Crisis Leadership Theory Development:
Identifying Gaps and Direction through Theory-Building Method

Pakawat Piriyapol*
Ph.D. candidate, Human Resource and Organization Development, National Institute of Development Administration, Thailand
Email: pakawat.piriyapol@gmail.com
*Corresponding Author

Chiraprapha Tan Akaraborwon, Ph.D.
Professor, Graduate School of Human Resource Development, National Institute of Development Administration, Thailand

Abstract

In this turbulent era, crisis leadership is needed for leading and handling situations in organizations, systems, and societies. This position article highlighted the lack of Crisis Leadership Theory, the current situation, issues, and gaps in the development of crisis leadership theory. Even though there are various crisis leadership concepts now, it is still insufficient for social sciences scholars and professionals to get a deep understanding of this phenomenon if this practical concept is not in the form of a formal theory. Existing crisis leadership concepts were proposed to be key managerial practices for those who are managers or positional leaders in dealing with crises. However, they did not provide rationales and mechanisms of individuals who become and perform crisis leadership. Therefore, the authors reviewed and explained the meanings and components of a theory and what should be a theory structure regarding leadership. Then, the authors discussed missing parts of the crisis leadership phenomenon which are part of crisis: *what are the impacts and effects on individuals from a crisis? How do they deal with those effects?* And the part of leadership: *how come individuals decide to step out to take a lead? What styles they perform in leading others in crisis?* Finally, the gaps to be fulfilled in further theory development were presented and guided, through each step in the framework of Dubin's theory-building. This is a fitting example that demonstrates the first part of Theory Development (conceptualizing/modeling) and the second in Research Operation.

Keywords: Crisis Leadership, Theory Development, Leadership

1. Introduction

In this era of turbulent times, crisis management and leadership are crucial for organizations such as facing technology disruptions (Christensen, 1997) and VUCA world (Volatility, Uncertainty, Complexity, and Ambiguity environment) (Breen, 2021; Khan et al., 2017) or in some domains so-called high-reliability systems that always operate in challenging environments facing extreme risks under trying conditions (Sutcliffe, 2011). While existing crisis leadership theories focus on managerial practices (Boin et al., 2013; Prewitt et al., 2011; Stern, 2013), they lack explanations for why and how crises leadership occur and how individuals respond to their impacts of crisis. This article aims to review the concept of crisis leadership, identify these gaps, and provide insights to guide future research. Addressing this knowledge gap (Miles, 2013) requires the development of a formal theory explaining why and how crisis leadership occurs (Bacharach, 1989). Such theory development is vital for scholars and professionals in applied sciences focusing on crisis leadership, including management, organization, public administration, or human resource development (HRD) (Deverell, 2012). A robust theory enhances leadership development for crises by driving the cycle of research, practice, and development (Swanson, 1995). In social sciences like HRD, theory development, which emphasizes disciplined imagination or theorizing, is crucial for advancing the field's understanding (Swanson, 1997). As Lewin (1951) famously stated, "there is nothing so practical as a good theory," suggesting that a well-developed theory of crisis leadership would offer profound insights into its meaning and operational mechanisms during crises.

Therefore, the guiding questions for this position article are: What is the current state of crisis leadership research? What are its knowledge gaps? What framework can guide future theory development for both qualitative and quantitative approaches based on existing literature? The methodology of this article follows Chermack's (2001, 2002, 2003) work on developing the concept of scenario planning into a theory using Dubin's (1978) theory-building method to highlight theoretical issues.

1.1 Meanings of Crisis

The word "crisis" comes from the Greek "Krisis," which signifies a decisive moment in history where human choices can change the future (O'Connor, 1981; Shrivastava, 1993; Starn, 1971). In crisis studies, the concept has broadened from its origins in Marxist economic theory to include disruptions impacting social systems and organizations. While definitions vary, they typically highlight unexpected, rapid, and stressful events that threaten core values or functioning, such as industrial accidents and situations in high reliability organizations (HRO) (Pauchant & Mitroff, 1992; Rosenthal et al., 1989; Shrivastava et al., 1988; Weick & Sutcliffe, 2011).

A crisis is described as a "disruptive situation characterized by urgency of decision, large impacts, and system restructuring" (Shrivastava, 1993, p. 25) and as "a situation faced by an individual, group or organization which they are unable to cope with by the use of normal routine procedure and in which stress is created by sudden change" (Simon, 1993, p. 402). Thus, crises are viewed as infrequent yet highly impactful events that threaten organizational sustainability

(Weick, 1988). Likewise, crises are emotionally intense, necessitating strong leadership and effective emotion management (James et al., 2011; Wu et al., 2021). Al-Dahash et al. (2016) distinguish between crisis, emergency, and disaster, noting shared characteristics but also differences. While the terms crisis and disaster are often used interchangeably, emergencies do not always involve sudden occurrences. Failure to address crises and emergencies adequately can escalate into disasters.

1.2 Crisis Leadership

Definitions of Crisis Leadership

The authors observed a lack of precise definitions for crisis leadership in the literature, with most sources emphasizing practices rather than explicitly defining the term. However, three statements that shed light on the concept were identified. Christensen (2009) defined crisis leadership as the process of addressing low-probability, high-impact events by influencing others to either timely mitigate or capitalize on the situation, optimizing outcomes. Wu et al. (2021) described crisis leadership as a leadership process that occurs before, during, and after crises. Similarly, Collins et al. (2023) defined crisis leadership as the influencing process between a leader and stakeholders during organizational crises, differentiating it from regular business challenges. This perspective aligns with scholars who see leadership as an influencing process rather than just a position or role. The reviewed literature by the authors is categorized into two areas: relevant leadership theories and concepts for crises, and literature focusing on leaders' roles and practices in crisis management.

Crisis Leadership Research Reviews

The authors reviewed other crisis leadership literature reviews from the past three years (2021-2023), focusing on the latest works. Excluding those specific to domains like nursing (Kim, 2021) and tourism (Durst et al., 2022), they found three relevant papers on crisis leadership in the general academic area by Wu et al. (2021), Collins et al. (2023), and Riggio and Newstead (2023). The findings and gaps identified in these papers align with this article, supporting the identified knowledge gap that necessitates theory-building.

Wu et al. (2021) used bibliometric techniques to analyze the intellectual structure of crisis leadership literature, identifying themes such as leader characteristics and behaviors, the impact of top leaders on firm outcomes, and the significance of emotion management. They recommended theoretical advancements in areas such as emotion management, leadership processes, cross-context studies, and evolutionary perspectives, although their scope also included disaster studies. Secondly, Collins et al. (2023) classified crisis leadership studies by leader level and methodology, highlighting theories like charismatic, transformational, and ethical leadership. They proposed a crisis typology based on Coombs and Holladay (1996), outlining different leadership roles for external and internal crises. They suggested further research on the antecedents of crisis leadership, emotion in crises, and methodological improvements in qualitative studies. Also, Riggio and Newstead (2023) reviewed the evolution of crisis definitions and proposed crisis dynamics, focusing on public attention, moral complexity, and rapid action. They identified key competencies

of crisis-ready leaders and recommended research on differences between crisis management and leadership, as well as cross-cultural perspectives. As a result, these reviews collectively highlight the complexity of crisis leadership and the need for further theoretical development, particularly in understanding emotion management, leadership performance, and management versus leadership in crises.

Relevant Leadership Concepts for Crisis

The first category includes leadership theories and concepts relevant to crisis situations. The literature on crisis leadership incorporates various specific leadership concepts, including authoritative leadership (Gartzia et al., 2012), directive leadership (Pearce et al., 2003), cognitive leadership (Fiedler et al., 1989), adaptive leadership (Nicolaides & McCallum, 2013), agile leadership (Botelho et al., 2017), and resilient leadership (Lombardi et al., 2021). It also includes theories such as transactional leadership, transformational leadership (Bass et al., 2003), situational leadership (Hersey et al., 1979), and servant leadership (Sendjaya & Sarros, 2002). Furthermore, Collins et al. (2023) and Riggio and Newstead (2023) also reference various relevant or adopted theories, aligning with this observation. By synthesizing this literature, the authors identified ten overlapping themes related to leadership characteristics in crises: directive-decisive, conceptual and strategic, visionary and creative, cognitive, perceptive, adaptive, communicative, and delegating with control, motivating, and participatory and empathetic abilities.

Leaders' and Managers' Practices in Crisis

Scholars have generally concentrated on practices to manage crises rather than establishing a formal theory of crisis leadership. Instead of defining crisis leadership as a separate theoretical construct, the literature often addresses crisis management practices relevant to managerial roles (Boin & Hart, 2003). This pragmatic approach tends to neglect core leadership aspects such as influence (Lussier & Achua, 2015; Vroom & Jago, 2007). Although some studies propose frameworks for the phases of crisis leadership and management (Heifetz & Linsky, 2017), they mainly provide guidelines for managerial positions rather than advancing theoretical development (O'Connor et al., 2014). Despite ongoing discussions about the distinction between crisis management and crisis leadership (Collins et al., 2023; Reggio & Newstead, 2023; Wu et al., 2021), most literature focuses on managerial practices related to crisis management and communication (Boin & Hart, 2003). For example, they emphasized tasks, roles, and strategies for managing crises within organizational frameworks (Boin et al., 2013; Boin et al., 2016; Stern, 2013; Prewitt et al., 2011). Some studies examine leadership competencies in crisis contexts (Wisittigars & Siengthai, 2019; Wooten & James, 2008), though they often overlook the crucial leadership trait of influence, except in specific instances like team-building strategies (Prewitt et al., 2011). Notably, Prewitt et al. (2011) included "lead from the front" in their crisis leadership items that can mean the operational level, but they eventually mentioned this as general leadership characteristics such as vision, commitment, and demonstration, without specifying them in the context of a crisis and levels.

The followings are items scholars proposed in crisis leadership concepts; Heifetz and Linsky (2002) – 1) preparation, 2) emergency, and 3) adaptive (Phases); Wooten and James (2008)

– 1) signal detection, 2) preparation & prevention, 3) containment (Damage Control), 4) business recovery, and 5) learning; Prewitt et al. (2011) – 1) continuous planning, 2) focus on the core purpose, 3) lead from the front, 4) mitigate the threat, 5) build a team, 6) tell a story, and 7) profit from the crisis; Jagues (2012) – 1) encourage a proactive crisis culture, 2) properly assess the full range of risks, 3) prioritize and set an example, 4) establish and enforce standards and processes, 5) promote open upwards communication, 6) be ready to deal with the news media, 7) encourage a learning environment and share experience, and 8) build relationships before the crisis; Boin et al. (2013) – 1) early recognition, 2) sense making, 3) making critical decisions, 4) orchestrating vertical/horizontal coordination, 5) coupling and decoupling, 6) meaning making, 7) communication, 8) rendering accountability, 9) learning, and 10) enhancing resilience; Stern (2013) – 1) sense making, 2) decision making, 3) meaning making, 4) terminating, 5) learning, and 6) preparing; and Williams (2017) – 1) pre-adversity organizing, 2) post crisis response, 3) resilience feedback loop, and 4) capabilities for durability.

According to those items proposed on crisis leadership concepts, this article summarized key practices to be 9 items: 1) Strategic Sense making, 2) Critical Decision-Making, 3) Responsive Problem-solving, 4) Anticipatory Damage Control, 5) Centralized-Decentralized Management, 6) Vertical-Horizontal Orchestration, 7) Meaning-Making Communication, 8) Termination and Restoration, 9) Learning and Preparation. Nevertheless, it seems to be managerial practices of leadership in crises that need more understanding of factors and rationales to define the theory.

1.3 Crisis Leadership Theory
What is a Theory?

The authors emphasized the importance of theory from the applied disciplines' perspective such as HRD, highlighting the necessity of developing a theory of crisis leadership to drive further research, practices, and development (Swanson, 1995; Torraco, 1997). Scholars in the field of theory construction have defined the characteristics of a formal theory and what is not a theory (Bacharach, 1989; DiMaggio, 1995; Sutton & Staw, 1995; Torraco, 1997; Weick, 1989, 1995). Without a theory for crisis leadership, there might be a lack of understanding of the underlying rationales, elements, and processes essential for analyzing, designing, and developing interventions (ADDIE) for developing individuals (Grafinger, 1988; Molenda, 2015).

Key scholars in theory construction have provided definitions of a 'theory'. Kerlinger (1977) defined a theory as "a systematic view of phenomena by specifying relations among variables, to explain and predict the phenomena" (p. 5). Bacharach (1989) described a theory as "a statement of relations among concepts with a set of boundary assumptions and constraints." Torraco (1997) explained that "a theory simply explains what a phenomenon is and how it works" (p. 352) and is "a system for explaining a set of phenomena that specifies the key concepts that are operative in the phenomena and the laws that relate the concepts to each other" (p. 114). Abend (2008) elaborated on the various meanings of a theory, stating that "it is a general proposition, or logically-connected system of general propositions, which establishes a relationship between two or more variables" (p. 177) and "a theory is an explanation of a particular social

phenomenon….this explanation should identify a number of 'factors' or 'conditions,' which individually should pass some sort of counterfactual test for causal relevance, and whose interaction effects should be somehow taken into account" (p. 177). By these definitions, a theory of crisis leadership should explain why and how individuals perform and possess qualities of crisis leadership, including providing a vital understanding of the underlying constructs as antecedents, their systematic interrelations, and causalities.

Paradigms and Structure of Leadership Theory on Crisis Leadership

Understanding the phenomenal framework of leadership theories is essential for developing a crisis leadership theory, as it helps to identify boundaries and elemental gaps (Dubin, 1978) to be further addressed, particularly in the aspect of leadership. Lussier and Achua (2015) categorize leadership theories into paradigms, informing research frameworks. Scholars investigate leadership through trait, skills, behavioral, and situational perspectives (Northouse, 2021), drawing on trait, behavior, and contingency theories (Nawaz & Khan, 2016). Lussier and Achua (2015) present four paradigms: trait, behavioral, contingency, and integrative, with the latter being particularly relevant for crisis leadership. The integrative theory recognizes situational and individual influences, highlighting how crisis leaders emerge based on threat perceptions and personal attributes.

Since current research on crisis leadership often focuses on managerial practices, reviewing the meanings and structures of leadership theories is beneficial for identifying knowledge gaps and guiding further theory development. Leadership theories explain how and why certain people become leaders (Naushad, 2021). While competencies such as behavioral indicators, knowledge, skills, and abilities (Boyatzis, 2008; McClelland, 1973) are vital for leadership development, they may not fully capture the nuanced aspects of leadership beyond observable behaviors (Bogo et al., 2006; Bolden & Gosling, 2006). Therefore, leadership traits and attributes are deeply rooted in reasons, personalities, temperaments, motives, and cognitive abilities as Avolio (2007) and Zaccaro et al. (2004) depicted these integrative structures.

Furthermore, Ruderman et al. (2014) emphasized this by proposing the Beyond Competencies Model, which delves deeper into the internal processes underlying leadership behaviors. This model identifies three key elements: circuitry, inner content, and conscious engagement. Circuitry refers to the interconnected neurons within the nervous and brain systems that significantly influence human behaviors and leadership development. Understanding this brain's processing of pleasure and pain is crucial as behaviors are generated based on seeking pleasure and avoiding pain (Hanson, 2016; Medina, 2010). Inner content includes individuals' inner experiences, such as emotions, gut reactions, and inner dialogue, which shape beliefs and emotional reactions, ultimately influencing leadership behavior (Cooney et al., 2010; Nolen-Hoeksema et al., 2008). Conscious engagement allows leaders to observe, modify, and regulate mental processes, enabling mindful responses to challenging situations (Ruderman et al., 2014). Thus, a comprehensive leadership theory should explain the functions of circuitry, inner content, and conscious engagement, which influence observable behaviors.

Investigating the rationales and processes underlying individuals' intuition, deliberation, and interaction assists in comprehending the entire crisis leadership phenomena (Bargh & Chartrand, 1999; Dijksterhuis & Nordgren, 2006; Li et al., 2016; Sloman, 1996). By integrating works from Zaccaro et al. (2004) and Ruderman et al. (2014), an integrative framework for leadership structure and elements can be considered in construct analysis (Holton & Lowe, 2007) of theory-building process. This helps identify the missing constructs of crisis leadership theory, shifting the research focus on crisis leadership to explore neurological, physiological, psychological, and behavioral aspects. These leadership structures and elements can serve as a framework for developing crisis leadership theory (see Table 1).

Table 1 Framework of the Leadership Theory Structure (a case of crisis leadership)

	Model of Leader Attributes and Leader Performance Trait Model (Zaccaro et al., 2004)	Beyond Competencies Model (Ruderman et al., 2014)	*Current position of Crisis Leadership Theory Development*
	Leadership Performance *(Crisis Leadership Performance)*		
Operating Environment	Leadership Criteria - Leader Process - Leader Effectiveness - Leadership Advancement/Promotion	(Competencies) Behaviors ………… Conscious Engagement	***Existing Elements*** *Practices proposed in existing concepts*
	Proximal Attributes - Expertise /Tacit Knowledge - Problem-solving Skills - Social Appraisal Skills Distal Attributes - Cognitive Abilities - Motives Values - Personality	Inner Content Circuitry	***Missing Elements*** *Other elements including internal and external factors explaining effects, controls, rationales, mechanisms, tactics, and enablers.*

Search for Crisis Leadership Theory

This article investigates the terms 'crisis leadership' and 'crisis leadership theory'. According to Google Trends, 'crisis leadership theory' has received significantly less global interest, roughly 14 times less than 'crisis leadership'. When conducting a Google Scholar search without time constraints, a search for "crisis leadership" uncovered numerous references as well, dating back to the 1960s – 1970s, such as Wolfenstein (1967), Wojcik, A. (1969) Clague (1975) discussing political science and international relations, and de Vries (1977) exploring an organizational perspective. Then, literature on crisis leadership had become more focused on the organizational aspect such as in operations and industrial accidents as further reviewed and referenced in this article (e.g. Mitroff, 1987; Shrivastava, 1993).

On the other hand, for "crisis leadership theory", it yielded 72 results on Google Scholar. Nevertheless, a closer examination of the 72 papers mentioning 'crisis leadership theory' revealed

that the term was often used descriptively rather than as a formal theory. For example, Davidoff (2020), Dückers, Yzermans et al. (2017), Gronberg (2017), Gupta & Zhang (2019), and Oubre (2013) used the term to convey a broader understanding of crisis leadership instead of presenting a distinct theoretical framework. Some references to 'crisis leadership theory' in other works pointed to theories of crisis communication or crisis management, not specifically crisis leadership, as noted by authors like Gigliotti (2017), Jin et al. (2017), and Zoogah et al. (2021). Additionally, some authors treated 'crisis leadership' as a field of study (e.g., Bassarab, 2010; Casto, 2014), while others integrated it into their recommendations (e.g., Littlefield & Quenette, 2017; Miraglia, 2013; Randall, 2018). The inclusion of 'crisis leadership theory' in some paper titles also led to inflated search results as others cited them in their references.

Despite an extensive review, no formal theory of crisis leadership was identified, highlighting a significant gap in the literature. This gap is consistent with the observations of Miles (2017) and echoed by Riggio and Newstead (2023), who noted the absence of directly researched theories on crisis leadership while acknowledging the relevance of crisis management and various leadership theories in crisis contexts. As the article mentioned previously, there are two tracks which are *Relevant Leadership Concepts for Crisis (Crisis Leadership 1)* and *Leaders' and Managers' Practices in Crisis (Crisis Leadership 2)*. Consequently, there remains a lack of a well-established formal theory specifically addressing the phenomenon of crisis leadership *(Crisis Leadership Theory)*.

1.4 Crisis Leadership Theory Development: Identifying Missing Phenomena

Influenced by Chermack's serial works (2001, 2002, 2005, 2007) on scenario planning theory development as a key guideline for this direction, the authors aim to follow a similar path for developing a crisis leadership theory. Chermack (2001) identified gaps in scenario planning knowledge, emphasizing the need for measurement and theoretical foundations (p. 29), and noted the absence of a comprehensive theory. Chermack's subsequent reviews, culminating in his 2007 proposal, adhered to Dubin's (1978) theory-building method. This process parallels Lynham's (2002) General Method for Theory-Building Research, which involves conceptualization, operationalization, confirmation/disconfirmation, and application. Similarly, the authors, in focusing on crisis leadership theory development, identify theoretical gaps similar to those Chermack (2001, 2002) observed, situating their work in the conceptualization phase.

Consequently, the authors extended their literature review, building on the knowledge and gaps identified previously. They reexamined the characteristics and meanings of crises, which involve unexpected events, stress, and the inadequacy of normal remedies, necessitating further review of the relevant phenomena affecting individuals. The review also highlighted overlooked aspects such as leadership rationales, mechanisms, and relevant contexts like stress and the impacts of unexpected conditions in crises (Simon, 1993). This perspective lacked exploration of psychological and physical aspects, particularly the impact of emotions on decision-making (Ruderman et al., 2014). Additionally, current concepts primarily focused on managerial activities, neglecting the natural emergence of crisis leadership from employees and team members (Bass &

Bass, 2009). Thus, the differences between leadership and management were reviewed to clarify the meaning of leadership, which should be more prominently reflected and presented in the unique concepts of crisis leadership.

Crisis – First Impact in Crisis Leadership Phenomenon

Hertelendy et al. (2021) provided an example to support this part that researchers-theorists should focus more on this emergence which highly relates to crisis leaders' internal functions. They emphasized the significance of individuals' responses and internally controls and recommended this to be integrated into MBA core programs through crisis leadership development. Although leadership courses are offered in business schools, crisis leadership is frequently neglected, underscoring the necessity for additional competencies to be taught and cultivated. This indicates a gap in the understanding of crisis leadership, necessitating the development of a comprehensive theory.

Crisis Impacts: Surprise, Startle, and Stress

Individuals often experience shock and attempt to escape reality, leading to fear, stress, anxiety, and maladaptive reactions during crises (Makwana, 2019; Simon, 1993). When confronted with unexpected events, psychophysical reactions such as surprise, startle, and startle responses are common in triggering fight or flight responses (Horstmann, 2006; Kalat & Shiota, 2011; Simons, 1996). There are examples that the studies of pilots' startle in the aviation domain has increased more and extended the scope of human factors research from only decision-making (Martin et al., 2015). Bracha (2004) categorized these responses as freeze, flight, fight, fright, and faint. Freezing involves behavioral inhibition with parasympathetic heart rate deceleration, whereas fight-or-flight reactions are characterized by sympathetic heart rate acceleration (Roelofs, 2017). Furthermore, stress is another prevalent experience during crises, particularly for individuals in leadership roles who encounter ambiguity, high-stakes decision-making, and resource constraints (Janka et al., 2015). A study comparing crisis managers to non-crisis managers found that crisis managers exhibited lower stress levels, greater social resources, and better psychophysiological adjustment to extreme demands (Janka et al., 2015).

Emotions, Reactions, Controls, and Decisions

Crises trigger emotional stress responses (Brown et al., 2005) that influence attitudes, behaviors, and cognitions (Elfenbein, 2007). Emotional arousal during crises can lead to fight, flight, or freeze reactions. Leadership becomes a critical emotional process in these situations, with charismatic traits playing a significant role (Halverson et al., 2004). Crisis leaders display characteristics such as self-improvement, control (emotion regulation), and motivation (Elfenbein, 2023; Tutar, 2004). Decision-making would be affected by these emotional responses, often leaning towards intuitive processes, guided by emotional intelligence and self-efficacy (Sayegh et al., 2004). Additionally, Zada et al. (2022) studied effects of leadership on followers' psychological distress that servant leadership in crises with mindfulness, social exchange and conversation of resources theory can help and control others under stress.

Leadership - Emergence in Crisis Leadership Phenomenon

Crisis leadership extends beyond mere management tasks, involving the motivation and inspiration of others (Klann, 2003; Lussier & Achua, 2015). Collins et al. (2023) highlight the dual nature of navigating crises, which requires both leadership and management elements. However, it is important not to conflate "crisis management" with "crisis leadership." Effective crisis leadership involves recognizing, mitigating, and restoring normalcy (Boin et al., 2010), distinguishing these roles and responsibilities.

Managing a Crisis: Four Quadrants for Management, not Leadership

Crisis management is a traditional approach to handling crises. Ansell and Boin (2019) and Mitroff et al. (1987) mentioned that organizations must accept crises as inevitable, necessitating a systematic and comprehensive management approach. Pearson and Clair (1998) define effective crisis management as sustaining or resuming operations, minimizing losses for both the organization and external stakeholders, and facilitating learning for future incidents. Mitroff et al. (1987) proposed typologies of crisis types, causes, and preventive actions based on case studies that can be further formed to be an integrative crisis management framework. The authors viewed that this integration will beneficially addresses technical/economic or people/social/organizational aspects and internal or external events. It then delineates four cells in each quadrant representing different crisis natures, crisis management approaches, and recommended managerial practices. Collins et al. (2023) also reviewed Coombs and Holladay's (1996) crisis management quadrants, detailing various practices for different crisis environments.

However, the authors argue that this approach primarily defines and characterizes crises generically in management, overlooking the varied criteria of surprise, stress, and unforeseen damages. Furthermore, this drawback oppositely supports the authors' stance that crisis 'leadership' performance might be applied to all crisis contexts in the same manner but requires tailored managerial actions to address diverse types and domains of threats.

Management vs Leadership: Differences and Interdependences

The distinction between crisis management and crisis leadership reflects the broader debate on management versus leadership in organizational studies. Crisis management involves reacting to emergent situations, whereas crisis leadership focuses on guiding others through crises (Lussier & Achua, 2015). Understanding this distinction is crucial for recognizing leadership emergence during crises, which transcends formal organizational roles. Scholars like Vroom and Jago (2007) and Lussier and Achua (2015) define leadership as influencing organizational change and goal attainment, emphasizing personal attributes over positional authority (Burns, 1978; Northouse, 2001; Chemers, 2000). Management, in contrast, emphasizes structured approaches to achieving organizational objectives (Algahtani, 2014; Bertocci, 2009). Contemporary perspectives suggest the integration of leadership and management in modern organizations (Azad et al., 2017), highlighting their interdependence and the need for a nuanced understanding (Stanley, 2006; Toor, 2011).

Leading under Crisis: Driven by Task, People, and Change

The distinction between crisis management and crisis leadership emphasizes the need to explore leadership dynamics, including influence, relationships, and collective efforts. Crisis leadership involves multiple dimensions: task achievement, care for individuals, and adaptability to change (Karelaia & Van der Heyden, 2020). Karelaia and Van der Heyden, (2020) identified key themes such as quickly influencing followers, balancing centralized and decentralized controls, and providing support during crises, indicating that individuals often naturally assume leadership roles in these situations. Effective crisis leadership requires a blend of virtues, including confidence, humility, decisiveness, fairness, empathy, and courage, as leaders navigate decision-making stages. Crisis leaders must demonstrate readiness and agility in changing environments, decisiveness in reactions, influence in transforming mindsets, and care in interactions and trust-building (Joiner & Josephs, 2007). The authors also found these charateristics associating with a concept and theory of individual ambidexterity (Papachroni & Heracleous, 2020; Turner & Lee-Kelley, 2013) that is about "engaging in hybrid tasks, capitalizing cumulatively on previous learning, and adopting a mindset of seeking synergies between the competing demands of exploration and exploitation" (p. 143). Authentic leadership concepts and leadership agility are crucial in crisis leadership, incorporating features from Agile, Directive, Transformational, and Servant Leadership styles (Avolio et al., 2004; Joiner, 2019; Greenleaf, 2002; Spears & Lawrence, 2002). Situational leadership theory emphasizes the adaptability of leadership styles based on dynamic situations, highlighting the importance of flexibly switching between styles to address organizational needs and foster trust (Hersey et al., 1979; Islam et al., 2021).

Additionally, Crisis leadership arises from unique triggers such as change (crisis), tasks, and people. Existing crisis leadership concepts do not fully address how crises trigger the emergence of leadership, compelling individuals to guide others through stressful and vulnerable scenarios, embodying traits of power, self-confidence, accessibility, and motivation (Fener & Cevik, 2015). Therefore, scholars should focus on exploring the leadership aspect under crises rather than solely on crisis management, aiming to tangibly understand crisis leadership without relying on other leadership concepts.

1.5 Knowledge Gap of Crisis Leadership

According to Miles (2013)'s seven types of research gaps, the state of crisis leadership research represents a knowledge gap because its theoretical concept is still unclear.

Findings on Crisis Leadership Concept to be a Theory

Indicating the absence of a formal theory explaining why people assume leadership roles during crises, the review of crisis leadership concepts reveals these significant gaps, (Bacharach, 1989). These gaps highlight key issues for theory development:

1) Why?: Current crisis leadership concepts mainly concentrate on managerial practices for those in formal leadership positions, creating a gap in comprehending the fundamental attributes, factors, motivations, and mechanisms that propel individuals to step into crisis

leadership roles. The anticipated theory should clarify why specific individuals rise as crisis leaders while others do not and how crises impact individuals' choices to assume leadership roles.

2) How? (Outside-in): Existing crisis leadership concepts do not directly address how individuals lead others during a crisis, as they concentrate more on managerial practices. Given that crisis leadership frequently arises from natural influence or persuasion rather than formal authority, more research is necessary to understand how crisis leaders successfully guide those around them.

3) How? (Inside-out): Crises provoke a range of psychological, behavioral, and physiological reactions in individuals, such as shock, fear, stress, and anxiety. A comprehensive theory of crisis leadership should examine these internal dynamics to understand how individuals manage and regulate themselves during crises, enabling them to lead others effectively until the situation is resolved.

Addressing these issues underscores the importance of understanding the entire phenomenon of crisis leadership. The expected theory should explain why and how crises trigger leadership by delving into individuals' mechanisms and experiences under crisis conditions, including their psychological, behavioral, and physiological responses, as well as the rationale behind their actions. Additionally, supported by the missing phenomenon mentioned in the previous section, the authors analyzed and proposed that the missing constructs (Holton & Lowe, 2007) be included in a further theoretical model for crisis leadership. Scholars should add constructs related to crises, reactions, controls, and leading in crisis, incorporating more constructs on internal and external factors that drive and enable crisis leadership performance. These additional constructs, referred to as units (Dubin, 1978), would provide a comprehensive understanding of what causes crisis leadership, such as triggers, rationales, and mechanisms, rather than just what crisis leaders do.

Current Position: Gaps to be Developed, presented on Dubin's Theory-Building Approach

In presenting the knowledge gaps in crisis leadership theory, the authors applied a theory-building framework to identify and position the current situation. Various theory-building methods, concepts, and paradigms exist in this field. Torraco (2005) reviewed all quantitative, qualitative, and mixed-method approaches to theory development research, presenting Dubin (1978)'s theory-building research method, Corbin and Strauss (2014)'s grounded theory research, Moustakas (1994)'s phenomenological research, Gergen and Thatchenkery (2004)'s social constructionist research, and Eisenhardt (1989)'s case study research. Additionally, Lynham (2002) proposed the General Method of Theory-Building Research in applied disciplines, a multiparadigm method of theory development.

Focusing on Dubin's (1976) theory-building research method, this deductive approach consists of eight steps: 1) defining concepts, units, and constructs, 2) defining laws of interaction, 3) defining the boundaries, 4) defining the system state, 5) defining the propositions, 6) defining empirical indicators of key terms, 7) obtaining testable hypotheses, and 8) testing. The first five steps comprise the theoretical model, while the last three steps involve research operations for

verification. This method is applied by researchers who adopt a theory-then-research strategy (Torraco, 2005). For instance, Chermack (2004)'s work in proposing a theoretical model of scenario planning presented only seven steps, illustrating the usefulness of the theory-building process. The authors adopted Dubin (1978)'s theory-building methodology and its process suggested by Holton and Lowe (2007), practically suggesting seven steps for the theory-building process: 1) understanding phenomena by conducting an initial literature review, 2) identifying and retrieving studies through an expanded literature review, 3) analyzing constructs and relationships from existing literature, 4) developing an initial theory by addressing five key objectives (What are the units? What are the laws of interaction? What are the boundaries? What are the system states? What are the propositions?), 5) evaluating the theory, 6) analyzing and synthesizing feedback, and 7) modifying the theory.

Furthermore, the authors argued that Holton and Lowe (2007)'s second step in construct analysis and third step in developing an initial theory could also be alternatively integrated with other qualitative theory-building methods, such as grounded theory, as an inductive inquiry from qualitative empirical studies, not just existing literature. This integration offers two benefits. First, it helps combine paradigms of interpretivists and functionalists, as theory development also can come from qualitative data. Second, steps 1-4 of Dubin's method and steps 2-3 of Holton and Lowe's process provide future researchers with a better understanding of the developed theory's units, laws of interaction, boundaries, and system states. According to Lynham (2002)'s general method of theory-building research in applied disciplines, this multiparadigm and multi-research method approach enables the conceptualization phase to be conducted through qualitative studies, not only from literature review, with the developed theory further studied in the operationalization, confirmation/disconfirmation, and application phases, as a continuous refinement and development cycle.

In this position article, gaps and direction for crisis leadership theory development are presented in comparison to Dubin (1978)'s steps (see Table 2). Following Holton and Lowe (2007)'s process, the authors conducted an initial and extensive literature review, resulting in the analysis of constructs and identifying gaps requiring more constructs and defining units, laws of interaction, boundaries, and system states. Drawing from Chermack (2004)'s use of this method and Lynham (2002)'s clear explanation of each step, this article explains the current stage of crisis leadership theory-to-be using Dubin's theory-building framework, particularly focusing on Part 1 of Theory Development. The authors propose that the lack of these units might be difficult to assume from an extended literature review alone. Instead, qualitative approaches would effectively explore more theoretical constructs of crisis leadership. This argument supports developing a theory through multiple research paradigms, as suggested by Lynham (2002)'s general method, or by applying a mixed-method approach, the QUAL+QUAN type, in the study (Lopez-Fernandez & Molina-Azorin, 2011). For Part 2 Research Operation (or Theory Research) in verifying the developed theory in future research, the authors provide guidelines and examples to benefit the next steps in the theory development research process.

Table 2 Existing and Missing Knowledge Gaps, Guidelines, and Examples for Crisis Leadership Theory Development. *Presented through Dubin's eight-step theory-building method, including supporting details from Chermack (2002), Dubin (1978), Lynham (2002), and Swanson and Chermack (2013).*

Part 1 – Theory Development		
1. Developing *the units* of the theory. (Units are the building blocks of the theory and are selected based on literature).	**Existing elements to be Units: 1)** Strategic Sensemaking, **2)** Critical Decision-Making, **3)** Responsive Problem-solving, **4)** Anticipatory Damage Control, **5)** Centralized-Decentralized Management, **6)** Vertical-Horizontal Orchestration,**7)** Meaning-Making Communication,**8)** Termination and Restoration, **9)** Learning and Preparation *(Adopted from James & Wooten, 2004; Prewitt et al., 2011; Stern, 2013; Jaques, 2012; Boin et al., 2013; Williams et al., 2017)*	Existing
	Proposed non-existing elements: A. Crisis's Perception and Effects, **B.** Instant Reactions *(e.g. body, mental, etc.)*, **C.** Self-Control, **D.** Leading *(e.g. agile, directive, servant, and ambidextrous) (From literature reviewed in this article)*, **E.** Internal Factors (to be more units) *(e.g., motivation, cognition, personality, emotion, or etc.)*, **F.** External Factors (to be more units) *(e.g., surroundings, other people, resources, or etc.)*, *(Not in the literature related to crisis leadership and can be extensively explored for more units by qualitative inquiry.)*	Proposing
2. Specifying *the laws of interaction* describing the relationships among the units.	**Categoric law:** All units relate to each other, and are required for the theory to function. They are crisis's effects, human mechanism, and performance of individuals occurring all when it was triggered to emerge. *(This relatedness states that the values of a unit are associated with the values of another unit. In a categoric law, they are symmetrical that it does not matter whether one or the other of the units comes first (Dubin, 1978).*	
	Sequential law: [A→B], [B→C], [C→B], [A→1], [C→1], [B→1], [A→(E, F)], [A→(E, F)], [1→2], [2→(3-8, D)], [3→(5-8, D)], [4→(5-9, D)], [(A-F,1-8)→9], [9→(A-F, 1-2)], [E→(1-9)], [F→(1-9)], [D→(5-9)] One relates or causes one and then others as sequences during perceived crises, reactions and controls, human thoughts, decisions, actions, need help, and learning of these things that cause changes in future crises perceived. *(This causality always employs a time dimension which is used to order the relationship among two or more units. In a sequential law, they emerge differently in time dimension with some correlations or causalities.)*	Proposing
3 .Determining *the boundaries* within which the theory is expected to function.)They require the identification of the domains and	Contexts of crises are considered to be the boundary. "a crisis is an emergence from a combination of disruptive, turbulent, unexpected, and stressful situations or environments, that impacts and influences human or any systems' conditions through physical, mental, emotional, environmental, cultural, operational, organizational, or reputational aspects, which needs sensibility, predictability, urgent decision making, managerial actions, and	Proposing

environments in which the theory operates.(	resilience capability for anticipation, responses, mitigation, and containment, including restoration to normal conditions."	
	This refers to the definitions of crisis that were generalized to all professional domains but have the same situational context (Adopted from Gundel, 2005; Marcus & Goodman, 199; Mitroff et al., 1987; Shrivastava, 1993; Simon, 1993; Wooten & James, 2008).	
4. Identifying *the system states* in which the theory is expected to function. (as discreet phases, conditions, or transitions the theory must evolve through in order to operate).	*System states describe distinct characteristics of the theory while it is in operation at each phase over some course of the time (Chermack, 2005).*	Proposing
	State 1 – Nonoperation State 2 – Getting effects from perceiving a crisis State 3 – Self-controlling State 4 – Thinking and Making Decisions State 5 – Executions (actions, leading, managing, communicating, and coordinating) State 6 – Termination	
Part 2 – Research Operation		
5. Specifying *the propositions* or truth statements about how the theory is expected to operate. (A truth statement about a [theory] when the [theory] is fully specified in its units, laws of interaction, boundary, and system states.)	*Propositions are specified from units and their laws of interaction within the boundary operating according to the time sequence and phases defined as system states (Chermack, 2005).* **X represents a unit that operates before the following units (Y) in the list of the laws of interaction presented above.*	Guideline
	(Guideline) If (Unit X) is positively associated with (Unit Y), then (Unit Y) will change as a result of a change in (Unit X). **(Example)** If [Crisis Situations' Perception] is positively associated with (Instant Reactions), then (Instant Reactions) will change as a result of a change in [Crisis Situations' Perception].	
6. Identifying *the empirical indicators* used to make the propositions testable. Empirical indicators must produce reliable results or, more specifically, values that do not differ from observer to observer.	*Empirical indicators make each proposition statement testable. It was suggested to use the phrase "as measured by" (Chermack, 2002; Dubin, 1978; Lynham, 2002, 2002b).*	Guideline
	(Guideline) each Empirical Indicator = the value of each Unit that changes as measured by the real-world representation through operationalization of the theoretical framework developed in Part 1. **(Example)** Empirical Indicator of [Critical Decision-Making] = its value will increase as a result of [Strategic Sensemaking] as measured by any instrument *(e.g. scores from questionnaires)* that measure [a level of decision-making process about generating and selecting options to execute].	
7. Constructing *hypotheses* used to predict values and relationships among the units.	*"The predictions about the values of the units of a theory in which empirical indicators are employed for the named units in each proposition" (Dubin, 1978, p. 206).* *"The general rule is that a new hypothesis is established each time a different empirical indicator is employed for any one of the units designated in a proposition" (Dubin, 1978, p. 209).*	Guideline

Hypotheses establish the link between the empirical world and the theory that has been under construction.	**(Guideline)** (studies of correlation) There will be each positive relationship between Unit X *(measured by X's value)* and Unit Y *(measured by Y's value)*. **(Example)** There will be a positive relationship between [Responsive Problem-solving] *(e.g. measured by increasing in the improvement and decreasing in the time, of problem-solving actions)* and [Agile Leading] *(e.g. measured by increasing in the persuasion of the individual to others to follow in handling a crisis).*	
8. Conducting research to *test* the predicted values and relationships in confirming the trustworthiness of the theory.	*Once the theory has been operationalized and made ready for testing, it can then be verified or confirmed through the conduct of testing research. Researching to improve the theoretical model involves descriptive research, whereas researching to test the theory involves hypothesis testing (Dubin, 1978; Lynham, 2002) hence the hypotheses from adopting the examples above would be tested to confirm or refine the crisis leadership theory.*	Guideline
	(Guideline) Development and implementation of a research plan.	

2. Conclusions

This position article presented gaps and issues in crisis leadership research focusing on the points to be fulfilled in theory development. The literature review showed that there is no clear and formal theory of crisis leadership other than the managerial practices of those who have positions in taking charge of people and situations in crises. Also, these existing concepts are not yet ready to be processed in theory-building as there are some gaps left in the theoretical model including individuals' phenomenon during the crisis impacts such as physical or psychological effects, and the phenomenon of leadership in leading under the situation such as the rationales or triggers to take a lead, and its unique leadership characteristics. These issues were discussed with the meanings of theory and research methods of theory-building for recognizing the current situations and proposing the direction to develop the theory of crisis leadership. The demonstration of all building blocks on Dubin's theory-building framework will help to clarify the situation of crisis leadership research in the theory development perspective of some future scholars in the applied or social sciences such as HRD (leadership development), organization development, management, public administration, or other relevant areas.

For implications of this article, the future researchers-theorists can develop knowledge through different research paradigms and epistemologies using various methodologies and methods (Hurt et al., 2014) to fulfill this theoretical model (Chermack, 2007). Scholars with quantitative paradigms might conduct further intensive reviews to improve this conceptual model and provide a questionnaire to test a theory. On the other hand, one can start with a qualitative inquiry as an initial part of the General Method of Theory-Building Research by Lynham (2002), using existing crisis leadership items in the informant selection process to get crisis leadership exemplars according to Patton (2014)'s Sensitizing Concept Exemplars Sampling Strategy for the interview, exploring for deep understandings (Creswell & Creswell, 2017). The proposed constructs in this article can be applied to the semi-structured interview protocol to derive information to fulfill the structure of leadership theory that reflects the form of a formal theory, enhancing a deep understanding of the crisis leadership phenomenon.

For leadership development professionals or crisis response professionals, they can be aware of these missing elements in developing crisis leaders and designing formal training and development programs with appropriate content and duration, scenario-based training. After getting more insight by the proposed conceptual framework of crisis leadership or the future developed theory, it can be beneficial for the organizational development interventions to create this leadership through organizational changes or culture. Appropriate human resource and leadership development programs and strategies would be more successful in building crisis leaders at all levels in organizations to deal with crises in this turbulent and rapid change era.

References

Abend, G. (2008). The meaning of 'theory'. *Sociological theory*, 26(2), 173-199.

Al-Dahash, H., Thayaparan, M., & Kulatunga, U. (2016, August). Understanding the terminologies: Disaster, crisis and emergency. In *Proceedings of the 32nd annual ARCOM conference, ARCOM 2016* (pp. 1191-1200).

Algahtani, A. (2014). Are leadership and management different? A review. *Journal of management policies and practices,* 2(3), 71-82.

Ansell, C., & Boin, A. (2019). Taming deep uncertainty: The potential of pragmatist principles for understanding and improving strategic crisis management. *Administration & Society,* 51(7), 1079-1112.

Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., & May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *The leadership quarterly*, 15(6), 801-823.

Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory-building. *American psychologist,* 62(1), 25.

Azad, N., Anderson Jr, H. G., Brooks, A., Garza, O., O'Neil, C., Stutz, M. M., & Sobotka, J. L. (2017). Leadership and management are one and the same. *American journal of pharmaceutical education*, 81(6), 102.

Bacharach, S. B. (1989). Organizational theories: Some criteria for evaluation. *Academy of management review,* 14(4), 496-515.

Bargh, J. A., & Chartrand, T. L. (1999). The unbearable automaticity of being. *American psychologist,* 54(7), 462.

Bass, B. M., & Bass, R. (2009). *The Bass handbook of leadership: Theory, research, and managerial applications*: Simon and Schuster.

Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of applied psychology*, 88(2), 207.

Bassarab, C. (2010). *Understanding how the leaders of three failed investment banks mismanaged early warning signals during the* 2008 *credit crisis*: Alliant International University: San Francisco Bay.

Bertocci, D. I. (2009). *Leadership in organizations: There is a difference between leaders and managers*: University Press of America: United States.

Bogo, M., Regehr, C., Woodford, M., Hughes, J., Power, R., & Regehr, G. (2006). Beyon d Competencies: Field Instructors' Descriptions of Student Performance. *Journal of Social Work Education,* 42(3), 579-594.

Boin, A., & Hart, P. t. (2003). Public leadership in times of crisis: mission impossible? *Public administration review,* 63(5), 544-553.

Boin, A., Kuipers, S., & Overdijk, W. (2013). Leadership in times of crisis: A framework for assessment. *International Review of Public Administration,* 18(1), 79-91.

Boin, A., Stern, E., & Sundelius, B. (2016). *The politics of crisis management: Public leadership under pressure*: Cambridge University Press: United Kingdom.

Boin, A., t Hart, P., Stern, E., & Sundelius, B. (2005). The politics of crisis management: Understanding public leadership when it matters most. In: Cambridge: Cambridge University Press: United Kingdom.

Bolden, R., & Gosling, J. (2006). Leadership competencies: time to change the tune? *Leadership,* 2(2), 147-163.

Botelho, E. L., Powell, R., Kincaid, S., & Wang, D. (2017). What sets successful CEOs apart. *Harvard business review,* 95(3), 70-77.

Boyatzis, R. (2008). Competencies in the 21st century. *Journal of Management Development*.

Bracha, H. S. (2004). Freeze, flight, fight, fright, faint: Adaptationist perspectives on the acute stress response spectrum. *CNS spectrums, 9*(9), 679-685.

Breen, J. M. (2017). Leadership resilience in a VUCA world. In *Visionary leadership in a turbulent world: Thriving in the new VUCA context* (pp. 39-58). Retrieved from https://www.emerald.com/insight/publication/doi/10.1108/9781787142428

Casto, C. A. (2014). Crisis management: a qualitative study of extreme event leadership. Kenesaw State University: Georgia.

Chermack, T. J. (2007). Disciplined imagination: Building scenarios and building theories. *Futures, 39*(1), 1-15.

Chermack, T. J., & Lynham, S. A. (2002). Definitions and outcome variables of scenario planning. *Human Resource Development Review, 1*(3), 366-383.

Chermack, T. J., Lynham, S. A., & Ruona, W. E. (2001). A review of scenario planning literature. *Futures research quarterly, 17*(2), 7-32.

Chermack, T. J. (2003). A methodology for assessing performance-based scenario planning. *Journal of Leadership & Organizational Studies, 10*(2), 55-63.

Chermack, T. J. (2004). A theoretical model of scenario planning. *Human Resource Development Review, 3*(4), 301-325.

Chermack, T. J. (2005). Studying scenario planning: Theory, research suggestions, and hypotheses. *Technological forecasting and social change, 72*(1), 59-73.

Chermack, T. J. (2007). Disciplined imagination: Building scenarios and building theories. *Futures, 39*(1), 1-15.

Christensen, C. M. (1997). *The innovator's dilemma: when new technologies cause great firms to fail*. Harvard Business Review Press: United States.

Christensen, T. W. (2009). *Crisis leadership: A study of leadership practice*. Capella University: Minnesota.

Clague, M. (1975). Conceptions of Leadership: Charles de Gaulle and Max Weber. *Political Theory, 3*(4), 423-440.

Collins, M. D., Dasborough, M. T., Gregg, H. R., Xu, C., Deen, C. M., He, Y., & Restubog, S. L. D. (2023). Traversing the storm: An interdisciplinary review of crisis leadership. *The Leadership Quarterly, 34*(1), 101661.

Coombs, W. T., & Holladay, S. J. (1996). Communication and attributions in a crisis: An experimental study in crisis communication. *Journal of public relations research, 8*(4), 279-295.

Cooney, R. E., Joormann, J., Eugène, F., Dennis, E. L., & Gotlib, I. H. (2010). Neural correlates of rumination in depression. *Cognitive, Affective, & Behavioral Neuroscience, 10*(4), 470-478.

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage publications: United States.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications: United States.

Davidoff, D. (2020). Crisis Communication and Executive Leadership: Ethical Shortcomings in Government. Retrieved from https://commons.clarku.edu/cgi/viewcontent.cgi?article=1050&context=sps_masters_papers

De Vries, M. F. (1977). Crisis leadership and the paranoid potential: An organizational perspective. *Bulletin of the Menninger Clinic, 41*(4), 349–365.

Deverell, E. (2012). Investigating the roots of crisis management studies and outlining future trajectories for the field. *Journal of Homeland Security and Emergency Management, 9*(1). 10.1515/1547-7355.1956

Dijksterhuis, A., & Nordgren, L. F. (2006). A theory of unconscious thought. *Perspectives on Psychological science,* 1(2), 95-109.

DiMaggio, P. J. (1995). Comments on" What theory is not". *Administrative science quarterly,* 40(3), 391-397.

Dubin, R. (1978). *Theory building.* Free Press: New York.

Dückers, M. L., Yzermans, C. J., Jong, W., & Boin, A. (2017). Psychosocial crisis management: the unexplored intersection of crisis leadership and psychosocial support. *Risk, Hazards & Crisis in Public Policy,* 8(2), 94-112.

Durst, S., Dinler, E., & Ulvenblad, P. (2022). Crisis Leadership: What Do We Know by Now?. In *Tourism Risk: Crisis and Recovery Management* (pp. 21-38). Emerald Publishing Limited Elfenbein, H. A. (2007). 7 Emotion in organizations: a review and theoretical integration. *Academy of Management Annals,* 1(1), 315-386.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550.

Elfenbein, H. A. (2007). 7 Emotion in organizations: a review and theoretical integration. *Academy of management annals*, 1(1), 315-386.

Elfenbein, H. A. (2023). Emotion in organizations: Theory and research. *Annual Review of Psychology*, 74(1), 489-517.

Fener, T., & Cevik, T. (2015). Leadership in crisis management: Separation of leadership and executive concepts. *Procedia Economics and Finance,* 26, 695-701.

Fiedler, F. E., McGuire, M., & Richardson, M. (1989). The role of intelligence and experience in successful group performance. *Journal of Applied Sport Psychology,* 1(2), 132-149.

Gartzia, L., Ryan, M. K., Balluerka, N., & Aritzeta, A. (2012). Think crisis–think female: Further evidence. *European Journal of Work and Organizational Psychology,* 21(4), 603-628.

Gergen, K. J., & Thatchenkery, T. J. (2004). Organization science as social construction: Postmodern potentials. *The Journal of Applied Behavioral Science*, 40(2), 228-249.

Gigliotti, R. A. (2017). *The social construction of crisis in higher education:: implications for crisis leadership theory and practice.* Rutgers University-Graduate School-New Brunswick: United States.

Grafinger, D. J. (1988). Basics of instructional systems development. *Alexandria: American Society for Training and Development.* Association for Talent Development: United States.

Greenleaf, R. K. (2002). *Servant leadership: A journey into the nature of legitimate power And greatness*. Paulist Press: New Jersey.

Gronberg, E. K. (2017). *Adaptive Leadership in Crisis: John Tietjen, Concordia Seminary, and the Lutheran Church Missouri Synod Crisis of* 1969-1975. Dallas Baptist University: United States.

Gupta, V., & Zhang, Y. (2019). Strategic fit: microfoundations of firm's environmental performance. *Management Research: Journal of the Iberoamerican Academy of Management*, 17(2), 221-246.

Halverson, S. K., Murphy, S. E., & Riggio, R. E. (2004). Charismatic leadership in crisis situations: A laboratory investigation of stress and crisis. *Small Group Research,* 35(5), 495-514.

Hanson, R. (2016). *Hardwiring happiness: The new brain science of contentment, calm, and confidence*: Harmony: United States.

Harland, L., Harrison, W., Jones, J. R., & Reiter-Palmon, R. (2005). Leadership behaviors and subordinate resilience. *Journal of Leadership & Organizational Studies,* 11(2), 2-14.

Heifetz, R., & Linsky, M. (2017). *Leadership on the line, with a new preface: Staying alive through the dangers of change*. Harvard Business Press: United States.

Hersey, P., & Blanchard, K. (1997). *Situational Leadership.* Paper presented at the Dean's Forum.

Hersey, P., Blanchard, K. H., & Natemeyer, W. E. (1979). Situational leadership, perception, and the impact of power. *Group & Organization Studies,* 4(4), 418-428.

Hertelendy, A. J., McNulty, E., Mitchell, C., Gutberg, J., Lassar, W., Durneva, P., & Rapp,
D. (2021). Crisis leadership: The new imperative for MBA curricula. *The International Journal of Management Education*, *19*(3), 100534.

Holton, E. F., & Lowe, J. S. (2007). Toward a general research process for using Dubin's theory building model. *Human Resource Development Review*, *6*(3), 297-320.

Horstmann, G. (2006). Latency and duration of the action interruption in surprise. *Cognition & Emotion,* 20(2), 242-273.

Hurt, A. C., Lynham, S. A., & McLean, G. N. (2014). Investigating the HRD cube and explicating extant paradigms of HRD. *European Journal of Training and Development*, *38*(4), 323.

Islam, Q., Juraybi, M. H., & Alraythi, Y. M. (2021). Effectiveness of situational leadership style in managing workplace crisis. *Saudi Journal of Business and Management Studies*, *6*(9), 362-365.

James, E. H., Wooten, L. P., & Dushek, K. (2011). Crisis management: Informing a new leadership research agenda. *Academy of management Annals*, *5*(1), 455-493.

Janka, A., Adler, C., Fischer, L., Perakakis, P., Guerra, P., & Duschek, S. (2015). Stress in crisis managers: evidence from self-report and psychophysiological assessments. *Journal of behavioral medicine,* 38(6), 970-983.

Jaques, T. (2012). Crisis leadership: A view from the executive suite. *Journal of Public Affairs,* 12(4), 366-372.

Jin, Y., Meng, J., & Berger, B. (2017). The influence of communication leadership qualities on effective crisis preparedness strategy implementation: Insights from a global study. *Communication Management Review,* 2(01), 8-29.

Joiner, B. (2019). Leadership Agility for organizational agility. *Journal of Creating Value*, *5*(2), 139-149.

Joiner, B., & Josephs, S. (2007). Developing agile leaders. *Industrial and commercial training*, *39*(1), 35-42.

Kalat, J., & Shiota, M. (2011). *Emotion*: Nelson Education: Canada.

Karelaia, N., & Van der Heyden, L. (2020). Leading in wicked times: A radical shift to inquiry, humility, and fairness. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3667556

Kerlinger, F. N. (1977). The influence of research on education practice. *Educational Researcher,* 6(8), 5-12.

Khan, M. M., Ahmed, S. S., & Khan, E. (2021). The emerging paradigm of leadership for future: The use of authentic leadership to Lead innovation in VUCA environment. *Frontiers in Psychology*, *12*, 759241.

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

Klann, G. (2003). *Crisis Leadership: Using Military Lessons, Organizational Experiences, and the Power of Influence3 to Lessen the Impact of Chaos on the People You Lead*: Center for Creative Leadership: United States.

Lombardi, S., e Cunha, M. P., & Giustiniano, L. (2021). Improvising resilience: The unfolding of resilient leadership in COVID-19 times. *International Journal of Hospitality Management*, *95*, 102904.

Lewin, K. (1951). *Field theory in social science: selected theoretical papers*. New York: Harper-Row.

Li, H., Huang, L., Zhang, Y., & Ni, S. (2016). Effects of intuition and deliberation on escape judgment and decision-making under different complexities of crisis situations. *Safety science,* 89, 106-113.

Littlefield, R. S., & Quenette, A. M. (2017). Crisis Leadership and Hurricane Katrina. *Rhetorical Criticism: Exploration and Practice,* 35(1), 26-47.

Lopez-Fernandez, O., & Molina-Azorin, J. F. (2011). The use of mixed methods research in the field of behavioural sciences. *Quality & Quantity*, *45*, 1459-1472.

Lussier, R. N., & Achua, C. F. (2015). *Leadership: Theory, application, & skill development*: Cengage Learning: United States.

Lynham, S. A. (2002). The general method of theory-building research in applied disciplines. *Advances in developing human resources,* 4(3), 221-241.

Makwana, N. (2019). Disaster and its impact on mental health: A narrative review. *Journal of family medicine and primary care,* 8(10), 3090.

Martin, W. L., Murray, P. S., Bates, P. R., & Lee, P. S. (2015). Fear-potentiated startle: A review from an aviation perspective. *The International Journal of Aviation Psychology,* 25(2), 97-107.

McClelland, D. C. (1973). Testing for competence rather than for" intelligence.".*American psychologist,* 28(1), 1-14.

Medina, J. (2010). The business of pleasure and pain. *Brain Rules, 21(*11), Retreived from https://www.psychiatrictimes.com/view/business-pleasure-and-pain

Miraglia, M. (2013). A comparative analysis of emergency management decision-making skills of school officials: The impact of training on perspectives and performance. Retrieved From https://fisherpub.sjf.edu/cgi/viewcontent.cgi?article=1153&context=education_etd

Mitroff, I. I., Shrivastava, P., & Udwadia, F. E. (1987). Effective crisis management. *Academy of Management Perspectives,* 1(4), 283-292.

Molenda, M. (2015). In search of the elusive ADDIE model. *Performance improvement,* 54(2), 40-42.

Moustakas, C. (1994). *Phenomenological research methods*. SAGE: United States.

Naushad, M. (2021). Investigating Determinants of Entrepreneurial Leadership among SMEs and Their Role in Sustainable Economic Development of Saudi Arabia. *The Journal of Asian Finance, Economics and Business,* 8(4), 225-237.

Nawaz, Z. A. K. D. A., & Khan, I. (2016). Leadership theories and styles: A literature review. *Leadership*, *16*(1), 1-7.

Nicolaides, A., & McCallum, D. C. (2013). Inquiry in action for leadership in turbulent times: Exploring the connections between transformative learning and adaptive leadership. *Journal of Transformative Education,* 11(4), 246-260.

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological science,* 3(5), 400-424.

Northouse, P. G. (2018). *Leadership: Theory and practice*. Sage publications: United States.

O'Connor, J. (1981). The meaning of crisis. *International Journal of Urban and Regional Research,* 5(3), 301-329.

O'Connor, P., Carvalho, T., & White, K. (2014). The experiences of senior positional leaders in Australian, Irish and Portuguese universities: universal or contingent? *Higher Education Research & Development,* 33(1), 5-18.

Oubre, S. K. (2013). *Expediting Temporary Housing: A Case Study of Hurricane Ike*: Walden University: Minnesota.

Papachroni, A., & Heracleous, L. (2020). Ambidexterity as practice: Individual ambidexterity through paradoxical practices. *The Journal of Applied Behavioral Science*, *56*(2), 143-165.

Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage publications: United States.

Pauchant, T. C., & Mitroff, I. (1992). *Transforming the crisis-prone organization: Preventing individual, organizational, and environmental tragedies*: Jossey-Bass: New-Jersey.

Pearce, C. L., Sims, H. P., Cox, J. F., Ball, G., Schnell, E., Smith, K. A., & Trevino, L. (2003). Transactors, transformers and beyond: A multi-method development of a theoretical typology of leadership. *Journal of Management Development, 22*(4), 273-307.

Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of management review, 23*(1), 59-76.

Prewitt, J. E., Weil, R., & McClure, A. Q. (2011). Crisis leadership-an organizational opportunity. *Australian Journal of Business and Management Research,* 1(6), 60.

Randall, W. (2018). *Leadership, Strategy, and Management: A Qualitative Study of Crisis Survival.* Capella University: Minnesota.

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

Roelofs, K. (2017). Freeze for action: neurobiological mechanisms in animal and human freezing. *Philosophical Transactions of the Royal Society B: Biological Sciences,* 372(1718), 20160206.

Rosenthal, U., Charles, M. T., Hart, P. T., Kouzmin, A., & Jarman, A. (1989). From case studies to theory and recommendations: A concluding analysis. In U. Rosenthal, M. T. Charles, & P. T. Hart (Eds.), *Coping with crises: The management of disasters, riots and terrorism* (pp. 436–472). Charles C Thomas, Publisher: United States.

Ruderman, M. N., Clerkin, C., & Connolly, C. (2014). Leadership development beyond competencies: Moving to a holistic approach. *Greensboro, North Carolina.* Center for Creative Leadership: United States.

Sayegh, L., Anthony, W. P., & Perrewé, P. L. (2004). Managerial decision-making under crisis: The role of emotion in an intuitive decision process. *Human resource management review,* 14(2), 179-199.

Sendjaya, S., & Sarros, J. C. (2002). Servant leadership: Its origin, development, and application in organizations. *Journal of Leadership & Organizational Studies,* 9(2), 57- 64.

Shrivastava, P. (1993). Crisis theory/practice: Towards a sustainable future. *Industrial & Environmental Crisis Quarterly,* 7(1), 23-42.

Shrivastava, P., Mitroff, I. I., Miller, D., & Miclani, A. (1988). Understanding industrial crises. *Journal of management studies,* 25(4), 285-303.

Simon, B. (1993). Crisis Management Strategy. *Competition and change in modern enterprises.* Routledge: London.

Simons, R. C. (1996). *Boo!: Culture, experience, and the startle reflex*: Oxford University Press on Demand: United Kingdom.

Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological bulletin,* 119(1), 3.

Spears, L. C., & Lawrence, M. (Eds.). (2016). *Practicing servant-leadership: Succeeding through trust, bravery, and forgiveness*. John Wiley & Sons.

Stanley, D. (2006). Role conflict: leaders and managers. *Nursing Management (through 2013),* 13(5), 31.

Starn, R. (1971). Historians and" crisis". *Past & Present,* (52), 3-22.

Stern, E. (2013). Preparing: The sixth task of crisis leadership. *Journal of Leadership Studies,* 7(3), 51-56.

Sutcliffe, K. M. (2011). High reliability organizations (HROs). *Best practice & Research clinical anaesthesiology*, 25(2), 133-144.

Sutton, R. I., & Staw, B. M. (1995). What theory is not. *Administrative science quarterly*, 371- 384.

Swanson, R. A., & Chermack, T. J. (2013). Theory building in applied disciplines. BerrettKoehler Publishers: United States.

Swanson, R. A. (1997). HRD research: Don't go to work without it. *Human resource development handbook: Linking research and practice*, 3-20.

Swanson, R. A. (1995). Human resource development: Performance is the key. *Human resource development quarterly*, 6(2), 207-213.

Toor, S.-u.-R. (2011). Differentiating leadership from management: An empirical investigation of leaders and managers. *Leadership and Management in Engineering,* 11(4), 310-320.

Torraco, R. J. (1997). Theory-building research methods. *Human resource development handbook: Linking research and practice*, 114-137.

Torraco, R. J. (2005). Theory development research methods. *Research in organizations: Foundations and methods of inquiry*, 351-374.

Tutar, H. (2004). Crisis and stress management. *Ankara: Seckin Publishing*, 105-148.

Turner, N., & Lee-Kelley, L. (2013). Unpacking the theory on ambidexterity: An illustrative case on the managerial architectures, mechanisms and dynamics. *Management learning*, 44(2), 179-196.

Vroom, V. H., & Jago, A. G. (2007). The role of the situation in leadership. *American psychologist,* 62(1), 17.

Weick, K. E., & Sutcliffe, K. M. (2011). *Managing the unexpected: Resilient performance in an age of uncertainty* (Vol. 8). John Wiley & Sons: United States.

Weick, K. E. (1988). Enacted sense making in crisis situations. *Journal of management studies*, 25(4), 305-317.

Weick, K. E. (1989). Theory construction as disciplined imagination. *Academy of management review,* 14(4), 516-531.

Weick, K. E. (1995). What theory is not, theorizing is. *Administrative science quarterly,* 40(3), 385-390.

Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of management annals*, 11(2), 733-769.

Wisittigars, B., & Siengthai, S. (2019). Crisis leadership competencies: the facility management sector in Thailand. *Facilities*, 37(13), 881-896.

Wooten, L. P., & James, E. H. (2008). Linking crisis management and leadership competencies: The role of human resource development. *Advances in developing human resources,* 10(3), 352-379.

Wojcik, A. (1969). Crisis Leadership. *The Polish Review*, 25-38.

Wu, Y. L., Shao, B., Newman, A., & Schwarz, G. (2021). Crisis leadership: A review and future research agenda. *The Leadership Quarterly,* 32(6), 101518.

Wolfenstein, V. E. (1967). Some psychological aspects of crisis leadership. *Political leadership in industrialized societies*, 155-181.

Zaccaro, S. J., Kemp, C., & Bader, P. (2004). Leader traits and attributes. *The nature of leadership,* 101, 124.

Zada, M., Zada, S., Khan, J., Saeed, I., Zhang, Y. J., Vega-Muñoz, A., & Salazar-Sepúlveda, G. (2022). Does servant leadership control psychological distress

in crisis? Moderation and mediation mechanism. *Psychology research and behavior management*, 607-622.