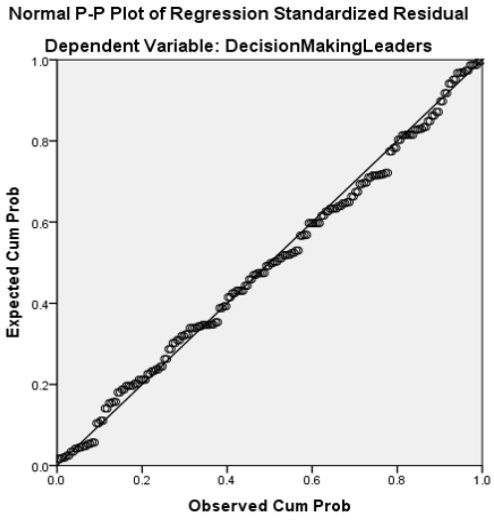

Figure 5. Normal P-P Plot

Table 15. Findings by Testing the Proposed Research Hypotheses

Model	Hypothesis	Beta Standardized	Sig.	Test Outcome
	H_{01}: There is no relationship between 'leader proactivity' and 'leaders' decision-making'	0.313	.000	Reject
	H_{01}: There is no relationship between leader/org. communications' and effective crisis leadership.	0.259	.000	Reject
1	H_{01}: There is no relationship between leader traits and skills and 'leadership crisis management effectiveness'			Reject
	H_{02}: There is no relationship between 'culture & engagement' and 'leaders' decision-making'	0.372	.000	Reject
2	H_{02}: 'Organizational contextual factors do not affect the relationship between leader traits and skills and 'leadership crisis management effectiveness'.			Reject
4	H_{04}: There is no relationship between 'Gender' and 'Leaders' Decision-Making.'	-0.071	0.037	Reject
5	H_{05}: There is no relationship between 'Hospital Location' and 'Leaders' Decision-Making.'	-0.107	0.002	Reject

Thus, besides the findings that there are statistically significant relationships between 'leaders' decision-making' which usually leads to effectiveness in goal achievement in the context of crisis management herein, 'leaders' traits & skills' that is represented by two variables namely 'leaders'

proactivity' and 'leaders/organization communication,' and 'organizational contextual factors' represented here by 'culture & engagement' only, two of the demographic variables were statistically significant, i.e., respondents' gender and hospital location. The resultant regression model (standardized form) is

Leaders' Decision-Making = 0.313*LeadersProactivity + 0.372*CultureandEngagement + 0.259*Leaders/OrgCommunication - 0.107*HospitalLocation – 0.071*Gender(Sex).

However, further analysis was performed to test hypothesis three, i.e., testing if the variable 'organizational contextual factors' represented by three variables "human resources, crisis preparedness, and culture & engagement" has a direct relationship with the variable 'leaders crisis management effectiveness' represented by the 'leaders' decision-making' variable. Using regression analysis, the results were as follows:

Results of the new regression model are excellent to fit the data on hand due to the strength of the Coefficient of Correlation (R = 0.852) and the Coefficient of Determination (Adj. R^2 = 0.722), respectively; however, the model is also appropriate qualitatively with a significant probability of 0.000 ($p < \alpha = 0.05$). Also, the Durbin-Watson statistic is 1.990 or about 2 indicating no autocorrelation exists. In addition, ANOVA testing with F-value = 172.979 (Sig P. = 0.000 < α = 5%) assures the resultant regression equation predicts better than would be expected by chance. Furthermore, all the standardized Betas are statistically significant (Sig. = 0.000, 0.000, and 0.013 all less than the standard error of 1% and 5%, respectively). Moreover, the Variance Inflation Factors (VIFs) show that there is no multicollinearity (VIFs < 5), and all the explanatory variables are appropriate to form a causal relationship using regression. This second model shows that 72.2% of the variation in the dependent variable is explained by the explanatory variables. The explanatory variables support that the overall variable 'organizational contextual factors' does affect "leadership crisis management effectiveness.' Consequently, the null hypothesis H_{03} is rejected and the alternative hypothesis is accepted (Table 16) confirming the regression model (in standardized form) represented as follows:

Leaders' Decision-Making = 0.489*CultureandEngagement + 0.262*CrisisPreparedness + 0.158*HumanResources

Table 16. Findings by Testing the Third Proposed Research Hypothesis

Model	Hypothesis	Beta Standardized	Sig.	Test Outcome
	H_{031}: There is no relationship between 'Culture & Engagement' and 'leaders' decision-making'	.489	.000	Reject
	H_{032}: There is no relationship between 'Crisis Preparedness' and 'leaders' decision-making'.	.262	.000	Reject
	H_{033}: There is no relationship between 'Human Resources' and 'leaders' decision-making'.	.158	.013	Reject
3	H_{03}: There is no relationship between 'organizational contextual factors' and 'leaders crisis management effectiveness'			Reject

Based on the aforementioned analyses, the final tested model depicted in Figure 6 is as follows:

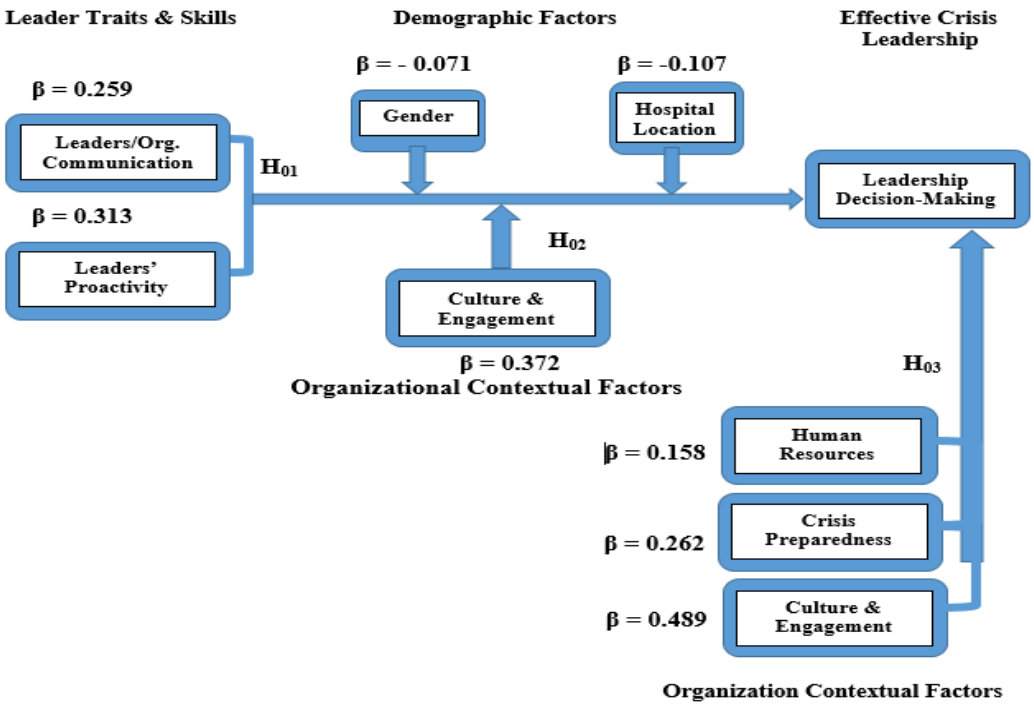

Figure 6. The Resultant Research Model

The findings of this research did not fully support that a full range of leaders' traits and skills complemented by various organizational contextual factors impact the effectiveness of the Lebanese leadership's crisis management effectiveness as discussed by many researchers (Grant, 2003; Lockwood, 2005; Smith, 2012; Gibbons, 2020; Sriharan, Hertelendy, Banaszak-Holl, et al., 2021;

Donato, 2022; Jacobsson et al., 2022). The final model shows that the specific trait and skills manifested by the leaders' proactivity and the established leaders-organization communication mediated by organizational culture and stakeholders' engagement as well as employees' sex and the hospital location impact the leaders' decision-making in the context of crises management. The aforementioned represents the reality of the situation in Lebanese hospitals validated by the attitudinal results of this research which have shown that most of the leadership skills and how respondents (nurses and medical staff) look at the hospital contextual factors, mostly do not agree on most of the determinants; reflects the complexity of how the human factor deals with crises with limited resources even if contingency plans have been developed. Such fact is congruent with Runciman et al. (2006) who assert that staff nurses and physicians continue to show in many cases that they are not well equipped to respond and meet the expectations and any failure in responding might have disastrous outcomes. Moreover, Sriharan, Hertelendy, Banaszak-Holl, et al. (2021) and Jacobsson et al. (2022) warn that amid high pressures and burdens on healthcare services, leadership, human resources, and organizational resources among others are particularly important to adapt to the crisis.

Furthermore, the resultant model shows a direct and statistically significant relationship between the explanatory variable 'organizational contextual factors' including human resources, crisis preparedness, and culture & engagement has a direct relationship with the variable 'leaders crisis management effectiveness' represented by the 'leaders' decision-making' variable. This relationship stimulates the necessary conditions to effectively manage crises. Many researchers support the above and have emphasized the role of human resources as the main stakeholders (McCullough, 2014; D'Auria, & Smet, 2020; Gibbons, 2020), crises preparedness in terms of having contingency plans ready (Eriksson, & McConnell, 2011), culture and engagement whereby Reeve et al. (2004) posit engagement as the "behavioral intensity and emotional quality of a person's active involvement during a task" (p. 143). Also, Fredricks et al. (2004) conclude that engagement is a "meta construct that encompasses among others 'behavioral' dimensions like participation, positive conduct, and effort" (p. 60). Therefore, this side of the model fits with the findings by Chehimi et al. (2019, p. 1911), Golob, Lah, & Jancic (2008), and Hejase, Hashem, Al Dirani, Haddad, & Atwi (2017) that sharing organizational values with the stakeholders provides transparency and strategic intention leading to cognitive thinking and leading to a cycle of knowledge sharing, positive psychology, and more fruitful training. The outcome is a boost in productivity, service quality, and effectiveness. In addition, one may infer that having a clear view of the status-quo of the influential factors boosts the learning curve of the leadership, the organization, and the stakeholders.

5. Conclusion

This research tested three main hypotheses. Results lead to accepting all of the alternative hypotheses confirming statistically significant relationships. Results show there are two statistically significant relationships between two sets of variables. The first set of variables includes specific leaders' traits and

skills (leaders' proactivity and leaders/organization communication) versus leaders' decision-making in the context of crisis management effectiveness with the mediation of one organizational contextual factor or culture & engagement, in addition to the gender, and hospital location. The second set of variables includes three factors of the organizational contextual factors versus leaders' decision-making in the context of crisis management effectiveness.

The results stress the importance of having a well-prepared crisis leader supported by an organization characterized by a shared culture, good communication channels, defined resources, and active engagement of stakeholders.

From the results of the research survey, it is found from the attitudinal analysis based on 5-level Likert scale statements that effective crisis management leadership relates on average to the following:

- Leaders/organization communication which represents a weighted average of 11 statements:
- *Leaders choose adequate communication channels*
- *Leaders communicate regularly with stakeholders*
- *Information is available about a crisis*
- *Information is collected from different sources*
- *Information is shared from managers to personnel*
- *Staff is selected upon educational background*
- *Staff is informed about what is happening*
- *Hospitals document employee-leader relations in culture*
- *Hospitals develop long-term relationships with stakeholders*
- *Hospitals constantly exchanged information with stakeholders*
- *Hospitals are open to stakeholder's involvement*
- Leaders' Proactivity which represents a weighted average of 8 statements:
- *Leaders implement idea generation activities*
- *Leaders develop a creative environment*
- *Leaders develop an explicit communication plan*
- *Leaders identify any potential risk*
- *Leaders identify the organization's weaknesses*
- *Leaders can take risks*
- *Leaders promote the organization's culture*
- *Hospitals are prepared to deal with disasters*
- Organizational culture and stakeholder engagement which represents a weighted average of 10 statements:
- *Hospital is prepared to deal with public-to-public relations*
- *Staff are selected depending on experience*
- *Staff feel belongingness in the hospital*
- *Staff willing to support hospital*

- *Staff participates in solving problems*
- *Hospitals' contingency plans based on comprehensive data*
- *Hospitals' contingency plans are reviewed regularly*
- *Leaders identify adequate information process*
- *Leaders engage different stakeholders in the crisis management plan*
- *Leaders overcome the operational disruption during the crisis*
- Participants' gender
- Hospital location

The above results are confirmed by many researchers. The leaders' proactivity and communication patterns are addressed clearly by researchers whereby "risk assessor and risk taker" confirmed by Raza et al. (2020), Seeger et al. (2003), and Fener and Çevik (2015); "adaptability & creativity" recommended by Mitroff (2005) and Fener and Çevik (2015); "flexibility" recommended by Zaccaro et al. (2012); "Decisiveness" asserted by Pfeifer (2013) and Susman (2020), and "communication skills" emphasized by Seeger et al. (2003). Moreover, culture and engagement were stressed and addressed by Driscoll and Morris (2001) in their statement "culture plays a vital role," others emphasized "teamwork, cooperation, and coordination to save patients' life and deal with stress" (Shortell, Jones, Rademaker et al., 2000), while Scott et al. (2003), Veil (2011), and Broekema, van Kleef, and Steen (2017) recommended that "the relationship between institutional culture and leaders' ability must be clear and decisive to win or fail in managing a crisis." Finally, the impact of gender is clear because the majority of health care primary personnel are females (supervisory level and unit heads) who endure stress and pressure more than males (Zenger & Folkman, 2020) and engage "in communal behaviors such as honesty, support, care, compassion, sensitivity, and sympathy during the COVID-19 and other crises (Eichenauer, Ryan, & Alanis, 2021). As for the hospital location, there is a high concentration of larger hospitals (in bed count and specialized personnel) in the capital Beirut and surrounding main regions of Mount Lebanon, a fact that shows a negative sign to the relationship and justifies its impact.

This research had some limitations. Respondents were too busy to be involved therefore, needing strict follow-up and personal interventions. Most possibly due to the strict regulations to deter the distribution of surveys or calling for interviews directed towards health care personnel as required for this work. Also, the socio-economic crisis conditions in Lebanon made it hard to go in person to different hospitals in different geographical zones and distribute the survey by paper. Moreover, some hospitals required permission to distribute the survey in it. However, procedures take several weeks to come to a response. Nevertheless, the sample is representative and was adequate to explore the subject in question. Generalizations are to be considered with caution due to the different mix of healthcare institutions' cultures and capabilities. Therefore, the need for further research is justified and involves higher numbers of medical personnel besides the nursing personnel.

6. Recommendations

Based on the findings of the study, the following recommendations address the employers, especially those at the Lebanese Hospitals:

1. Giving all employees continuous training – especially those who have direct contact with patients.
2. Needless to say, nurses, head nurses, health care technical personnel, and emergency staff are to be informed, empowered, and supported during the crisis process with all needed resources to achieve the desired preparedness.
3. Providing different types of rewards and compensation to match employees' efforts and their hard assignments during a crisis.
4. Capitalizing on the congruency of purpose between staff, leadership, and hospitals' stakeholders (in the public and the private sectors) to foster a culture of knowledge acquisition and sharing based on the employees' positivity and their dedication to continuous improvement.
5. The leadership needs to internalize further the hospital's culture, mission, and values to foster harmony, flexible communication, and engagement between staff and the hospital's objectives.
6. The leadership needs to tie the continuous crisis process training to the hospital's progress and strategy with transparency and respect.

7. Future Research

This study is an eye-opener to the hospital's leadership first, and secondly to researchers to close gaps that tie sound crises management best practices to staff dedication, motivation, and retention. In such a process strengthening staff-leadership interactivity, respecting and rewarding health care personnel's initiatives, and building upon staff loyalty are factors that internalize hospital efforts to make sure their staff are engaged and kept ready to work under crises like the pandemic. As for future work, expanding more in this field, especially the components of the engagement dimension/factor. Future studies and research can be made on the effect of crises management on males' engagement or females' engagement, focusing on the effect of the preparedness of the supervisory level engagement, or the middle management engagement, to find whether there is a relationship between them if taking each position alone.

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