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Collaborative Crisis Management in the Public Sector: Effective Leadership under Stress

Yusuf Ustun
University of Central Florida

COLLABORATIVE CRISIS MANAGEMENT IN THE PUBLIC SECTOR: EFFECTIVE
LEADERSHIP UNDER STRESS

by

YUSUF USTUN

BA, Faculty of Economic and Administrative Sciences, Gazi University, 1997
MSc, Department of Politics, University of Exeter, 2001

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Major Professor: Naim Kapucu

ABSTRACT

The primary aim of this study is to discover how leadership competencies affect the perceived effectiveness of crisis management. Leadership skills exhibited by public managers in crisis times may help eliminate panic and help victims recover from the difficult situation as soon as possible. The existence of effective leadership in a crisis is one of the most important inputs in order to diminish the harmful effects of crises and disasters. The absence of effective leadership in times of crisis may be one of the most significant problems in the public administration because it may result in loss of human life and property. By answering the following research questions this study provides useable knowledge for public managers and leaders during crises: Are there any different leadership features or characteristics for effective leadership at time of crises than the leadership in normal time? What is the role of effective leadership in managing crises and disasters (natural or man-made)? How do a public administrator's leadership traits and skills impact the effectiveness of crisis leadership? How do a public administrator's leadership behaviors (task-, people-, and organization-oriented behaviors) influence the effectiveness of a crisis leadership?

With the aim of revealing these relations, a self-reported survey was sent to 2,095 current and former Turkish public security network managers. The study found that the core leadership competencies (decisiveness, flexibility, communication, problem solving, managing innovation and creativity, team building, managing and organizing personnel, motivating, networking and partnering, decision making, scanning the environment, and strategic planning) have a positive relationship with the effectiveness of crisis leadership. Among three categories of leadership behaviors, task-oriented leadership behaviors were found with the highest level of impact on the

effectiveness of crisis leadership. The study indicated the importance of the core leadership competencies in the effectiveness of crisis leadership. According to the results, the hypothesis testing with the covariance structure model supported the positive impact of the core leadership competencies on the effectiveness of crisis leadership. This study contributes to the literature on leadership during crisis situations, and also provides proposals for public managers and practitioners in order to increase their effectiveness in leading their organizations during a crisis situation.

I dedicate this dissertation to my always encouraging, ever faithful parents, Mustafa and Dondu (Ustun), my loving and supportive wife, Zuhal, and our exuberant, sweet, and kind-hearted little boys, Oguz Kaan and Yunus Emre.

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LIST OF ACRONYMS/ABBREVIATIONS

AFAD	Afet ve Acil Durum Yönetimi Başkanlığı (Disaster and Emergency Management Presidency)
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Critical Rate
CSM	Covariance Structure Modeling
d	Measurement Error
DHS	The US Department of Homeland Security
e	Error Term (Disturbance)
EF	Effectiveness of Crisis Leadership
GFI	Goodness of Fit Index
H	Hypothesis
ICT	Information and Communication Technology
IRB	Institutional Review Board
MI	Modification Indices
NGO	Non-Governmental Organization
NRF	National Response Framework
OO	Organization-Oriented Behaviors
P	Significance Level
PO	People-Oriented Behaviors
Ph.D	Philosophiae Doctor
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modeling
SPSS	Statistical Package for the Social Sciences

SRW	Standardized Regression Weight
TLI	Tucker-Lewis Index
TO	Task-Oriented Behaviors
TS	Traits and Skills
UCF	University of Central Florida
UN	United Nations
URW	Unstandardized Regression Weight
US	United States
$\chi2$	Chi-Square
$\chi2/df$	Chi-square / Degree of Freedom

CHAPTER ONE: INTRODUCTION

Various types of crises impact the operations of organizations, from small local nonprofit organizations to international agencies, and even governments. The occurrence of crises that vary in terms of their size, frequency, and complexity has increased the importance of leadership in managing them. More comprehensive and professional preparation for large-scale crisis management is considered to be one of the primary objectives of management in order to provide for the security of its citizens (Heller, 2012).

The lack of leadership skills of crisis managers may lead to inadequate crisis management, which may cause loss of life and property (Murphy & Dunn, 2012). There are many examples of these kinds of situations all over the world. One of them is well-known Hurricane Katrina. After disappointing experiences during catastrophic Hurricane Katrina, the public now expects effective public sector leadership in crises more than they did in the past. According to many scholars and practitioners, response to Hurricane Katrina was an example of poor crisis management caused by lack of the public leadership that is a crucial part of crisis management (Ink, 2006).

1.1 Statement of the Problem

A dense network of relationships caused by globalization of the world, the development in communication and transportation technologies worldwide, and the changing roles of the state and public administration are responsible for the occurrence of more diversified crises. Therefore, crisis management has become very important for governments around the world. Some extreme events such as acts of terrorism, natural disasters, wild fires, and major accidents cause loss of lives and damage to property and affect a significant part of, or even an entire,

society. Hence, the increased importance of crisis management has obligated states to have competent people and comprehensive preparation to respond to the crises and disasters.

According to Hillyard (2000), crisis management is a management style used to decrease the occurrence of unexpected harmful events that deplete the resources of an organization. In other words, crisis management strives to prevent the occurrence of crises, or when they do occur, to manage crises in an effective way to reduce their impact. A prior condition of effective crisis management is to be aware of the crises and their impacts. Crisis management embraces the principles of emergency management which are mitigation/prevention, preparedness, response, and recovery (Kapucu, Arslan, & Demiroz, 2010).

Nothing tests a leader's capacity as much as a crisis situation (Klann, 2003). Crises create sensitive environments in which leaders may have to make sudden and effective decisions using very little information. In these kinds of environment, emotions and instincts may quite easily override intellect and logic. In order to reduce the impact of these challenging times, every competent leader must take a number of actions prior to, during, and after the crises.

Public managers are in charge of giving direction to events in such complicated cases. There are always risks in taking action; however, the size of a crisis sometimes requires taking large scale measures. Therefore managers need to have the authority and qualifications to apply those measures. Some required qualifications might be different from those ordinary managers have and use in their daily routine work. Leadership skills exhibited by administrators in times of crisis may help to resolve the crisis situation by eliminating panic and assist the victims in recovering from the difficult situation more quickly. Crisis management is one of the most testing circumstances in which the effect of an administrator on an organization can be

accurately measured. The most important factor needed to overcome a crisis is the presence of a leader. Their appearance in front of the public and their personal presence at the forefront during a time of crisis will encourage reliance on him/her and confidence for staff and society.

There are several recommended qualifications and values in the literature for being an effective leader (Van Wart, 2004, 2011). In all clusters of characteristics, according to Klann (2003), the three most important qualifications a leader should possess for effective crisis management are effective and open communication, a clear chain of vision and values, and human relationships based on honesty. To be a real leader, the manager of an organization needs to be the spokesman and be highly visible, credible, and sincere during a crisis. Communication needs to be timely and compassionate. Additionally, this communication will provide information that will be essential in deterring panic and irresponsible speculation. By emphasizing and improving his/her above-mentioned skills through training and practices, a leader will be able to easily control especially the personnel issues during a crisis. Montgomery Van Wart (2004, 2008, and 2011) completed one of the most comprehensive studies in the literature of leadership competencies in the public sector. After a careful examination of the literature on leadership, he performed an empirical analysis and developed the "Leadership Action Cycle Model," which includes 37 different competencies for leaders in the public sector.

This study will focus especially on public administrators' leadership role in collaborative crisis management. The literature, including the United Nations (UN) standards, recognizes natural and man-made crisis contexts. In this study, both of these crisis contexts will be addressed.

Crisis management encompasses a broad range of activities, which are beyond some emergency management tasks, such as search and rescue, emergency medical services, and temporary shelter and food supply operations. Crisis management includes four phases, which are mitigation, preparedness, response, and recovery. The term "crisis management" will be used in this paper instead of the terms "emergency management" and "disaster management," which are also used in the literature interchangeably (Kapucu, Arslan, & Demiroz, 2010).

The mitigation, recovery, and preparedness phases of crisis management require more time to sufficiently observe and measure crisis management for quantitative assessment takes than the response phase. Additionally, many public and private organizations participate in those three phases for a very long time. Most crisis management organizations spend their time, resources, and efforts during the response phase providing emergency aid and assistance, reduce the probability of secondary damage, and minimize problems for recovery operations. Therefore, it is easier to define and measure their effectiveness of these organizations during this phase alone. In order to measure the effectiveness of collaborative crisis management in a short period of time with the highest efficiency, this study only utilizes quantitative evaluations about the response phase of crisis management efforts.

While it is possible to find a number of studies about crisis management in the business administration literature, there are a few studies on crisis management in the public administration literature that focus especially on disaster management, such as Hurricane Katrina and the September 11, 2001 terrorist attacks in New York (Rosenthal, 2003). This study embraces the all-hazard approach, which includes all kinds of crisis conditions, such as natural

disasters, terrorist attacks, refugee problems, epidemics, and so on. This study does not address economic, international, and diplomatic crises.

1.2 Significance of the Study

This study builds on and contributes to earlier studies on collaborative crisis management in the public sector and effective leadership during crises. Although earlier studies have examined collaboration in crisis management, they did not pay much attention to collaborative leadership at the time of crisis in the public sector. As such, this study provides additional insight into the implementation of network theory and collaborative leadership in crisis management. Therefore, the theoretical insight from network theory and collaborative leadership provides another contribution. This study analyzes the perceived effectiveness of collaborative crisis leadership. The study addresses this issue by examining crisis management, collaboration, network theory, and leadership and leadership theories, leadership traits, skills, and behaviors in crisis management. Leadership traits, skills, and behaviors consist of decisiveness, flexibility, communication, problem solving, managing innovation and creativity, personnel planning and organizing, motivating, building and managing teams, decision-making, scanning the environment, strategic planning, and networking and partnering.

1.3 Research Questions

The purpose of this research is to better understand the role of effective collaborative crisis leadership and provide useable knowledge that can be utilized under stressful conditions. The study examines the following research questions.

RQ 1: What is the role of effective leadership in managing crises and disasters (natural or man-made)?

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RQ 2: What is collaborative leadership? How is it different than traditional leadership?

RQ 3: Are there any different leadership features or characteristics for effective leadership at the time of crisis than the leadership in normal time?

RQ 4: How do the public administrator's leadership traits and skills impact the effectiveness of crisis leadership?

RQ 5: How do the public administrator's leadership behaviors (task, people, and organization-oriented behaviors) influence the effectiveness of a crisis leadership?

It is expected that this research will provide valuable knowledge for scholars and practitioners in order to understand how important the leadership competencies are to accomplish effective crisis administration in the public sector, especially during the response phase of a crisis. Before establishing the theoretical framework of this research, the following section focuses on the context of crisis management and leadership topics. Since the target population of this study is Turkish province and district governors, a brief overview of the Turkish administrative system is provided in the following chapter.

1.4 Background of the Study

In this section, a brief overview of the Turkish administrative and crisis management system is provided to better understand the research topic since the target population of this study is Turkish province and district governors. The province and district governors are the principle responsible public administrators to manage any type of crisis that occurs in their province or district jurisdiction.

1.4.1 A Brief Overview of the Turkish Public Administration System

The Republic of Turkey was established on Anatolia and Thrace territory, on the cultural and administrative ruins of the Ottoman Empire in 1923. During the second half of the 18th century, the Ottoman Empire had weakened, and the nations of Europe developed and rose to the forefront in the world political arena. In such a political atmosphere, Ottoman intellectuals were influenced by European countries, especially from France (Kapucu & Palabiyik, 2008). These intellectuals were convinced the Empire could regain its power by adopting the same processes implemented in European countries. Even though it was well-established, the Turkish administrative system could not exhibit the necessary flexibility and practicality to keep up with developments in other parts of the world in the long run.

The current structure of the Turkish state was determined by the Constitution of the Republic of Turkey in 1982. According to Article 2 of the Constitution, the Republic of Turkey is a democratic, secular, and social state that observes the rule of law. The structure of the Turkish state is based on legislative, executive, and judicial branches. Article 7 of the Constitution indicates that the Grand National Assembly of Turkey uses legislative power on behalf of the Nation. Article 9 provides that independent courts use their jurisdiction on behalf of the Nation. Executive power is based in Article 8. Execution is mentioned as both authority and duty. The President and the Council of Ministers use executive power in accordance with the Constitution and the statutes.

Provision of public services is shared between the central administrative authority and local governments in almost all countries. This sharing varies based on the countries' political, economic, and social structure, and its historical characteristics. It is easier to define centralized

management because it is a relatively standard practice. Decentralized government, on the other hand, is quite difficult because there are so many styles of decentralization in the public administration literature. While centralized government is very popular in underdeveloped or non-democratic societies, governments ruled by democracy generally prefer to devolve power to local governments. Central administration and local government are embodied in the Turkish Constitution. For centuries, this dual form of government was discussed to use them interchangeably, but, ultimately, it is assumed that the two government management styles complement each other (Köker, 1995).

In Turkey, central government and local government practices are implemented together, but the central government generally prevails over the local. However, recently enacted laws strengthen local administrative organizations against central government (Marcou, 2006). Together with attempts at decentralization, Turkey has made important reforms in government to become more accountable to its citizens, such as governance implementations that increase focus on partnerships between different stakeholders in the governing process, democratization, and using some modern tools. These tools include performance management, compulsory strategic planning, and public-private partnerships to improve the quality of local services (Kapucu, 2010).

To minimize the disadvantages of centralized management, Article 126 of the Constitution indicates that, based on the "devolution of wider powers" principle, the central administrative structure of Turkey is divided into provinces and other lower administrative levels in terms of the geographical situation and economic conditions, and according to the requirements of public service. Therefore, Turkey is divided into geographic regions called

provinces, which are the main local administration branch of the central administration. Turkey has 81 provinces, and 919 districts under these provinces. The local branches of the central administration can be categorized as follows: regional organizations, provincial administrations, district administrations, and sub-district administrations (Kapucu & Palabiyik, 2008).

A provincial administration with devolution of wider powers is a softened form of central government. The "devolution of wider power" gives some of the powers of the central government to provincial organizations; therefore, it becomes possible to carry out the central government's authority in the provinces by means of the governors who are the representatives of the central governments. The governors, the highest public officials in a province, can make decisions on some issues determined by law and execute those decisions by their own authority.

The governors use their administrative authority and make decisions on behalf of the central government. The governors maintain harmony between central and local government services. Every ministry has its headquarters in the provinces and provincial administrators are above them all. Some of the provincial administrators, such as health provincial administrator and security police provincial administrator, receive orders directly from the governors. As adjunct agencies to the governors, there are Provincial Administrative Councils that are made up of provincial administrators of legal affairs, finance, national education, public works, health, agriculture, and veterinary (Kapucu, 2010). To what extent the central government prevails in the administrative framework of a country is determined by the authority given to the governors and other public institutions instead of to local governments. In a system dominated by local governments, duties and powers of the governors and the center are reduced and the provincial system will lose its importance (Coker, 2003).

The provinces are subdivided into districts, headed by a district governor (kaymakam). The district governors are appointed by the joint ordinance of the Minister of Interior, the Prime Minister, and the President. The district governors govern the districts in conformity with orders and directives of the provincial governor. The district branches of the ministries work under control of the district governors who are responsible for managing those district branches. As an adjunct agency, district administrative councils are also managed by district governors (Kapucu, 2010).

Turkey applied to become a member of the European Union and signed the Ankara Treaty on 12 September 1963. This application is the last chain of the westernization adventure that began 150 years ago. Despite the fluctuating relations between Turkey and the European Union, Turkey was accepted as a candidate for full membership of the European Union in 1999 and negotiations were started on 3 October 2005. To adapt to the norms of the European Union, there have been several legislative changes in the centralized management system of Turkey. The provincial management system and centralized structure are directly affected by these changes. Some regulations were established in the field of local management, such as the Special Provincial Administration Act, the Municipal Act, the Metropolitan Municipality Act, and the Local Government Associations Act. These law amendments have begun the process of strengthening local authorities. The fundamental principles of the European Charter of Local Self-Government were the main guideline for these amendments (Marcou, 2006).

Local government bodies are decentralized and autonomous public entities responsible for implementation of some public services which are not provided by the central government. In the current administrative system of Turkey, there are four different levels of decentralized

government which are villages, special provincial administrations, municipalities, and metropolitan municipalities for larger urban areas. These four types of decentralized government do not exist altogether at the same time. Special provincial administrations are responsible for the areas which are not within municipal or village boundaries; municipalities have been established in areas with over 5,000 inhabitants (Kapucu & Palabiyik, 2008).

Municipalities appeared in the Turkish public administration system for the first time in the last term of the Ottoman Empire. In Turkish Republic period, municipalities were run in accordance with the Municipality Act issued in 1930 until 2005. The new Municipality Act was introduced with law no. 5393. With this law, municipalities have gained more power and decentralization has been relatively achieved. A legal arrangement made in 1980 created the opportunity to establish metropolitan municipalities by joining large cities with surrounding small municipalities (Kapucu & Palabiyik, 2008).

According to the new Municipality Act, no. 5393, a municipality is defined as an established public legal entity with administrative and financial autonomy to meet the common needs of town residents and local decision-making body selected by voters. The main decision and execution agencies of municipalities are city councils, municipal councils, and mayors. The law imposed extensive local and common duties on municipalities, such as education, health, culture, environment, tourism, rescue and ambulance, firefighters, emergency medical care, and city traffic. The new laws allow for local governments to manage services except for those already provided by the central government. The Mayor, the principal executive and representative of the municipality, is elected for a period of five years.

When a province is formed by law in Turkey, special provincial administrative organs of local government are created simultaneously. The administration of special provincial organs

relies on the model of organic relationship between the state provincial administration, and they also share the same geographical territories. For this reason, there are 81 special provincial administrations since there are 81 provinces in Turkey. These special provincial organs bear legal personality and are public corporate entities. Special provincial administrations are administratively and financially autonomous corporate public entities with legal personality. Decision-making organs are formed by the provincial general electorate through local elections to provide common local assigned services within their jurisdictions (Kapucu & Palabiyik, 2008).

Village administrations appertain to the oldest basic unit of Turkish local administrations. Villages are traditional settlements where municipal administrations have not been founded yet. A village is a small settlement consisting of usually fewer than 2,000 inhabitants (Kapucu & Palabiyik, 2008). Villages, although they are local authorities in law, can barely be accepted as a decentralized authority. The services in the villages are mostly provided by the special provincial administrations and local branches of ministries. Consequently, the citizens living in rural areas have much less local self-government than those living in urban areas (Marcou, 2006).

An administrative system must have integrity in a unitary and centralist state. Article 123 of the Turkish Constitution includes the principle of the integrity of the administration, indicating that administration is a whole with its organizations and functions, and regulated by law. This principle requires public organizations to work in harmony in the field of public administration that consists of various legal entities. Even though public administration institutions seem fragmented, this fragmentation arises in terms of services provision rather than integrity of the institutions. In fact, all of those institutions are a part of a system and a whole. The authority used by local governments is endowed by the state. Since the state endows that authority, the

state supervises that authority. The state uses this authority through administrative supervision. The purpose of this supervision is to prevent the abuse of the use of authority, to facilitate the impartial use of services by the local people and, most importantly, to create integrity in administration. The integrity in a general administration institution can be generated by means of hierarchical control.

1.4.2 A Brief Overview on Crisis Managements System of Turkey

Turkey experiences different kinds of natural and manmade disasters frequently (Unlu, Kapucu, & Sahin, 2010). When we examine closely some recent responses to earthquakes in Turkey, there are several problems in terms of coordination which mostly emanate from lack of information sharing (Corbacioglu & Kapucu, 2005). For example, there was very limited information flow between medical emergency centers, rescue teams, police, military, and volunteers, which significantly inhibited timely action, especially during the first three days of the Marmara earthquake in 1999 (Comfort & Sungu, 2001). Therefore, authorities could not identify properly where to send their rescue teams and aids because of lack of information about affected areas.

The Marmara earthquake, one of the most devastating disasters in Turkey, killed more than 15,000 people and damaged 214,000 residences and 30,000 business units, with a total economic cost of more than US$16 billion (Steinberg & Cruz, 2004). As a result of lack of coordination among government units, the public authorities totally failed to send the right type of aid to the correct locations. In addition, there were several governmental and non-governmental rescue teams, but they did not know where to go and how to cooperate with each other. Therefore, the first day of the earthquake, which is very important for rescue operations,

resulted with failure regarding the whole rescue operations conducted. This failure led the government to establish a temporary Regional Coordination Governorate to allocate resources in the region, which is new for Turkish administration (Corbacioglu & Kapucu, 2005). This was necessary because the Marmara earthquake affected a very large area that included Istanbul.

Crises require extensive preparations and crisis management teams composed by competent people. The Republic of Turkey follows the rule of law. Therefore the crisis management system, the competent institutions and organizations, as well as their duties and powers, and the designation of crises are regulated in detail. To better understand the Turkish crisis management system requires an examination of the legislative system.

Roughly 92% of the surface area of Turkey is a potential earthquake area. Turkey has lost thousands of citizens in earthquakes and other natural disasters. Therefore, crisis management and disaster management legislation is of vital importance. However, the diversity of legal regulations related to crisis management causes confusion, lack of coordination, and lack of communication in practice. These legal texts are the constitution and laws, decrees, regulations, and guidelines. Although there is not a special regulation in the constitution concerning crisis management, Articles 119, 120, 121, and 122 regulate state of emergency and martial law related articles. In accordance with the principle of legal administration in Turkey, crisis management organizations were established by law. There are not specific laws for crisis management in the Turkish Constitution, however there are laws and rules related to disasters, emergency services and civil defense.

Until 2009, three main actors governed the disaster management structure in Turkey. They were: General Directorate of Disaster Affairs under the Ministry of Public Works and Settlement, General Directorate of Civil Defense under the Ministry of Interior and Turkey

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Emergency Management General Directorate under Prime Ministry. With the Law no. 5902 issued in 2009, the activities of those three departments were consolidated and the new Presidency has become operative. The establishment of Disaster and Emergency Management Presidency (Afet ve Acil Durum Yönetimi Başkanlığı, AFAD) has changed the understanding of crisis management in Turkey. The primary objective of the Presidency is to serve as the major administrative agency in managing crises, disaster and emergency situations, and civil defense (AFAD, 2013).

Prior to the establishment of AFAD, the emergency management structure in Turkey was fragmented. While more than one organization was responsible for emergency management in some areas, in other places, responsibilities and duties were abandoned due to lack of powerful authority. This situation often caused authority and responsibility conflicts among public institutions. The all hazard crisis management approach is the main philosophy behind the establishment of AFAD, which coordinates all functions of crisis management and eliminates the confusion regarding authority and responsibility. In this approach, in addition to natural disasters, the main concern of AFAD is technological and human-induced crises (AFAD, 2013). As provincial organizations which are directly subordinate to Governors' offices in the provinces, the Provincial Disaster and Emergency Management Directorates have been established for all 81 provinces of Turkey. The duties of the Provincial Disaster and Emergency Directorates are to identify risks and hazards of the provinces, to prepare prevention and response plans for the provinces in coordination with local authorities and other public agencies, to carry out training activities related to disaster and emergency situations, to identify damage in case of a disaster, to prepare civil defense plans of the provinces and districts, and to manage provincial disaster and emergency operation centers.

With the enactment of the Establishment of AFAD Act, three different boards which consist of high ranked representatives of various ministries have been established under the prime ministry's authority in the capital. These three boards are the Disaster and Emergency Management Higher Committee, the Disaster and Emergency Management Co-ordination Committee, and the Earthquake Advisory Board.

AFAD, responsible for ensuring coordination between institutions and other organizations, is the main institution for crisis management in Turkey. Different from its many counterpart organizations, which become operational only after the occurrence of the crisis, AFAD considers crisis management as a process in which pre-disaster, during disaster, and post-disaster periods are evaluated, planned, and managed together.

The Disaster and Emergency Centers Regulation was enacted in order to establish the Prime Ministry Disaster and Emergency Management Center and other disaster and emergency management centers to determine the duties and responsibilities of those centers, and to ensure coordination between them. Pursuant to these regulations, disaster and emergency management centers have been established under the chairmanship of the governor to carry out disaster and emergency management responsibilities. Disaster and Emergency Management Centers have also been established in some districts according as requests of the governors. This regulation also demonstrates that the governor is the most important figure in provincial disaster and emergency management.

According to the Turkish Administrative structure the provincial governors or the district governors are mainly responsible for managing crises and coordinating response efforts of different units. In the case of catastrophic disasters, provincial governors and district governors have some extraordinary powers, especially during the emergency response and rescue phase

(1988 Decree on Emergency Assistance Organization and Planning Related to Disasters – No. 88/ 12,777). This granted power gives authority to mobilize and assign tasks to men between the age of 18 and 65 (except military officers and judges); to confiscate public and private land, building, vehicles, equipment, or any other public needs (e.g. food, medicine, and clothes); and to utilize necessary equipment for emergency communication and mobilization of emergency assistance, such as phones, radios, and TV stations (Ganapati, 2008).

There are still some concerns for the failure of disaster response coordination in Turkey. Firstly, the hierarchical structure of the crisis management system may cause some problems. The Turkish crisis management system and decision making structure are based on hierarchical plans and procedures. At the top of this structure, there are provincial governors and district governors who are appointed by the central government. They have a turnover rate of 2-5 years, which means they have to change after a certain time of service. Therefore, they are generally not familiar with the local conditions and capability of different units in the case of disaster (Ganapati, 2008). We can conclude from the past experiences that lack of leadership was the main reason for the failure of coordination and collective actions across multiple organizations from different jurisdictions (Corbacioglu & Kapucu, 2005). In addition, the lack of inter-organizational cooperation between public (central/local), private, and non-profit organizations during response operations is obvious mostly as the result of a lack of information sharing (Corbacioglu & Kapucu, 2005). Moreover, coordination is seen generally as a post-disaster need, which undermines pre-disaster contact and preparation between different jurisdiction units. So, we can conclude that the current crisis management system and decision making structure are most likely to result in the failure of coordination and collective action during emergencies as

they failed before. This is because the system still ignores the complexity, chaotic conditions, and collaboration requirements of crises.

The most important causes of crises in Turkey are natural disasters because Turkey's geological structure, topography, and climate have potential to create natural disasters at any time. Therefore, crisis management has been perceived primarily as disaster management in Turkey. However, crisis management is closely related to various areas, such as political order, national security, economy, cultural structure, and legal structure. Disaster management mostly focuses on natural disasters, such as earthquakes, fires, floods, and avalanches. Even though they are mentioned in the legislation, technological and human-induced crisis situations do not receive the necessary attention in the Turkish crisis management system.

The first chapter provided the statement of the problem, the significance of the study, the research questions, and a brief overview of the Turkish administrative system and crisis management system. The next chapter focuses on the literature review of leadership and crisis management.

CHAPTER TWO: LITERATURE REVIEW

A comprehensive review of literature, hypotheses, and variables will be provided in this chapter. Initially, basic concepts will be defined and theoretical perspectives will be provided. Then network perspective, collaborative crisis management, leadership in managing crises, and collaborative leadership in managing crises will be addressed. Finally, the statement of the hypotheses and a conceptual model will be presented in this chapter.

2.1 Definitions of Key Concepts

While an emergency is defined as harmful circumstances which do not pertain to the whole community, and do not require extraordinary use of resources or processes to return to a normal situation, disasters refer to the emergency situations which cannot be controlled by a single independent unit and require the assistance of other units to be resolved (ICMA, 1991). In light of this explanation, it can be said that disasters cover emergency situations and require collaboration with other related public, private, and nonprofit organizations. If emergency managers are not successful in managing an emergency situation, the situation may turn into a crisis. According to Sausmarez (2007), natural disasters are not crisis situations on their own, but they can lead to a crisis, for instance, a security, environmental, or economic crisis may occur after an earthquake. Disasters and crises are focusing events; however, the term crisis has an extensive meaning that comprises change and learning processes in policies (Birkland, 2006).

According to Hillyard (2000), crisis management is a management style that is used to decrease the occurrence of unexpected harmful events that deplete the resources of the organization. In other words, the purpose of crisis management is to prevent the occurrence of a crisis, or when a crisis occurs, to manage it in an effective way. The prior condition of effective

crisis management is to be aware of the crises, and their side effects, which may occur at any time. Crisis management embraces the principles of emergency management which are planning, preparedness, responding, and recovering (Hillyard, 2000).

There are four phases of crisis management: response, recovery, preparedness and mitigation. Mitigation and preparedness both refer to the initial two phases in crisis management. Mitigation refers to the work done to prevent or alleviate the threats to human life and property which occur as a result of natural or technological disasters. Unlike the other phases of crisis management, mitigation includes long-term solutions. For example, mitigation includes the building codes for construction projects. Mitigation has many benefits, such as reducing the number of dead and wounded. In sum, mitigation is a proactive effort that can increase the capacity of response and reduce potential losses (Bumgarner, 2008).

Preparedness can be defined as a process of incentive awareness and includes several activities to enhance readiness in response to a crisis. Even though the difference between mitigation and preparedness is not clear, preparedness efforts are made prior to a disaster to support and improve mitigation. According to Mileti (1999), preparedness includes actions such as framing, testing, and exercising disaster plans; providing training for disaster responders and the general public; and communicating with the public and others about disaster hazards and vulnerability and what to do to reduce risks. The purpose of preparedness efforts is to be able to respond quickly and effectively to disasters, thus to prevent loss of life and damage to property. Normally, preparedness is considered as a planning and engineering phase and concerns health, social, and security issues. However, experience has shown that operational agencies, such as communication and transportation agencies, carry much more responsibility in this phase.

Preparedness can be examined under two headings: passive and active preparedness activities. For example, while creating a list of human and material resources is evaluated in the passive category, staff training, issuing a disaster warning and evacuation system, and public information activities are considered in active preparedness (Cuny, 1983).

The response phase takes a great deal of efforts to save lives, help victims, and prevent further damage. In the response phase, governments must cope with many different demands, including acquisition of resources and their deployment; delegation; communication and information management; decision making; inter-agency co-ordination, and media and community liaison (Paton, Johnston, & Houghton, 1998). Thus, the response phase is the most stressful part of crisis management since there are many risk factors and uncertainties such as the duration of a disaster response.

Recovery is defined as "the capability of a system to maintain its functions and structure in the face of internal and external change and to degrade gracefully when it must" (Allenby & Fink, 2005, p. 1034). As a broad term, recovery is used in different fields covering numerous topics, such as community, economics, health, and infrastructure building. In terms of community setting, recovery explains the constant ability of a person, a group, or system to operate during and after any sort of disaster. Recovery does not only mean the capacity of a community for responding to disaster, rather it means reaching a higher level of functioning by these actions (Jennison, 2008).

Most crisis management organizations spend their time, resources, and efforts in the response phase to provide emergency aid and assistance, reduce the probability of secondary damage, and minimize problems for recovery operations (Lindell et al., 2006). Therefore, in

order to measure the effectiveness of collaborative crisis management in a short period of time with the highest efficiency, this study utilizes quantitative evaluations of only the response phase of crisis management efforts.

Change management should be explained as a somewhat related concept to crisis management. Van Wart and Kapucu (2011) claim that change management includes crisis management, in other words, crisis management is a particular form of change management. There are many definitions of change management in the literature, one of which is "the process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers" (Moran & Brightman, 2001, p. 111). Change management is a very complicated domain due to its different aspects and diversities. In the literature, change management is analyzed in two different directions. The first of these is the structural engineering facet of change management; the other examines the response of persons in the face of change. The diversity of change management makes it difficult to classify. In spite of these difficulties, making some distinctions by identifying the main points will be useful. For example, the current situation may require change to be fast or slow. Moreover, change may occur as a planned action and a response to that situation. The last significant factor is the level and inclusiveness of change. Managing change that occurs within a process is different from managing change designed to restructure an entire organization (Van Wart & Kapucu, 2011).

Types of change management that allow time to deliberate and plan for the situation are reengineering, transformational, ad hoc, and organization culture change. Conversely, crisis management does not allow enough time to carefully consider a change. If there is even a little preparation for a change, or the change results in altering hierarchical responsibilities, or the

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entire organization has been effected by change, the changing is called restructuring. On the other hand, crisis management refers to a form of change management where the changes only apply to processes and distorted sub-systems and there is little or no preparation. Even though the crises affects and endangers the entire organization, lack of time it does not allow for an all-encompassing renovation of the organization. Crisis management focuses on short-term solutions rather than long-term solutions (Van Wart & Kapucu, 2011).

2.2 Network Perspective in Crisis Management

Network theory is useful in explaining the process of interagency collaboration. Scholars use the terms collaboration, network, and networking differently in the literature to describe structures and processes. In particular, confusion between the terms collaboration and network arises because the literature uses them synonymously. While collaboration is a process, a network is a structure in which the process takes place (McGuire, 2002). The term network refers to a combined structure that includes some actors or nodes and relations, such as ties or edges between these actors. The structures of networks can be formal or informal, and cross-sector, inter-governmental, or functional for solving a problem. People, groups, organizations, and societies can be the actors. Types of ties form the structure of a network and nodes take positions within this formation. Many network theories describe the structures of networks and node positions, and then relate them to group and node outcomes. Hence, the definition of a network depends on the scholar's selection of different sets of nodes and types of tie (McGuire & Silvia, 2009). According to Bardach (1994), a network is "a set of self-organizing working relationships among actors such that any relationship has the potential both to elicit action and to communicate information in an efficient manner" (p. 4). This definition implies two capabilities

of a network: "the capacity to organize working relationships and the capacity to transmit information efficiently" (Bardach, 1994, p. 4).

Bardach (1994) defines four types of networks. The first network type is a "provider network" in which organizations acquire expertise based on the form of service provided and type of clientele served, or as a result of reaching out to some funding sources. In this type, specialist organizations can potentially offer many sources of synergy through collaboration. The second type is a "contributor network" in which individuals and agencies play a contributor role by supplying different kinds of financial and political contributions to ensure the success of the collaborative effort. The third type is a "reputational network" that carries information about the reliability of entities within networks. The fourth type is a "constitution-building" network which combines planning, outside political back-up, and internal negotiating tasks.

On the other hand, Milward & Provan (2006) offer somewhat different categorizations of networks than Bardach recommended. They posit four different types of networks which are service implementation (jointly produce the service, incorporate it, and deliver it to clients), information diffusion (pass over governmental boundaries and share information to foresee and prepare for difficulties such as earthquakes, hurricanes, and so forth), problem-solving (establishing a policy or political agenda to solve urgent problems such as the 9/11 terrorist attacks in the U.S.), and community capacity building (to enable communities to deal with present and future problems). These network types occur as a response to a specific long-standing problem such as homelessness, terrorism, and foreseeable natural disasters. These network types can be used to establish a collaborative crisis management system.

| Emergency Situations | Crisis Situations | Catastrophic Crisis |
| Hierarchical-Hub Network | Cluster Network | Random-Decentralized Network |

Figure 1 is adopted from Pfeifer (2013)
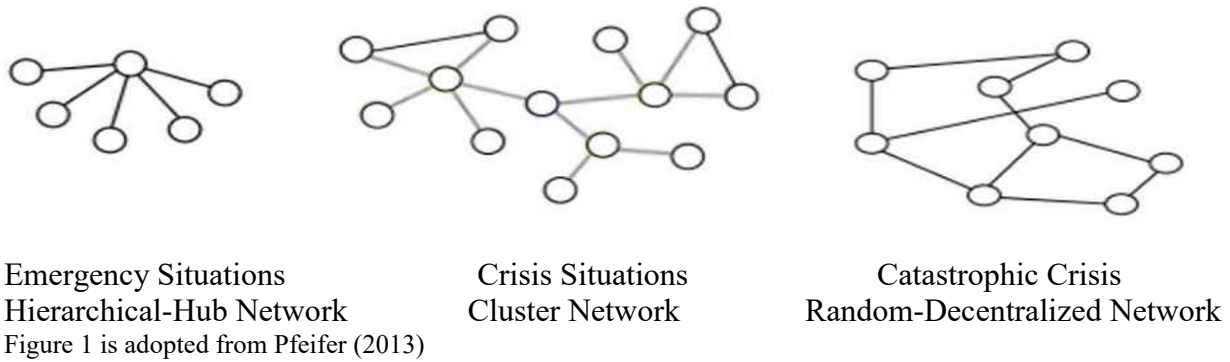
Figure 1. Different Response Networks that may exist during an Emergency Situation, a Crisis Situation, and a Catastrophic Crisis

There are three categories of network structures: Hierarchical-Hub Network (emergency situations), Cluster Network (crisis situations), and Random-Decentralized Network (catastrophic crisis). The choice of network structure used is based on the size and devastating effects of a crisis situation. In routine emergency situations such as car accidents or house fires, a hierarchical or central hub network type is appropriate for command and control. Cluster network and random-decentralized network types are seen during larger non-routine events such as terrorist attacks, strong hurricanes, tsunamis, and earthquakes. Figure 1 shows there is no central leader in a random decentralized network. This implies the nodes are haphazardly connected to each other during catastrophic crisis. In a catastrophic event, networks generally develop randomly in the beginning phase of the event and then transform and evolve into a systematized cluster model. When approaching the end of the event, the network type evolves into a centralized hub-type network (Pfeifer, 2013).

2.3 Collaborative Crisis Management

The crisis management literature on systems that effectively deal with crisis and catastrophic disasters such as strong command and control systems, and collaborative networks.

Networks are generally collaborative and consist of non-bureaucratic organizations which work in an independent manner with both government and other partners. Networks are fairly different from hierarchical structures (Milward & Provan, 2006). The importance of collaborative network, particularly in crisis management, is well understood by scholars. Disaster responses are usually large-scale operations such as the response to the bombing of the Federal Building in Oklahoma City in 1995. In that case, numerous public, private, and nonprofit organizations, as well as many individual volunteers, joined in response operations. Similarly, hundreds of organizations and thousands of volunteers were involved in the response operations of the World Trade Center attack in 2001 (Waugh & Streib, 2006). Additionally, a crisis does not respect jurisdictional boundaries. For instance, Hurricane Katrina affected people from different states. A range of different governmental and nongovernmental organizations (NGO) responded to this disaster including emergency management, law enforcement, transportation managements, the American Red Cross, Walmart, and regional religious organizations (Robinson, Eller, Gall, & Gerber, 2011).

A hierarchical command system is usually not successful in the constantly changing environments of disasters. This type of system is not designed to develop an overall picture of the disaster situation and its risks in order to build collective understanding and to coordinate separated efforts, which are so important for integrated crisis management. Bureaucracies and hierarchical organizations are often inflexible and slow to adapt to changes in their environment. Therefore, the best network structure to cope with uncertainty is one that is decentralized and can adapt quickly to changing environments. For example, the centralized bureaucratic structures were the source of the disappointing response efforts during Hurricane Katrina. For quick adaptation, it is not enough to have a decentralized network structure; each stakeholder should

also be decentralized. Even though these organizations are formed as centralized structures during times of normalcy, they should be able to adapt and decentralize their structures in times of crisis (Kapucu et al., 2010).

Self-organizing systems are the most suitable ways to understand crisis management networks. Typically, participation in a crisis management network is changeable and mobilization within this network is not predictable in crisis situations. Mobilization does not occur in accordance with the documented plans and expectations. The roles actors play during a crisis depends on their experience in previous crises and other characteristics. Therefore, it becomes difficult to plan mobilizations and develop preparation exercises due to uncertainty regarding actors who will mobilize following an emergency event (Comfort, 2007). The experience of Hurricane Katrina demonstrates the effects of not holding evacuation exercises, and this deficit is considered the main reason for difficulties in evacuating the inhabitants of New Orleans. A good network, especially the network leaders, can help make the mobilization of many organizations predictable based on prior relationships, as seen in Dallas/Fort Worth, TX area following Hurricane Katrina. The leadership of these networks was able to resolve the unpredictability problem of the mobilization and management processes of crisis management networks by using prior informal and formal relationships (Kiefer & Montjoy, 2006).

Collaboration can be described as any collective action between two or more organizations which aims to advance public value through their joint work (Kapucu et al., 2010). Organizations would require collaboration with other organizations when they have an expectation of managing and solving a problem in an effective way. Organizations also need to collaborate if the problem is bigger than their capacity to resolve it alone. A public

administrator's task within a network is to coordinate the people, organizations, and resources.

Therefore, a network will be developed and the flow of resources, such as information, expertise, and technology among interdependent organizations can be ensured. Trust and reciprocity are vital elements that should exist among a network's members. To achieve the purposes of a network, emergency network managers are responsible for build in trust and reciprocity, and developing the collaborative skills of stakeholders (Milward & Provan, 2006).

Collaboration is both important and necessary in the crisis management network while command and control methods may be quite problematic. However, a network is not always sufficient due to the very lack of authority and diffusion of responsibility existing in its nature. Coordination is difficult within crisis management networks as well. In spite of the difficulties of using networks in disaster preparation and response, they may be created and used to increase the awareness and participation of affected populations (Kiefer & Montjoy, 2006).

The first principle listed in the National Response Framework (NRF) of the US Department of Homeland Security (DHS) provides a clear endorsement of the idea of networks in emergency management by creating engaged partnerships. The document describes the routine responsibilities and authority of local emergency managers in their jurisdiction. According to the NRF, the emergency manager: coordinates all parts of the local emergency management program and the planning process; works collaboratively with other local organizations, which includes both nonprofit and for-profits; and engages other organizations in planning, training, and exercises (McGuire & Silvia, 2009). State-level emergency management plans include similar principles regarding the role of the emergency manager in leading networks during planning and

response. At the county level, the responsibility for leading emergency management is usually carried by the county emergency managers (McGuire & Silvia, 2009).

2.4 Leadership in Managing Crises

One brief but inclusive definition of leadership among the many definitions in the related literature is that "leadership is the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives" (Yukl, 2002, p. 7). There is an ongoing discussion among scholars about the differences between leadership and management. While some scholars claim that these two concepts are separate and different from each other, others claim that these concepts overlap, and can be used interchangeably (McGuire & Silvia, 2009). Leadership has traditionally been used in the same meaning with authority. Authority is accepted as the ability to give orders to others, to control subordinates, and to make important decisions with discretion (Barker, 1997).

2.5 Leadership Theories

The academic works regarding leadership studies can be quite puzzling because leadership concepts and their definitions have changed over time as the result of social, economic, political, and technological developments. Thus, scholars have examined the subject from different perspectives, and many different definitions and methods have been developed. As a result, while some scholars stress who leaders are or the personalities and trait of leaders, others mainly examine the missions and styles of leaders (Alimo-Metcalfe & Alban-Metcalfe, 2008).

Leadership theories are categorized under two types: classical theories of leadership and contemporary theories of leadership. While some scholars argue that leadership is an innate characteristic, some others claim that leadership is a skill that can be learned. Regarding these different perspectives, a progression of theoretical development have been provided in the field since the 1930s that has included traits, skills, and style approaches among its main classical theories. The main focus of the traits approach is to define the personal characteristics of successful leaders. The skills approach takes into account the knowledge and abilities that the leader has. The style approach focuses on leadership behaviors (Mestenhauser & Ellingboe, 2005).

Contemporary theories of leadership include charismatic leadership, transformational leadership, servant leadership, contingency theory of leadership, and collaborative or network leadership. Charismatic leadership focuses on the personality of a leader, and claims that without any extra effort, a charismatic leader's personality is enough to motivate followers (Mestenhauser & Ellingboe, 2005).

Transformational theories compare leaders' reactions to a transactional situation and to a transformational situation. Transaction leaders do not have a wide-angle viewpoint; instead they do their routine daily tasks in a definite way. A transformational leader acts from a big picture viewpoint (Foster, Goertzen, Nollette & Nollette, 2011). Transformational leadership can be defined as the creation of courage for the followers and creation of success that is beyond the expectations of the followers (Rafferty & Griffin, 2004).

Servant leadership gives priority to serving others. In this approach, leaders should consider the wide needs of society. Servant leaders should pull back and listen in order to

comprehend a situation so that they can find a more appropriate way to intervene in the problem. One of the important objectives of servant leadership is that servant leaders should accept others as peers and learn how to live in a community (Chrislip & Larson, 1994).

The contingency or situational leadership approach concentrates on how leaders work in based on the situations in which they find themselves. For instance, a leader may act differently during case of crisis than he/she does on a routine work day. In other words, the contingency theory refers to the leader's behavior and personal characteristics which may vary depending on the situation. This theory seeks to explain that specific variables connected to the environment determine the best leadership theory suited to the situation. Variables such as leadership style, adequacy of followers, and features of the situation may determine the achievement of the organization (Huxham & Vangen, 2000).

Leaders openly express their ideas, inspire people to mobilize, and concentrate on problems and results. However, collaborative leadership requires a different style of leadership. In this approach, the leader must guarantee and guard the progression of collaboration, ease of interaction, and struggle patiently with frustrations that may arise during the functioning of collaboration. Collaborative leaders guide rather than control and concentrate on motivating rather than directing (Carter, 2006).

Although collaborative leadership structures differ from other types of leadership in terms of the characteristics of networks, in some aspects they are similar to transformational and servant leadership. To clarify, a collaborative leader aims to ensure the participation of all parties and they consider these parties as peers. A successful collaboration meets the needs of the community, and a collaborative leader serves the stakeholders in the network (Chrislip & Larson,

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1994). In crisis situations, collaboration is preferable to strict command and control systems. Crisis situations also require a leader with passion, self-confidence, and the ability to focus the big picture. Transformational leadership and collaborative leadership theory will be examined in greater detail in the following sections.

2.5.1 Charismatic Leadership

Weber, cited in Van Wart, 2011, used the charismatic leadership concept that was based on the Greek word 'charisma,' which means the extraordinary abilities of a person are given by god. He used the charismatic leadership concept to explain a heroic leader with remarkable abilities. According to Weber, a leader's power source can be traditional or legal authority, but in times of crisis, these sources may be insufficient and people may require different sources of power. The unique ideas and strong, compelling characters of charismatic leaders can lead to success more quickly and develop alternatives to the current situation easily. Charismatic leaders are successful in reorganizing society and organizations. The charismatic leadership approach emphasizes the personality of the leader and interests in the leader's traits. In addition, charismatic leadership scholars are interested in the characteristics of the leader's followers (Van Wart, 2011). Charismatic leadership studies are mostly descriptive and examine the negative aspects of powerful and effective leaders, such as narcissism, which provides better understanding of wrong leadership behaviors that are the result of weak personalities, exploitation of power, selfishness, and weakness of followers. Leadership scholars such as Robert House (1977) who came after Weber have benefited from Weber's charismatic leadership approaches, although they made significant changes in the approach (Van Wart, 2011). These

scholars have developed further theories such as transformational leadership or visionary leadership that evoke the notion of charismatic leadership (Fiol et al., 1999).

Charismatic leadership has been criticized from many angles. For instance, bureaucratic organizations seem more appropriate for charismatic leadership than non-bureaucratic organizations (Mumford et al., 2008). Another criticism is that this leadership style underestimates or neglects some important leadership competencies, such as planning and decision-making (Yukl, 1999). Charismatic leaders emphasize and define goals and demonstrate necessary action methods to their followers to meet these goals. For a charismatic leader, being a role model and selfless is a way to encourage and motivate followers. Furthermore, another tool that is useful to motivate followers to act is communication. As a result, charismatic leaders must have an effect on followers, provide joint goals for followers, and motivate them to take necessary actions in order to achieve these goals. Examples of methods used by charismatic leaders in order to influence followers may be their extraordinary abilities in emotional persuasion, eloquence, and becoming aware of the follower's personal and social needs (Mumford et al., 2008).

2.5.2 Transformational Leadership

Recently the recognition of transformational leadership has increased at both local and global levels and it has found a place in the leadership literature. The issues faced during the reorganization processes of important institutions have led to a rigorous search for an effective leadership style. This quest has led scholars to transformational leadership, one of the leading paradigms of contemporary approaches to leadership which has gained importance and interest in contemporary management theory and research (Allix, 2000).

Transformational leadership represents a necessary course of action in the management of change and innovation. This style of leadership is possible if the leader is able to recognize, control, and direct his own feeling as much as those of his follower's. According Rafferty and Griffin (2004), transformational leadership is the creation of courage for followers and the creation of success that is beyond the followers' expectations. Transformational leadership was first defined by Dowston in his study "Rebel Leadership". (1973). However, the concept of transformational leadership was systemized by a political scientist, James McGregor Burns, and it became more well-known. Burns developed his study based on Max Weber's theory of charismatic leadership and sought to determine the differences between leaders and managers. Previous studies examined the behavior of either leaders or followers, but Burns' study explored the relationships and interactions between leaders and followers. Using Weber's distinction of the roots of authority as economic and non-economic, Burns classifies transformational leadership and transactional leadership (Alimo-Metcalfe & Alban-Metcalfe, 2001).

According to Burns (1978), leadership's purpose is to mobilize employees to achieve goals created independently or mutually, by using people's values and economic, political, or similar powers. The most important point of this definition is the goals, which are independent but inter-related to each other. Two people may exchange goods and services in order to achieve an independent goal. There is no joint effort to achieve a common interest of the employees in this relationship, instead there is just a bargain.

Transformational leadership goes beyond transactional leadership in many aspects. Transactional leadership focuses on a deal between leaders and followers; namely, followers are motivated by rewards and reinforcement, or negative feedback instruments such as disciplinary

behaviors. On the other hand, in transformational leadership theory, leaders can change and shape the objectives and values of their employees by using the process of leadership. Both styles of leadership can be used to benefit the people. If the behaviors between the employee and the leader meet the objectives of each, transactional leadership will satisfy employees. The values of transactional leaders are responsibility, honesty, and stability; however, a transformational leader considers some ultimate values to add to these such as justice, freedom, and equality. A transformational leader boosts the morale and motivation levels of employees by using these ultimate values (Burns, 1978).

Burns (1978) claims that due to its capacity to make remarkable changes, transformational leadership has the ability to create new perspectives in modern organizations. This form of leadership designs a better future, has foresight and creates a vision, evokes a desire for that vision, and implements it effectively. Transformational leaders can change their environment. These leaders not only react to environmental conditions, but also create a new environment (Hickman, 1997).

Burns's did not go beyond classifying transactional and transformational leadership. Although making a theoretical classification, he did not develop any required measurement criteria or measurement method for application in practice. This limited the research done in this area (Hartog & Van, 1997). The Multifactor Leadership Questionnaire, created by Bass and developed by Bass and Avolio (1990), made it possible to measure the effectiveness and impact of the Burns's proposed leadership models in many areas, such as education, military, public and private sector organizations. As a result of large-scale applications of the questionnaire, Bass (1999) created a summary table showing the differences between the behavior of

transformational and transactional leadership. Transformational leaders have the ability to shape the objectives and change the values of the followers by using only the leadership process. According to Bass, transactional leadership targets clarifying goals, labor standards and working instructions, and focuses on the followers' styles of doing business, that is a reward and incentive-based method rather than fostering initiative in the followers. However, Burns (1978) defined a transformational leader as one who motivates his followers through high ideals and moral values.

According to Bass (1999), transformational leadership develops together with transactional leadership motivates the followers through understanding of the leader's vision and sacrificing individual objectives on behalf of the goals of the group or organization.

Bass (1999) considered transformational leadership behaviors in three dimensions:

1. Charismatic Leadership: Based on being respected and admired by the followers.

2. Intellectual Encouragement: Encourage subordinates to explore new styles of doing business.

3. Individual Support: Pay attention to the individual needs of subordinates.

Then he separated Charismatic Leadership into "inspirational motivation" and "idealized influence". While the core of transformational leadership necessarily includes charismatic leadership, Bass indicates that charisma alone is not sufficient for transformational leadership. In addition, Bass described charisma as the process of creating a mission-vision, taking pride, and having respect and confidence. Thus, transformational leadership behaviors were examined in four dimensions, which Bass (1999) referred to as the four "I's" of transformational leadership. These four dimensions are briefly explained as follows:

- Idealized Influence: Idealized influence relies on respect and admiration of followers for a leader.

- Inspirational Motivation: A transformational leader inspires and motivates followers by creating differences in their jobs, stimulates team spirit, and exhibits enthusiasm and optimism.

- Individual Consideration: A leader endeavors to develop a relationship with each follower, and demonstrating that care to resolve their needs enhances followers' confidence in the leader. This also allows the followers to demonstrate their potential. As a result, a greater synergy can exist in the organization. This kind of relationship with the followers develops a sense of belonging.

- Intellectual Stimulation: This feature highlights the ethical and normative dimensions of transformational leadership. This is a dynamic process which encourages followers to demonstrate their contribution, creativeness, and levels of consciousness (Bass, 1999).

A transformational leader does not publicly criticize the errors of followers. He asks them to bring creative and innovative ideas to solve problems and encourages this direction. In the end, even followers' ideas may not overlap with his own opinion; he does not criticize them (Bass, 1999).

In spite of its strengths, there are also some criticisms of the transformational leadership approach. Some critiques pertain to its conceptual sides and some to its application. Some of these criticisms are listed below (Armstrong, 2008; Allix, 2000).

- Transformational leaders focus on the big picture and when they are dealing with creating a vision, motivating, being an agent of change, and confidence-building, they may miss

details and skip some minor issues. If they do not give enough attention to the small details, there may be negative consequences for their organization.

- A transformational leader' great passion, belief, and self-confidence may sometimes suspend their objective assessment of events. Leaders may not see their own mistakes or not consider warnings. It is important to note that the values believed in by a leader and followers are subjective.

- Transformational leaders have all the important and followers are supposed to accept and implement them. Therefore, followers do not participate in planning and leaders are not active in implementation.

- The last critique is that the transformational leadership approach is not behavioral. Therefore it is considered to be a kind of elitist, anti-democratic, and authoritarian approach.

2.5.3 Collaborative Leadership

Collaborative or networks leadership focuses on the administrators' behaviors which can make it easier to establish a productive interaction and mobilize the participants within a network to find effective solutions for problems (McGuire & Silvia, 2009). Leadership in networks has different characteristics than leadership in groups or organizations. The main focus of traditional leadership theories is formal leaders who can inspire and transforms the individuals in an organization to accomplish a specified goal. These leadership theories assume that a leader has managerial responsibilities and a hierarchical relationship with his/her followers. However, such an assumption is not applicable for networks because individuals come from diverse groups and organizations. Another problem is with the presumption of specified goals. It is difficult to reach

a consensus on a collaborative goal due to a variety of purposes and limitations of different organizations and their representatives (Huxham & Vangen, 2000).

To encourage progress and distribute appropriate information to organizations, leadership should hold a central position in a network. Having different roles and authorities for organizations in an inter-organizational network make it complicated. The capacities, functions, and authorities affect the mutual relationships of the organizations in a network even though they pursue a joint collaborative goal (Kapucu et al., 2010).

Unless the leader of a network is able to understand the purpose and type of the network, he/she will not know how to manage it effectively. In an emergency situation, problem solving networks are used to solve problems after crises. Problem solving networks can be planned and designed before the problem arises. For example, a wildfire command system can be adapted to a different situation and it can be used in an unanticipated problem. The managers' role includes five essential tasks to ensure an effective network: management of accountability (monitoring network members to ensure participation and taking responsibility for their action), legitimacy (concern with both the internal and external legitimacy for ultimate success), conflict (managing appropriately and constructively), design (choosing a governance form and implementing it), and commitment (making the level of commitment sufficiently high) (Milward & Provan, 2006).

By the 1980s, crisis management had begun to be a collaborative initiative. For this reason, interpersonal relationships began to be viewed as more importance than technical capabilities for emergency managers. To solve unanticipated problems for homeland security, professionals have to work across boundaries, prepare and negotiate for potential actions, and communicate during operations. At the professional level, the collaborative role of emergency

managers includes coordinating multi-organizational, intergovernmental, and cross-sector response and recovery operations during and after a crisis. Increases in unusual challenges in terms of both number and severity results in more and more preparation for and response to crises by collaborative partnerships and networks (McGuire & Silvia, 2009).

The main role or responsibility of crisis managers has become providing coordination and facilitation for first responders in emergency operations. These managers are responsible to ensure permanent communication among partner agencies and to link to policy-makers. Thus, public managers become coordinators and facilitators during an emergency operation (Waugh & Streib, 2006). Coordination provides efficacy by preventing overlapping of diverse units and individuals and crowds of responders. The actors are motivated by public managers to share their information for coordination in crisis situations (Kapucu et al., 2010).

2.6 Leadership Behavior in Networks

Leadership behaviors can be divided into four categories based on their functional distinctions. The first is activation and refers to the behavior of determining individuals and resources needed to achieve program goals. The second behavior type is framing which describes constructing and combining a network structure by means of facilitating agreement on the functions of stakeholders, working principles, and network values. Mobilizing is the third behavior and provides commitment and support of network actors and outside stakeholders for network processes. The last category is synthesizing behavior by creating an environment and improving the circumstances for beneficial and fertile interaction among network participants (McGuire, 2002).

The allocation of managerial resources in network structures is unstable; therefore, it is difficult to assess the role of management in networks. This unstable characteristic of network management diversifies the usage of leadership behaviors depending on time and space in a particular project or program. Therefore, a contingency perspective can be used to examine network leadership behaviors in terms of when, why, and how network managers use these behaviors. Three elements determine the usage of leadership behaviors: specification of the behaviors preferred by the network manager; the reason for the managers' choice; and an estimation of this choice. The reason for and manner of resource allocation by network managers in a certain situation can be understood through contingency theory which provides a perceptible and foreseeable logic for this explanation. According to the contingency perspective, network environment and management behaviors affect each other. In a management environment, the degree of unambiguous goal consensus, wide distributions of needed resources among participants in a network, relationships between participants in a network, trust in policy tools using regional resources (policy orientation), choosing the right facilitating network action for the success of a program, and providing it to the main actors in a network (strategic orientation) will determine the reason for a network manager's choices and effectiveness (McGuire, 2002).

2.7 Conflicts in Networks

Regardless of whether a person is managing a collaborative system or a unit that is part of a hierarchical system, leasers face the conflict of being both directive and participative. They must have a vision, and at the same time they must encourage other actors to adopt the vision. Therefore, they sometimes act as a leader and at other times act as a follower. One type of leader accepted is the one who believes that he/she should provide direction and clear role expectations

and is both assertive (guiding and directing) and responsive. Good leadership is also good followership rather than autocratic leadership (Connelly et al., 2008).

In some research on leadership in networks, these conflicts are reflected in the opinions of network participants. Some network participants criticize leaders for failure to make decisions without engaging other participants. Contrarily however, they also want leaders who insist on providing direction and pushing organizational members to make things happen. There is a conflict in the minds of the participants regarding leaders. Participants perceive leadership as a shared role and do not want a top-down hierarchical control, yet, at the same time they demand someone, or a group of people, in a high position and who has power to drive and make things happen take control. Indeed, some participants claim that collaboration projects may have failed because there was no individual leader's focused efforts. Therefore, leaders can be authoritative for the purpose of offering guidance and structure while encouraging dialogue and interaction, but they cannot be authoritarian with the aim of absolute control over organizational decisions (Connelly et al., 2008).

There are other conflicts in network leadership. One is that leaders need to see and understand the entire system that they manage; at the same time they must recognize all the important elements. On the one hand, not wasting his/her efforts on minutiae is important for network leaders. On the other hand, awareness of and attention to some of the details could make network leaders more effective at finding alternative solutions. Another conflict is that leaders need to permit actors in collaborations to preserve their autonomy, as well as ensure the development of healthy interdependence among the actors within the collaboration (Connelly et al., 2008).

Yet another conflict for leadership in a crisis management network is, on one side, that crisis response need precise coordination, planning and also participation of all actors before and after crisis, and on the other side that crises happens spontaneously. Therefore, managers are expected to be innovative, adaptive, and practically solution-oriented because, no matter how well prepared, plans seldom match the exact circumstances of a crisis. For example, to solve coordination problems that arose during the California wildfires, an incident command system was created to combine and coordinate large firefighting operations which involve multiple responder units. Despite the existence of a unified command mechanism for disciplined fire-fighting in large wildfires which shared information and coordination among a large number of responders, participation in decision-making was restricted when decisions had to be made quickly (Waugh & Streib, 2006).

Conflicts are a reality of leadership in networks. Effective leaders do not have to try to resolve conflicts, instead, they have to control conflicts by accepting the existence of simultaneous opposites, and if possible they must find alternative approaches to transcend the conflicts in some events (Connelly et al., 2008).

2.8 Leadership during Crisis

Crisis leadership contains all the parameters of crisis management, but it also improves the outlook of post crisis recovery activities. Although crisis management is substantially reactive and responds to crises only after their occurrence, crisis leadership is proactive and it identifies the crisis before it occurs and prepares the organization systematically for crises (Mitroff, 2004). Naturally, managing a crisis is preferred by authorities rather than being

managed by a crisis. In emergency management, being proactive to reduce the negative effects of disasters is more important than responding to disasters after they occur (ICMA, 1991).

To be managed effectively, large-scale crises and catastrophic disasters require additional leadership qualities because local capacities generally are not sufficient to respond in these conditions. In such cases, leaders can decrease or increase the usual effects of the crisis by demonstrating his/her management practices and leadership characteristics. Therefore, leadership can create extraordinary differences in managing crisis situations. Inadequate leadership in any crisis can make the results worse than what it might be. The recovery efforts of New York City after the terrorist attack is an example of good leadership in crisis management. Despite inadequate and incomplete mitigation strategies and preparations, the response operations were considered effective within an unusually short time period because of effective leadership (Kapucu & Van Wart, 2008).

According to Boin et al. (2005), crisis leadership consists of five critical duties, which are decision-making, sense-making, meaning-making, terminating, and learning. Decision-making, sense-making, and meaning-making are also key variables in this study. A detailed examination of these variables is provided in the following section.

2.8.1 Decision Making

Crises create extraordinary and urgent problems for public organizations and governments. In many cases, crises require more resources than normal times, which can lead to a big gap between demand for and supply of public resources. In some cases, crises require some unusual measures, such as utilizing military and restricting certain civil liberties. All these working environments are very different from what a leader confronts in his/her routine work.

Such unusual working conditions require quicker and more politically and administratively risky decision making process than routine times. Every decision needs to be implemented by individuals and organizations; therefore, providing interagency and inter-governmental coordination ensures a more effective performance of crisis decisions (Boin et al., 2005).

There is a strong relationship between making important decisions and the success of crisis management. In the literature, there are many examples of decisions made by top-level (generally political) leaders in some well-known crises, such as Hurricane Katrina. However, the decisions made by top-level elected officials must be implemented. Therefore, decisions made at the executive level have an important impact on the success of crisis management. First, decisions in crises are consequential, meaning the influences of any right or wrong decision are vital to society, politics, economics, and human life. Second, in crisis situations, almost every option entails distinct losses and requires trade-offs or tragic choices for leaders. Third, the potential influence and future developments of any options are ambiguous which creates uncertainties for leaders. Finally, crises require a comparatively quick decision making process, therefore leaders make decisions under a time pressure (Boin et al., 2005).

2.8.2 Sense Making

Most crises do not happen unexpectedly. Even though the indications are not clear or obvious; crises generally give some clues before they occur. A leader must recognize clues in a timely manner and determine what kinds of crises the organization will face. Different kinds of signals come from diverse sources. Leaders must recognize and accurately evaluate these signals, which may not be always clear, easily recognizable, and trustworthy. There are some organizational limitations for leaders to be aware of those signals. Contemporary systems hide

the impulsive mechanisms of crisis in their complex structures. Organizational design and the capacity of individuals operating these systems are the main determiners of timely comprehension of crises. However, a great number of organizations and individuals do not have adequate instruments to discern the signals of an approaching crisis. The reasons for missing discernment can be summarized as follows: lack of willingness of organizations to spend money, time, and other resources to detect possible crisis; lack of ability to exchange necessary information within organizations, or communication problems between units; the perverse effects of rational design in some organizations, such as setting up a false sense of security by depicting the potential reasons for crises and the differentiations of crises perception among the social and political constructions. On the other hand, stress and performance build the psychological dimensions of sense making. Crisis situations are usually unfamiliar to most public leaders and place extraordinary stress on those leaders because of ambiguity and complexity. Stress can be a useful and effective stimulator for a situational assessment or it may cause a leader to be confused by the situation according based on the degree of the stressor(s). While moderate stress causes high performance in making sense of a leader, extreme stress is counter effective to a leader's sense making competency (Boin et al., 2005).

2.8.3 Meaning Making

A leader spends exerts communication efforts to reduce uncertainty in a crisis. People affected by a crisis want to know what happened and to be sure that their interests will be protected. However, providing accurate information immediately after a crisis is not an easy task. To organize data and create coherent, accurate, easily understandable, and usable information takes extra efforts and time which are extremely rare in crisis conditions. Leaders frame the crisis

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and its causes as quickly and accurately as possible. If leaders do not inform stakeholders in a timely manner through news organizations and/or social media or other sources, stakeholders will pursue rumors to make meaning of the situation. By using powerful images and frames, mass media can escalate the crisis to a symbolic contest beyond the event's social meaning (Boin et al., 2005).

2.9 Collaborative Leadership in Managing Crisis

This section discusses selected leadership competencies. After each competency group is discussed, hypotheses will be stated. One of the theoretical perspectives of this study is collaborative leadership theory. According to Van Wart (2013), operationally examining leadership theories demonstrates that

> "transactional leadership theory was complemented later by the growth of transformational leadership, so, too, has distributed leadership theory been complemented by collaboration theory, which focuses on horizontal relationships across agencies (when it is often called "networking") and sectors (when it is normally called "partnering") (p. 559).

From this perspective, assuming collaborative leadership as a continuation of transformational leadership toward the ultimate formulation of leadership for crisis leadership would be an appropriate approach. Twelve leadership competencies that are identified as effective in collaborative crisis management represent the leadership competencies explained by transformational and collaborative leadership theories.

Van Wart and Kapucu (2011) claim that "crisis management does not necessarily require all the same competencies of charismatic or transformational leadership as they are articulated in

the literature" (p. 495). Crises are characterized in the charismatic approach as new and risky conditions that may change systems. Some competencies, such as self-confidence, decisiveness, and flexibility, may overlap with the needs of crisis management. For instance, while charismatic leaders seek to influence their followers with a vision or a message, leaders in crisis management require analytic skill and flexibility to solve urgent pressing problems. While some aspects of transformational leadership, such as inspirational motivation and idealized influence, overlap with crisis management, other aspects are not applicable for crisis management, such as intellectual stimulation. A crisis does not provide enough time to crisis managers to be able to make long-term changes.

2.10 Collaborative Leadership Behaviors in Managing Crisis

Conventionally, crisis managers have used command and control systems to provide direction at incidents. During a relatively small size crisis, managers seize the situation by using their experience and giving commands to subordinates to solve the problem. However, if the scale of crisis the increases, managers would need more than a simple command and control ability. Catastrophic events require some leadership core competencies to collaborate and coordinate with other governmental, non-governmental, and private stakeholders. To utilize leadership skills throughout the entire incident a leader may need to see the big picture rather than be bound by routine managerial tasks. By using core leadership competencies, a leader can create a more flattened command structure and promote collaboration in order to avoid harmful management defects, such as cognitive and organizational biases and lack of information dissemination and exchange (Pfeifer, 2013).
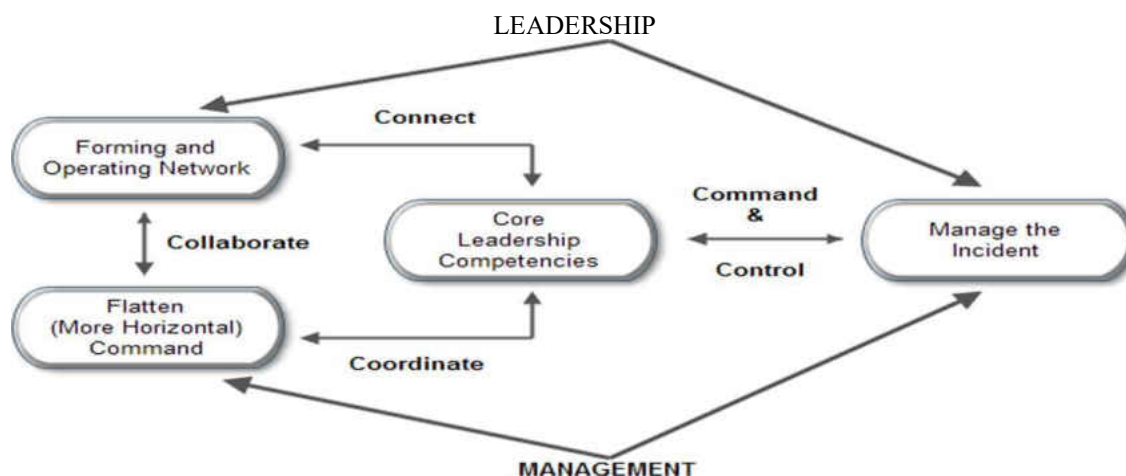
Figure 2 is adopted from Pfeifer (2013)

Figure 2. The Role of Core Leadership Competencies in Collaborative Crisis Management

2.11 Leadership Competency Framework Approach

Competencies developed based on a leadership system are used increasingly and commonly in the public and private sectors. For instance, the results of research performed by Bolden and his colleagues (2003) show that 29 different competency frameworks have been used by companies such as Lufthansa and Shell from the private sector and organizations such as the Senior Civil Service from the public sector.

The term competence is generally understood to mean the education, knowledge, abilities, and experience of individuals who use them while performing a task. When assessing competencies for a position, there should be a connection between the competencies and the successful way a specific mission should be performed. Determination of primary competencies helps organizations recognize their future requirements and leads to the development of individuals and the organization. An organization can define its required key competencies by

using existing general theoretical competencies, determining their own competencies, and deriving the organization's mission and main values (Moore & Rudd, 2004).

There is no universally accepted set of competencies that suits all organizations in all circumstances because of the innate differences between organizations, such as differences in their size and structures (Bolden et al., 2003, Moore & Rudd, 2004). However, defining key competencies helps to determine the skills needed for a leader to be effective. Although each of a leader's skills is individually significant, the place of a leader within the hierarchy may change the amount and type of required skills. For example, technical skills are more important for lower-level managers than upper-level managers in a hierarchy because leaders at the top of the hierarchy depend more on their followers' technical skills. While human skills are important for leaders at all levels of the hierarchy, conceptual skills such as long-term planning are more important for the top leaders, (Moore & Rudd, 2004). The competency framework approach has its own strong features. This approach handles leadership at an individual level and develops and offers advice for individuals.

Most of these frameworks do not only identify leader behaviors, they also examine the cognitive, emotional, and human relations abilities of leaders. Thus, leadership is considered to be a set of behaviors, values, and attributes demonstrated by leaders that promote followers' participation, commitment, and development. In this approach, the sole source of leadership is conceived as a leader who serves as a catalyst. Leaders are equipped with the necessary collection of skills, such as communication, decision making, and problem solving capabilities, which can be used in a variety of situations and environments. Leaders are expected to have diverse skills, personal qualities, as well as a broad social conscience (Bolden et al., 2003).

There are many criticisms of the competency framework approach. First, there are numerous frameworks that contain competency sets that serve mixed functions and features, lack structural coherence, and confuse their users. Competencies do not deal with profession or task analysis; they are about supervisory, managerial, and leadership tasks, and seek to provide a general description of the responsibilities related to these positions. The objective of creating competency frameworks should be to define the functions that will make leaders and followers more effective in an organization. However, most of these frameworks focus on individuals' knowledge, skills, abilities, and personal characteristics which aim to increase individual performance independently from an organization (Horey & Jon, 2003).

In addition, competency approaches have been accused of being too simplistic, general, and universal because they ignore the unique characteristics of the circumstances, individual, or mission. These competencies are accused of fragmenting rather than integrating the role of managers. These approaches also consider past and current performance rather than future needs. These approaches strengthen traditional ways of thinking rather than inviting discussion. Finally, the competency approaches focus on clearly visible outputs and measurable behaviors rather than not immediately obvious and subtle attributes, relationships, and situational factors. Another criticism is that the competency approach is based on three flawed assumptions. First, successful individuals in similar positions exhibit similar behaviors. Second, these behaviors can be learned. Finally, developing a person's weaknesses definitely ensures his/her success. However, experience has shown that in spite of their serious personal shortcomings, leaders achieve similar successful results by applying dissimilar approaches (Alimo-Metcalfe & Alban-Metcalfe, 2008).

2.12 Leadership Action Cycle Model: A Leadership Competency Framework

The Leadership Action Cycle model developed by Van Wart (2004) is a leadership competency framework that concentrates on public sector leadership and can be used for all levels of government. As a multidimensional leadership model, it integrates many leadership research trends developed by other scholars. Van Wart concluded there are 37 competencies linked to administrative leadership.

Leadership requires many features, including a series of assessment skills, some character features, and various behavioral competencies (Van Wart, 2004). Even though it can vary considerably over time depending on the changes in an organization's internal life cycle and environmental factors, some elements of leadership concepts have been accepted on a universal level. Leadership also varies based on the followers' types, the organization's success, and so on. Therefore, necessary leadership competencies can vary from one organization to another even for the same leadership position. Over-inclusive models may be more attractive, but they may also be victims of over-generalizations. A proposal may be valid for some events which may be incorrect or not applicable in other cases.

Van Wart's (2004) model was established based on leadership styles that are preferred by a leader and three types of leadership competencies: traits, skills, behaviors. In the model, a leader is supposed to possess inborn traits and learned skills. In addition, the information gathered by a leader while evaluating an organizations and its environment is the source of the leadership behaviors that are fundamental for measuring leadership effectiveness. The model, considered a complex process, consists of five separate leader behaviors. These are, first, evaluating an individuals' organizational and environmental requirements, and his/her leadership

restrictions and preferences; second, improving multiple needed leadership attributes, traits and

skills; third, purifying and adjusting one's leadership style for various conditions; fourth,

accomplishing previously determined performance goals in task-oriented, people-oriented, and

organization-oriented behaviors; and fifth and individual constantly self-assessing and improving

his/her performance and potential (Beinecke, 2009).

Van Wart's research determined there were very few scientific studies on leadership in

the public sector in the last six decades. Leadership in the public sector is usually considered as

an executive fact, and there is a lack of experimental studies related to this issue. The few

published articles are not empirical and focus on high-level bureaucrats rather than middle and

lower level officials who constitute a large portion of public sector leadership positions. The

Leadership Action Cycle is a model that can be applied to governments at all levels. With its

multifaceted approach, this model combines various previous leadership studies. According to

the model, leadership behavior can be used as a foundation in assessing leadership effectiveness

(Silvia & McGuire, 2010).

In the Leadership Action Cycle model, Van Wart (2004, 2011) categorized leadership

behaviors as task-oriented, people-oriented, and organization-oriented. Task-oriented behaviors

refer to the activities associated with "monitoring and assessing work, operations planning,

clarifying roles and objectives, informing, delegating, problem solving, and managing innovation

and creativity" (Van Wart, n.d, p. 5). People-oriented behaviors includes "consulting, planning

and organizing personnel, developing staff, motivating, building and managing teams, managing

conflict, and managing personnel change" (Van Wart, 2011, p. 210). Organization-oriented

behaviors involve "scanning the environment, strategic planning, articulating the mission and

vision of the organization, networking and partnering, performing general management functions such as human resources and budgeting, decision making, and management of organizational change" (Van Wart, 2011, p. 234).
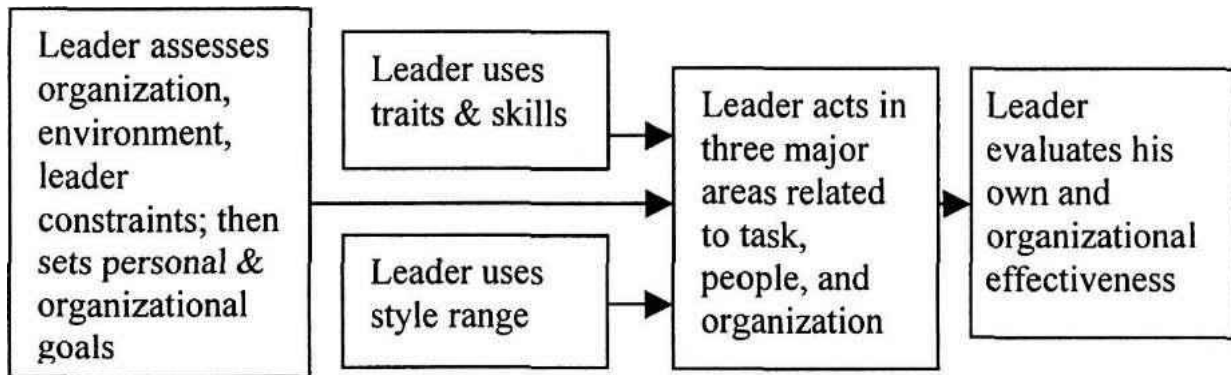
Figure 3. An Overview of the Leadership Action Cycle (Van Wart, 2004, p. 174)

2.12.1 Traits and Skills

Leadership scholars only focused on traits and skills of leaders in the first half of the 20th century. They were many studies done to determine whether traits or skills are more important for a leader. However, some scholars realized that a theory that only addressed traits and/or skills was not adequate to illuminate leadership. In other words, individual dissimilarities and different situations have an impact on leadership and this is not explained by a theory based on concrete traits and skills. While there are additional concepts necessary to explain leadership, there are indeed some important traits and skills that are significant for leadership.

Traits. Van Wart (2011) defines traits as "relatively innate or long-term dispositions" (p. 259). The earliest work on leadership and traditional studies about the emergence of leaders began with the investigation of particular leadership traits. The desired goal of a leadership traits study is to explain that some people naturally become leaders and these natural leaders are

distinguished from other based on their physical characteristics and abilities. To this end, scholars developed some psychological tests from 1920-1950 designed to determine which traits the leaders have (Yukl, 2002). The traits approach was very popular from 1930 to 1950. Scholars of traits approach revealed the qualifications of an individual who is recognized as a leader (Ivancevich & Matteson, 1990). The most important factor influencing leadership is that leaders are born with leadership characteristics and one cannot be a leader without these inherent characteristics. According to the traits approach, a leader must possess various personal features that are different from other group members (Drummond, 2000).

The traits approach aims to determine leaders' personal features based on three primary categories: physical, social, and individual characteristics. Height, weight, gender, age, health status, and excellent appearance refer to physical characteristics. Being well educated and socially successful can be considered social characteristics. Being compliant, trustworthy, emotionally balanced, confident, and entrepreneurial can be regarded as personal characteristics. However, the difficulty of determining a number of common traits that cover all kinds and levels of leaders, and the existing differences among the traits of effective leaders, constitute the weaknesses of the trait approach. Additionally, the trait approach does not take into account leader and group members' interactions and/or changes in environmental conditions (Lussier, 2002).

According to the leadership research, there is an affirmative but weak correlation between leadership and leaders' physical traits, even though most people believe there is not or should not be a correlation between them. Although, being a well-dressed, tall, and handsome man discriminately increases a person's chance to be accepted as a leader, a person's behaviors

are more indicative of his/her leadership assessment. Personal comportment has a greater effect on followers than physical features, although those features provide others with a feeling of confidence and well-being. On the other hand, personal traits have a very strong correlation with leadership. In the leadership literature, the most cited personal traits are decisiveness, flexibility, energy, resilience, and willingness to assume responsibility. Overall, though they are very important in general, no single trait alone is sufficient to guarantee success. Moreover, personal traits may weaken over time or they may have a connection with one other corrective trait (Van Wart, 2004).

Scholars of leadership have not produced detailed studies about how traits affect the outcomes of organizations in the public sector. Also, there is limited knowledge about which combination of traits may boost effectiveness. Leadership scholars have reached a consensus that not all traits are appropriate for every situation, for example crises require a special combination of traits (Packard, 2009).

Skills. Numerous studies have been completed about leadership, but leadership skills have received little attention. Leadership studies have generally focused on leadership styles and behaviors, leadership traits, and leadership skills development. However, some studies should be done in order to understand specific skills that are required by leaders (Mumford et al., 2007). Previous studies examined leadership skills under four categories: (1) cognitive skills, (2) interpersonal skills, (3) entrepreneur capabilities, and (4) strategic capabilities (Mumford et al., 2007; Mumford et al., 2000).

According to Van Wart (2004), it is not possible to make a precise distinction between a leader's traits and skills. He combined leadership skills under four headings; technical skills,

communication skills, influence and negotiation skills, and the skill of continual learning. All leaders need technical skills, but the type and degree of technical skills needed by leaders will vary depending on leaders' positions within the organization. Technical skill, or expertise, is a significant source of power. Technical skills are more important for front-line supervisors than mid- and higher- ranked leaders. Communication skills are needed for all level leaders, but are especially important for mid-level managers.

While traits are considered as inborn characteristics of a leader, skills are accepted as individual attributes that can be developed by learning. Skills are mostly practical and gained attributes. Education, experience, and training influence the improvement of a leader's skills. Although there are certain inborn leadership skills, such as verbal communication skills, some famous leaders did not have those skills inherently, but developed them by education (Van Wart, 2011).

According to Yukl (2002), different sets of skills are needed by leaders at different levels within an organization. For example, while conceptual skills are needed more by upper-level leaders, technical skills are more important for lower-level leaders. On the other hand, interpersonal skills are important for all levels of leaders to the same degree.

Leadership Styles. Leaders choose leadership styles that reflect their management concepts and demonstrate their effectiveness as leaders. Therefore, a leadership style should be chosen based on the advantages and disadvantages of probabilities, the style's appropriateness to employees and organizational structure, and its contribution to the organization's goals and objectives. The selection of the appropriate leadership style enhances work motivation for both individuals and groups and this helps ensure the realization of organizational objectives. A

leadership style is a form of behaviors that are chosen and used by a leader to achieve organizational goals by taking into account the organization's environment, targets, and motivation of employees. A leader's behaviors are a reflection of the leadership style that has been internalized by the leader (Hicks & Gullert, 1975).

The leaders' main behavioral forms are expressed with leadership styles. Effective leaders usually have more than one style of leadership. A person's leadership style will vary from case to case. Even if they use some leadership styles consciously, leaders generally choose their styles subconsciously, or they may use a leadership style that is different from the style they think they are using. A leader's followers may have different observations and evaluations of the leader's style because opposing observations and minds may generate mixed results. Effective leaders can estimate what kind of a leadership model is required for which case, their own preferred and alternative styles for any given case, and they know how their style can be adapted to the given case in a successful way (Van Wart, 2004). Instead of describing the characteristics of leadership, leadership styles explain decisional forms of follower inclusion, communication style, individual or team-oriented forms of leadership, and the utilization of inspiration tactics (Packard, 2009).

There are several factors that affect a leader's style. The most important among those factors may be the features of followers, environmental contingencies, and power frameworks. For example, a leader should not employ the same leadership style to a new employee as to a veteran; likewise, an employee with high performance and another with low performance should not be approached in the same style. In the same vein, leadership style during normal times will be different from leadership in a crisis situation. Crisis situations require more directive and

decisive decision-makers. Leaders have their favorite leadership styles as well as alternatives. Leaders primarily implement their preferred leadership style since they feel more comfortable in this style in unpredictable situations. They use their secondary leadership style in a conscious way. Style range is related to a leader's ability to use various styles; and style capacity refers to what extent a leader is able to implement his/her primary or secondary styles effectively. How much and how effectively a leader uses styles within a style range varies from one leader to another. However, strategic use of a wide range of leadership styles is also a feature of the most influential leaders (Van Wart, 2004).

2.12.2 Leadership Behaviors

Behavioral approaches focus on leaders' behaviors rather than the characteristics of leaders. While some scholars define behavioral structure and activities of leaders, others examine the differences between behavior structures of effective and ineffective leaders. The behavioral approach is based on followers' perception, according to which leaders can be defined by their behavior. Therefore, leadership is not a component specific to the individual, but rather it is considered a behavioral style that stems from a leader's relations with followers (Yukl, 2002).

The most important contribution of behavioral approaches to management science has been to describe how people behave within an organization's structure, why they behave in a certain way, and the relationships between behaviors and structures (Yukl & Taber, 1983). According to Yukl (2002), leadership scholars mostly spent their time and energy in examining leadership behaviors rather than other dimensions of leadership. A leader's behavior is a strong stylistic demonstration that emits expectations and values of the organization and generates organizational climate. Behavioral models essentially focus on what and how leaders do their job

through their traits, skills, and leadership styles. The main stress of behavioral approaches is to develop identifying methods that explain what a leader does and to evaluate the relationship between leader behaviors and group effectiveness and employee satisfaction (Yukl, 2002).

Although there are countless potential leadership behaviors, early leadership scholars often focused on two extensively defined categories. Ohio State University leadership studies that contributed to the development of behavioral leadership theories were initiated at the end of World War II. The Ohio study group began their work with the aim of determining the behavior of an organization or group leader. The study determined that two different aspects basically play an important role in defining leader behaviors (Robbins, 1994). These aspects are task-oriented and people-oriented behaviors. For three decades this binary grouping has been dominant in leadership studies (Yukl, Gordon, & Taber, 2002). Leadership Studies were performed by Likert and Rensis at during the same time. This study was applied to forty teams made up of twenty teams with high efficiency and twenty teams with low efficiency at Prudential Insurance Company (Yukl, 2002). The purpose of the study was to determine the most influential leadership behavior in increasing the efficiency and safety of the group. As a result of this study, two basic leadership behaviors were defined: task-oriented and people-oriented leadership behaviors. Task-oriented leaders closely control whether followers work according to predetermined principles and methods, and largely use punishment that is based on official authority (Certo, 1992).

There is a lack of consensus in leadership research on appropriate and meaningful leadership behavior sets. The findings of numerous studies can be merged if a meaningful and parsimonious conceptual framework is produced by integrating various leadership behaviors

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(Yukl, Gordon, & Taber, 2002). Some leadership behaviors, such as communication style with subordinates, the degree of power transferred to subordinates, planning and control methods, the way to determine objectives, and so on are considered as the key factors for determining the effectiveness of leaders (Owens, 1976).

In his Leadership Action Cycle model that integrated public sector leadership research, Van Wart (2004, 2011) added a third behavioral category called organization-oriented behavior. Van Wart examines leadership behaviors under three headings: the task, people, and organization-oriented behaviors. He classifies each of these headings as "assessment /evaluation, planning and formulation; implementation and change functions" (p. 193). For example, evaluation activities will change for each behavior type, specifically it will be monitoring the work for task-oriented behavior, consulting for people-oriented behavior, and scanning the environment for organization-oriented behavior. He determines 21 different behaviors within these classifications (Van Wart, 2004, 2011).

Task-Oriented Leadership Behaviors. Task-oriented behavior gives weight to careful supervision of followers in order to achieve appropriate working methods and success. The main focus of this method is to establish a well-defined model of the organization, communication processes, and transaction methods between leader and followers (Bloisi et al., 2003).

A leader with task-oriented behavior focuses on tasks by planning his/her own role and followers' roles in order to reach to organizational goals. For example, he/she programs tasks, assigns employees to the tasks, defines and maintains performance standards, and so on (Gordon, 2002). Task-oriented leadership is especially preferred in crisis environments and in cases where the structures of tasks are ambiguous. Thus, primary expectations of leaders in such situations

are to make job descriptions for followers and program their tasks and to supervise performance standards in order to accomplish the group's targets.

Task-oriented leaders use a one-way communication method in order to schedule what, how, and by whom the task should be done. These kinds of leaders coordinate, plan, and program task-related activities. They provide necessary motivation, equipment, materials, and technical support for followers to fulfill the mission (Holloway, 2012). Task-oriented leadership behaviors have a tendency to get better results through discovering better methods in order to constantly keep employees striving and by forcing them to be productive (Waldersee, Simmons, & Eagleson, 1995).

In his classification, Van Wart (2011) provides the following competencies as task-oriented behaviors: monitoring and assessing work, operations planning, clarifying roles and objectives, informing, delegating, problem solving, and managing innovation and creativity. When compared to other leadership competencies, task-oriented competencies are not very attractive to some scholars who claim that these competencies are mostly related to management rather than leadership as they have more learnable technical characteristics. However, the research done in the last fifty years has shown that task-oriented leadership competencies are among the most important elements of leadership. These competencies create the fundamental dynamics for leaders at all levels and positions. Leaders should ensure that tasks are completed on time and correctly, and also to troubleshoot problems. Problem-solving, which is the most noticeable task- oriented behavior, is the most difficult one to learn, and at the same time it is the most attractive behavior. Problem-solving is on almost every competency list. Understanding the

whole system in which problems may occur, technical comprehension, and the skill to work with people are required elements of this competency.

   People-Oriented Leadership Behaviors. People-oriented leadership behaviors include activities such as mutual trust in interpersonal relationships, communication, and respect for the opinions of and caring about the emotions of subordinates. Leaders with these behaviors show more interest in the needs and desires of followers and act in this direction (Yukl, 2002). People-oriented leaders demonstrate behaviors that are based on transferring authority, improving working conditions to increase the job satisfaction of followers, and are closely interested in the personal development and progress of followers. The Michigan Group study concluded that people-oriented leaders are more successful (Certo, 1992).

   A leader's trust, self-esteem, and respect for, and having a good relationship with his/her followers are known as people-oriented behaviors. People-oriented leaders are concerned with developing good relations with followers and they focus on having high quality interpersonal relationships with their followers (Jones & George, 2007). People-oriented behaviors aim to satisfy the social and emotional needs of followers (Bloisi et al., 2003). These behaviors include developing friendship, mutual trust and respect, and individual attention between leaders and followers (Hunsaker, 2005). Leaders with these behaviors assist followers with their personal problems, take into account followers' suggestions, treat followers equally, and are supportive of followers (Reitz, 1977). Leaders that are successful in terms of paying attention to their followers can maintain good relations with and are loved by their followers. Leaders who are rated low in this dimension do not care about the quality of their relationships with their followers (Greenberg, 2005). According to Yukl (2006), people-oriented leadership behaviors include

supporting, developing, and recognizing followers. On the other hand, taking care of the human element too much may result a possible neglect of productivity (Francis & Milbourne, 1980).

Van Wart (2004) includes the following people-oriented competencies in his leadership action cycle model: planning and organizing personnel, motivating, consulting, developing staff, building and managing teams, managing personnel change, and managing conflict. Lower-level managers give more significance to these behaviors even though these competencies are important for both supervisors and executives.

Organization-Oriented Leadership Behaviors. The last behavioral leadership category in Van Wart's (2011) model is organization-oriented behaviors which were discussed by others under conceptual skills. These behaviors mostly focus on outside perspective, system approach, organizational culture, and organizational change. Organization-oriented behaviors involve management of the external environment, maintaining good relations with and getting support from stakeholders and higher authorities, recognizing resources and stakeholders, and advertising the organization's achievements. Additionally, managing the internal environment by creating a common vision and mission commitment, affecting the organization's values and norms, and making organizational change can be considered organization-oriented behaviors.

Van Wart (2011) provides the following competency list in this category of behaviors: "scanning the environment, strategic planning, articulating the mission and vision of the organization, networking and partnering, performing general management functions such as human resource management and budgeting, decision making, and managing organizational change" (p. 392). Leaders in supervisor and executive positions are different in terms of the way they approach organization-oriented behaviors. While leaders in executive positions with system

responsibility are expected to have a more global viewpoint, lower level leaders in supervisory positions are expected to deal with production and personnel matters. Therefore, leaders in high-level positions give priority to organization-oriented behaviors. Even though organization-oriented behaviors have gained strength recently due to the flattening of organizational structure, lower-level managers, such as supervisors, do not focus on these behaviors as much as executives (Van Wart, 2011).

2.13 Core Leadership Competencies in Managing Crisis and Hypothesis Statements

Kapucu and Van Wart (2008) consider 12 of the 37 competencies as particularly important for crisis management. These core competencies are decisiveness, flexibility, communication (informing), problem solving, managing innovation and creativity, personnel planning, motivating, building and managing teams, decision making, networking and partnering, scanning the environment, and strategic planning. These 12 competencies will be examined in detail in the following sections to better understand how some leadership competencies in certain leadership tasks affect the perceived effectiveness of collaborative crisis management. The competencies will be examined according to Van Wart's (2004, 2011) leadership action cycle model, which means that these competencies will be divided into two categories: traits and skills, and behaviors.

H_1: There is a positive relationship between core leadership competencies and the perceived effectiveness of collaborative crisis leadership.

2.13.1 Traits and Skills

Two leadership traits, decisiveness and flexibility, and one leadership skill, communication (informing), will be examined in this group of competencies.

Decisiveness. Leader decisiveness indicates the degree to which a leader desires to make decisions and to act decisively. Decisiveness has been determined to be an important trait that a leader should have and it is theoretically paired with assertiveness. While a decisive leader's behavior is expressed with clarity and precision decision-making, indecisive behaviors are seen as the reason for organizational failure (Williams et al., 2009). Powerful and decisive leadership is becoming a particularly important requisite when crisis situations occur (Yukl, 2002). Decisive leaders are mostly portrayed in the media as leaders with high self-confidence and the ability to realize vision in a timely and consistent manner. Failure to make necessary decisions even in favorable conditions is indicative of indecisiveness (Williams et al., 2009).

Decisiveness is a personal trait which enables people to make comfortable and secure decisions when they encounter cognitive problem-solving situations. Decisive leaders are considered to be clear about the style and movement they follow, thus they instill a sense of purpose to followers. Decisiveness is also connected with other desirable attributes such as honesty, pro-activeness, and organizational commitment. On the other hand, indecisive leaders experience difficulties in making decisions. If indecisive leaders need to choose an option in an unstable case, these leaders would likely not be able to choose an option easily. In fact, they usually perceive existing options as risky and are pessimists in regards to whether or not their results will yield successful outcomes. This situation generates fear and may even cause behavioral and emotional problems. Indecisive people doubt themselves, and often regret the decisions they made before (Mulki et al., 2012).

Decisiveness can be explained as a continuum that has directive behaviors at one end and participatory behaviors at the other end. However, since decisiveness occurs after consultation, it

is not equal to authoritative decision-making. Involvement of followers in the decision making process has a variety of choices from zero to high involvement rates (Van Wart, 2011).

The existing situation determines the degree of involvement of followers and external resources. Generally, situations requiring decisiveness also require the least degree of followers' involvement and external authority. There are some motives for decisiveness, such as crisis situations, efficiency, and time management, but the most obvious motive among them is crisis management. Components of decisiveness are willingness to make one-sided decisions when suitable, ability to perform quickly in case of crisis, and ability not to lose self-control under stress. The decisiveness trait of a leader provides followers with a sense of confidence in a crisis, and increases followers' trust in the leader. Decisiveness leads to success by presenting a choice for action and initiative. In contrast, indecisiveness is usually one of the most destructive traits for a leader to possess (Van Wart, 2011).

Flexibility. This trait can be understood as the ability and readiness to react in considerably different ways based on different situational necessities. A leader should have a wide-ranging response collection and ability to apply the correct response that is suitable for situational requirements (Zaccaro et al., 1992).

Even though there are requirements and limitations for their positions, leaders have opportunities to determine their area of responsibility and time allocated to various activities. Nevertheless, it is more difficult for a leader to adapt to the necessities of a different kind of position if he/she has remained in the same position and/or career for an extended period of time. According to research that compares leaders with successful and unsuccessful careers, some behaviors and abilities of a leader that make him/her very strong in one position can be a

weakness for him/her in a different position unless he/she is flexible enough for the necessities of that position (Yukl, 2008).

According to the results of research that compares some positions in management scope, there are some recommendations that can improve flexible leadership. First, leaders should seek a means of diminishing restraints, adjusting demands, and increasing their alternatives over time. Second, when making selection and promotion decisions for another position for a person, his/her ability to adapt to different needs should be taken into account. Third, different leadership experiences in their previous careers can help individuals to become more flexible (Yukl, 2008).

Research conducted on situational changes for the same leaders show that there are some requirements to improve their flexibility competency. Briefly, these requirements: (1) Leaders should be acquainted with quickly diagnosing the situation and determining the proper form of behavior that will achieve a positive result; (2) leaders should have the capability to utilize a large spectrum of behaviors; and (3) leaders should act in advance to affect situational variables that are influential in the choice of necessary or appropriate behavior (Yukl, 2008).

Flexible leadership is especially crucial when extraordinary cases and outside changes cause an instant crisis or an evolving risk or occasion. Uncertainty occurs as the result of sudden and unexpected changes in the priorities of internal and external stakeholders, which may require a rapid modification of strategies and agendas. The leaders need to be exceptional when responding to the requirements of crisis management, otherwise a failure to behave wisely and properly is usually noticed relatively soon by followers and stakeholders. In addition, receiving feedback on his/her previous actions and decisions is very important for a leader so he/she can have an opportunity to assess the appropriateness of those actions and decisions, and so the

leader can decide if further action is needed. At this stage, a flexible response is crucial for a leader if he/she has information about previous decisions and strategies that did not work as expected or that need some adjustments (Yukl, 2008).

According to Van Wart (2011), flexibility has two facets. First, flexibility has an attitudinal feature; for instance, a flexible leader cannot be a stubborn person. Second, flexibility has a cognitive side, namely, being aware of available alternatives and having the ability to understand that changes sometimes provide developments. Flexible leaders seek various alternatives that provide mixed pros and cons; therefore, there is no simple yes/no answer for these leaders to decide. On the other hand, leaders should have a good balance and avoid becoming overly flexible since excessive flexibility may be seen as powerless and inconsistent. A flexible leader has the ability to realize "that situations evolve, the types of resources may need adaptation, and original plans may be improved with learning" (Van Wart, 2004, p. 184).

Communication. Communication can be defined in general as transmission of information, ideas, and emotions from one to others (Barrett, 2006). Communication is not a purposeless interaction of persons to transfer ideas and emotions; on the contrary, it aims to create an effect or to be the reason for certain behaviors. In the end, all management activity is based on the functioning of a communication process because any kind of managerial decisions, their results, and the vision of an organization's future can be realized and meaningful if they are transferred to employees and other stakeholders (Barrett, 2006).

Communication (informing) is a necessary competency for a leader to manage a crisis effectively. By using an informing competency, a leader provides critical information to subordinates, superiors, peers, or people outside the organization, which in turn affects the

perceived effectiveness of crisis management (Kapucu & Van Wart, 2008). The knowledge level of a leader regarding psychology, media relations, risk assessment, history, and different cultures contributes to effective communication. No matter how good a crisis management leader and team is, if messages are not disseminated accurately and in a timely manner, inevitably the team and leader will fail. There are two main objectives of communication during a crisis: to inform employees and to assuage the anxieties of involved groups such as partners, citizens, media, and politicians (Sweetser & Metzgar, 2007).

Despite the fact that there is rarely information available during the first few hours of a crisis; this is the phase that will determine the future of the crisis response. In this regard, to determine the worst potential scenarios and to convey to the public the knowledge of what to do before, during, and after the crisis is very important. This information can be obtained by calculating the probabilities related to a crisis and to comprehensively prepare for the crisis. Organizations directed by leaders with enhanced communication skills will have more chance of success in a crisis. Leaders' ability to communicate effectively is their most important source of personal power (Thompson, 1997). By effective use of communication, leaders can detect very early both the outer and the inner signs of crisis; prevent the emergence of crisis; decide very quickly about crisis management; and ensure those decisions are implemented thanks to the flow of information through the organization. Therefore, the leaders with developed communication competency will be successful in managing crises.

One of the critical tasks of crisis leadership, sense making, is related to the communication skill of a leader at the time of crisis. In the sense making theoretical framework, communication skill includes three stages of necessary endeavors for leaders, which are to

understand information collection, and process the information, and disseminate the information (Kapucu, Berman, & Wang, 2008). At first, the main task is to collect all available and accurate information about the incoming crisis. All possible information must be collected because it is better to have plenty of information rather than scarcity of information. Many different sources can be used to ensure inflow of new information that must be comprehensive, obvious, and timely. To avoid rumors and misinformation, a leader should determine the integrity or truthfulness of information sources (Kapucu, Berman, & Wang, 2008). The second stage is to process all identified information. The collected raw information would not be useful or reliable for accurate decision making and release to third parties. In this stage, information is evaluated and interpreted for decision making and dissemination to third parties. Hence, the skills that include understanding, analysis, evaluating, and interpretation of information are critical for a leader at this point. After processing, all this diverse information will be meaningful, understandable, and useful for decision making, modifying public behavior, and encouragement of preparedness (Kapucu, Berman, & Wang, 2008).

Information dissemination is the last step in which the collected and evaluated information is sent to subordinates, superiors, peers, or people outside the organization. The final version of information to be disseminated must be accurate, comprehensive, and transparent. A leader should use multiple communication methods in a timely manner. Information should be about a specific threat and disseminated by a single voice to ensure accuracy, consistency, and reliability (Kapucu, Berman, & Wang, 2008).

The key issue in the event of any crisis is the availability of information for decision making. During a disaster, good and uninterrupted communication is very important to provide

appropriate information for a decision maker in a timely manner. The quality of decisions depends on exploring all available options that are based on collected data and information. Thus, lack of information is a very big problem and stress factor for leaders in a crisis since this lack leads to poor decisions and may cause unnecessary response delays (Paton & Flin, 1999). Acquiring timely and accurate information reduces uncertainty thereby improving the decision-making capacity and the effectiveness of the overall crisis management system. Thus, the technical capacity of crisis management systems is very critical (Comfort, 1999).

Catastrophizes require multi-agency collaboration to be handled. In crisis situations, different responders may develop clusters and these clusters may become networks. These clusters may also be subdivided into function and organizational nodes. One of the main tasks of crisis leadership is to ensure adequate communication among these clusters. It is also vital to determine critical nodes which are bridges for information exchange (Comfort et al., 2004). Providing the flow of ample information among stakeholders, or nodes in network theory terminology, is a critical leadership competency in crisis management because of the need for information due to unfamiliar patterns and the novelty of crisis situations. A leader can use technologies as leverage in order to create a common operational picture and inter-operable information networks for coordination of inter-agency information-sharing (Pfeifer, 2013).

One of the most important factors to overcome a crisis is communication. To guide and inform the public accurately, information related to the crisis should be shared with the media and target group as far as possible. The media may obtain information from second or third sources with negative results if crisis management authorities do not provide enough information. The establishment of a communication network with media and the external

environment corrects incomplete or incorrect information about the ongoing crisis; therefore, the sensitivity shown by disaster management will be demonstrated citizens and other stakeholders (Luecke, 2004).

Effective leaders establish clear oral and written communication with the media, explain themselves using facts and evidence instead of reacting emotionally, share first-hand developments in a timely manner to forestall misinterpretation by the media, and use all available mass communication channels to provide accurate information to target groups. All these endeavors will help resolve the crisis and may create a more positive public perception of the organization. Poor communication causes employees to not respond to the crisis and cause critical resources to be directed to the wrong areas. In times of crisis, coordination and control is difficult without good communication in times of crises (Heath, 1998).

The victims affected by a crisis should be the priority of crisis management communication. The major reason of this communication is to repair the crippling image of an organization after a crisis. The effects of crises, irrespective of their size, may continue to be spoken of for years. The victims of a crisis may blame the crisis management organization and its leader(s) for the causes and results of the crisis, sue them, and even begin legal proceedings in the period immediately after the crisis. This means that the organization and the leader's prestige may face significant damage (Luecke, 2004). In times of a crisis, employees should also be regarded as a target audience, and should be given all the information they need. Timely information to employees affects employee motivation and adaptation to the crisis, but also creates unison in the environment.

Rapid advances in technology and communication technologies affect the process of crisis communication. On the one hand, contemporary communication systems ensure the ability to interact with the target audience as soon as possible in a crisis; on the other hand, it can also contribute to the rapid spread of the crisis. For example, the Internet plays an important role in the quick flow of information that the public needs especially in times of a crisis. However, the Internet may also provide a medium of communication in which unfounded rumors can easily develop into crises. In times of crisis, communication through computers and the Internet can provide an important alternative to mass media for crisis management authorities because it is more easily accessed and controlled than mass media. The Internet provides interactive communication with published comments, explanations, and information about the crisis (Utz, Schultz, & Glocka, 2012). There are various forms of social media on the Internet that include "Facebook, approaching to 1 billion users worldwide; blogs and micro-blogging, including Twitter, which now generates about 50 million "tweets" (postings) a day; content sharing sites, such as YouTube for videos and Flickr for photos; Internet discussion forums and so on" (Hiltz & Gonzales, 2012, p. 1).

Citizens can upload "eye witness" data with photos and videos in real time of a crisis. Therefore, these social media entities can be very suitable and appropriate communication tools to collect and disseminate crisis-related information. The main problems of this new communication method are the potential overload of information, ethical issues related to these posts such as publishing pictures of victims, and reliability and trustworthiness problems of information since anybody can post just about anything on these sites. Incorrect and unreliable information being disseminated via social media on the Internet must be controlled or filtered as much as possible because these kinds of information may endanger public safety, increase

distress in society, have possible negative effects on crisis response efforts, and in cases like riots it may exacerbate a crisis (Hiltz & Gonzales).

H2.: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership.

2.13.2 Task-oriented Behaviors

Two task-oriented behaviors will be examined under this heading: Problem solving and managing innovation and creativity.

Problem Solving. When the literature about problems and problem-solving competency concepts is analyzed, it provides very different definitions. One definition of problem is it is a perceived difficulty or obstacle, a gap between a result and a desired situation, or perhaps an undesirable situation that is able to be resolved with little difficulty (Evans, 1991). According to Yukl (2002), problem solving describes work-related problems, analyzes problems in a timely and logical manner, recognizes reasons for problems and finds permanent and coherent solutions, performs decisively to accomplish solutions, and solves significant problems or crisis. Heppner and Krauskopf (1987) define problem solving as cognitive and effective behavioral processes for compliance of mixed internal and external wishes and desires.

Individuals unconsciously develop their own personal methods of problem solving and decision-making by using their own personalities, training styles, and knowledge learned at school (Arnold, 1992). In fact, problem solving competency can be learned like many other competencies. For this reason, the first thing for a leader to learn should be the problem solving process to resolve personal and organizational problems. Often a leader's success is largely in parallel with his/her success at problem solving.

Leaders are constantly faced with changing challenges. In fact, it is almost impossible for an administrator not to encounter problems in their routine work. Problem analysis and decision-making skills gain much importance when a leader faces a particular problem. Problems are the source of many adversities for leaders and their organizations, such as stress, anxiety, and worry. However, leaders subsist because of existing problems. In short, the main occupation of management is recognizing problems and finding their solutions (Yukl, 2002).

Problem solving is a technical issue. Therefore, competency is very important to gather and process information and to make a conscious decision based on that information. Predictions of the future and scientific research play an important role in problem solving. The problem solving process creates psychological stress. To find options and make a choice is a difficult task because problem solving tackles uncertainties. Even though the set of behaviors required by a problem solving process differentiates between individual and problem types, problem solving process has some fundamental and common stages. One of the most important works on problem solving was done by D'Zurilla and Goldfried (1971). According to them, problem solving has four stages with cognitive, affective and behavioral processes which include problem definition and formulation, decision making, generation of alternatives, and verification.

Problem Definition and Formulation: The most important phase of a problem solving process is to identify the problem. The main purpose of this phase is to define the problem specifically and concretely. How the problem is defined determines how to solve the problem and what changes are needed. To define a problem, one needs to collect data according to the size, borderz, cause, and the urgency of the problem. Careful, systematic, complete, and accurate

research facilitates the achievement of objectives. All obtained data are combined, evaluated, criticized, and analyzed to formulate the problem.

Generation of Alternatives: This stage includes the creation of a list of options to solve the problem. At this stage, no restrictions should be placed on the construction of solutions. Even though some may seem meaningless and unenforceable, all options must be considered. Developing alternative solutions gives an opportunity to obtain the best one.

Decision Making: This stage can be defined as the process of choosing one of the previously generated options.

Verification: Verification takes place after the chosen course of action has been carried out, and is designed to assess the actual outcome so as to make self-correction possible. The aim of this stage is to assess whether and how far the problem was solved, therefore if the solution did not reach the desired value, another option can be selected.

Problem solving processes are comprised of the cognitive strategies of individuals, such as regulating, monitoring, classifying, organizing, planning, and eventually solving problems. Problem-solving processes are significant in problem solving, but due to their lack of content they cannot explain satisfactorily how individuals explain and solve problems. The processes cannot deeply elucidate why two different leaders can practice similar strategies to categorize a specific problem, but their conceptualization of the problem and the ways in which they interpret and make sense of the problem can be quite distinct. Problem solving is a comprehensive and multi-faceted process. There are some variables which affect the problem-solving competency. A leader's leadership abilities, skills, knowledge, motivation, personality, creative thinking, intelligence, emotions, and individual needs, such as goals, values, beliefs, skills, habits, and

attitudes play a role in positive or negative ways in the process of problem solving (Mumford et al., 2000). The most prominent indicators of effective leadership among those characteristics in terms of problem solving are solution construction skill, social judgment skill, and knowledge. These three skills especially construct the basics of creative problem solving, which can be used to solve contemporary complex social problems such as crises (Mumford et al., 2000). These three capabilities and characteristics directly impact a leader's problem solving performance.

Solution Construction Skill: There is almost a consensus among scholars that the main process of creative problem-solving is problem identification and construction. Problem construction creates conditions for the application of other processes in the creative problem-solving effort. In crisis situations, leaders are confronted by ambiguous problems that need to be constructed and defined as a first step of a problem solving process. Leaders should start with recognizing the targets, a course of action, limitations, and information necessary to solve the problem (Reiter-Palmon, & Illies, 2004). On the basis of this information, leaders restructure or reorganize existing concepts "to provide the new understandings that serve as the basis for generating alternative solutions, evaluating the merits of these alternatives, and constructing an initial implementation plan" (Mumford et al., 2000, p.18).

Social Judgment Skill: Leaders implement their solutions to the problems in a social context. Therefore, in addition to their other skills, leaders must have social judgment skills to understand people and social systems. Consequently, selected options must be applicable to and operational from within the context of the organizational environment. Solutions can only be useful if they are compatible with the practical demands of people and the social context. To recognize and judge the requirements and demands of people and social context requires a leader

with social judgment skills. Social perceptiveness is one key and complex skill with which leaders can identify emerging problems, the possible effect of others on problem solutions, and requisites for organizational groups. They should also have behavioral flexibility to adjust their behaviors to handle the necessities imposed by their perceptions of others. Leaders should be able to show required behavioral flexibility to change behavior in conformity with the needs of conditions (Mumford et al., 2000).

Knowledge: The expertise and knowledge level of a leader determine a leader's capability to use complex problem-solving and systems skills and his/her ability to implement those skills within problem areas. To generate solutions, adapt them to organization, and implement them requires knowledge for a leader to apply them effectively. Knowledge has a significant impact on a leader's performance when solving leadership problems if it is related to the tasks at hand, the organization, and the people with whom one works. Knowledge indicates systemized attributes of facts and principles that elucidate the objects and events in problem areas. In this way, leaders can create key components of problems by using extant knowledge, recognize important information sources, produce and assess possible solutions, and detect main limitations and constraints (Zaccaro et al., 2000). In this model, knowledge and skills improve as components and functions of career experience which affect leaders' performance. Hence, experiences which are gained by a leader during his/her career affect the availability of necessary knowledge and skills to solve a problem. Particular kinds of experience would be beneficial for a leader's performance in solving novel and complex problems, such as "job assignments that provide exposure to novel, challenging problems; mentoring; appropriate training; and hands-on experience in solving related problems" (Mumford et al., 2000, p. 24).

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Managing Innovation and Creativity. According to Amabile and Amabile (1983), creativity is to be able to develop new and useful ideas, while innovation is the successful realization of creative ideas in an organization. In recent times, innovation is defined in a much more comprehensive way. Accordingly, innovation includes a new or considerably developed product or service, a new marketing technique, or a new application in organizations, implementations, or external relations (OECD, 2005). After all, creativity occurs at the individual level, while innovation occurs at the organizational level. The inputs of organizational innovation are comprised of individual characteristics of the persons who created the organization as well as features of teams and the organization. To transform these inputs to innovative behaviors and innovative products requires a culture and environment that supports innovation (Woodman et al., 1993).

Van Wart (2004) views managing innovation and creativity competency is seen as part of a task or technical level change management. When organizations compete for resources or their structures are unstable, managing innovation and creativity becomes a crucial competency for a leader. A leader with this competency is needed for both slight degree and progressive change, particularly within a bottom-up process. Top-level leaders are not the main source of technical innovations; mostly line employees and supervisors bring in new elements, and mid-level managers have the ability to realize new things. Leaders with innovation and creativity competency have special behaviors which include encouraging followers to identify and make changes in suitable parameters, stimulating systems thinking, flexibility, careful risk-taking, learning lessons from failures, and understanding followers' habits and values by revealing followers' mental models. Leaders should reinforce these types of mindsets by using creative thinking, testing, improving by using external sources, and providing learning opportunities

through meetings, trainings, newsletters, and so forth. Finally, any follower that intends to make a change in a professional manner should be encouraged, and followers with fruitful results should be rewarded; thereby creating an organizational culture of innovation and creativity (Van Wart).

Leader behaviors are important to mobilize human resources in achieving the organization's objectives. Through their exhibited behaviors, leaders contribute indirectly to followers' creativity by providing support to an organizational climate in which creativity is encouraged rather than suppressed. Creativity develops in a dynamic and tolerant atmosphere. To enhance creativity, leaders need to understand the creative process, encourage creative behavior, and arrange an appropriate organizational climate in which creativity can flourish.

A study conducted by Nystrom et al (2002) demonstrates that democratic and collaborative leadership can provide an environment that is suitable for the highest level of creativity in the organic structure of organization. Madjar et al., (2002) determined that creativity of followers is affected by their leaders' encouragement, support, and efforts by establishing open communication and giving feedback. In their study, Oldham and Cummings (1996) found that the creativity of followers is associated with the behavior of leaders in order to understand followers' feelings and emotions. These scholars also investigated two different leadership styles in regards to creativity. One style is a supportive leadership style in which leaders listen to followers and encourage them, while the other style is a controller type of leadership that refers to leaders who force followers to remain within certain specified limits. Oldham and Cummings proved that controller leadership style is inversely proportional to the creativity of followers. So, a supportive leadership style helps the creativity of followers.

According to Eggers and Singh (2009), innovation in the public sector occurs in two ways. The first emerges as a result of an experienced crisis; the second appears when some people or a small group support a unique innovation (Eggers, & Singh, 2009).

H2a: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through task-oriented leadership behaviors.

H3: There is a positive relationship between task-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

2.13.3 People-oriented Behaviors

The second group of behavioral competency consists of people-oriented behaviors, which are team building, planning and organizing personnel, and motivating followers in crisis leadership.

Team Building. A team can be defined as a distinguished group that consists of two or more people with a specific role or task, acting in a compatible manner for common and valued objectives, goals, and missions (Salas et al., 1999). A team is formed by a small number of individuals with complementary skills. These people act in accordance to common objectives and performance goals and they have mutual responsibilities within this context (Katzenbach & Smith, 1993). In other words, a team is a collection of people coming together for a specific purpose.

One of the most important tasks of a leader in building a team is to resolve disputes that occur within the team and to keep motivation alive in the team (Zaccaro, Rittman, & Marks, 2002). The importance of a leader for a team is to identify shared norms, to provide easy

communication within the team, and to create an adopted common vision for the team. The main task of an effective team leader is to think and define the team's mission and to reveal it in a noticeable way (Leithwood, Steinbach, & Ryan, 1997).

Teamwork creates an environment where people can develop and use all resources effectively and efficiently for continuous improvement (Oakland, 1993). Generally, teamwork has two purposes. The first is the improvement in terms of efficiency and rationalization. The other is the development of participants' work situations (Frieling et al., 1997).

There are many requisites in order to create an effective team with high performance. First, goals and objectives should be identified very carefully, and then a suitable team type should be chosen in accordance with these goals and objectives (Oakland, 1993). An unsuitable team type will not yield successful results. Here, the characteristics of successful teams should be taken into account during restructuring, and teams should be developed in accordance with these characteristics. In the literature, studies have been conducted in order to identify the common characteristics of effective teams and criteria have been suggested to measure the efficiency and performance of teams. Some of these studies were carried out by Robbins (1994) and Bateman et al. (2002).

A team leader directly affects the performance and effectiveness of a team. Solidarity and synergy of a team will increase in a well-managed team, and the team's production level will rise. A leader who gains team members' trust will carry the team from success to success. Naturally, a good leader for teamwork is a person who is flexible, open to suggestions on any matter related to the team, and includes team members in decision-making processes. An effective leader

within the team creates a vision and uncovers the capabilities of team members (Larson & LaFasto, 1989).

Individuals from different units of the organization comprise the teams and they usually bring their own perspectives, objectives, and opinions. Therefore, emerging challenges in holding the members of the team together make it harder to manage the team. When a leader resolves these challenges and he/she meets with expectations, the negative effects will disappear (Ware, 1991). When the team is created, for a period of time team members may show reluctance to abandon their old experiences and to leave their positions, power, and authority. A good leader should have the flexibility and mindset to overcome this major problem, and to instill team spirit in all the members of the team (Oakland, 1993).

Structures of project teams differ from a routine work team. While a routine work team fulfills standard operational tasks, project teams are set up for a particular goal. In addition, a routine team may be managed by a leader or be self-managed, while project teams usually consist of part-time working staff. There are different types of project teams, such as cross-functional improvement teams as well as task forces. To establish a cross-functional team, leaders need to ensure certain requirements are met such as: (1) an open group mission or purpose should be determined; (2) a proper number of people with well-balanced capabilities should be chosen; (3) authority should be given to the team with openly determined boundaries; (4) the team should be encouraged to be successful; and (5) the team should have team skills or if it does not, should have the ability to acquire training for those skills (McDonough, 2000). Leaders should have the ability to build a shared series of objectives and values, develop various ways for its members to interact with each other, develop cooperation and trust among members,

and to provide constant progress without utilizing disciplinarian approaches. Nowadays, building and managing teams is a crucial competency for leaders due to the changing power structures of organizations where authority is being transferred to individuals and teams (Van Wart, 2004).

Planning and Organizing Personnel. The leader's competency in planning and organizing personnel refers to his/her ability to identify long-term goals and policies to utilize personnel and personnel roles. The main concern in planning and organizing staff is to find the best way to distribute and regulate work in order to encourage staff. This behavior involves employing staff and continually improving their effectiveness by using "training, development activities, performance appraisal (when it is robust), social events related to work, team building, and recognition and rewards activities" (Van Wart, 2004, p. 197). Human resource planning and organization is a dynamic process. To provide stability and continuity in organizational culture in the long-term and to have well-trained and satisfied employees in the short-term, this function should not be disregarded.

In a working environment, leaders should ensure that all processes related to personnel, such as hiring, compliance training, wage adjustments, their legal bond with the organization, their efficiency and performance appraisal, meet their individual and social needs, and finally to leave the job are conducted constantly in line with personnel planning. Leaders should constantly take personnel into account from employees' entries into organization to their departures; otherwise the organization will have weak and inadequate personnel resources (Van Wart, 2004).

Human resource management is one of the most important assets of an organization for accomplishing their purposes, for guaranteeing a competitive advantage, and for fulfilling the expectations of environmental factors. Personnel planning and organization is a designation used

when describing the management philosophy, policies, procedures and practices of employees (French, 1994).

On one hand, planning and organizing personnel helps to increase people's performance in organizations; on the other hand, its aim is to improve the life quality of employees. The objectives of human resource planning and organizing can be summarized as follows; (1) to ensure the realization of organizational goals, (2) to benefit from the capacity of employees and evaluate their potential, (3) to improve the performance of employees and organizations, (4) to integrate human resources management policies with the organization's policies and to shape organizational culture, (5) to develop personnel and employment policies in order to harmonize between resources and requirements of the organization, (6) to prepare an environment where the unseen energies and creativity of employees can be revealed, (7) to meet such conditions in which teamwork, total quality, and innovation concepts will emerge, and (8) to promote and encourage flexible working conditions to ensure a compatible and adequate organization (Armstrong, 1992).

Even though planning and organizing personnel is implemented in different ways and has a different character depending on the country's culture and traditions, organizational structure, and technology, this leadership behavior has some common features (Armstrong, 1992). Planning and organizing personnel behavior is an activity that is carried out by leaders. It seeks to encourage the personal development of employees, evokes commitment to a strong culture and values, requires the adoption of an appropriate and detailed approach to employing policies and practices, and manages employee relations that occur at the core, gives importance to flexible roles and teamwork, and provides for organizational change based on a human-oriented

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management concept. Unit managers are responsible for the execution of rewards that will vary based on performances, abilities, and qualifications.

Motivating. Motivation is generally an internal attitude that evokes certain behaviors (Spector, 2000). The concept of motivation contains some factors that mobilize human behaviors, and determines the direction and period of those behaviors. These factors can be internal and external motivating factors. There is intrinsic motivation for employees when they do a specific job because that job is engaging and exciting for them. On the other hand, if they perform the same job for rewards such as making money, or getting a promotion or fame, the motivation is extrinsic. Sometimes, personal satisfaction means a lot more than money, but monetary awards are also important. Many people think that improving knowledge or skills meets an important need. These people enjoy learning new skills, taking on new responsibilities, and welcoming the possibilities for development (Dessler, 1997). However, either intrinsic or extrinsic motivation can inspire people's sense of enthusiasm and persistence (Daft, 2000).

Leaders inspire followers with their persuasion and challenging characteristics, and redound to their followers a new understanding and sense. By supporting the concept of team spirit, leaders bring followers' enthusiasm and optimism to the fore. Leaders involve followers in a future envisioned by the leader. Leaders generate easily understandable expectations between the shared vision and followers' committed targets. Followers should be diligent in helping build a strong vision, thus leaders focus on this point (Yukl, 2002).

Leaders use different approaches to motivate people. If a leader rewards followers, he/she uses a positive leadership approach; conversely, if he/she often punishes followers, a negative leadership is used. The same logic applies to rewards. Positive leadership often results in higher

job satisfaction and success. Negative leadership, in many cases, can be acceptable, but human costs would be high (Elenein, Davis & Newstrom, 1989).

According to Van Wart (2004), motivation refers to utilization of influence strategies by using one's logic, practice, or inspiration with the aim of creating enthusiasm and loyalty to work. For many employees, motivation comes from their nature, but qualified leaders can influence the general degree and stability of followers' motivation in various situations. The first widely used motivational tactics include the methods of utilizing reasonable persuasion, such as submission of proofs, justifications, and advantages. Another group of motivational tactics consists of using some strategies for inclusion of followers, for instance, asking followers for their recommendations in decision-making, and for their help in planning and application processes. The last group of tactics includes the utilization of inspiration. Some personal and group features and sense of perfectionism are used in these tactics, such as professionalism, personal image and ideals, and vision for the future (Van Wart, 2004).

H2b: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through people-oriented leadership behaviors.

H4: There is a positive relationship between people-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

2.13.4 Organization-oriented Behaviors

The last group of leadership behaviors is organization-oriented behaviors. These behavioral leadership competencies include networking and partnering, decision making, scanning the environment, and strategic planning.

Networking and Partnering. Networks are considered a different management structure alongside markets and hierarchies (Rhodes, 1997). Markets are multicenter, atomized and anarchic structures. States or companies are hierarchical and centralized bodies. However, networks have more pluralistic governance forms. Networks, as an alternative form of social and political organization approaches, challenge traditional forms of social organization and management understanding.

Based on network approach, the determiner of an actor's power is the resources held by the actor in modern complex society (Klijn, 1997). These resources are distributed to the various actors rather than held in the hands of a single actor. Therefore, all actors are dependent on each other in order to reach their objectives, information, innovative ideas, financial resources, public authorities, and so on (Sørensen & Torfing, 2007), because any single actor does not have enough information to solve a variety of complex problems of today's society (Kooiman, 2003).

Networking and partnering mainly focus on improving relationships with external organizations and other stakeholders by using formal and informal channels. Organizations with more senior positions and less dependence on other parties' resources will have a more important position in the network. Networking and partnering endeavors will provide various advantages for leaders and organizations, such as information, chance for collaboration, opportunity to find solutions for tangible difficulties, and opportunities to obtain new political connections. Social events and lunches, seminars, symposiums, conferences, and courtesy calls, among others, are generally good informal backgrounds to generate new networking and partnering, even though some formal tasks also can produce networking and partnering. The role of leaders in networking and partnering is to search constantly for these external relationships and contacts, maintain

crucial relationships and contacts, establish trust over time by building mutual understanding, and offer favors with no expectations (Van Wart, 2004).

Morse (2010) uses a good metaphor to explain the role of leadership in networking and partnering. This scholar likens leadership in networking to a catalyst in a chemical reaction. A catalyst is a substance that accelerates a chemical transformation. A small quantity of catalyst is enough to start or accelerate a reaction, and to get the intended result. Integration can be possible with this small amount of catalyst. Likewise, leaders play the role of catalyst in networking and partnering. They bring together various actors at the correct time and enable the integration of their roles to create a new whole. In other words, leaders facilitate integration by using their catalyst function.

Decision Making. Crises are predictable to some degree. There is no doubt that every crisis is unique and may require different effort and intervention. Therefore, in crisis situations there is always some level of uncertainty which causes fear and stress within the community. Hence, crisis management and decision making in times of crisis is one of the most difficult jobs in the world. According to Kapucu and Van Wart (2006), "catastrophic disasters are characterized by unexpected or unusual size, disruptions to the communication and decision making capabilities of the emergency response system itself, and an initial breakdown in coordination and communication" (p. 280). Especially in the response phase, managers must perform many different tasks such as search and rescue operations, coordination between rescue teams and other stakeholders, provide food and shelter, but most importantly, they must make rapid and accurate decisions with limited information and time in a high-pressure environment.

Emergency managers generally make decisions under circumstances of inadequate information, in situations of rapidly altering consequences, with the involvement of a number of agencies' members, and often under significant time pressure. Thus, there are several factors affecting the stress level of decision makers under those circumstances, including situational awareness, decision making processes, communication, time pressure, and the degree of risk associated with a decision (Flin & Arbuthnot, 2002). The response phase is the most stressful part of disaster because there are many risk factors and uncertainties throughout the duration of a disaster (Paton, 2003).

The immediate acute stress may have positive and negative impacts on individuals' decision making or they may feel a combination of both. Positive effects of stress consist of awareness, quicker responses, augmented energy, and faster thinking skills, which are skills of individuals that are enhanced when responding to an event and facitate proper decision making whilst under some pressure. But if the stress level intensifies, its effects become similar to physiological and psychological indications of anxiety and fear which cause poor decision making (Paton & Flin, 1999). This kind of stress creates several problems for decision makers, such as; "tunnel vision," "failure to prioritize," "freezing," and "loss of concentration" (Flin, 1996; Klein, 1996).

All managers are decision-makers because management is the process of making decisions. Crisis management is one field that requires different management and administrative styles in general, and different decision-making forms in particular. For example, while traditional decision-making in public organizations is characterized by careful analysis of all possible alternatives concerning a problem at hand, emergency decision-making may require

certain shortcuts to arrive at a conditionally best decision. By the same token, the context and the scope of decision-making processes in the two fields may vary dramatically. While traditional decision-making has a luxury of enough time to decide on a relatively simple issue, emergency decision-making is characterized by more complex environments and limited time (Flin, 2001).

As the starting point for any organizational involvement in emergency operations, a decision-making process should be as fast as it should be wise. This is especially important because emergency situations are expressed precisely by complexity, urgency, and uncertainty (Moynihan, 2008), which can have debilitating impacts on the process. Scholars of the field have broadly examined decision-making as one of the foundations of crisis management. While the majority of the scholars examined the issue at the individual level, other scholars addressed the issue at the team or group level. Still other scholars explored it at the organizational level. However, scholars are primarily interested in individual decision-making because the majority of decision-making processes, whether at the organizational, team, or individual level, come down to individual decision-makers in organizations (Kapucu, & Garayev, 2011).

The dynamics affecting decision-making in crises are another issue addressed in the literature. These dynamics are complexity, uncertainty, time pressure, stress, risk, information, previous experience, decision-support systems, training, and simulation. Complexity results from the harshness of the condition and participation of numerous organizations in response operations (Kapucu, & Garayev, 2011). Uncertainty arises from inadequate information about the situation, increased workload, and a chaotic environment. Time pressure occurs because of the urgency to make immediate decisions. Stress results from rigorousness and complexity of circumstances, disorderly activities, and urgency to make a significant decision. Risk is required

to decide serious and dangerous issues (Kapucu & Ozerdem, 2013). Previous experience and information are factors that have positive effects on a decision-making process (Kapucu & Ozerdem, 2013; Flin, 2001). Information decreases uncertainty levels and anxiety, thus it increases the accuracy level of decisions made in a stressful atmosphere. Previous experience would also improve the quality of high pressure decision-making by helping decision-makers adapt to a situation thereby encouraging creative thinking. The literature highlights instruments and techniques such as decision-support systems, training, and simulation, which would develop and facilitate decision-making during crises. Decision-support systems would reduce time pressure and uncertainty, as well as remove confusion regarding information and other factors, which are vital for making an effective decision. Except for the last five, all remaining factors would generate negative effects on the final decision of crisis decision-makers. The purpose of training and simulation is to diminish the destructive effects of the above-mentioned dynamics on a decision-making process through improving organizational capability and individual proficiencies (Kapucu & Ozerdem, 2013).

During a crisis, decision makers might use a variety of decision-making approaches depending on the situation. However, it is almost impossible to make a rational decision especially during the response phase since there will be time pressure. Thus, at these times decision-makers generally use an intuitive or naturalistic decision style. Flin (1996) reported that emergency managers generally made their decision according to the Recognition-Primed Decision (RPD) model. This is because "naturalistic" situations of disasters are distinguished by high uncertainty, time constraints, and high risk (Klein, 1997). In the Recognition-Primed Decision model, decision makers use "familiar scenarios" which are based on previous experience, plans, or simulations to arrive at an appropriate "action schema". However,

sometimes they may not identify a situation properly because it does not resemble "familiar scenarios". In that case, decision-makers focus on "situation assessment" to identify the situation properly. Then they create a new sequence of actions for the new situation. Thus, decision-makers in this model deliberate alternative courses of action only if the current "action schemas" are not applicable to situations. Thus, RPD making model contradicts the Classical Model in which all possible alternative choices are compared before a decision is made (Paton, 2003).

The capabilities of a single agency cannot be enough to cope with extreme incidents such as catastrophic natural disasters and terrorist attacks, as highlighted in network theory perspectives. Therefore, the single organization command model needs to be altered to a composition of collaboration with other agencies for such big events. In a crisis, a competent leader should be able to get the key decision-makers to collaborate with each other in order to take advantage of joint decision-making at critical times. Different perspectives can improve critical decision-making at extreme events (Pfeifer, 2013).

Scanning the Environment. Environmental scanning refers to searching for opportunities and risks that may come from outside a particular entity or organization. This is an evaluation task at the organizational level. Government organizations mostly gather information from other governmental entities, private sector organizations, customers, and legislative and supervisory organs that have influence on the organization. Effective leaders can assess if information is vital and pertinent and assure that this information is obtained from various sources. These leaders do not consider environmental scanning as an arbitrary and infrequently performed duty, rather they see it as a consistent and continuing process. This competency is crucial for a leader especially in

dynamic environments. If external factors astonish a leader, the whole organization may be in danger (Van Wart, 2004).

Environmental scanning is the gaining and utilizing of information about actions and tendencies occurring in the external environment of an organization. This acquired knowledge will help a leader in planning an organization's future direction. Environmental scanning generates strategic advantages for leaders in a changing environment by providing information needed to make decisions which then leads to a successful organization. When leaders recognize uncertainty in the larger environmental, they are inclined to do more environmental scanning (Popoola, 2000).

Environmental scanning is a process of observation and interpretation of the opportunities and threats that are presented by an organization's own work environment and general external environment (Glueck, 1984). By using environmental scanning, leaders gather and analyze information that is related to their organization's environment, determines opportunities and threats, and identifies required measures. Leaders are responsible for scanning opportunities, threats, vulnerabilities, and advantages around the organization. The objective of this endeavor is to determine strategic factors that are important for the future of an organization. During this scan, the following areas require focus; (1) organization and its environment should be addressed as a whole, (2) scans about the environment must be done continually and systematically, (3) situational plans should be made to eliminate negative effects of continuous change, unpredictability of the future, and complexity and dynamic nature of environment, and (4) environmental scanning should be seen as part of an organization's decision-making system (Thompson et al., 1984).

There are countless methods offered in the literature to prevent upcoming or potential crises. Constantly scanning the environment of organization will provide information and data about possible impacts of future crises on organization and society, and facilitate dealing with a crisis more effectively (Ritchie, 2004).

Strategic Planning. There are multiple definitions of the concept of strategic planning that covers common features of planning and strategy. Bryson (2011) describes strategic planning as a methodical endeavor to yield fundamental decisions and actions which shape and lead the organization's objectives, actions, and working methods. According to Keller (1983), a strategic plan is not a leader's personal vision, a collection of unit's plans, a decision of a planner, or the way of winning the future (Keller, 1983). There is no common agreement about the features of strategic planning in literature. Norris and Poulton (1991) are of the opinion regarding the features of strategic planning are that (1) it is the most basic responsibility of all leaders and managers of an organization, (2) planning should be adequate to cover all departments, units, and levels of an organization, (3) leaders should motivate employees of an organization in favor of planning, and (4) the cycles of organizational life and timing should be taken into account when planning (Norris, & Poulton, 1991).

A strategic planning process may lead to some changes in an organization. The reason for change and innovation may be endogenous or exogenous, but in both situations they cause alterations of some habits within organizations. Sometimes change occurs in the structure of organizations, sometimes in persons, and sometimes in the technologies used by the organization. Change often causes adaptation problems no matter where it occurs in organizations. Followers react to changes differently. These reactions encountered when

transitioning to strategic planning may cause adaptation problems in changing practices. To minimize these adaptation reactions and achieve a successful transition, leaders should provide intervention activities. Some of these activities are training of followers, improving communication with them, ensuring their participation in the process, facilitating challenges faced in the process, and supporting followers (Kotter & Schlesinger, 2008).

Strategic planning has both formal and informal sides. While the formal side refers to the official processes and budget process, the informal side indicates the concepts, speculations, and ad hoc discussions, which stem from new information and new ideas (Van Wart, 2004). A leader with strategic planning behavior can define strategic goals as well as recognize broad strategies. In order to be adequate strategic planners, leaders should be able to perform proper environmental scanning, be aware of existing strengths and weaknesses, determine collaboratively defined medium-and long-term goals and purposes, and identify crucial areas for modification.

Strategic planning is closely related to crisis management in many aspects. Studies usually focus on the actual realization of crisis management. However, the strategic and political dimensions of crisis management in the aftermath of crisis management are important (Weisaeth et al., 2002). Crises are pressing events that threaten the strategic objectives of organizations. Therefore, crisis management should be conducted in light of strategic management predictions.

Selecting the most appropriate strategy for organizational needs is of great importance in terms of organizational health. If the contradiction between the chosen strategy and its implementation is low, the amount of damage caused by the crisis may be diminished fairly quickly; if the contradiction is large, the extent of the damage caused by the crisis will increase.

At this point, the nature and long-term effects of the crisis are not fully known. This situation requires organizations to make decisions and operate under intense time pressure, which causes a separation between crisis management and strategic management. Strategic choices must be evaluated and selected quickly in order to gain control of the situation. However, if a strategic plan is not flexible and adaptable, and does not respond to organizational culture, it will not be effective alone. A good strategic plan ensures successful crisis management in any case, but the crisis will worsen with a weak strategic plan (Ritchie, 2004).

Each stage of a strategic plan must be flexible due to the uncertain work environment created by the crisis. The development and implementation of strategies should be evaluated depending on the nature of crisis and the response of stakeholders to strategies and then potential changes should be made. The implementation phase may be complex and intricate, and it may make it difficult to carry out any strategy. For this reason, the implementation phase requires flexibility and constant supervision (Ritchie, 2004).

Crises are events that cannot be stopped; their catastrophic effects can only be limited. While important strategic and operational decisions are being made to deal with crises, leaders should strive to integrate crisis management with strategic management processes (Bonn & Thiele, 2007). By using a holistic approach, organizations be aware of a deteriorating situation and can be prepared for it (Smith, 2006). In the case of the inevitable emergence of crises, preparedness is a critical issue for an organization's survival. Strategic crisis preparedness is gaining increasing importance for organizations in order to deal effectively with potential crises (Elsubbaugh et al., 2004).

H2c: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through organization-oriented leadership behaviors.

H5: There is a positive relationship between organization-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

2.13.5 Control Variables

The effectiveness of leadership in collaborative crisis management needs to be controlled for with relevant variables. For the present study, the leaders' gender, professional position, tenure, level of education, and major of education (public administration, economics, law, and so forth) are used as control variables in the model.

Gender. Although gender differences in management positions have diminished recently in Turkey as in developed countries, they still exist. There is a scarcity of woman managers at all levels of organizational structure in the public and private sectors. In the total workforce, there few female employees at the managerial level, which may be one reason for gender differences in managerial positions. In addition, the managerial level is perceived as a "men's club" which may be another reason for the low proportion of female managers. Therefore, the cultural dimension of the issue must be taken into account. The Turkish Statistical Institute conducted a survey in 1995 to compare male and female managers' leadership characteristics. The results indicate that male managers are better in terms of identification of purpose, adoption of employees to those purposes, and use of a reward system, while female managers are better at harmonization issues among employees. Another study related to leadership characteristics of

women and men in working life shows that women are emotional and unstable, while men are more participatory and autocratic (Heilman, 1989).

The district or province governorship position is a male-dominated profession in Turkey. However, as a government policy, the Ministry of Interior has applied positive discrimination for female candidates in order to appoint more women to governorship positions since around 1995. As a result of this policy, there are currently about 30 female governors who are actively governing a province or district. Since the governorship profession has been traditionally a strictly reserved for men, the number of female governors is not a small amount. In view of these reasons, gender will be used as a control variable in this study.

Professional Position. The governorship position in Turkish public administration system is a career-oriented job. The career begins with a candidacy for district governorship and being a province governor is the highest level of the career ladder. In between these two positions, there are district governors, deputy province governors, the Interior Ministry high and middle level bureaucrats, and civil inspectors. With higher professional positions, training, development, promotions, job qualifications, and the importance of duties increase. Since it is supposed that such development create changes in the professional perception of the governors, this research included professional positions of the governors as a control variable

Tenure. Unfamiliarity with the types of demands present in the job would probably make it more demanding for a manager. The learning curve in a new job should decrease as the similarity to previous work experience increases. Becker (1964)'s Human Capital theory (as cited in Ohlott, Ruderman, & McCauley, 1994) suggests that as managers gain experience, they gain greater mastery of management skills and perspectives. Thus, it has been suggested that

experience may be a surrogate for a manager's general ability. Economists often use job tenure as a measure of human capital, with longer tenure reflecting greater skills or ability. Therefore, tenure in terms of years in a job may also be a reasonable surrogate for managerial abilities or skills. If this is the case, all jobs should be less challenging for experienced managers. In sum, there may be a positive correlation between a leader's organizational tenure and the development of his/her abilities in managing a crisis situation effectively (Ohlott, Ruderman, & McCauley, 1994). The governorship position in the Turkish administrative system is a career job, which means a person who graduated certain disciplines can attend the examination to be selected as a district governor. After certain time of candidacy, successful candidates are appointed as district governors and they do the same job until they retire. Even though some of them are appointed to another temporary administrative position in the same ministry, they are mainly performing the same job for their whole career.

Level of Education. Becker (1964)'s Human Capital theory (as cited in Ohlott, Ruderman, & McCauley, 1994) also suggests that managers gain more expertise of management skills by education. Although most general management skills and abilities are learned on the job through developmental experiences, it is possible that some may be learned through formal education. If that is so, years of formal education may complement the experience of developmental job challenge (Ohlott, Ruderman, & McCauley, 1994

Major of Education. The last control variable is the educational major of leaders, such as law school, public administration, business, and economics. The educational major affects the leadership style of any leader. For example, while a leader who graduated from law school gives more importance to rules rather than finding practical and pragmatic solutions to the problems,

another leader who graduated from business school may not implement the rules strictly if the rules cause a delay in solving problems. The major of education shapes the mindset of leaders. While a public administration curriculum provides a bureaucracy and government-oriented viewpoint with a priority for social benefit, business school curriculum provides a market-oriented viewpoint with priority for cost-benefit analysis. In a crisis situation, the dynamic structure of business education and public administration education can be an advantage for leaders who obtained those degrees, as compared to leaders with law school degrees. Consequently, major of education can have an important impact on leadership performance, so it will be used as the last control variable in this study.

Conceptual Model: Leadership Competencies for Effective Crisis Leadership
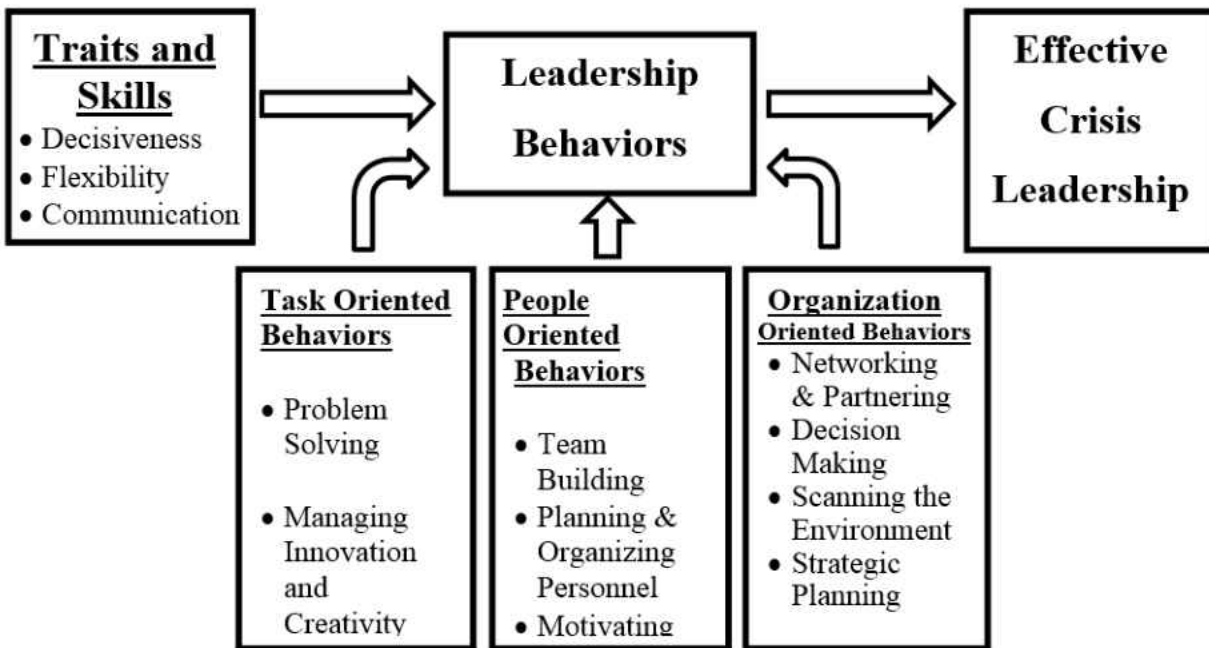
Figure 4. Conceptual Model

The conceptual model of effective crisis leadership was developed based on the literature (see Figure 4). The framework incorporates twelve key leadership competencies as independent variables and some extraneous individual differences among leaders as control variables, which affect the perceived effectiveness of collaborative leadership in crisis management during crisis situations. In other words, the figure depicts a conceptual model that illustrates the relationship between a leader's decisiveness, flexibility, communication (informing), problem solving, managing innovation and creativity, personnel planning and organizing, motivating, building and managing teams, decision making, scanning the environment, strategic planning, networking and partnering competencies, and the perceived effectiveness of collaborative leadership in crisis management during a crisis. The concept of perceived effectiveness of collaborative crisis leadership refers to the collaborative leadership effectiveness of district and deputy governors of Turkey during crisis situations. As can be seen in the model, it is assumed that acquisition of these competencies by a leader positively influences the perceived effectiveness of collaborative crisis leadership.

2.14 Hypotheses of the Study

The following hypotheses were proposed to test the structural relationships between the variables offered in the model.

H_1: There is a relationship between core leadership competencies and the perceived effectiveness of collaborative crisis leadership.

H_2: Leadership traits and skills have a positive relationship with the perceived effectiveness of collaborative crisis leadership through their positive relationship with leadership task, people, and organization-oriented behaviors.

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H_{2a}: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through task-oriented leadership behaviors.

H_{2b}: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through people-oriented leadership behaviors.

H_{2c}: There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through organization-oriented leadership behaviors.

H_3: There is a positive relationship between task-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

H_4: There is a positive relationship between people-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

H_5: There is a positive relationship between organization-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

2.15 Summary

Crisis management is essentially a matter of determining priorities, recognizing future problems whose solutions must be implemented well in advance, and implementing routine support duties so that the constant focus of attention can be upon the current situation as it develops. Collaboration is a required base for handling natural disasters, the hazards of terrorist attacks, and all manner of crisis situations. After recognizing the failures of the hierarchical command system during crisis situations such as 9/11 and Hurricane Katrina, decision-makers, the public, the media, and most importantly public administrators have realized the importance

of collaboration in the field. Many authorities consider leadership is another element missing during crisis situations.

Public administrators' leadership behaviors play an important role in the success of crisis management networks. These administrators must develop new strategies because leadership in networks is different than leadership in groups or organizations. In traditional leadership theories, members of a group or organization are influenced or transformed by a formal leader to achieve specific targets, but this does not work in collaborative structures because individuals come from different organizations or groups. In addition, it is difficult for networks to agree on collaborative targets because different organizations and their individual representatives may have a variety of goals and constraints.

There are sometimes conflicts in network leadership because in addition to being both directive and participative, members may also have to be followers in the networks. Public administrators must accept these kinds of paradoxes as realities of leadership in the networks. Instead of trying to resolve them, public administrators must manage paradoxes by accepting the existence of simultaneous opposites, and if possible they must find alternative approaches to transcend the paradox in some events.

Leadership behaviors in networks are activation, framing, mobilizing, and synthesizing. In crisis situations, public administrators must demonstrate competencies such as interpersonal communication skill to establish reciprocal understanding. In addition, the response to crisis situations that result from a disaster requires planning and a well-prepared organization, but these events occur spontaneously and hazards may be more destructive than anticipated. Therefore, to be effective leaders in such complex situations, public administrators must be quick to

comprehend, innovative, improvisational, easily adaptable in any circumstances, and especially willing to embrace collaborative activities to resolve these complicated problems.

Public managers generally make decisions under conditions of inadequate information, in situations of rapidly changing consequences, and often under considerable time pressure during crises. Thus, a key issue for effective leadership in a crisis is the availability of information. During a crisis, good and uninterrupted communication is very important to provide appropriate information for decision makers in a timely manner. The quality of the leaders' decisions depends on receiving accurate and timely information. Acquiring timely and accurate information reduces uncertainty thereby improve the decision-making capacity and effectiveness of the overall crisis management system, whereas the opposite results in catastrophic outcomes. All in all, the leadership dimension of management makes a difference in the success of crisis management, especially during the response phase. The next chapter provides the methodology of the research.

CHAPTER THREE: METHODOLOGY

This chapter exhibits the methodology that was used in this research. Creswell (2009) defined three methods of research: quantitative, qualitative, and mixed methods. To understand how leadership competencies influence the perceived effectiveness of crisis management in the public sector, this research utilized quantitative research methods in collecting and analyzing data. Quantitative researches rely on the collection of substantial data from representative samples of a wide population for a small number of variables (Black, 1999). This chapter provides research variables, design of the research, sampling and sample size justification, data collection methodology, and analysis process.

3.1 Study Variables

One exogenous, three mediating, and one endogenous latent variable are included in this research. The only exogenous latent variable of the study, leadership traits and skills, has fifteen indicators. The first mediating latent variable, task-oriented behaviors, has nine indicators. The second mediating latent variable, people-oriented behaviors, has thirteen indicators. The third mediating latent variable, organization-oriented behaviors, has fifteen indicators. The last variable of this research, the effectiveness of collaborative crisis leadership, is an endogenous latent variable that has eleven indicators. The research has five control variables for hypothesis testing which are leaders' gender, professional position, tenure, level of education, and major of education (Faculty of Law, Faculty of Political Science, and so forth). The latent variables of the research were measured through the above-mentioned indicators which are developed and demonstrated in Table 1. A five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree) was utilized to measure each of the question items.

The only exogenous latent variable of this study is leadership traits and skills. The individual intelligence level, personality traits, and various other inherent physical and emotional capabilities of leaders are investigated using this variable. The general claim of this approach is that leadership is an inherited phenomenon. According to an empirical study conducted by Kapucu and Van Wart (2008), decisiveness and flexibility are accepted as the most determinative and significant individual traits for an effective leader in crisis management. Even though there is not a clear distinction between traits and skills, leadership skills refers to more learnable competencies compared to traits. Kapucu and Van Wart suggest one leadership skill, namely communication for effective crisis leadership. In sum, decisiveness, flexibility, and communication constitute the three main categories of the leadership traits and skills exogenous variable.

The main focus of leadership behaviors latent constructs such as authority devolution to subordinates, relationships with followers, and planning and control are the behaviors exhibited by leaders rather than leaders' personal characteristics. Leadership behaviors are the mediating latent variables of this research. Task-oriented leadership behaviors, people-oriented task behaviors, and organization-oriented behaviors are the three categories of leadership behaviors identified by Van Wart (2004, 2011). These three types of leadership behaviors work as mediator variables between the effectiveness of crisis leadership and traits and skills.

Leaders with task-oriented behavior give priority to works that should be done in a short time and at less cost. Task-oriented leadership behaviors are based mainly on bureaucratic authority and power. The leading powers of this type of leadership are rules and official authorization. Obedience to the leader by followers is not because of an emotional attachment,

rather bureaucratic authority and power. Receiving rewards or punishments is a strong motivation ingredient for followers' obedience to the leader (Kuhnert & Lewis, 1987). As the first mediating latent variable, task-oriented leadership behavior consists of two categories: Problem solving and managing innovation and creativity.

A leader with people-oriented behaviors gives importance to relationships with his/her followers, trusts them and emphasizes their contribution, and tries to increase their job satisfaction. This type of leader is concerned with the need and wishes of followers, and listens to and communicates with them effectively. As such, these leaders base their relationships with followers on an understanding of mutual benefits (Ehrhart & Klein, 2001). Communication with followers in people-oriented behaviors is two-sided. In other words, it does not consist of only giving orders to employees, but includes a mutual communication by listening to them, being responsive to their demands, and taking their opinions about various subjects. This mediating latent variable has three categories which are team building, managing and organizing personnel, and motivating.

Organization-oriented leadership behaviors concentrate on an external perspective and system approach. This type of behavior focuses on the big picture and emphasizes organizational culture and organizational change (Van Wart, 2011). As a mediating latent variable, the indicators of this construct can be divided into four categories, namely networking and partnering, decision making, scanning the environment, and strategic planning.

The perceived effectiveness of collaborative crisis leadership is the endogenous latent variable of this research. Since objective measures of effectiveness are hard to come by in crisis research, the perceptual measure is sufficient. This research proposes to demonstrate how

leadership competencies impact the effectiveness of collaborative crisis management. To achieve this aim, the research used the survey respondents selected from current and previous province and district governors in Turkey who held primary responsibility of managing natural and manmade crisis.

All latent variables are adapted from the articles "A comprehensive model of organizational leadership: the leadership action cycle" Van Wart, M. (2004), "Making Matters Worse: An Anatomy of Leadership Failures in Managing Catastrophic Events" Kapucu, N. & Van Wart, M. (2008), and the book "Dynamics of leadership in public service" Van Wart, M. (2011).

Leaders' gender, professional position, tenure, level of education, and major of education (e.g., public administration, economics, law) were used as control variables for hypothesis testing. Gender may be associated with a leader's values; therefore, leader gender was used as a control variable. Professional position may change the viewpoint of leaders in certain situations; thus, current position in bureaucracy was selected as the second control variable. Because a manager's earlier work experience is often strongly associated with leadership performance outcomes, the number of years at current position (leader tenure) was also used as a control variable. Educational level is inter-related with decision-making and communication skills, and therefore with effectiveness of a leader; hence, educational level was used as another control variable. Lastly, major of education, such as law school, public administration, and economics, can have an important impact on leadership performance; thus, major of education was used as the last control variable.

Table 1. *Operational Definition of Study Variables*

Variables (Latent Constructs)		Indicators	Measurement Level	Data Source
Traits and Skills (Latent Exogenous)	Decisiveness	Clarity and precision in the decision	Ordinal	Survey
		High level of self-confidence when making decisions	Ordinal	Survey
		Capability to not lose self-control under stress	Ordinal	Survey
		Capability for making decisions independently when appropriate	Ordinal	Survey
		Using initiative, if necessary, by taking into account possible risks	Ordinal	Survey
	Flexibility	Capacity to react in considerably different ways to different situational necessities	Ordinal	Survey
		Ability to adapt to different needs, such as adopting extremely stressful working environment when needed	Ordinal	Survey
		Acquainted with diagnosing the situation quickly and determining the proper form of behavior that will achieve a positive result	Ordinal	Survey
	Communication	Communicating with stakeholders regularly, as needed	Ordinal	Survey
		Developing and executing external and internal communication with stakeholders	Ordinal	Survey
		Utilizing information and communication technology (ICT) in order to maintain a precise and constant flow of information	Ordinal	Survey
		Choosing appropriate communication channels and methods	Ordinal	Survey
		Identifying barriers for listening to the staff and other stakeholders	Ordinal	Survey
		Reducing barriers for listening to the staff and other stakeholders	Ordinal	Survey
		Involving all stakeholders in crisis communication plans	Ordinal	Survey
Task-oriented Behaviors (Latent Mediating)	Problem Solving	Problem definition and formulation	Ordinal	Survey
		Developing a systematic approach to problem analysis	Ordinal	Survey
		Ability to generate alternatives and choosing one of the best options	Ordinal	Survey
		Promoting collaborative problem solving by considering the perspectives of others	Ordinal	Survey
	Managing Innovation & Creativity	Creating an organizational culture of innovation and creativity by encouraging and rewarding	Ordinal	Survey
		Benefiting from the creative and innovative ability of the staff and partner institutions	Ordinal	Survey
		Willingness to take risks and to consider new and untested approaches	Ordinal	Survey
		Providing a welcoming atmosphere in which followers do not feel any pressure	Ordinal	Survey
		Providing the tools and opportunities for learning and innovation	Ordinal	Survey

Variables (Latent Constructs)		Indicators	Measurement Level	Data Source
People-oriented Behaviors (Latent Mediating)	Team Building	Enhancing group identity by creating a group mission, vision, common interests, and shared values	Ordinal	Survey
		Encouraging the staff to work as a team	Ordinal	Survey
		Selecting a proper number of people with well-balanced capabilities for the best group structure	Ordinal	Survey
		Building teams with special training, skills, and competencies	Ordinal	Survey
	Planning & Organizing Personnel	Arranging the division of labor according to the duties and responsibilities of staff	Ordinal	Survey
		Scheduling personnel by using negotiation and perceptions of fairness methods	Ordinal	Survey
		Adequately matching staff preferences and competencies to the work as much as possible	Ordinal	Survey
		Evaluating and supporting the staff's performance and helped them perform better	Ordinal	Survey
	Motivating	Establishing a positive relationship with the staff	Ordinal	Survey
		Appreciating the staff's efforts in timely and appropriate manner	Ordinal	Survey
		Evaluating fairly the staff's contribution to the crisis response team	Ordinal	Survey
		Explaining how rewards and significant commendations are distributed and using them to motivate followers	Ordinal	Survey
		Explaining rules and procedures to ensure that subordinates understand the consequences of deviations and executing punishment when deviations occurred.	Ordinal	Survey
Organization-oriented Behaviors (Latent Mediating)	Networking & Partnering	Periodically contacting external organizations, politicians, and other strategic alliances	Ordinal	Survey
		Developing long-term relationships with stakeholders	Ordinal	Survey
		Constantly exchanging information with other organizations in the network	Ordinal	Survey
		Being open for partnership during crisis intervention, and answering to collaboration needs of others at the maximum level	Ordinal	Survey
	Decision Making	Making decisions with limited information under time pressure in a crisis	Ordinal	Survey
		Making quick decisions in crisis compared to routine management	Ordinal	Survey
		Seeking counsel from others in analyzing the situation	Ordinal	Survey
		Reacting differently during a crisis (Although nervous, become more focused and solution oriented)	Ordinal	Survey
		Detecting problems correctly without losing the complete picture and making the right decisions by considering possible consequences	Ordinal	Survey

Variables (Latent Constructs)		Indicators	Measurement Level	Data Source
Effective Crisis Leadership (Latent Endogenous)	Scanning the Environment	Identifying and using multiple relevant sources of external information	Ordinal	Survey
		Following up on the significant external trends, such as new developments in technology	Ordinal	Survey
		Reflecting on the significance of external trends-trying to understand problematic external trends for organization	Ordinal	Survey
	Strategic Planning	Collecting systematic and comprehensive data for strategic planning	Ordinal	Survey
		Regularly reviewing the mission and capabilities of the organization	Ordinal	Survey
		Developing a step-by-step a comprehensive strategic plan for crisis management	Ordinal	Survey
		Facilitating any crisis management functions	Ordinal	Survey
		Successfully mobilizing the organization's personnel and resources	Ordinal	Survey
		Successfully including the emerging resources (volunteers and other emergent stakeholders)	Ordinal	Survey
		Having adequate information processes in which communication tools and communicated material were satisfactory	Ordinal	Survey
		Effectively sharing information between an agency and affected citizens	Ordinal	Survey
		Integrating resources with the other partnering organizations	Ordinal	Survey
		Developing relationships that are beneficial to the responding organizations, the mass media, and citizens in general	Ordinal	Survey
		Engaging partners for crisis management	Ordinal	Survey
		Overcoming operational disruptions immediately caused by crisis	Ordinal	Survey
		Providing immediate assistance and resources to crisis victims	Ordinal	Survey
		Effectively performing routine tasks while helping victims cope with crisis	Ordinal	Survey
Control Variables	Gender	What is your gender?	Nominal	Survey
	Tenure	For how many years in total have you been working as a district governor, province governor, deputy province governor, administrative senior inspector, or Interior Ministry high and middle level bureaucrat?	Ordinal	Survey
	Professional Position	What is your professional position? (Province Governor, Deputy Province Governor, District Governor, Civil Inspector, etc.)	Ordinal	Survey

Variables (Latent Constructs)		Indicators	Measurement Level	Data Source
Level of Education		What is your level of education? (Undergraduate, Graduate degree)	Ordinal	Survey
Major of Education		What was your college major? (Public Administration, Economics, Public Finance, International Affairs, Business Administration, Econometrics, Labor Economics and Industrial Relations, or Law)	Nominal	Survey

[Indicators of the latent variables were taken from Sahin, B. (2009) and Van Wart (2011), and are adapted to this research.]

3.2 Survey Procedure and Data Collection

According to Van Wart (2013), surveys are the most utilized data collection method in public leadership research. The analysis of performance data, meta-analysis, and content analysis are other data based methods used by scholars. Van Wart reviewed 99 public administration articles and concluded that 41 of them are data based.

A survey is the main data collection tool used to gather the data from first-hand sources. As generally accepted by scholars, one of the best ways to weigh people's attitude about a specific topic or problem is through sample surveys. According to Creswell (2003), quantitative research methods primarily focus on surveys and experimental manners of examination. The survey method allows scholars to gather data from a specific population by obtaining the answers of individual participants to a questionnaire. By using this method, scholars are able to get a numeric explanation of propensities, attitudes, or views of the sample so they can be generalized to a population (Creswell, 2003). Thus, an online questionnaire was produced through Qualtrics Survey Software for this research (Dillman, Smyth, & Christian, 2009). Mail surveys have been

supplanted by web surveys that quickly reach the participants, garner higher response rates, have cost saving features, and reduce non-response errors (Denscombe, 2009).

The questions in the survey regarding the effectiveness of collaborative crisis leadership were taken from Sahin (2009) and are adapted to this research. The other questions are mostly produced from Van Wart's (2011) book *Dynamics of Leadership in Public service: Theory and Practice*. The survey has a total of 70 questions, including demographic questions and open-ended questions. The survey can be completed in 15-20 minutes.

A three-stage process was used to increase the return rate in the process to run the questionnaire. Firstly, permission was obtained from the Interior Ministry of Turkey to utilize the e-mail database of the Ministry in order to send an electronic version of the questionnaire to the governors. After that, an e-mail including a link to the survey was sent to the participants. Making some personal phone calls to selected province and district governors was the last stage in order to give a short briefing to them about this research and stimulate them to respond to the questionnaire. The first step of the research was data collection, and the second step of the research was the analysis of the collected data. A sample of the English-language survey questionnaire is available in Appendix A and a sample of the Turkish-language survey questionnaire is available in Appendix B of this research.

3.3 Sample

In the Turkish public administration system, the district and province governors are key players and principal responsible persons to handle any crisis situation that occurs within their province or districts. Their responsibility ranges from establishing collaboration among public entities and between private and public sectors to directing crisis response teams or providing

food and shelters for victims. Thus, the district and province governors, deputy province governors, administrative senior inspectors, and Interior Ministry high and middle level bureaucrats of Turkey were the study population of this research. Province deputy governors, administrative senior inspectors and Interior Ministry high and middle level bureaucrats are appointed by the central government from among the district governors who have completed a specific period of service. Therefore, they also have adequate knowledge and practice that is related to crisis leadership. There are nine hundred-nineteen districts and eighty-one provinces in Turkey. All district and province governors, deputy province governors, administrative senior inspectors, and Interior Ministry high and middle level bureaucrats of Turkey were the target population of this research; thus, any special sampling method was not used.

As it will be explained in detail in the following sections, the statistical analyzing method used in this research was Structural Equation Model (SEM). The rule of thumb is a commonly used tool to calculate the necessary sample size for SEM. There are various opinions among scholars about the necessary sample size of a covariance structure model. While Boomsma and Hoogland (2001) claim that 200 cases are a suitable sample size for SEM models, Kline (2005) indicates that 10 respondents for each parameter are rational to calculate sample size. From another point of view, Bentler and Chou (1987) argue that '5 cases for each parameter' is reasonable as a good rule of thumb to estimate the appropriate sample size for SEM analyses. Boomsma and Hoogland's opinion was accepted as the criteria; therefore this research reached a suitable sample size by obtaining 301 responses to the survey questionnaire.

3.4 Level and Unit of Analysis

One of the most important concepts in a research project is the unit of analysis. The unit of analysis is the major entity being analyzed in a study. The level of analysis is a social sciences phrase pointing to the place, size, and scale of a study target. Individuals, objects, or things might be accepted as the unit of analysis, while micro, meso, and macro levels are also accepted as the unit of analysis. The micro level refers to the smallest unit of analysis, the meso level refers the scale between the micro- and macro- levels, while the macro level traces the outcomes of interactions. In other words, micro means individual, meso means organizational, and macro means universal. One of the chief objectives of this research is to attempt to determine the effects of the core leadership competencies of the territorial state representatives of Turkey based on the perceived effectiveness of crisis management in the Turkish public administration system. This research analyzed the issue at the individual level. Therefore, the unit of analysis of this research was territorial state representatives, namely the province and district governors, deputy province governors, administrative senior inspectors, and Interior Ministry high and middle level bureaucrats of Turkey.

3.5 Data Analysis

The non-experimental design will have neither a control group nor random selection of the participants. The research has a non-experimental design because there were no randomly assigned groups in this research. The research also did not have a control group, which makes this research a single-group design. The only group of analysis was made up of all one thousand provinces and district governors of Turkey. Another non-experimental feature of this research is that it is not a longitudinal (time series) design since it did not have multiple waves of

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measurement. The research used only a one-shot survey as a measurement method. Therefore, this research has a cross-sectional design, which is the most common design in survey research. Cross-sectional designs measure the features of a sample and look at the variables at a particular point in time. Lastly, the research population was not exposed to any intervention or manipulation, which also indicates that this is a non-experimental research.

SPSS Statistic version 17 and Amos software were utilized to run the analysis. The survey results were analyzed by using SEM, which helps to see the interplay or relationships between dependent and independent variables in a more comprehensive way. In the first stage of this research, confirmatory factor analysis (CFA) was utilized for each latent construct in order to understand whether the data fit the hypothesized measurement model. When the model did not fit, the model was revised until reaching a fit model.

The goal of this research is to acquire a thorough knowledge of the role of leadership competencies necessary for effective crisis leadership. Based on the literature, the framework of this research incorporates four key leadership competency groups that include twelve competencies as well as select extraneous individual differences among leaders that are used as control variables which affect the perceived effectiveness of collaborative crisis leadership during crisis situations. In other words, this research depicts a conceptual model that illustrates the relationship between a leader's individual traits, skills, and behavioral competencies and the perceived effectiveness of collaborative crisis leadership.

As stated above, this research utilized SEM to test hypotheses based on relations among latent and observed variables. SEM is defined as "a very general statistical modeling technique widely used in the behavioral sciences" (Hox & Bechger, 1998, p. 1). SEM is one of the

common ways to test hypotheses on relationships amongst observable and non-observable (latent) variables (Hoyle, 1995).

The structural equation model mainly consists of the measurement model and the structural model. The SEM is conducted to validate the theoretically driven model (Wan, 2002). A covariance structure model (CSM) includes structural equation models and measurement models at the same time. A CSM incorporates the measurement model of the latent construct and specifies the causal relationship between the exogenous and endogenous variable.

The model validation encompasses the measurement and CSMs. The CSM comprises the measurement model and observable variables to determine the relationships between latent constructs, and the SEM is modified until a well-fitted model is reached.

3.6 Measurement Models: Confirmatory Factor Analysis (CFA)

The only exogenous latent construct of this research is leadership traits and skills and the mediating latent constructs are as follows: task-oriented, people-oriented, and organizational oriented behaviors. Effectiveness of collaborative crisis leadership is an endogenous latent variable of the study. Confirmatory factor analysis (CFA) was performed to generate and validate measurement models for the unobservable variables (latent). The CFA is a construct, grounded on theoretical understanding that identifies the variation and covariation between variables and measurement errors. The CFA attempts to clarify the variation and covariation within a set of observed variables in terms of a set of theoretical, unobserved factors. Confirmatory factor analysis provides scholars with the ability to use determined limitations on the measurement model. This ability of CFA is considered one of its most significant advantages (Wan, 2002). After creating the models, measurement models were assessed based on the

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goodness of fit results, and each of the models was modified until a well-fitted model was achieved.

The exogenous unobservable variable (latent) is leadership traits and skills. This variable explains the characteristics of leaders, directly influences leadership behaviors, and indirectly influences the effectiveness of crisis leadership by mediating leadership behaviors. The leadership traits and skills construct was measured with fifteen indicators. Figure 5 indicates the leadership traits and skills measurement model.
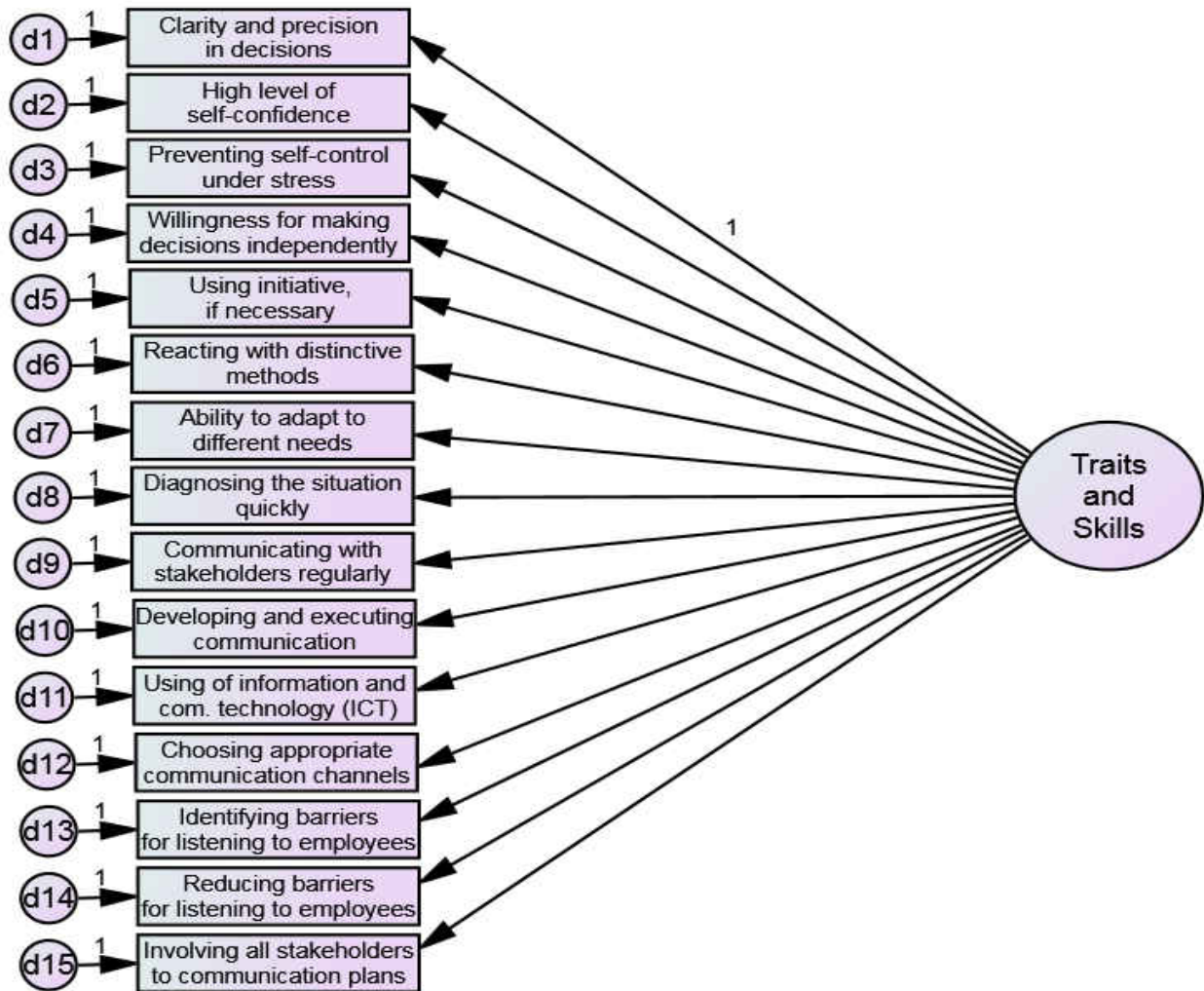
Figure 5. Leadership Traits and Skills Measurement Model

Task-oriented leadership behaviors, a mediating latent variable of the research, is the second construct which consists of nine indicators. Focusing on the tasks of leaders, the variable explains leadership behaviors. The survey questions are asked in an attempt to understand the communication capability and proficiency of a leader. Those capabilities influence the effectiveness of a leadership during a crisis process. Figure 6 depicts the task-oriented leadership behaviors measurement model.
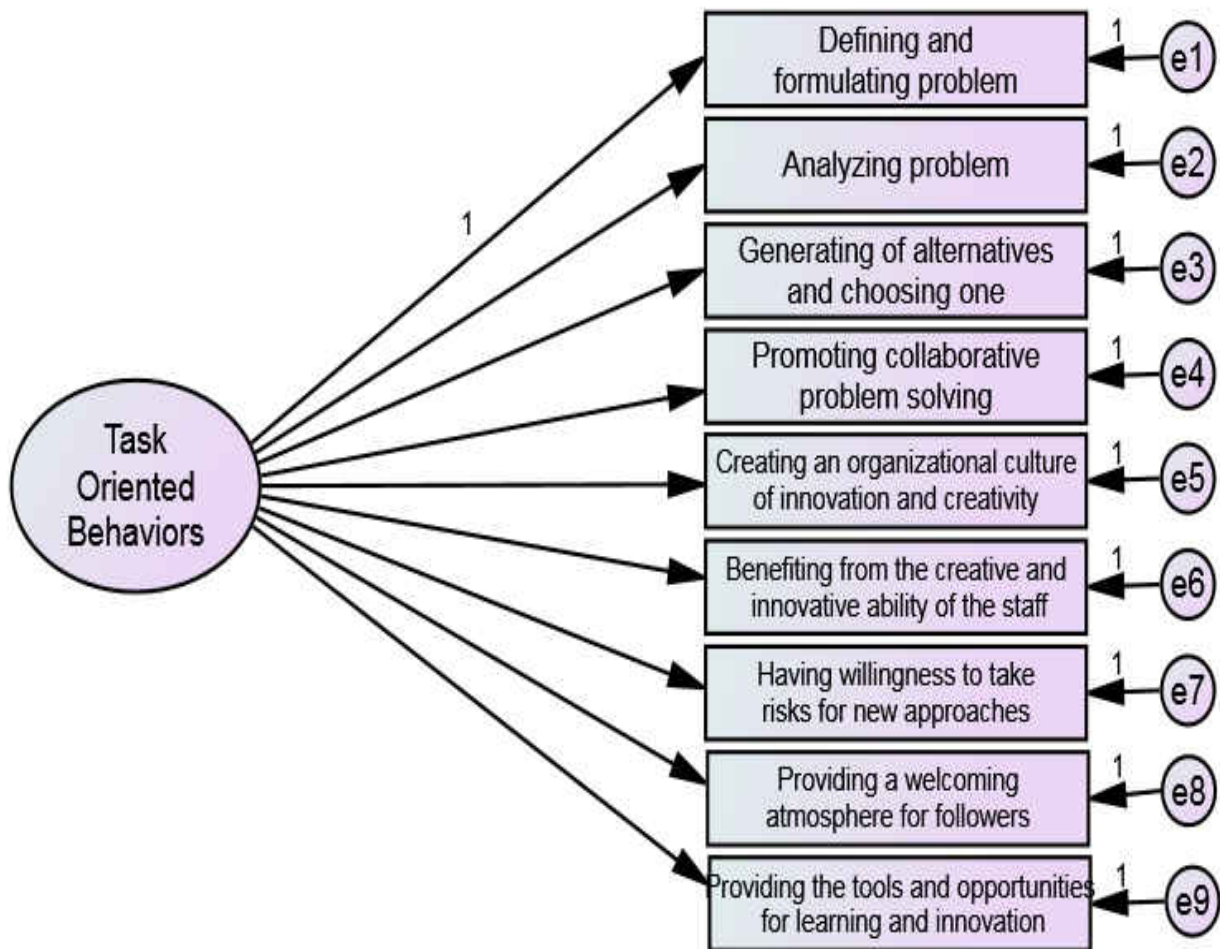
Figure 6. Measurement Model for Task-oriented Leadership Behaviors

The second endogenous variable of this research is people oriented leadership behaviors. This variable is comprised of thirteen questions asked to explain team building, planning and

organizing personnel, and motivating capabilities of a leader during a crisis situation. Figure 7

shows the measurement model for people-oriented leadership behaviors.
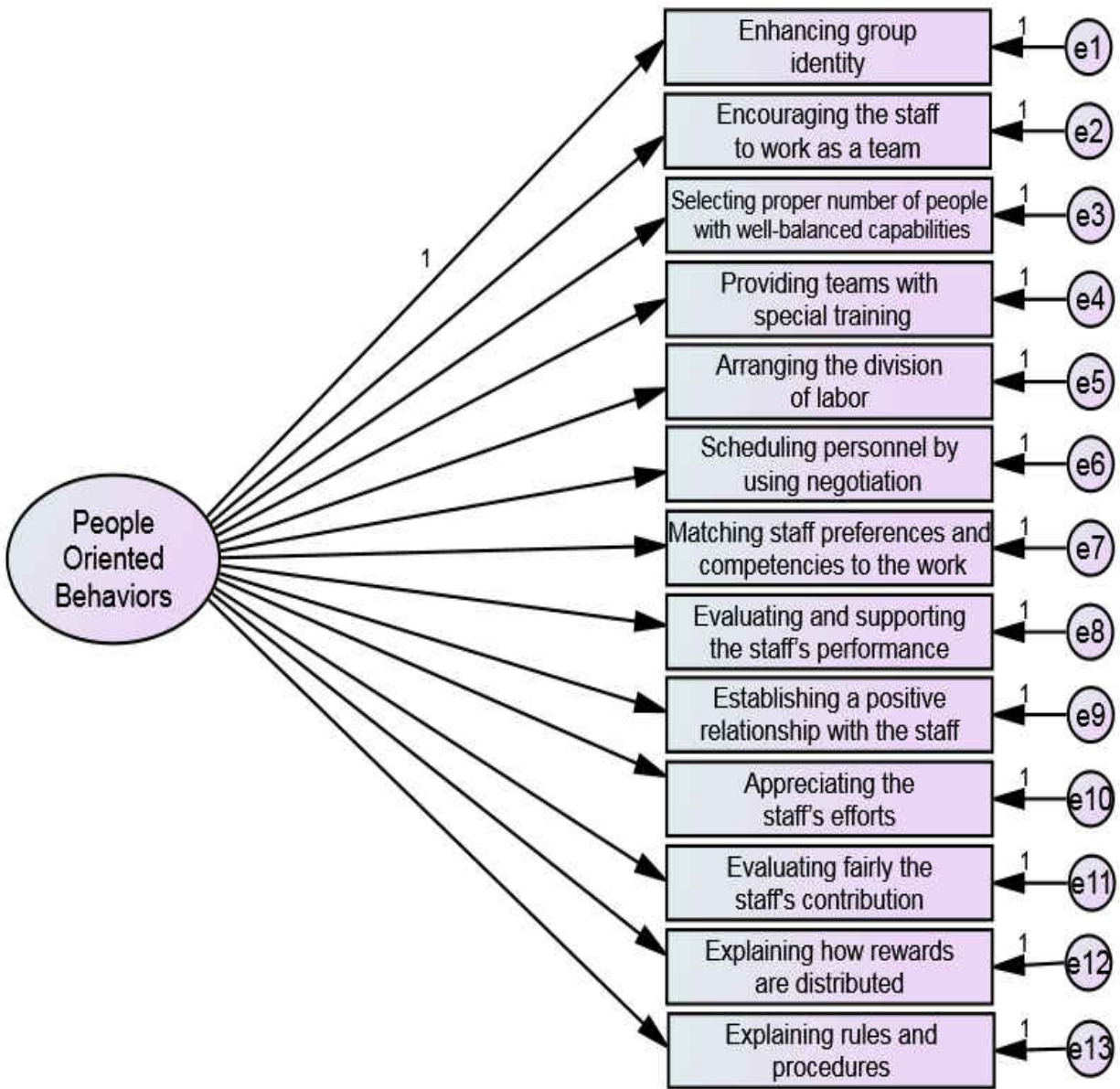
Figure 7. Measurement Model for People-oriented Leadership Behaviors

Organization-oriented leadership behaviors is the third endogenous variable of the

research. This variable includes fifteen questions asked in order to describe the networking and

partnering, decision making, scanning the environment, and strategic planning capability of a

leader in a crisis situation. Figure 8 depicts the measurement model for organizational oriented leadership behaviors.
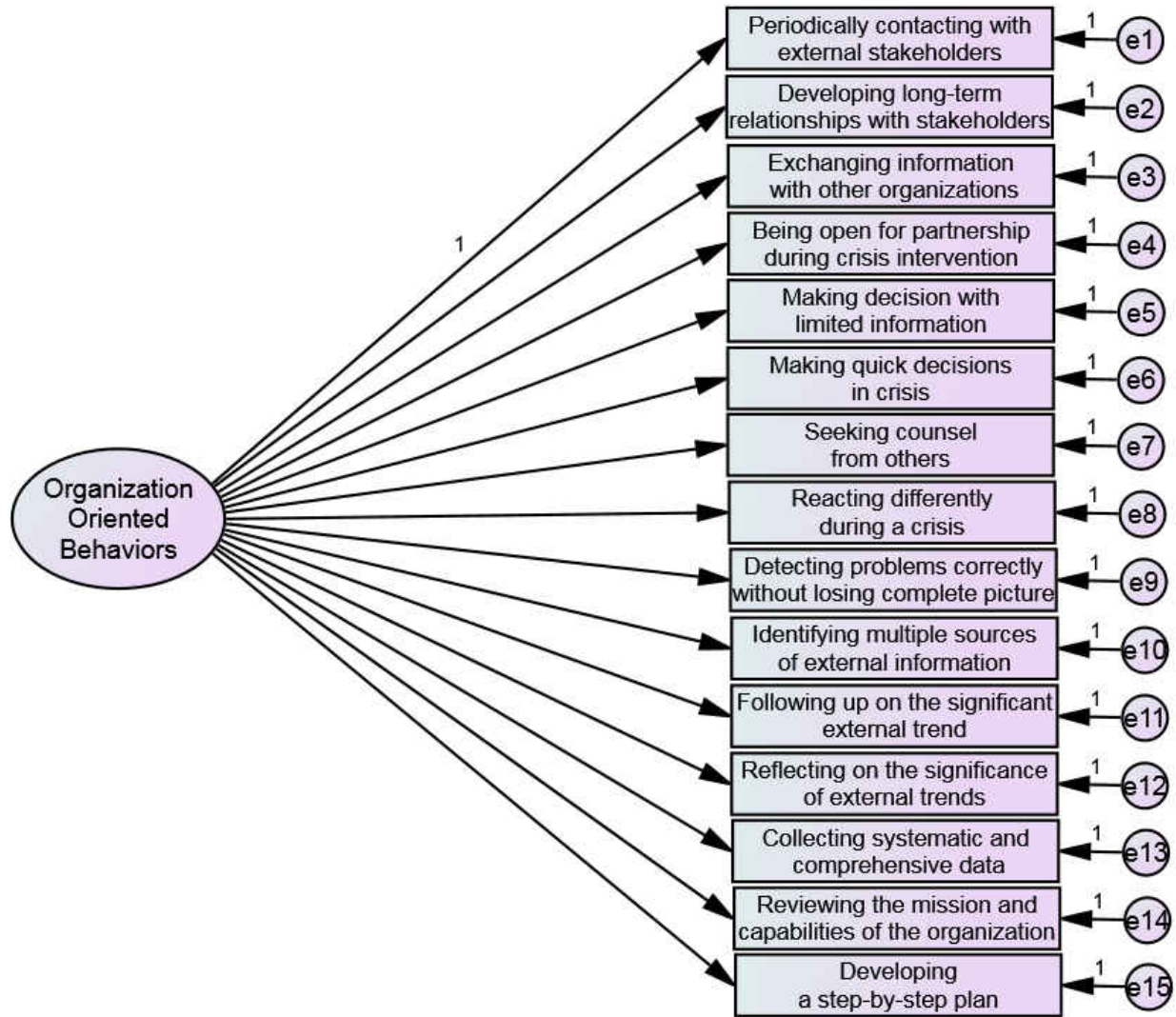
Figure 8. Measurement Model for Organizational Oriented Leadership Behaviors

Effective crisis leadership is the fourth endogenous variable of the research. This latent variable has eleven indicators that emphasize carrying out generic functions, mobilizing the organization's own personnel and resources, involving emerging resources, having certain job definitions, adequately processing information, properly exercising decision-making, developing

overall co-ordination, developing relationships, and accomplishing involvement in partnerships for crisis management with other organizations. Figure 9 shows the measurement model for effective crisis leadership.
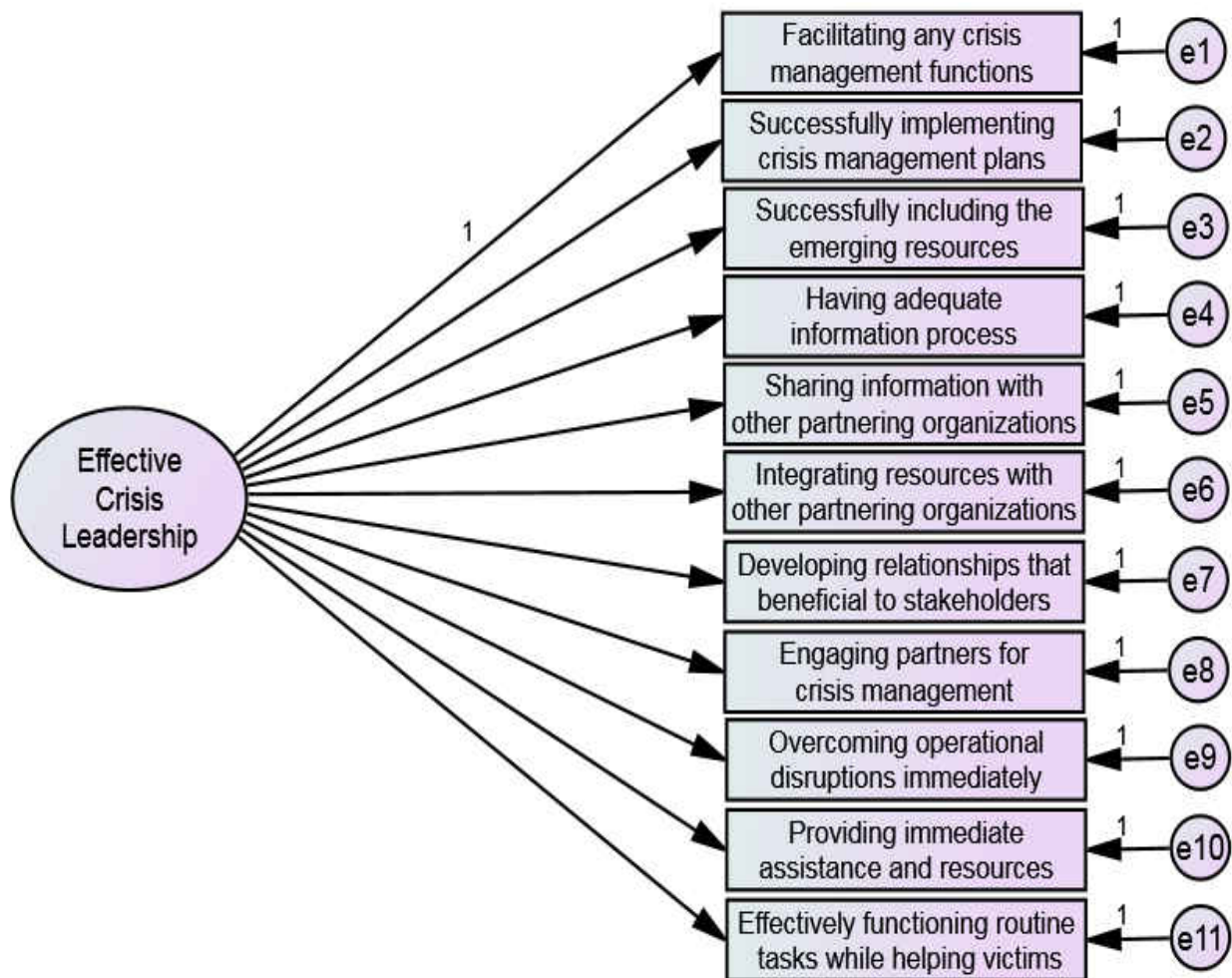
Figure 9. Measurement Model for Effective Crisis Leadership

3.7 Validation of Measurement Models

Before validating the measurement models, one indicator should be selected as scale factor to assign a regression weight (1) with a view to getting estimates of other factor loadings (Wan, 2002). This research used goodness of fit statistics to assess the fitness of the

measurement models. Both measurement models and covariance structure model were tested for model validation. The initial step was to create a generic model for every construct. When the results are not satisfactory to achieve a well-fitted model, the generic model requires to be modified in order to eliminate the weak items with low factor loading. After eliminating the weak items from each latent construct in the measurement models, this step provides a better model.

The validating indicators used by this research are as follows: First, to obtain a fit model the critical rate (CR) should have a value bigger than 1.96. The χ^2/df, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Root Mean Square Error of Approximation (RMSEA) are the other indicators. A lesser chi-square value (< 4) requires achieving a good fit model. The ratio of Chi-square (χ^2/df) that is divided by degree of freedom was used to achieve a reasonably good model. The GFI and AGFI should be bigger than .9 and the RMSEA must be smaller than .08 in order to consider the model as reasonably fit. Furthermore, the Modification Indices (MI) were used to explore highly correlated indicators that were utilized in order to improve the generic model and develop a well-fitted model.

Table 2 *Goodness of Fit Statistics Criterions for Measurement and Covariance Structural Models*

INDEX	ACRONYM	CRITERION
Chi-square	x2	Low
Likelihood Ratio	x2 /df	< 4
Root Mean Square Error of Approximation	RMSEA	≤.08
Comparative Fit Index	CFI	>.90
Tucker Lewis Index	TLI	>.90
Hoelter's Critical N	Hoelter Index	75<value< 200

If the model does not fit the dataset well after examining the goodness of fit values, the model must be revised. Factor loadings, which are not statistically significant, are removed from the generic model. If removing these factor loadings does not provide satisfactory fitness value statistics, measurement errors of factor weights should be correlated with other errors to achieve a better model by checking the MI.

3.8 Covariance Structure Model

The covariance structure model was developed after validating the measurement models of research. The CSM consists of exogenous, mediating, endogenous latent variables, and control variables, which are discussed above. Figure 10 provides the CSM.
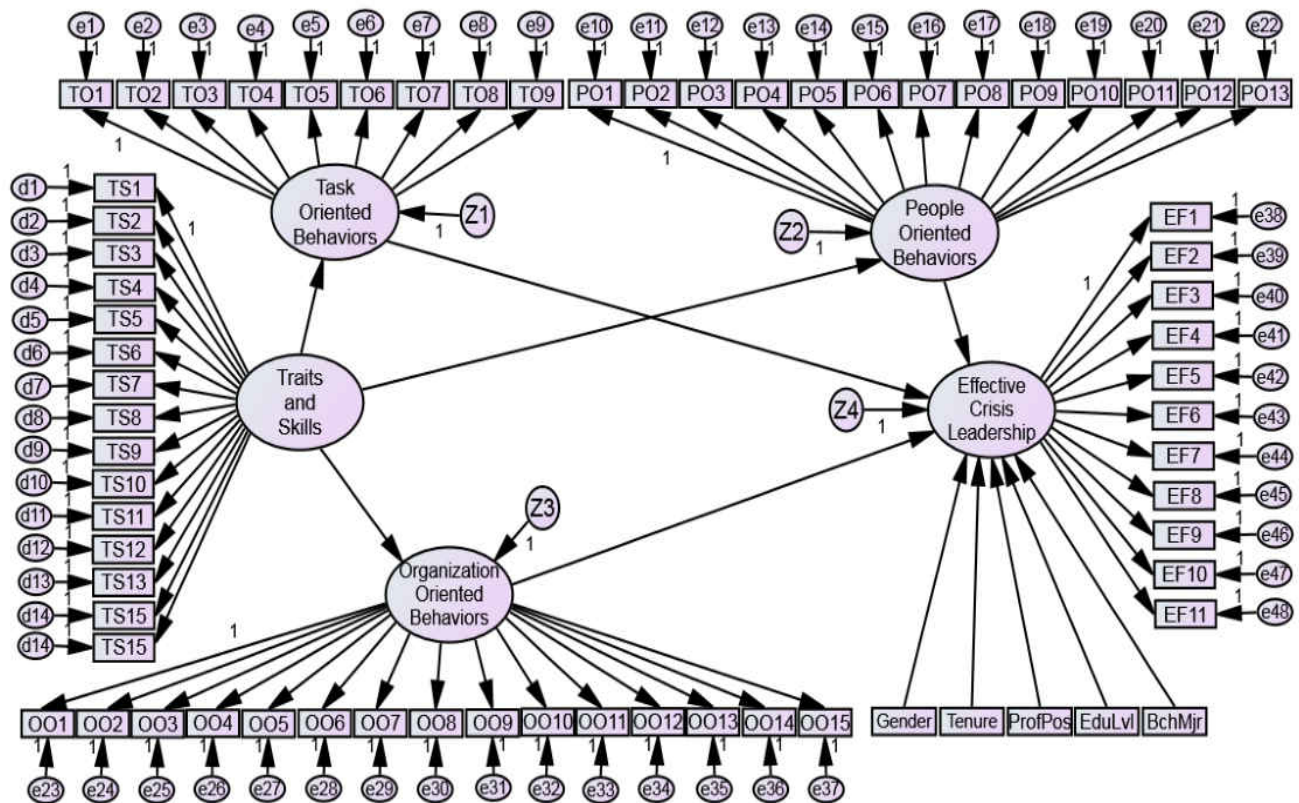
Figure 10. Covariance Structure Model

A CSM was utilized to examine the structural relationships between core leadership competencies (leadership traits and skills and leadership behaviors) and the effective crisis leadership of Turkish province and district governors. Various goodness of fit statistics, created by AMOS, were utilized to assess the overall goodness of fit of the CSM as it was used to evaluate for the measurement models' validation. Additionally, factor loadings and the MI were utilized in order to improve the model's fitness.

Regarding ethical considerations, it is important to know that participation in this survey was completely voluntary. The participants had the right to withdraw at any time or to refuse to participate. All data obtained from participants will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual results). All questionnaires will be concealed, and no one other than the primary investigator will have access to them. The data collected will be stored in Qualtrics-secure database until the investigator deletes it.

The study did not generate a few small costs. The survey instrument was the main data collection tool and it was executed via e-mail. Therefore, executing the survey did not create any costs. However, the researcher covered the few small incidental costs that occurred during the process. In order to increase the return rate in survey, a three-stage process was used in the implementation process of the survey. First, permission was obtained from the Turkish Interior Ministry to utilize the e-mail database of the Ministry in order to send an electronic version of the questionnaire to the governors. After that, an e-mail including a link to the survey was sent to the participants. Making personal phone calls to some selected governors was the last stage in

order to give a short briefing to them about the research and to stimulate them to respond to the questionnaire.

This chapter provided an explanation of the data collection and analysis procedures used in the study. Since it is the primary statistical analysis method of this study, a detailed discussion of structural equation modeling literature was provided. Five latent constructs were developed using several indicators which identify different features of each variable. Using the methodological framework presented above, the next chapter discusses the results of the analysis.

CHAPTER FOUR: FINDINGS

There are seven subsections in this chapter. The first provides descriptive statistics of the variables of this study, including control variables, to identify their distributional characteristics using frequency tables. Next, correlations are presented between indicators for each latent construct to identify the relationships between them and detect any multicollinearity problems. Third, a reliability analysis for both exogenous and endogenous latent variables illustrates the consistency of the study's survey instrument. In addition, confirmatory factor analysis was used to develop and validate the measurement models of the study. Moreover, structural equation modeling will be performed to evaluate the structural relationships between the variables and to evaluate the effects of control variables and mediating variables on endogenous variables. Finally, SEM will be employed to test hypotheses based on relationships among latent constructs.

4.1 Descriptive Statistics

A web-based survey was used to collect data. E-mails with the survey link were sent to province governors, district governors, deputy district governors, administrative senior inspectors, and the high and middle level bureaucrats of Turkish Interior Ministry, a total of 2,095 individuals. Three hundred and thirty people responded to the survey. However, twenty-nine responses were excluded from the data for further analysis because they did not complete more than 50% of the survey questions. Missing values were replaced by the mode referring to the most frequent responses for the 53 participants who responded to the majority of the questions but had some responses missing. Missing responses were imputed by obtaining maximum likelihood estimators, called missing value analysis in SPSS. Among other missing

value analysis method, the expectation-maximization was chosen. The final dataset of the study was comprised of 301 responses.

There are several views regarding the necessary sample size for SEM analysis in the related literature. This study followed the recommendation of Boomsma and Hoogland (2001) that 200 cases are an appropriate sample size for a proper SEM analyses. With its sample size of 301, this study had an adequate sample size for analysis. This section presents descriptive analyses of an exogenous latent variable, mediating latent variables, endogenous latent variables, and control variables.

4.1.1 Control Variables

This study has five control variables: gender, professional position, tenure, education level, and undergraduate major. These control variables were selected on the basis of the literature review, which demonstrated their influence on the effectiveness of crisis leadership. The following table (Table 3) presents the descriptive statistics of selected control variables.

Table 3 *Frequency Distribution of Control Variables*

Variable	Attributes	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	287	95.3	98.3	98.3
	Female	5	1.7	1.7	100.0
	Valid Total	292	97.0	100.0	
	Missing	9	3.0		
	Total	301	100.0		
Professional Position	Province Governor	3	1.0	1.0	1.0
	Deputy Province Governor	56	18.6	19.0	20.1
	District Governor	135	44.9	45.9	66.0
	Administrative Senior Inspector	52	17.3	17.7	83.7
	Interior Ministry High or Middle Level Bureaucrat	32	10.6	10.9	94.6
	District Governor Candidate	16	5.3	5.4	100.0

Variable	Attributes	Frequency	Percent	Valid Percent	Cumulative Percent
	Valid Total	294	97.7	100.0	
	Missing	7	2.3		
	Total	301	100.0		
Tenure	1-4 years	38	12.6	12.9	12.9
	5-9 years	45	15.0	15.3	28.2
	10-14 years	56	18.6	19.0	47.3
	15-19 years	53	17.6	18.0	65.3
	20-24 years	51	16.9	17.3	82.7
	25 or more years	51	16.9	17.3	100.0
	Valid Total	294	100.0		
	Missing	7			
	Total	301			
Education Level	Bachelor	125	41.5	42.8	42.8
	Master	140	46.5	47.9	90.8
	PhD	27	9.0	9.2	100.0
	Valid Total	292	100.0		
	Missing	9			
	Total	301			
Major of Bachelor Degree	Public Administration	160	53.2	54.4	54.4
	Economics	19	6.3	6.5	60.9
	Public Finance	19	6.3	6.5	67.3
	International Affairs	17	5.6	5.8	73.1
	Business Administration	22	7.3	7.5	80.6
	Labor Economics and Industrial Relations	10	3.3	3.4	84.0
	Law	45	15.0	15.3	99.3
	Other	2	.7	.7	100.0
	Valid Total	294	100.0		
	Missing	7			
	Total	301			

Among the 292 valid responses, the majority of the study participants were male (287; 98.3%), while female participants constitute approximately 1.7% of the total respondents.

In terms of their professional positions, the frequency and percentage distributions of the target population were as follows: 171 province governors constitute 8.2% of all population, 498

deputy province governors represent 23.7% of total, 866 district governors represent 41.3% of target population, 191 administrative senior inspector constitute 9.2% of total, 134 Interior Ministry high or middle level bureaucrats represent 6.4% of all population, and 236 candidate district governors constitute 11.2% of total target population of survey. In terms of respondents' professional positions, district governors constitute the largest respondent group with 135 valid responses (45.9%). Deputy province governors constitute the second largest group (56; 19.0%) of the respondents. Fifty-two respondents listed their professional position as an administrative senior inspector, which is 17.7% of all respondents. Thirty-three Interior Ministry high or middle level bureaucrats validly responded to the survey questions, which represents 10.9% of all responses. With 16 valid responses, candidate district governors constitute 5.4% of respondents. Due to the low proportion of province governors relative to other positions, it is not surprising that only 3 province governors completed the survey. Another reason could be the province governors' heavy work-related responsibilities. This group accounts for 1.0% of the study participants.

With regard to tenure in the Interior Ministry of Turkey, respondents were asked to report their experience in one of five categories, which are between 1-4 years, 5-9 years, 10-14 years, 15-19 years, 20-24 years, and 25 years or more. Of the total 301 respondents, the largest group, 56 respondents, had between ten and fourteen years of service, followed by 53 respondents with fifteen to nineteen years of service. There are 51 respondents with twenty to twenty-four years of service and similarly with twenty-five or more years of service. The percentage distributions of these four groups by years of service were 19.0%, 18.0%, 17.3%, and 17.3% respectively. Forty-five respondents (15.3%) reported between five and nine years of service, and thirty-eight respondents (12.9%) reported one to four years of service. This last result was the smallest.

One hundred and twenty-five respondents had a bachelor's degree and one hundred and forty had a master's degree. Cumulatively, these two groups account for 90.7% of the participants (42.8% and 47.9% respectively). The twenty-seven respondents with Ph.D. degrees are the smallest percentage (9.2%).

For the distribution of the respondents in terms of their undergraduate major, 160 respondents graduated from a department of public administration, and the next largest group, 45, graduated from law faculties. These two groups account for 54.4% and 15.3% respectively of study participants. Twenty-two respondents (7.5%) received their bachelor's degree from a department of business administration. There were 19 respondents who graduated from a department of economics. There were also 19 respondents with degrees from a department of international affairs, the same number as economics. Ten respondents (3.4%) graduated from a department of labor economics and industrial relations. The group that graduated from other departments or faculties was the smallest proportion with 2 respondents (0.7%).

4.1.2 Endogenous Variable (Perceived Effectiveness of Collaborative Leadership in Crises)

The endogenous variable of the study is the effectiveness of collaborative leadership in crises. Leadership effectiveness was measured using a five-point Likert scale which was ranked from 1 (Strongly Disagree) to 5 (Strongly Agree). The survey used eleven items to measure the level of crisis leadership effectiveness. These items indicate different attributes of leadership effectiveness in crises. Participants were asked to evaluate statements related to: facilitating crisis management functions, mobilizing their own personnel and resources, successfully including emerging resources, an adequate information process, sharing information, integrating

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resources, and developing beneficial relationships with other stakeholders, engaging partners for

crisis management, overcoming operational disruptions, providing immediate assistance and

resources to crisis victims, and effectively performing routine tasks while helping victims to cope

with a crisis. Table 4 summarizes responses to the indicators of crisis leadership effectiveness in

the form of frequency distributions.

Table 4 *Frequency Distribution of Items for the Effectiveness of Crisis Leadership*

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
facilitated any crisis management functions (evacuation, temporary housing, alternative communication tools, warnings, and so on).	Strongly Disagree	20	6.6	6.6	6.6
	Disagree	67	22.3	22.3	28.9
	Neither Disagree or Agree	62	20.6	20.6	49.5
	Agree	127	42.2	42.2	91.7
	Strongly Agree	25	8.3	8.3	100.0
	Total	301	100.0	100.0	
successfully implemented crisis management plans in mobilizing his/her own personnel (authorized employees) and resources.	Strongly Disagree	14	4.7	4.7	4.7
	Disagree	71	23.6	23.7	28.3
	Neither Disagree or Agree	65	21.6	21.7	50.0
	Agree	126	41.9	42.0	92.0
	Strongly Agree	24	8.0	8.0	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
successfully included emerging resources (volunteers and other emergent stakeholders) in the implementation of crisis management plans.	Strongly Disagree	16	5.3	5.3	5.3
	Disagree	68	22.6	22.7	28.0
	Neither Disagree or Agree	69	22.9	23.0	51.0
	Agree	130	43.2	43.3	94.3
	Strongly Agree	17	5.6	5.7	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
had adequate information process in which	Strongly Disagree	19	6.3	6.4	6.4
	Disagree	76	25.2	25.5	31.9

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
communication tools and communicated material were satisfactory.	Neither Disagree or Agree	92	30.6	30.9	62.8
	Agree	102	33.9	34.2	97.0
	Strongly Agree	9	3.0	3.0	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
shared information with other partnering organizations and impacted citizens.	Strongly Disagree	13	4.3	4.3	4.3
	Disagree	79	26.2	26.3	30.7
	Neither Disagree or Agree	91	30.2	30.3	61.0
	Agree	109	36.2	36.3	97.3
	Strongly Agree	8	2.7	2.7	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
integrated resources with other partnering organizations.	Strongly Disagree	11	3.7	3.7	3.7
	Disagree	66	21.9	22.1	25.8
	Neither Disagree or Agree	75	24.9	25.2	51.0
	Agree	122	40.5	40.9	91.9
	Strongly Agree	24	8.0	8.1	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
developed relationships that are beneficial to the responding organizations, the mass media and citizens in general.	Strongly Disagree	14	4.7	4.7	4.7
	Disagree	80	26.6	26.8	31.5
	Neither Disagree or Agree	86	28.6	28.9	60.4
	Agree	107	35.5	35.9	96.3
	Strongly Agree	11	3.7	3.7	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
engaged partners for crisis	Strongly Disagree	10	3.3	3.4	3.4

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
management.	Disagree	67	22.3	22.6	25.9
	Neither Disagree or Agree	86	28.6	29.0	54.9
	Agree	115	38.2	38.7	93.6
	Strongly Agree	19	6.3	6.4	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
overcame operational disruptions immediately caused by crisis.	Strongly Disagree	9	3.0	3.0	3.0
	Disagree	58	19.3	19.4	22.4
	Neither Disagree or Agree	73	24.3	24.4	46.8
	Agree	146	48.5	48.8	95.7
	Strongly Agree	13	4.3	4.3	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
provided immediate assistance and resources to crisis victims.	Strongly Disagree	12	4.0	4.0	4.0
	Disagree	34	11.3	11.4	15.4
	Neither Disagree or Agree	66	21.9	22.1	37.6
	Agree	144	47.8	48.3	85.9
	Strongly Agree	42	14.0	14.1	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
effectively performed routine tasks while helping victims to cope with crisis.	Strongly Disagree	13	4.3	4.3	4.3
	Disagree	65	21.6	21.7	26.1
	Neither Disagree or Agree	85	28.2	28.4	54.5
	Agree	106	35.2	35.5	90.0
	Strongly Agree	30	10.0	10.0	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		

The majority of survey respondents agreed or strongly agreed that the district or province governors whom they had an opportunity to examine, investigate, or observe closely in the crisis situation showed effective collaborative leadership in the crisis (Table 4).

Regarding facilitating crisis management functions, the cumulative percentage of survey participants who either agreed or strongly agreed is 50.5%. On the other hand, 28.9% of the respondents either disagreed or strongly disagreed.

Half of the respondents (50.0%) either agreed or strongly agreed that the district or province governor successfully implemented crisis management plans in mobilizing his/her own personnel and resources, while 28.4% did not agree or strongly agree.

The total cumulative percentage of respondents who either agreed or strongly agreed with item three, that the district or province governor successfully included emerging resources in the implementation of crisis management plans, was 48.8% and respondents who disagreed or strongly disagreed represent 28.0% of total respondents.

The fourth item was designed to assess whether respondents observed that the district or province governor had an adequate information process in the crisis. For that statement, 107 respondents either strongly agreed or agreed, with a cumulative percentage of 37.2%. Ninety-five percent of respondents disagreed or strongly disagreed with this expression, which constitutes 29.9% of total respondents.

A similar pattern was found for information sharing: 39.0% of the respondents either agreed or strongly agreed that the district or province governor shared information with other partnering organizations and impacted citizens, while 30.6% of the respondents did not agree.

For the indicator regarding integrating resources with other partnering organizations, almost half of the respondents indicated their agreement with this item, with the percentages who agreed or who strongly agreed being 40.9% and 8.1% respectively, while disagreed or strongly disagreed respondents constitute 25.8% of total responses.

For the item that measures whether the district or province governor established relations that are useful for responding organizations, the mass media, and citizens during a crisis, 118 respondents either agreed or strongly agreed, with a cumulative percentage of 39.6, while 31.5% of respondents disagreed or strongly disagreed with this item.

One hundred and thirty-four respondents (45.1%) agreed or strongly agreed with the expression of the eighth item, which is that the district or province governor engaged partners for crisis management, while 77 of them disagreed or strongly disagreed (26.0%).

The ninth item, "the district or province governor overcame operational disruptions immediately caused by crisis," is agreed or strongly agreed with by 159 respondents (53.1 %), while 67 respondents disagreed or strongly disagreed with it, with a cumulative percentage of 22.4.

The highest number of people, 186, with a cumulative percentage of 62.4%, either agreed or strongly agreed with item ten, which indicates that the district or province governor provided immediate assistance and resources to crisis victims. Only 15.4% of respondents (46) either disagreed or strongly disagreed with this statement.

The last indicator states that the district or province governor effectively performed routine tasks while helping victims to cope with crisis was agreed or strongly agreed with by 136

respondents (45.5%), while 78 people (26.0%) disagreed or strongly disagreed with this statement.

Overall, agreement responses exceed disagreement responses for each of the eleven indicators. The results indicate that almost half of the respondents showed their agreement for each item. In other words, the district or province governors demonstrated effective collaborative leadership in a crisis which was examined, investigated, or observed closely in the crisis situation by the respondents.

4.1.3 Exogenous Variable (Leadership Traits and Skills)

The only exogenous latent variable of the study, leadership traits and skills, was measured by fifteen items. These fifteen items reflect different attributes of leadership traits and skills. Survey participants were asked to indicate to what extent they agreed that the leadership traits and skills of the district or province governor whom they had an opportunity to examine, investigate, or observe closely in a crisis situation impacted the effectiveness of crisis management. These fifteen items are clarity and precision in decisions, self-confidence when making a decision, self-control under stress, making decisions independently, using initiative, reacting with distinctive methods to different situational necessities, adapting to different needs, diagnosing the situation quickly, communicating with stakeholders regularly, developing and executing external and internal communication with stakeholders, utilizing information and communication technology (ICT), choosing appropriate communication channels and methods, identifying and reducing barriers for listening to the staff and other stakeholders, and involving all stakeholders in crisis communication plans.

Table 5 summarizes responses to the indicators of leadership traits and skills of the

district or province governor in the form of frequency distributions. Similar to previous

constructs, the indicators have a very low number of missing values.

Table 5 *Frequency Distribution of Items for Leadership Traits and Skills*

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
had clarity and precision in decisions.	Strongly Disagree	9	3.0	3.0	3.0
	Disagree	56	18.6	18.6	21.6
	Neither Disagree or Agree	59	19.6	19.6	41.2
	Agree	156	51.8	51.8	93.0
	Strongly Agree	21	7.0	7.0	100.0
	Valid Total	301	100.0	100.0	
had a high level of self-confidence when making decision.	Strongly Disagree	5	1.7	1.7	1.7
	Disagree	46	15.3	15.3	16.9
	Neither Disagree or Agree	69	22.9	22.9	39.9
	Agree	147	48.8	48.8	88.7
	Strongly Agree	34	11.3	11.3	100.0
	Valid Total	301	100.0	100.0	
did not lose his/her self-control under stress.	Strongly Disagree	4	1.3	1.3	1.3
	Disagree	41	13.6	13.7	15.0
	Neither Disagree or Agree	65	21.6	21.7	36.7
	Agree	159	52.8	53.0	89.7
	Strongly Agree	31	10.3	10.3	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
can make decisions independently when appropriate by considering himself/herself as the primary decision maker.	Strongly Disagree	18	6.0	6.0	6.0
	Disagree	45	15.0	15.0	20.9
	Neither Disagree or Agree	79	26.2	26.2	47.2
	Agree	130	43.2	43.2	90.4
	Strongly Agree	29	9.6	9.6	100.0
	Total	301	100.0	100.0	

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
did not hesitate to use initiative, if necessary, by taking into account possible risks.	Strongly Disagree	12	4.0	4.0	4.0
	Disagree	40	13.3	13.3	17.3
	Neither Disagree or Agree	66	21.9	22.0	39.3
	Agree	143	47.5	47.7	87.0
	Strongly Agree	39	13.0	13.0	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
had capacity to react with distinctive methods to different situational necessities.	Strongly Disagree	6	2.0	2.0	2.0
	Disagree	35	11.6	11.7	13.7
	Neither Disagree or Agree	66	21.9	22.0	35.7
	Agree	164	54.5	54.7	90.3
	Strongly Agree	29	9.6	9.7	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
adapted to different needs (such as adapting to an extremely stressful working environment) when needed.	Strongly Disagree	5	1.7	1.7	1.7
	Disagree	29	9.6	9.6	11.3
	Neither Disagree or Agree	60	19.9	19.9	31.2
	Agree	177	58.8	58.8	90.0
	Strongly Agree	30	10.0	10.0	100.0
	Total	301	100.0	100.0	
can diagnose the situation quickly and determine the proper form of behavior that will achieve a positive result.	Strongly Disagree	10	3.3	3.3	3.3
	Disagree	41	13.6	13.7	17.0
	Neither Disagree or Agree	66	21.9	22.0	39.0
	Agree	152	50.5	50.7	89.7
	Strongly Agree	31	10.3	10.3	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
communicated with stakeholders regularly, as needed.	Strongly Disagree	6	2.0	2.0	2.0
	Disagree	41	13.6	13.6	15.6
	Neither Disagree or	65	21.6	21.6	37.2

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Agree				
	Agree	150	49.8	49.8	87.0
	Strongly Agree	39	13.0	13.0	100.0
	Total	301	100.0	100.0	
developed and executed external and internal communication with stakeholders (victims, organizations, the media).	Strongly Disagree	11	3.7	3.7	3.7
	Disagree	59	19.6	19.7	23.4
	Neither Disagree or Agree	82	27.2	27.4	50.8
	Agree	126	41.9	42.1	93.0
	Strongly Agree	21	7.0	7.0	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
utilized information and communication technology (ICT) in order to maintain a precise and constant flow of information.	Strongly Disagree	11	3.7	3.7	3.7
	Disagree	60	19.9	19.9	23.6
	Neither Disagree or Agree	84	27.9	27.9	51.5
	Agree	125	41.5	41.5	93.0
	Strongly Agree	21	7.0	7.0	100.0
	Total	301	100.0	100.0	
chose appropriate communication channels and methods (Internet, TV, radio, etc.)	Strongly Disagree	5	1.7	1.7	1.7
	Disagree	50	16.6	16.7	18.3
	Neither Disagree or Agree	111	36.9	37.0	55.3
	Agree	115	38.2	38.3	93.7
	Strongly Agree	19	6.3	6.3	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
identified barriers for listening to the staff and other stakeholders.	Strongly Disagree	7	2.3	2.3	2.3
	Disagree	46	15.3	15.4	17.8
	Neither Disagree or Agree	95	31.6	31.9	49.7
	Agree	137	45.5	46.0	95.6
	Strongly Agree	13	4.3	4.4	100.0
	Valid Total	298	99.0	100.0	

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
	Missing	3	1.0		
	Total	301	100.0		
reduced barriers for listening to the staff and other stakeholders.	Strongly Disagree	8	2.7	2.7	2.7
	Disagree	42	14.0	14.1	16.8
	Neither Disagree or Agree	90	29.9	30.3	47.1
	Agree	141	46.8	47.5	94.6
	Strongly Agree	16	5.3	5.4	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
involved all stakeholders in crisis communication plans.	Strongly Disagree	6	2.0	2.0	2.0
	Disagree	48	15.9	16.1	18.1
	Neither Disagree or Agree	93	30.9	31.1	49.2
	Agree	135	44.9	45.2	94.3
	Strongly Agree	17	5.6	5.7	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		

The total number of respondents who agreed or strongly agreed that the district or province governors had clarity and precision in their decisions during the crisis were 177, representing 58.8% of respondents. Sixty-five respondents, or 21.6% of them, disagreed or strongly disagreed with this statement.

The second indicator, self-confidence, was included to measure the extent to which the district or province governor had a high level of self-confidence when making a decision. The number of respondents who either strongly agreed or agreed with this indicator is 181, with a cumulative percentage of 60.1, while 51 of them (16.9%) disagreed or strongly disagreed.

The total number of employees who agreed or strongly agreed that the district or province governor did not lose his/her self-control under stress was 190, or 63.3% of all respondents. Forty-five, or 15.0% of all respondents, disagreed or strongly disagreed, while 65, or 21.7% of all respondents, did not agree or disagree. The results show the district or province governors were perceived to be effective in keeping themselves in control under stress.

The number of respondents who stated that the district or province governor made decisions independently, when appropriate, by considering himself/herself the primary decision maker was 159 with a cumulative percentage of 52.8, while 63 respondents (20.9%) indicated that they disagree or strongly disagree with this item.

Agree and strongly agree responses (182) to the fifth indicator, the district or province governor did not hesitate to use initiative, if necessary, by taking into account possible risks, represent 60.7% of total responses. These two responses have 47.7% and 13.0% of total responses respectively. The percentage of respondents who disagreed or strongly disagreed with the statement was only 17.3.

A majority of the respondents (193; 64.4%) agreed or strongly agreed with the sixth item, which is the district or province governor had a capacity to react with distinctive methods to different situational necessities. Forty-one respondents disagreed and strongly disagreed with this item, constituting 13.7% of total respondents.

The cumulative percentage of those who either agreed or strongly agreed that the district or province governor adapted to different needs (such as adapting to an extremely stressful working environment) when needed is 68.8 with 207 responses, while only 11.3% of all respondents disagreed or strongly disagreed with this item.

Item eight questioned if the district or province governor can diagnose the situation quickly and determine the proper form of behavior that will achieve a positive result. The number of respondents (183) who either agreed or strongly agreed with the eighth item constitutes 61.0% of total respondents (50.7% and 10.3% respectively). The number of respondents who either disagreed or strongly disagreed with this item is 51, for a cumulative percentage of 17.

The ninth item was intended to assess the extent to which the district or province governors communicated with stakeholders regularly, as needed. The total number of respondents who either agreed or strongly agreed with this item is 189, representing 62.8% of total respondents, while 47 respondents disagreed or strongly disagreed.

The total number of respondents, who agreed or strongly agreed that the district or province governor developed and executed external and internal communication with stakeholders (victims, organizations, the media) in the crisis was 147, representing 49.1 % of all respondents. Seventy respondents, or 23.4% of them, disagreed or strongly disagreed with this statement. A significant numbers of respondents (84) neither disagreed nor agreed with this item.

Item eleven indicates that the district or province governor utilized ICT in order to maintain a precise and constant flow of information. One hundred and forty-six respondents who either agreed or strongly agreed with this item constitute 48.5% of total respondents. On the other hand, 71 respondents (23.6% of all) disagreed or strongly disagreed with this item.

The total number of respondents, who agreed or strongly agreed that the district or province governor chose appropriate communication channels and methods (Internet, TV, radio,

and such) in the crisis were 134, representing 44.6% of all respondents. Fifty-five respondents, or 18.3% of them, disagreed or strongly disagreed with this statement.

For the thirteenth item, respondents were asked to respond to the statement that the district or province governor identified barriers for listening to the staff and other stakeholders in the crisis. One hundred and fifty respondents agreed and strongly agreed, while 53 of them disagreed and strongly disagreed. The cumulative percentages of those respondents are 50.4 and 17.8. For this item, the biggest number of respondents (95) with a percentage of 31.9 neither agreed nor disagreed. The total number of respondents who agreed or strongly agreed that the district or province governor reduced barriers for listening to the staff and other stakeholders was 157, representing 52.9% of all respondents. Fifty respondents, or 16.8% of them, disagreed or strongly disagreed with this expression.

The last item states that the district or province governor involved all stakeholders in crisis communication plans. For this item, 152 respondents either agreed or strongly agreed, constituting a cumulative percentage of 50.9. The number of people who neither agreed nor disagreed about this item is 93 (31.1%) while 18.1 percent of respondents indicated disagreement with this item.

Overall responses to the indicators of leadership traits and skills accumulate within strongly agree and agree responses. The disagreed and strongly disagreed responses are low, and generally constitute around 20 % of total respondents. Responses stating that the respondents neither agreed nor disagreed with the questions are around 20% for the first eleven items, while it was around 30% for the last four items.

4.1.4 Mediating Endogenous Variables

This study analyzed the effects of leadership traits and skills on the task, people, and organization-oriented leadership behaviors, and then the effects of those leadership behaviors on the effectiveness of leadership in crisis situations. In this model, three types of leadership behaviors play a mediating role between leadership traits and skills and the effectiveness of crisis leadership. Since each of these leadership behaviors is affected by leadership traits and skills, they are accepted as endogenous latent variables. All three mediating endogenous variables were measured by several indicators. The indicators of these variables were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Participants were asked to evaluate the behaviors of district or province governors that they had an opportunity to examine, investigate, or observe closely in a crisis situation.

First Mediating Endogenous Variable (Task-Oriented Behaviors). Task-oriented behaviors is the first latent mediating endogenous construct in this study. Task-oriented behaviors consist of 9 indicators. These nine items reflect different attributes of task-oriented behaviors. Participants were requested to indicate to what extent they agreed that the governors showed adequate task-oriented leadership behaviors during a crisis. The brief descriptions of the nine items are as follows: defining the problem and formulating their responses, developing a systematic approach in analyzing problems, generating alternatives, promoting collaborative problem solving, creating an organizational culture of innovation and creativity, benefiting from the creative and innovative ability of the staff and partner institutions, having willingness to take risks and to consider new and untested approaches, providing a welcoming atmosphere in which followers do not feel any pressure, and providing the tools and opportunities for learning and

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innovation. Table 6 summarizes the answers of the indicators of task-oriented behaviors in the

form of frequency distributions.

Table 6 *Frequency Distribution of Items for Task-Oriented Behaviors*

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
defined the problem and formulated responses.	Strongly Disagree	11	3.7	3.7	3.7
	Disagree	55	18.3	18.4	22.1
	Neither Disagree or Agree	87	28.9	29.1	51.2
	Agree	133	44.2	44.5	95.7
	Strongly Agree	13	4.3	4.3	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
developed a systematic approach in analyzing problems/issues.	Strongly Disagree	11	3.7	3.7	3.7
	Disagree	83	27.6	27.8	31.4
	Neither Disagree or Agree	95	31.6	31.8	63.2
	Agree	94	31.2	31.4	94.6
	Strongly Agree	16	5.3	5.4	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
generated alternatives by creating a list of options to solve problems and choose one of the best options.	Strongly Disagree	11	3.7	3.7	3.7
	Disagree	50	16.6	16.8	20.5
	Neither Disagree or Agree	68	22.6	22.9	43.4
	Agree	143	47.5	48.1	91.6
	Strongly Agree	25	8.3	8.4	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
promoted collaborative problem solving by considering the perspectives of others.	Strongly Disagree	13	4.3	4.4	4.4
	Disagree	44	14.6	15.0	19.4
	Neither Disagree or Agree	65	21.6	22.1	41.5
	Agree	145	48.2	49.3	90.8

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The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	27	9.0	9.2	100.0
	Valid Total	294	97.7	100.0	
	Missing	7	2.3		
	Total	301	100.0		
created an organizational culture of innovation and creativity by encouraging and rewarding followers who intend to make change and achieve successful results.	Strongly Disagree	19	6.3	6.4	6.4
	Disagree	66	21.9	22.1	28.4
	Neither Disagree or Agree	99	32.9	33.1	61.5
	Agree	104	34.6	34.8	96.3
	Strongly Agree	11	3.7	3.7	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
benefited from the creative and innovative ability of the staff and partner institutions.	Strongly Disagree	14	4.7	4.7	4.7
	Disagree	57	18.9	19.1	23.8
	Neither Disagree or Agree	80	26.6	26.8	50.7
	Agree	129	42.9	43.3	94.0
	Strongly Agree	18	6.0	6.0	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
had willingness to take risks and to consider new and untested approaches.	Strongly Disagree	27	9.0	9.1	9.1
	Disagree	55	18.3	18.5	27.5
	Neither Disagree or Agree	82	27.2	27.5	55.0
	Agree	113	37.5	37.9	93.0
	Strongly Agree	21	7.0	7.0	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
provided a welcoming atmosphere in which followers do not feel any pressure.	Strongly Disagree	17	5.6	5.7	5.7
	Disagree	63	20.9	21.1	26.8
	Neither Disagree or Agree	104	34.6	34.9	61.7
	Agree	100	33.2	33.6	95.3
	Strongly Agree	14	4.7	4.7	100.0

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
provided the tools and opportunities for learning and innovation.	Strongly Disagree	13	4.3	4.4	4.4
	Disagree	56	18.6	18.8	23.2
	Neither Disagree or Agree	103	34.2	34.6	57.7
	Agree	107	35.5	35.9	93.6
	Strongly Agree	19	6.3	6.4	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		

The first indicator of task-oriented behaviors is the statement regarding respondents' perceptions as to what extent the district or province governors defined the problem and formulated responses in a crisis situation. Almost half of the respondents (48.8%) agreed or strongly agreed with the statement. About one out of five of the respondents (22.1%) disagreed or strongly disagreed with this statement. About one third of the respondents (87 or 29.1%) neither agreed nor disagreed with this statement.

In the second question, the respondents' perceptions as to what extent the district or province governor developed a systematic approach in analyzing problems were sought. The number of respondents who agreed or strongly agreed is one of the lowest among all items, with 110 people, which constitute 36.8% of all respondents. About one out of three of the respondents (31.8 %) neither agreed nor disagreed with this statement, making up 95 of all respondents. Almost the same number (94) and percentage (31.4) of all respondents disagreed or strongly disagreed with this statement.

More than half of the respondents stated that they either agreed (143 or 48.1% of all respondents) or strongly agreed (25 or 8.4% of all respondents) with the statement that the district or province governor whose leadership they observed during a crisis situation generated alternatives by creating a list of options to solve problems and choose the best option. On the other hand, 61 respondents, one out of five (20.5%), stated that they disagreed or strongly disagreed with this statement.

Promoting collaborative problem solving is the fourth indicator in task-oriented behaviors. This item aims to reveal the perception of respondents about the district or province governors' actions in promoting collaborative problem solving. A total of 58.5% of respondents stated that they agree or strongly agree with this statement, constituting 172 of all respondents. Slightly less than one in five respondents (57 or 19.4% of all respondents) disagreed or strongly disagreed with this statement.

The fifth item aims to measure the respondents' perception of the district or province governors and whether they created an organizational culture of innovation and creativity by encouraging and rewarding followers who intend to make change and achieve successful results. One hundred and fifteen respondents, in other words, 38.5% of all respondents, stated that they agreed or strongly agreed, and 85 or 28.4% of them stated that they disagreed or strongly disagreed with this proposition.

The total number of respondents who agreed or strongly agreed with the sixth item, that the district or province governor benefited from the creative and innovative ability of the staff and partner institutions was 147, representing 49.3% of all respondents. Seventy-one respondents, or 23.8% of them, disagreed or strongly disagreed with this statement. In the remaining responses, 26.8% of respondents neither agreed nor disagreed with this question.

The ninth item indicates that the district or province governor had willingness to take risks and to consider new and untested approaches at times of crisis. One hundred and thirty-four of total respondents who either agreed or strongly agreed with this item constitute 44.9% of total respondents. On the other hand, 82 respondents (27.5% of all) disagreed or strongly disagreed with this item.

The tenth indicator of task-oriented behaviors states that the district or province governors provided a welcoming atmosphere in which followers did not feel any pressure. A relatively small number of respondents, 114 people, agreed or strongly agreed with this statement, representing 38.3% of all respondents, while 80 respondents disagreed or strongly disagreed, making up 26.8% of all responses.

The last item in task-oriented behaviors aims to measure the respondents' perception of the extent the district or province governor provided the tools and opportunities for learning and innovation. The accumulated number of respondents who agreed and strongly agreed with this item is 126, which accounts for 42.3% of all responses. This figure goes down to 23.2% for disagreed or strongly disagreed respondents who are 63 people in total.

Overall responses to the indicators of leadership traits and skills accumulate within strongly agree and agree responses. The disagreed and strongly disagreed responses are low and generally constitute around 20% of total respondents. The respondents neither agreed nor disagreed with the questions are around 20% for the first eleven items, and around 30 % for the last four items.

Second Mediating Endogenous Variable (People-Oriented Behaviors). People-oriented behaviors is the second latent mediating endogenous construct in this study. The people-oriented behaviors construct consists of thirteen indicators, each of which was measured with a question.

The thirteen items reflect different attributes of people-oriented behaviors. Participants were asked to indicate to what extent they agreed that the district or province governors whom they had an opportunity to examine, investigate, or observe closely in a crisis situation showed adequate people-oriented leadership behaviors. The brief descriptions of the thirteen items are as follows: creating a group mission, vision, common interests, and shared values; encouraging the staff to work as a team; selecting the proper number of people for the best group structure; building teams with special training, skills, and competencies; arranging the division of labor; scheduling personnel by using negotiation and perceptions of fairness; matching staff preferences and competencies to the work; evaluating and supporting the staff's performance; establishing a positive relationship with the staff; appreciating the staff's efforts; fairly evaluating the staff's contribution; explaining how rewards and significant commendations are distributed; and explaining rules and procedures. Table 7 summarizes the responses to the indicators for people-oriented behaviors in the form of frequency distributions.

Table 7 *Frequency Distribution of Items for People-Oriented Behaviors*

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
enhanced group identity by creating a group mission, vision, common interests, and shared values among participating organizations.	Strongly Disagree	9	3.0	3.0	3.0
	Disagree	43	14.3	14.3	17.3
	Neither Disagree or Agree	66	21.9	22.0	39.3
	Agree	157	52.2	52.3	91.7
	Strongly Agree	25	8.3	8.3	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
encouraged the staff to work as a team.	Strongly Disagree	12	4.0	4.0	4.0
	Disagree	53	17.6	17.8	21.8
	Neither Disagree or	108	35.9	36.2	58.1

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
	Agree				
	Agree	112	37.2	37.6	95.6
	Strongly Agree	13	4.3	4.4	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
selected proper number of people with well-balanced capabilities for the best group structure.	Strongly Disagree	14	4.7	4.7	4.7
	Disagree	65	21.6	21.8	26.5
	Neither Disagree or Agree	98	32.6	32.9	59.4
	Agree	109	36.2	36.6	96.0
	Strongly Agree	12	4.0	4.0	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
built teams with special training, skills, and competencies.	Strongly Disagree	13	4.3	4.4	4.4
	Disagree	66	21.9	22.1	26.5
	Neither Disagree or Agree	125	41.5	41.9	68.5
	Agree	83	27.6	27.9	96.3
	Strongly Agree	11	3.7	3.7	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	13	4.3	4.4	4.4
arranged the division of labor according to the duties and responsibilities of staff.	Strongly Disagree	7	2.3	2.3	2.3
	Disagree	42	14.0	14.1	16.4
	Neither Disagree or Agree	75	24.9	25.2	41.6
	Agree	151	50.2	50.7	92.3
	Strongly Agree	23	7.6	7.7	100.0
	Valid Total	298	99.0	100.0	
	Missing	3	1.0		
	Total	301	100.0		
scheduled personnel by using negotiation and perceptions of fairness (so specific staff assignments	Strongly Disagree	10	3.3	3.3	3.3
	Disagree	50	16.6	16.7	20.0
	Neither Disagree or Agree	70	23.3	23.3	43.3

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
can be understood and accepted by followers).	Agree	149	49.5	49.7	93.0
	Strongly Agree	21	7.0	7.0	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
matched staff preferences and competencies to the work as much as possible.	Strongly Disagree	13	4.3	4.3	4.3
	Disagree	52	17.3	17.4	21.7
	Neither Disagree or Agree	73	24.3	24.4	46.2
	Agree	142	47.2	47.5	93.6
	Strongly Agree	19	6.3	6.4	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
evaluated and supported the staff's performance and helped them perform better.	Strongly Disagree	16	5.3	5.4	5.4
	Disagree	27	9.0	9.0	14.4
	Neither Disagree or Agree	79	26.2	26.4	40.8
	Agree	152	50.5	50.8	91.6
	Strongly Agree	25	8.3	8.4	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
established a positive relationship with the staff by making them feel that their contributions are important.	Strongly Disagree	13	4.3	4.3	4.3
	Disagree	42	14.0	14.0	18.4
	Neither Disagree or Agree	78	25.9	26.1	44.5
	Agree	135	44.9	45.2	89.6
	Strongly Agree	31	10.3	10.4	100.0
	Valid Total	299	99.3	100.0	
	Missing	2	.7		
	Total	301	100.0		
showed appreciation of the staff's efforts in timely and appropriate manner.	Strongly Disagree	18	6.0	6.0	6.0
	Disagree	41	13.6	13.7	19.7
	Neither Disagree or Agree	97	32.2	32.3	52.0
	Agree	121	40.2	40.3	92.3

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly Agree	23	7.6	7.7	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
fairly evaluated the staff's contribution to the crisis response team.	Strongly Disagree	18	6.0	6.0	6.0
	Disagree	60	19.9	20.0	26.0
	Neither Disagree or Agree	84	27.9	28.0	54.0
	Agree	123	40.9	41.0	95.0
	Strongly Agree	15	5.0	5.0	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
explained how rewards and significant commendations are distributed and used them to motivate followers.	Strongly Disagree	7	2.3	2.3	2.3
	Disagree	30	10.0	10.0	12.3
	Neither Disagree or Agree	69	22.9	23.0	35.3
	Agree	172	57.1	57.3	92.7
	Strongly Agree	22	7.3	7.3	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		
explained rules and procedures to ensure that subordinates understand the consequences of deviations and executed punishment when deviations occurred.	Strongly Disagree	21	7.0	7.0	7.0
	Disagree	60	19.9	20.0	27.0
	Neither Disagree or Agree	113	37.5	37.7	64.7
	Agree	93	30.9	31.0	95.7
	Strongly Agree	13	4.3	4.3	100.0
	Valid Total	300	99.7	100.0	
	Missing	1	.3		
	Total	301	100.0		

The target of the first question of the people-oriented behaviors construct is to reveal the

perceptions of respondents as to what extent they think the district or province governors

enhanced group identity by creating a group mission, vision, common interests, and shared

values among participating organizations in a crisis. A majority of the respondents (60.6%) stated that they agreed or strongly agreed with this statement, while only 17.3% disagreed or strongly disagreed. There were 182 respondents who agreed and 52 respondents who disagreed with this item.

The number of respondents that stated they agreed or strongly agreed with the statement "the district or province governors encouraged the staff to work as a team" is 125, representing 42.0% of total respondents. For this item, 65 respondents (21.8%) disagreed or strongly disagreeing respondents for this item. The highest response was 108 respondents neither agreeing nor disagreeing for this question, making up 36.2% of all responses.

The third question addresses the district or province governors and to what extent they selected the proper number of people with well-balanced capabilities for the best group structure. Overall, 121, or 40.6%, of the respondents stated that they agreed or strongly agreed and 79, or 26.5%, stated that they disagreed or strongly disagreed with the statement. Nearly one out of three (32.9 %) of the respondents neither agreed nor disagreed with the statement.

The total number of respondents who agreed or strongly agreed that the district or province governor built teams with special training, skills, and competencies in the crisis was 94, representing 31.6% of all respondents. Compared to other questions, this received one of the lowest agreed responses. Seventy-nine respondents, or 26.5% of them, disagreed or strongly disagreed with this statement. The highest percentage belongs to the respondent group with the neither agree nor disagree response, which makes up 41.9% for this statement.

The fifth indicator was included to measure the extent to which the district or province governor arranged the division of labor according to the duties and responsibilities of the staff.

The number of respondents who either strongly agreed or agreed with this indicator is 174, with a cumulative percentage of 58.4, while only 49, or 16.4%, disagreed or strongly disagreed. Similar to the previous question, the number and percentage of the respondent group with neither agreed nor disagreed responses was relatively high for this statement, 75 respondents or 25.2%.

The total number of employees who agreed or strongly agreed that the district or province governor scheduled personnel by using negotiation and perceptions of fairness was 170, or 56.7%, of all respondents. Sixty, or 20.0%, of all respondents, disagreed or strongly disagreed, while 70, or 23.3%, of all respondents, neither agreed nor disagreed.

There were 161 agreed and strongly agreed responses to the seventh indicator, articulating that the district or province governor matched staff preferences and competencies to the work as much as possible, representing 53.9% of the total responses. These two responses have 47.5% and 6.4% of the total responses respectively. On the other hand, 65, or 21.7%, of the respondents stated that they disagreed or strongly disagreed with the statement.

The number of respondents who agreed or strongly agreed with the statement that the district or province governor evaluated and supported the staff's performance and helped them perform better was 177, with a cumulative percentage of 59.2. Only 43 respondents, 14.4%, indicated that they disagreed or strongly disagreed with this item, while 79 of them, or 26.4%, stated that they neither disagreed nor strongly disagreed with this statement.

A majority of the respondents (166; 55.6%) agreed or strongly agreed with ninth item, which is the district or province governor established a positive relationship with the staff by making them feel that their contribution was important. Fifty-five respondents disagreed and strongly disagreed with this item, representing 18.4% of total respondents.

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Item ten indicates that the district or province governor appreciated the staff's efforts in a timely and appropriate manner. The number of respondents (144) who either agreed or strongly agreed with the eighth item constitutes 48.0% of total respondents. The number of respondents who either disagreed or strongly disagreed with this item is 59, for a cumulative percentage of 19.7.

The purpose of the eleventh item is to learn the perceptions of respondents about the extent the district or province governor evaluated fairly the staff's contribution to the crisis response team. The total number of respondents who agreed or strongly agreed with this item was 138, representing 46.0% of all respondents. On the other side, 78 or 26.0%, of all respondents stated that they either disagreed or strongly disagreed with this item.

The cumulative percentage of those who either agreed or strongly agreed that the district or province governor explained how rewards and significant commendations are distributed and used them to motivate followers was 64.6, with 194 responses while only 37 or 12.3% of all respondents disagreed or strongly disagreed with this item.

For the last item, respondents were asked to respond to the statement that the district or province governor explained rules and procedures to ensure that subordinates understood the consequences of deviations and executed punishment when deviations occurred. One hundred and six respondents agreed and strongly agreed, while 81 disagreed and strongly disagreed. The cumulative percentages of those respondents are 35.3 and 27. For this item, a significant number of respondents (113) neither agreed nor disagreed, with a percentage of 37.7.

Overall responses to the indicators of people-oriented leadership behaviors accumulate within strongly agree and agree responses, except for items five and thirteen which have around

30% of agreed or strongly agreed responses. The number of disagreed and strongly disagreed responses was low and generally constituted between 20-25% of total respondents.

Third Mediating Endogenous Variable (Organization-Oriented Behaviors).

Organization-oriented behaviors is the third latent endogenous construct with a mediating role in this study. The construct of organization-oriented behaviors consists of fifteen indicators each of which was evaluated using a five-item Likert scale ranging from 1 to 5. These fifteen items reflect different attributes of organization-oriented behaviors. Respondents were asked to indicate to what extent they agreed that the district or province governors whom they had an opportunity to examine, investigate, or observe those governors closely in a crisis situation, showed adequate organization-oriented leadership behaviors.

The brief descriptions of those fifteen items are as follows: periodically contacting external stakeholders, developing long-term relationships with stakeholders, constantly exchanging information with other organizations, being open to partnerships, making decisions with limited information under time pressure, making quick decisions, seeking counsel from others, reacting differently during a crisis, detecting problems correctly, identifying and using multiple relevant sources of external information, following up on significant external trends, reflecting on the significance of external trends, collecting systematic and comprehensive data, regularly reviewing the mission and capabilities of the organization, and developing a step-by-step strategic plan for crisis management. Table 8 below summarizes responses to the indicators of organization-oriented behaviors in the form of frequency distributions.

Table 8 *Frequency Distribution of Items for Organization-Oriented Behaviors*

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
periodically contacted external stakeholders, politicians, and other strategic alliances.	Strongly Disagree	8	2.7	2.7	2.7
	Disagree	26	8.6	8.8	11.4
	Neither Disagree or Agree	42	14.0	14.1	25.6
	Agree	188	62.5	63.3	88.9
	Strongly Agree	33	11.0	11.1	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
developed long-term relationships with stakeholders.	Strongly Disagree	10	3.3	3.4	3.4
	Disagree	53	17.6	17.8	21.2
	Neither Disagree or Agree	91	30.2	30.6	51.9
	Agree	123	40.9	41.4	93.3
	Strongly Agree	20	6.6	6.7	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
constantly exchanged information with other organizations in the network.	Strongly Disagree	6	2.0	2.0	2.0
	Disagree	31	10.3	10.5	12.5
	Neither Disagree or Agree	59	19.6	19.9	32.4
	Agree	167	55.5	56.4	88.9
	Strongly Agree	33	11.0	11.1	100.0
	Valid Total	296	98.3	100.0	
	Missing	5	1.7		
	Total	301	100.0		
was open to partnerships during crisis intervention, and answered to collaboration needs of others at the maximum level.	Strongly Disagree	6	2.0	2.0	2.0
	Disagree	37	12.3	12.5	14.5
	Neither Disagree or Agree	82	27.2	27.6	42.1
	Agree	146	48.5	49.2	91.2
	Strongly Agree	26	8.6	8.8	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	301	100.0		
made decisions with limited information under time pressure in response to crises.	Strongly Disagree	5	1.7	1.7	1.7
	Disagree	35	11.6	11.8	13.5
	Neither Disagree or Agree	64	21.3	21.6	35.1
	Agree	165	54.8	55.7	90.9
	Strongly Agree	27	9.0	9.1	100.0
	Valid Total	296	98.3	100.0	
	Missing	5	1.7		
	Total	301	100.0		
made quick decisions in crisis compared to routine management.	Strongly Disagree	4	1.3	1.4	1.4
	Disagree	30	10.0	10.2	11.6
	Neither Disagree or Agree	35	11.6	11.9	23.5
	Agree	179	59.5	60.9	84.4
	Strongly Agree	46	15.3	15.6	100.0
	Valid Total	294	97.7	100.0	
	Missing	7	2.3		
	Total	301	100.0		
sought counsel from others in analyzing the situation.	Strongly Disagree	7	2.3	2.4	2.4
	Disagree	34	11.3	11.4	13.8
	Neither Disagree or Agree	72	23.9	24.2	38.0
	Agree	162	53.8	54.5	92.6
	Strongly Agree	22	7.3	7.4	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
reacted differently during the crisis (although nervous, became more focused and solutions oriented).	Strongly Disagree	6	2.0	2.0	2.0
	Disagree	32	10.6	10.8	12.8
	Neither Disagree or Agree	60	19.9	20.2	33.0
	Agree	174	57.8	58.6	91.6
	Strongly Agree	25	8.3	8.4	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		Frequency	Percent	Valid Percent	Cumulative Percent
detected problems correctly without losing sight of the complete picture and made correct decisions by considering the possible consequences.	Strongly Disagree	7	2.3	2.4	2.4
	Disagree	37	12.3	12.5	14.8
	Neither Disagree or Agree	91	30.2	30.6	45.5
	Agree	135	44.9	45.5	90.9
	Strongly Agree	27	9.0	9.1	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
identified and used multiple relevant sources of external information.	Strongly Disagree	2	.7	.7	.7
	Disagree	42	14.0	14.2	14.9
	Neither Disagree or Agree	89	29.6	30.1	44.9
	Agree	141	46.8	47.6	92.6
	Strongly Agree	22	7.3	7.4	100.0
	Valid Total	296	98.3	100.0	
	Missing	5	1.7		
	Total	301	100.0		
followed up on the significant external trends, such as new developments in technology.	Strongly Disagree	9	3.0	3.0	3.0
	Disagree	52	17.3	17.6	20.6
	Neither Disagree or Agree	84	27.9	28.4	49.0
	Agree	134	44.5	45.3	94.3
	Strongly Agree	17	5.6	5.7	100.0
	Valid Total	296	98.3	100.0	
	Missing	5	1.7		
	Total	301	100.0		
reflected on the significance of external trends for the organization.	Strongly Disagree	9	3.0	3.0	3.0
	Disagree	52	17.3	17.5	20.5
	Neither Disagree or Agree	100	33.2	33.7	54.2
	Agree	119	39.5	40.1	94.3
	Strongly Agree	17	5.6	5.7	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
collected systematic and	Strongly Disagree	14	4.7	4.7	4.7

The district or province governors whom I had opportunity to examine, investigate, or observe closely in a crisis situation...		**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
comprehensive data for strategic planning from staff and stakeholders.	Disagree	59	19.6	20.0	24.7
	Neither Disagree or Agree	98	32.6	33.2	58.0
	Agree	108	35.9	36.6	94.6
	Strongly Agree	16	5.3	5.4	100.0
	Valid Total	295	98.0	100.0	
	Missing	6	2.0		
	Total	301	100.0		
regularly reviewed the mission and capabilities of the organization for strategic planning.	Strongly Disagree	13	4.3	4.4	4.4
	Disagree	73	24.3	24.6	29.0
	Neither Disagree or Agree	97	32.2	32.7	61.6
	Agree	104	34.6	35.0	96.6
	Strongly Agree	10	3.3	3.4	100.0
	Valid Total	297	98.7	100.0	
	Missing	4	1.3		
	Total	301	100.0		
developed a step-by-stepa comprehensive strategic plan for crisis management.	Strongly Disagree	24	8.0	8.1	8.1
	Disagree	72	23.9	24.4	32.5
	Neither Disagree or Agree	98	32.6	33.2	65.8
	Agree	92	30.6	31.2	96.9
	Strongly Agree	9	3.0	3.1	100.0
	Valid Total	295	98.0	100.0	
	Missing	6	2.0		
	Total	301	100.0		

According to Table 8, almost three out of four respondents (221) agreed or strongly agreed that the district or province governor whom the respondents had an opportunity to examine, investigate, or observe closely in a crisis situation periodically contacted external stakeholders, politicians, and other strategic allies. For this item, the cumulative percentage of the respondents who either agreed or strongly agreed is 74.4. In other words, only 34, or 11.4%,

of all respondents disagreed or strongly disagreed, while 42, or 14.1%, of all respondents neither agreed nor disagreed.

The second item was designed to assess whether respondents observed that the district or province governor developed long-term relationships with stakeholders. For that statement, 143 respondents either strongly agreed or agreed, with a cumulative percentage of 48.1% while 63, or 21.2%, respondents disagreed or strongly disagreed with this statement. Almost one out of three respondents (91; 30.6%) indicated that they neither agreed nor disagreed.

The total number of respondents who agreed or strongly agreed that the district or province governor constantly exchanged information with other organizations in the network during a crisis was 200, which represents 67.5% of all respondents. Thirty-seven respondents or 12.5% of them disagreed or strongly disagreed with this statement. Nearly one out of five respondents (19.9%) neither disagreed nor agreed with this item.

More than half of the respondents (58.0%) either agreed or strongly agreed that the district or province governor was open to partnerships during crisis intervention and answered to collaboration needs of others at the maximum level while 43, or 14.5%, of them disagreed or strongly disagreed with this statement. More than one out of four respondents, or 27.6%, stated that they neither disagreed nor agreed with this item.

A vast majority of respondents (192) either agreed or strongly agreed that the district or province governor made decisions with limited information under time pressure in response to crises while 40 respondents did not agree. The percentages of agreed and disagreed respondents were 64.8 and 13.5 respectively.

Item six indicates that the district or province governor made quick decisions during a crisis compared to routine management. Slightly more than three out of four respondents (76.5%) indicated their agreement with this item, with those who agreed or strongly agreed being 60.9% and 15.6% respectively, while disagreed or strongly disagreed respondents constitute only 11.6% of total responses.

The purpose of the seventh item is to learn the perceptions of respondents regarding the extent the district or province governor sought counsel from others in analyzing the situation. The total number of respondents who agreed or strongly agreed with this item was 184, or 61.9%, of all respondents. On the other side, 41 or 13.8% of all respondents indicated they either disagreed or strongly disagreed with this item.

Item eight states that the district or province governor reacted differently during the crisis (although nervous, became more focused and solutions oriented). The number of respondents (199) who either agreed or strongly agreed with the eighth item constitutes 67.0% of total respondents. The number of respondents who either disagreed or strongly disagreed with this item is 38, or 12.8%.

The total number of respondents who agreed or strongly agreed that the district or province governor detected problems correctly without losing sight of the complete picture and made correct decisions by considering the possible consequences was 162, representing 54.6% of all respondents. Forty-four respondents, or 14.8%, disagreed or strongly disagreed while 91, or 30.6%, of respondents neither disagreed nor agreed with this statement.

One hundred and sixty-four of all respondents (55.0%) agreed or strongly agreed with the of the tenth item, which is that the district or province governor identified and used multiple

relevant sources of external information, while 44 of them (14.9%) disagreed or strongly disagreed.

Slightly more than half of the respondents (152) with a cumulative percentage of 51.0 either agreed or strongly agreed with item eleven, which indicates that the district or province governor followed up on significant external trends, such as new developments in technology. One out of five, 20.6%, of the total respondents (61) either disagreed or strongly disagreed with this statement.

The cumulative percentage of those who either agreed or strongly agreed that the district or province governor reflected on the significance of external trends for the organization was 45.8% with 136 responses, while 61 or 20.5% of all respondents disagreed or strongly disagreed with this item. A significant number of respondents (100) neither agreed nor disagreed with the percentage of 33.7 for this statement.

The total number of respondents who agreed or strongly agreed that the district or province governor collected systematic and comprehensive data for strategic planning from the staff and stakeholders was 124, which represents 42% of all respondents. Seventy-three respondents, or 24.7%, disagreed or strongly disagreed with this statement.

The fourteenth item was designed to measure the extent to which the district or province governors regularly reviewed the mission and capabilities of the organization for strategic planning. The total number of respondents who either agreed or strongly agreed with this item is 114, which represents 38.4% of total respondents. Almost one out of three, 86 or 29% of the total respondents, disagreed or strongly disagreed. On the other hand, 97 respondents, which constitute 32.7%, neither disagreed nor agreed with this statement.

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The last indicator states that the district or province governor developed a step-by-step comprehensive strategic plan for crisis management. The cumulative percentage of agreed or strongly agreed respondents with this statement was 101, which represents 34.3% of total respondents. Almost one out of three respondents, 32.5%, disagreed or strongly disagreed with this statement while 98 respondents, or 33.2%, neither disagreed nor agreed with this statement. Overall, except for the last four indicators agreement responses exceed disagreement responses for each indicator of this construct.

4.2 Correlation Analyses

In this part of the study, analysis of multicollinearity was implemented to confirm that indicators representing specific latent construct are not highly correlated. In other words, in addition to descriptive statistics in the form of frequency distribution this procedure prevents measuring precisely the same object more than once.

Correlation analysis examining the strength and direction of any relationships between variables was conducted for three purposes: first, to investigate the relationships between the control variables; second, to explore how the indicators of each latent construct vary according to control variables; and finally, to evaluate the relationships between the indicators of each latent construct of the study to diagnose any multicollinearity.

According to Cooper and Weekes (1983), multicollinearity occurs when two or more indicators are correlated with each other, and it is associated with the statistical performance of the estimates of explanatory variables. In particular, multicollinearity is a source of some issues such as very large standard errors of regression coefficients. Consequently, to obtain accurate results, estimates of model coefficients should be very low.

High correlations among indicators cause multicollinearity problems. There are various opinions regarding the satisfactory threshold for a multicollinearity problem in the related literature. For instance, while Kline (2005) argues that multicollinearity occurs when correlation coefficient is above .90, but Meyers, Gamst and Guarino (2006) claim that the threshold for interpretation should be .70. This study uses .75 for the multicollinearity threshold.

To identify any traces of multicollinearity, correlation matrices were created using the Spearman rho test for four latent constructs. Correlation matrices are an adequate tool to summarize the correlations between two indicators. For this reason, correlation matrices offer significant information on the direction and level of linear relationships among the variables (Cohen, Cohen, West, & Aiken, 2003).

The Spearman rho test was used since it is the most appropriate method for correlation analysis of ordinal data. Any correlations between variables with corresponding p values below .05 were considered statistically significant because .05 is the significance level for this study. Correlation matrix tables were developed for each of the latent constructs of this study to explore the relationships among indicators, and to check for any multicollinearity issue.

Table 9 *Correlation Matrix for Leadership Traits and Skills*

		TS1	TS2	TS3	TS4	TS5	TS6	TS7	TS8	TS9	TS10	TS11	TS12	TS13	TS14	TS15
TS1	Correlation Coefficient	1.000														
	Sig. (2-tailed)	.														
	N	301															
TS2	Correlation Coefficient	.717**	1.000													
	Sig. (2-tailed)	.000	.													
	N	301	301														
TS3	Correlation Coefficient	.588**	.627**	1.000												
	Sig. (2-tailed)	.000	.000	.												

Table 9 *Correlation Matrix for Leadership Traits and Skills*

		TS1	TS2	TS3	TS4	TS5	TS6	TS7	TS8	TS9	TS10	TS11	TS12	TS13	TS14	TS15
	N	301	301	301												
TS4	Correlation Coefficient	.630**	.575**	.544**	1.000											
	Sig. (2-tailed)	.000	.000	.000	.											
	N	301	301	301	301											
TS5	Correlation Coefficient	.645**	.635**	.571**	.720**	1.000										
	Sig. (2-tailed)	.000	.000	.000	.000	.										
	N	301	301	301	301	301										
TS6	Correlation Coefficient	.591**	.543**	.610**	.570**	.611**	1.000									
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.									
	N	301	301	301	301	301	301									
TS7	Correlation Coefficient	.534**	.549**	.673**	.536**	.602**	.704**	1.000								
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.								
	N	301	301	301	301	301	301	301								
TS8	Correlation Coefficient	.702**	.674**	.685**	.617**	.634**	.667**	.688**	1.000							
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.							
	N	301	301	301	301	301	301	301	301							
TS9	Correlation Coefficient	.491**	.461**	.480**	.428**	.441**	.489**	.488**	.586**	1.000						
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.						
	N	301	301	301	301	301	301	301	301	301						
TS10	Correlation Coefficient	.545**	.500**	.492**	.521**	.504**	.528**	.512**	.598**	.620**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.					
	N	301	301	301	301	301	301	301	301	301	301					
TS11	Correlation Coefficient	.343**	.324**	.346**	**.313****	.352**	.368**	.386**	.389**	.508**	.571**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.				
	N	301	301	301	301	301	301	301	301	301	301	301				
TS12	Correlation Coefficient	.446**	.427**	.459**	.453**	.439**	.493**	.460**	.506**	.556**	.619**	.708**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.			
	N	301	301	301	301	301	301	301	301	301	301	301	301			
TS13	Correlation Coefficient	.497**	.495**	.498**	.513**	.509**	.573**	.562**	.616**	.575**	.566**	.525**	.644**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.		
	N	301	301	301	301	301	301	301	301	301	301	301	301	301		
TS14	Correlation Coefficient	.496**	.497**	.541**	.488**	.516**	.570**	.585**	.583**	.531**	.512**	.488**	.574**	**.796****	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	

Table 9 *Correlation Matrix for Leadership Traits and Skills*

		TS1	TS2	TS3	TS4	TS5	TS6	TS7	TS8	TS9	TS10	TS11	TS12	TS13	TS14	TS15
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	
TS15	Correlation Coefficient	.487[**]	.511[**]	.479[**]	.524[**]	.553[**]	.476[**]	.551[**]	.559[**]	.421[**]	.535[**]	.446[**]	.528[**]	.626[**]	.652[**]	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

First, the correlation matrix for leadership traits and skills (Table 9) indicators is created. The correlation matrix of leadership traits and skills shows that all correlations among the indicators are significant and positive, as they should be. The highest correlation is between identifying barriers for listening to the staff and other stakeholders (TS13) and reducing barriers for listening to the staff and other stakeholders (TS14) (.796), and the lowest correlation is between making decisions independently when appropriate (TS4) and utilized information and communication technology (TS11) (.313). All remaining correlation values are significant in the range of .717 to .324, indicating no threat of multicollinearity for this latent construct. A high correlation between two indicators (TS13 and TS14) was not unexpected. Both questions address the barriers for listening to the staff and other stakeholders, though they have different perspectives. Therefore, removing one of these correlated variables does not impact the leadership traits and skills construct. To remove one of the highly correlated indicators eliminates the multicollinearity problem in the data.

Table 10 *Correlation Matrix for Leadership Task-Oriented Behaviors*

		TO1	TO2	TO3	TO4	TO5	TO6	TO7	TO8	TO9
TO1	Correlation Coefficient	1.000								
	Sig. (2-tailed)	.								
	N	301								
TO2	Correlation Coefficient	**.759**[**]	1.000							

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		TO1	TO2	TO3	TO4	TO5	TO6	TO7	TO8	TO9
	Sig. (2-tailed)	.000	.							
	N	301	301							
TO3	Correlation Coefficient	.673**	.664**	1.000						
	Sig. (2-tailed)	.000	.000	.						
	N	301	301	301						
TO4	Correlation Coefficient	.596**	.562**	.670**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.					
	N	301	301	301	301					
TO5	Correlation Coefficient	.592**	.652**	.578**	.630**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.				
	N	301	301	301	301	301				
TO6	Correlation Coefficient	.585**	.632**	.595**	.689**	.729**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.			
	N	301	301	301	301	301	301			
TO7	Correlation Coefficient	.522**	.521**	.478**	.499**	.593**	.599**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.		
	N	301	301	301	301	301	301	301		
TO8	Correlation Coefficient	.549**	.605**	.487**	.598**	.650**	.687**	.608**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.	
	N	301	301	301	301	301	301	301	301	
TO9	Correlation Coefficient	.513**	.588**	.473**	.585**	.694**	.657**	.586**	.730**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	301	301	301	301	301	301	301	301	301

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

According to Table 10 above, the correlation matrix of leadership task-oriented behaviors also demonstrates significant correlation at p < .01 for all the indicators. There is only one correlation greater than 0.75 which is between defining the problem and formulating their responses (TO1) and developing a systematic approach in analyzing problems (TO2) (.759). All of the remaining correlations are significant, but either low or moderate, in a range of .473 to .729, indicating no issue of multicollinearity for the rest of the indicators of this latent construct. High correlation between TO1 and TO2 is understandable since they address similar concepts in

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their wording, namely both indicators aim to detect problem identification competencies of

leaders. Therefore, one of these indicators needs to be excluded from the analyses.

Table 11 *Correlation Matrix for Leadership People-Oriented Behaviors*

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13
PO1	Correlation Coefficient	1.000												
	Sig. (2-tailed)	.												
	N	301												
PO2	Correlation Coefficient	.589**	1.000											
	Sig. (2-tailed)	.000	.											
	N	301	301											
PO3	Correlation Coefficient	.403**	.707**	1.000										
	Sig. (2-tailed)	.000	.000	.										
	N	301	301	301										
PO4	Correlation Coefficient	.489**	.499**	.381**	1.000									
	Sig. (2-tailed)	.000	.000	.000	.									
	N	301	301	301	301									
PO5	Correlation Coefficient	.615**	.543**	.514**	.476**	1.000								
	Sig. (2-tailed)	.000	.000	.000	.000	.								
	N	301	301	301	301	301								
PO6	Correlation Coefficient	.541**	.586**	.569**	.482**	.682**	1.000							
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.							
	N	301	301	301	301	301	301							
PO7	Correlation Coefficient	.641**	.643**	.462**	.560**	.628**	.654**	1.000						
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.						
	N	301	301	301	301	301	301	301						
PO8	Correlation Coefficient	.693**	.588**	.472**	.465**	.536**	.587**	.704**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.					
	N	301	301	301	301	301	301	301	301					
PO9	Correlation Coefficient	.659**	.562**	.443**	.497**	.571**	.558**	.643**	**.752****	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.				
	N	301	301	301	301	301	301	301	301	301				
PO10	Correlation Coefficient	.631**	.543**	.385**	.571**	.622**	.566**	.644**	.656**	**.779****	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.			
	N	301	301	301	301	301	301	301	301	301	301			
PO11	Correlation Coefficient	.716**	.579**	.433**	.478**	.554**	.468**	.577**	.594**	.563**	.567**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.		
	N	301	301	301	301	301	301	301	301	301	301	301		
PO12	Correlation Coefficient	.575**	.532**	.540**	.386**	.661**	.616**	.470**	.484**	.525**	.529**	.523**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	
	N	301	301	301	301	301	301	301	301	301	301	301	301	

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13
PO13	Correlation Coefficient	.578**	.518**	.405**	.659**	.488**	.488**	.625**	.582**	.660**	.716**	.525**	.430**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	301	301	301	301	301	301	301	301	301	301	301	301	301

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The third correlation matrix was created for people-oriented behaviors. All of the indicators for this construct are positively correlated with each other. In this construct, there are two highly correlated pairs of variables. The first high correlation was detected between evaluating and supporting the staff's performance (PO8) and establishing a positive relationship with the staff (PO9) (.752), which is slightly higher than the threshold (.750) for this study. The second high correlation is between establishing a positive relationship with the staff (PO9) and appreciating the staff's efforts in a timely and appropriate manner (PO10) (.779). These four variables are related to performance evaluation of staff. Understandably, planning personnel and motivating them both need to be evaluated in terms of their performance. The lowest correlation, on the other hand, is between selecting the proper number of people with well-balanced capabilities (PO3) and building teams with special training, skills, and competencies (PO4), which is .381. All of the remaining correlations are either low or moderate, in a range of .386 to .716, indicating no issue of multicollinearity for the rest of the indicators of this latent construct.

Table 12 *Correlation Matrix for Leadership Organization-Oriented Behaviors*

		OO1	OO2	OO3	OO4	OO5	OO6	OO7	OO8	OO9	OO10	OO11	OO12	OO13	OO14	OO15
OO1	Correlation Coefficient	1.000														
	Sig. (2-tailed)	.														
	N	301														
OO2	Correlation Coefficient	.621**	1.000													
	Sig. (2-tailed)	.000	.													
	N	301	301													
OO3	Correlation Coefficient	.613**	.519**	1.000												

		OO1	OO2	OO3	OO4	OO5	OO6	OO7	OO8	OO9	OO10	OO11	OO12	OO13	OO14	OO15
	Sig. (2-tailed)	.000	.000	.												
	N	301	301	301												
OO4	Correlation Coefficient	.501**	.392**	.660**	1.000											
	Sig. (2-tailed)	.000	.000	.000	.											
	N	301	301	301	301											
OO5	Correlation Coefficient	.348**	.256**	.475**	.629**	1.000										
	Sig. (2-tailed)	.000	.000	.000	.000	.										
	N	301	301	301	301	301										
OO6	Correlation Coefficient	.378**	.276**	.525**	.551**	.681**	1.000									
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.									
	N	301	301	301	301	301	301									
OO7	Correlation Coefficient	.436**	.342**	.560**	.579**	.625**	.618**	1.000								
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.								
	N	301	301	301	301	301	301	301								
OO8	Correlation Coefficient	.394**	.251**	.538**	.599**	.674**	.630**	.641**	1.000							
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.							
	N	301	301	301	301	301	301	301	301							
OO9	Correlation Coefficient	.400**	.346**	.576**	.652**	.676**	.626**	.624**	.745**	1.000						
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.						
	N	301	301	301	301	301	301	301	301	301						
OO10	Correlation Coefficient	.399**	.416**	.471**	.525**	.560**	.504**	.547**	.613**	.661**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.					
	N	301	301	301	301	301	301	301	301	301	301					
OO11	Correlation Coefficient	.415**	.429**	.452**	.424**	.376**	.341**	.379**	.368**	.427**	.544**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.				
	N	301	301	301	301	301	301	301	301	301	301	301				
OO12	Correlation Coefficient	.400**	.467**	.495**	.483**	.488**	.383**	.470**	.486**	.556**	.656**	.617**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.			
	N	301	301	301	301	301	301	301	301	301	301	301	301			
OO13	Correlation Coefficient	.358**	.442**	.511**	.536**	.492**	.410**	.514**	.526**	.609**	.633**	.593**	.705**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.		
	N	301	301	301	301	301	301	301	301	301	301	301	301	301		
OO14	Correlation Coefficient	.346**	.474**	.505**	.545**	.474**	.399**	.463**	.461**	.556**	.585**	.554**	.650**	.705**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	
	N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	

	OO1	OO2	OO3	OO4	OO5	OO6	OO7	OO8	OO9	OO10	OO11	OO12	OO13	OO14	OO15
OO15 Correlation Coefficient	.281**	.432**	.441**	.432**	.445**	.364**	.424**	.435**	.513**	.609**	.541**	.682**	.684**	.725**	1.000
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
N	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The fourth latent construct in this study is leadership oriented organization behaviors. The correlation matrix table of leadership organization-oriented behaviors variable (Table 12) shows that all correlations among the indicators are significant and positive at p < .01. The table also indicates that correlation coefficients among the indicators of this construct are within the normal bounds, ranging from .251 to .745, and do not exceed the threshold level of .75. These results reveal no threat of multicolinearity. Therefore, all indicators of the generic measurement model of leadership oriented organization behaviors were kept during CFA in the next sections.

Table 13 *Correlation Matrix for the Effectiveness of Crisis Leadership*

		EF1	EF2	EF3	EF4	EF5	EF6	EF7	EF8	EF9	EF10	EF11
EF1	Correlation Coefficient	1.000										
	Sig. (2-tailed)	.										
	N	301										
EF2	Correlation Coefficient	.697**	1.000									
	Sig. (2-tailed)	.000	.									
	N	301	301									
EF3	Correlation Coefficient	.644**	.616**	1.000								
	Sig. (2-tailed)	.000	.000	.								
	N	301	301	301								
EF4	Correlation Coefficient	.554**	.567**	.563**	1.000							
	Sig. (2-tailed)	.000	.000	.000	.							
	N	301	301	301	301							
EF5	Correlation Coefficient	.572**	.568**	.668**	.694**	1.000						
	Sig. (2-tailed)	.000	.000	.000	.000	.						
	N	301	301	301	301	301						
EF6	Correlation Coefficient	.529**	.570**	.629**	.568**	.654**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.					

		EF1	EF2	EF3	EF4	EF5	EF6	EF7	EF8	EF9	EF10	EF11
	N	301	301	301	301	301	301					
EF7	Correlation Coefficient	.551**	.571**	.620**	.639**	.680**	.645**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.				
	N	301	301	301	301	301	301	301				
EF8	Correlation Coefficient	.606**	.616**	.649**	.570**	.660**	.679**	.709**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.			
	N	301	301	301	301	301	301	301	301			
EF9	Correlation Coefficient	.558**	.551**	.578**	.554**	.603**	.587**	.599**	.625**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.		
	N	301	301	301	301	301	301	301	301	301		
EF10	Correlation Coefficient	.543**	.483**	.547**	.461**	.559**	.544**	.448**	.544**	.573**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	
	N	301	301	301	301	301	301	301	301	301	301	
EF11	Correlation Coefficient	.425**	.400**	.399**	.430**	.427**	.447**	.387**	.385**	.471**	.561**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	301	301	301	301	301	301	301	301	301	301	301

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Finally, according to Table 13 there is not any multicollinearity issue among the indicators of the effectiveness of crisis leadership latent construct. The Correlation Matrix of the effectiveness of crisis leadership demonstrates a significant correlation at $p < .01$ for all the indicators, in a range of .385 to .709. Therefore, there is no need to remove any of the indicators from the generic measurement model in CFA analysis in the following section.

Overall, the leadership traits and skills construct has high correlation between one pair, task-oriented leadership behaviors has high correlation between one pair, and people-oriented leadership behaviors has high correlation between two pairs of indicators with a multicollinearity problem. In other words, three of the five latent constructs in this study have a multicollinearity problem among some of their indicators. Therefore, one in each pair was excluded for confirmatory factor analysis of measurement models. The issue of reliability or internal consistency of indicators will be discussed in the upcoming section.

4.3 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is commonly used in the development of the measurement model. It is an analysis method, which provides important facilities to researchers. This method is a process for forming latent variables based on the observed variables. As a statistical technique, CFA is used to measure the construct validity of latent constructs (Byrne, 2006). In other words, it is an effective tool in scale development and validation analyses, and also it aims to verify a predetermined structure. CFA is used to define multivariate statistical analysis, including latent structures, which are represented by numerous observed or measured variables (Schumacker and Lomax, 2004). On the basis of pre-established theory, CFA determines whether the factors loadings of directly measured indicators conform to the anticipated relationships in a model. In other words, indicators of latent constructs are selected on the basis of a pre-established theory, and confirmatory factor analysis shows whether those indicators have factor loadings as expected (Garson, 2012).

In this study, CFA was implemented to create and validate measurement models for each latent construct. A single predictor cannot measure particular concepts and requires a group of several indicators; therefore latent constructs were developed. Correspondingly, this study includes five latent constructs, namely leadership traits and skills (TS), task-oriented leadership behaviors (TO), people-oriented leadership behaviors (PO), organization-oriented leadership behaviors (OO), and the effectiveness of crisis leadership (EF).

As explained in the methodology section, Wan's three-stage approach (2002) was used to develop and validate the best measurement models. At the first stage, the critical ratio of standardized regression weight of each indicator was checked to assess whether or not they were

significant. Having critical ratio value equal to +1.96 or higher, and -1.96 or lower illustrates the indicators' significance at the .05 significance level (Byrne, 2006). Therefore, using the .05 confidence level, insignificant indicators can be excluded from the measurement models to obtain valid models. In addition to checking the critical ratio of standardized regression weight of each indicator, the strength of factor loadings was examined. Since factor loadings between indicators and the latent construct are linear regression coefficients, only indicators having factor loadings equal to or greater than .50 were preserved for each latent construct.

As a second step of CFA, overall model fit was evaluated by looking at the goodness of fit statistics selected using AMOS software, to specify how well the latent construct measurement models fit the data. In the final stage, a specification search was performed to find a better fitting model if the fit of the measurement models was not well within acceptable limits. The most frequently used method for model fit improvement is modification indices (Wan, 2002, Schumacker and Lomax, 2004). Modification indices illustrate the extent to which the value of chi-square decreases when adding certain constraints between variables (Wan, 2002). The pair of error terms producing the largest improvement in the model was selected one at a time from the table of modification indices output to improve the specified model fit. After all of the measurement models were validated, interpretations about factor loading were made.

In the following stage, the measurement models were developed and validated for each latent variable through CFA. This study has five latent constructs, one exogenous latent construct, one endogenous latent construct, and three mediating latent constructs. Leadership traits and skills is the only exogenous latent construct. The effectiveness of crisis leadership is the only endogenous latent construct. Task-oriented leadership behaviors, people-oriented

leadership behaviors, and organization-oriented leadership behaviors are the mediating constructs of this study. Measurement models were developed and independently validated for each of the aforementioned latent variables.

4.3.1 Leadership Traits and Skills

The only exogenous variable of this study is leadership traits and skills, which was measured using fifteen indicators. For the measurement of leadership traits and skills, respondents were asked to indicate their agreement or disagreement with the statement of each leadership traits and skills factor on a five-point Likert scale. The measurement model of leadership traits and skills was developed and validated by using confirmatory factor analysis.

As a first step of CFA, each indicator's critical ratio of standardized regression weight was checked to identify the significance of factor loadings. CFA results for the measurement model of leadership traits and skills show that all factor loadings are significant at $p < .05$. Even though all critical ratios of standardized regression weight were found to be greater than 1.96, the strength of factor loadings was also examined. Factor loading refers to the strength of the association between an indicator and its latent construct (Byrne, 2006). Factor loadings of all the indicators are above the determined threshold level (.40). Therefore, no indicators need to be removed from the model. Since each indicator has enough strong factor loading, they do not affect the strength of the remaining indicators.

The generic measurement model of leadership traits and skills, which has fourteen indicators after one indicator (TS14) was removed because of high correlation with fifteenth indicator (TS15) is presented in Figure 11.
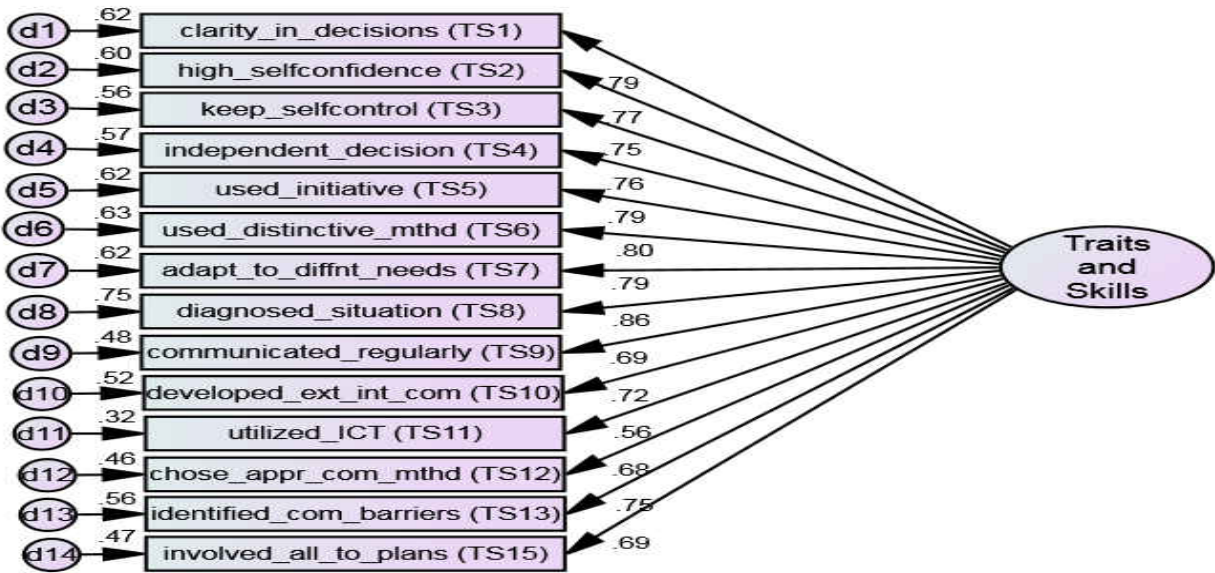
Figure 11. Generic Measurement Model for Leadership Traits and Skills

Table 14 *Parameter Estimates of People-Oriented Leadership Behaviors*

	Generic Model					**Revised Model**				
Indicator	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
TS1	1.000	.790				1.000	.791			***
TS2	.950	.773	.064	14.875	***	.952	.775	.054	17.790	***
TS3	.881	.749	.062	14.284	***	.901	.766	.062	14.556	***
TS4	1.030	.756	.071	14.466	***	1.015	.746	.072	14.043	***
TS5	1.036	.786	.068	15.201	***	1.027	.780	.069	14.863	***
TS6	.926	.797	.060	15.480	***	.925	.796	.061	15.271	***
TS7	.874	.787	.057	15.242	***	.874	.788	.058	15.061	***
TS8	1.090	.864	.063	17.270	***	1.110	.880	.063	17.482	***
TS9	.858	.693	.066	12.957	***	.828	.669	.067	12.297	***
TS10	.928	.724	.068	13.687	***	.894	.705	.068	13.095	***
TS11	.722	.562	.071	10.131	***	.657	.512	.073	9.033	***
TS12	.780	.677	.062	12.591	***	.730	.641	.062	11.692	***
TS13	.856	.748	.060	14.266	***	.819	.720	.061	13.443	***
TS15	.801	.688	.062	12.845	***	.772	.663	.063	12.171	***

Goodness-of-fit statistics determined for this study did not show satisfactory results for

model fit, although all indicators have strong factor loading. Thus, MI, which are the most

frequently used practice for model fit improvement, was utilized to improve the model fit. Ten

pairs of error terms were correlated based on MI in order to achieve the greatest improvement in

the model.

Table 15 *Goodness-of-Fit Statistics of Leadership Traits and Skills*

Fit Index	Acronym	Threshold	Generic Model	Revised Model
Chi-square	X2	Smaller the Better	508.897	191.827
Chi-square/Degree of Freedom	X2 / df	< 4	6.609	2.863
Root Mean Square Error of Approximation	RMSEA	< .08	.137	.079
Tucker-Lewis Index	TLI	> .90	.832	.944
Comparative Fit Index	CFI	> .90	.858	.959
Hoelter's Critical N	Hoelter Index	75<value< 200	59	137

The following figure (Figure 12) illustrates the final revised measurement model for

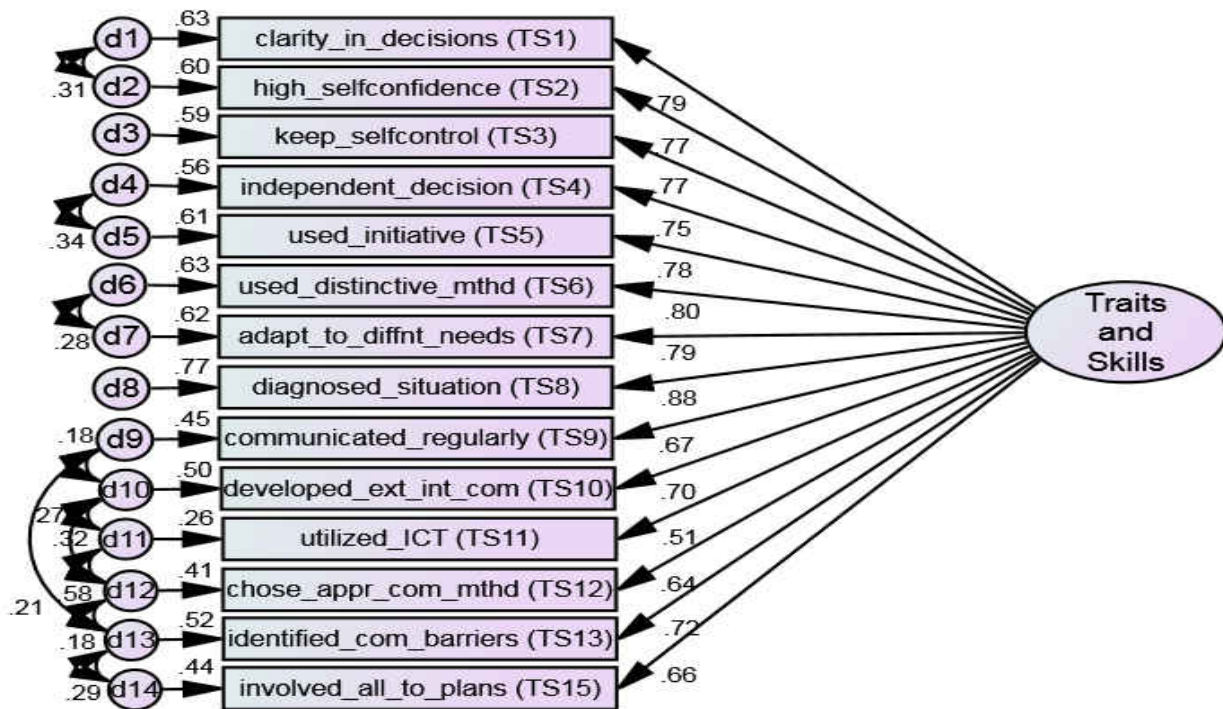leadership traits and skills.

Figure 12. Revised Measurement Model for Leadership Traits and Skills

4.3.2 Task-Oriented Leadership Behaviors

The task-oriented leadership behaviors construct is the first mediating latent construct of

this study. This construct originally consisted of nine indicators. The first variable (TO1) was

deleted due to its high correlation with the second variable (TO2). Consequently, task-oriented leadership behaviors had eight indicators in the measurement model. First, the measurement model was created by using all eight indicators. Then, the model fit was tested by applying model fit statistics. Finally, the model was revised until an adequate model fit was achieved.

For the first step of CFA, critical ratios and p values were checked to identify whether the indicators are statistically significant predictors. Table 18 indicates the parameter estimates of task-oriented leadership behaviors. The table shows that all items are statically significant even at .01 level. That means all indicators were statistically valid and were kept in the model. Then factor loadings of indicators were examined to identify the strength of indicators in predicting the latent construct of task-oriented leadership behaviors.

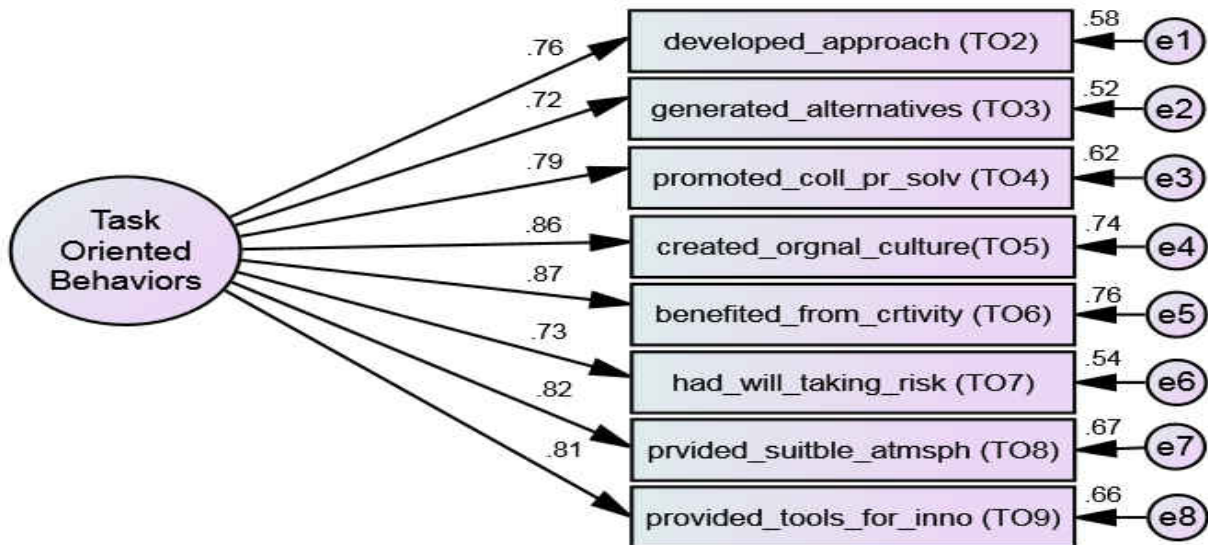*Figure 13*. Generic Measurement Model for Task-Oriented Leadership Behaviors

Four indicators had factor loadings higher than .80. The remaining four out of eight indicators had factor loading values from .672 to .770. These values are significantly higher than the threshold (.40) level selected for this study, which means they are theoretically valuable indicators of the model. Therefore, they were retained.

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The following table (Table 16) shows the parameter estimates for both the generic and the revised measurement models of task-oriented leadership behaviors.

Table 16 *Parameter Estimates of Task-Oriented Leadership Behaviors*

	Generic Model					Revised Model				
Indicator	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
TO2	1.000	.764			***	1.000	.745			***
TO3	.956	.724	.073	13.102	***	.908	.672	.062	14.649	***
TO4	1.063	.789	.073	14.498	***	1.062	.770	.078	13.628	***
TO5	1.133	.858	.071	16.025	***	1.162	.858	.075	15.397	***
TO6	1.161	.873	.071	16.366	***	1.189	.872	.076	15.669	***
TO7	1.074	.735	.081	13.322	***	1.106	.739	.085	13.019	***
TO8	1.074	.820	.071	15.165	***	1.116	.832	.075	14.857	***
TO9	1.051	.811	.070	14.975	***	1.099	.828	.074	14.783	***

Table 16 shows that all factor loadings are statistically significant at $p < .05$, as they should be. The standardized factor loadings of eight indicators in the revised and final model range from .672 to .872.

As seen in Table 17, on the basis of selected goodness-of-fit statistics, the revised measurement model indicates good fit to the data after correlating two pairs of measurement errors. Goodness-of-fit statistics for both the generic and the revised models of task-oriented leadership behaviors are presented in Table 17.

Table 17 *Goodness-of-Fit Statistics of Task-Oriented Leadership Behaviors*

Fit Index	Acronym	Threshold	Generic Model	Revised Model
Chi-square	X2	Smaller the Better	132.477	49.055
Chi-square/Degree of Freedom	X2 / df	< 4	6.624	2.725
Root Mean Square Error of Approximation	RMSEA	< .08	.137	.076
Tucker-Lewis Index	TLI	> .90	.911	.973
Comparative Fit Index	CFI	> .90	.936	.982
Hoelter's Critical N	Hoelter Index	75<value< 200	72	177

The Chi-square/degree of freedom ratio is down to 2.725 from 6.624. Other selected statistics show significant improvement after the model revision and are all well within the suggested good limits. Therefore, the revised model is confirmed as a valid measurement model of task-oriented leadership behaviors for further SEM analysis. The revised measurement model of task-oriented leadership behaviors is presented in Figure 14.
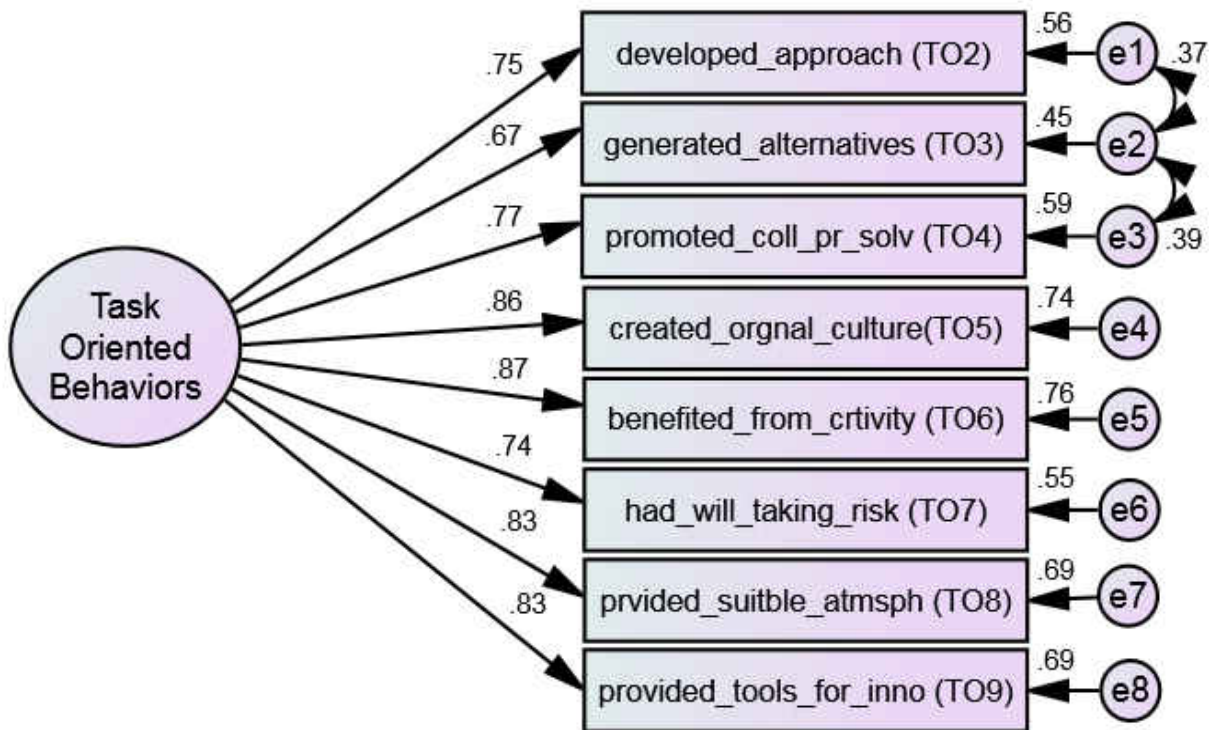

Figure 14. Revised Measurement Model for Task-Oriented Leadership Behaviors

4.3.3 People-Oriented Leadership Behaviors

People-oriented leadership behaviors is the second mediating latent construct of the study. This construct initially had thirteen indicators; however, existing high correlation between two pairs of indicators, which were PO7-PO8 and PO9-PO10, required removing one indicator from each pair. Therefore, after removing two indicators (evaluating and supporting the staff's

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performance, and establishing a positive relationship with the staff) the measurement model of people-oriented leadership behaviors is specified with eleven indicators.

First, critical ratios of eleven indicators were checked to identify their significance in the measurement model. The critical ratios for all factor loadings were significant at p < .05. Then, the significance of regression weight of each indicator was checked. All factor loadings surpassed the established threshold value of .40, which means all of the regression weights were statistically significant even at .01 level. Thus, there was no need to remove any indicator from the model. The generic measurement model of people-oriented leadership behaviors is presented in Figure 15.
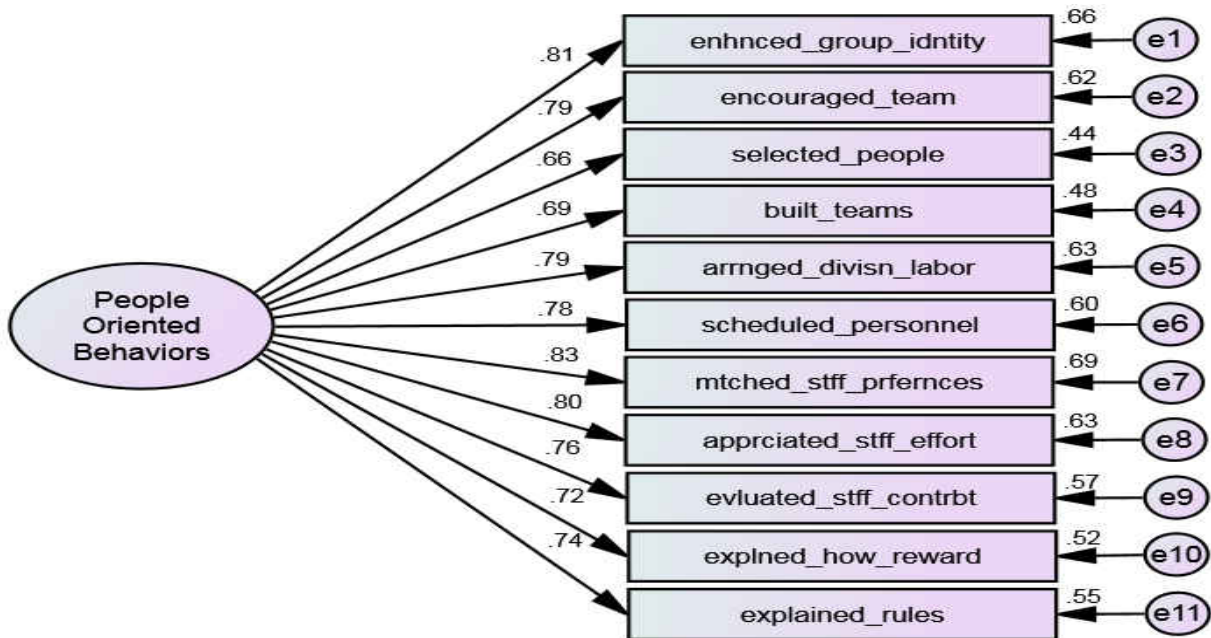

Figure 15. Generic Measurement Model for People-Oriented Leadership Behaviors

The following Table (Table 18) presents the parameter estimates for both the generic and the revised measurement models of people-oriented leadership behaviors.

Table 18 *Parameter Estimates of People-Oriented Leadership Behaviors*

Indicator	Generic Model					Revised Model				
	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
PO1	1.000	.815				1.000	.802			***
PO2	.947	.790	.060	15.822	***	.948	.779	.063	15.170	***
PO3	.825	.662	.066	12.504	***	.770	.611	.069	11.102	***
PO4	.820	.694	.062	13.294	***	.806	.672	.064	12.546	***
PO5	.938	.793	.059	15.900	***	.945	.786	.062	15.216	***
PO6	.968	.775	.063	15.412	***	.999	.788	.065	15.397	***
PO7	1.060	.829	.062	16.970	***	1.113	.858	.065	17.155	***
PO10	1.038	.796	.065	16.005	***	1.039	.785	.068	15.331	***
PO11	.996	.758	.067	14.931	***	.974	.729	.054	18.079	***
PO12	.809	.724	.058	14.054	***	.840	.747	.060	14.029	***
PO13	.948	.741	.065	14.474	***	.912	.709	.068	13.396	***

Since chi-square/degree of freedom ratio and the selected goodness-of-fit statistics were not within acceptable limits, eight pairs of measurement errors were correlated to accomplish a better model fit. After this process, it is safe to claim that the final revised model of people-oriented leadership behaviors had a very satisfactory fit to the data by using goodness-of-fit statistics results for the revised model. Goodness-of-fit statistics for both the generic and the revised models of people-oriented leadership behaviors are presented in Table 19.

Table 19 *Goodness-of-Fit Statistics of People-Oriented Leadership Behaviors*

Fit Index	Acronym	Threshold	Generic Model	Revised Model
Chi-square	X2	Smaller the Better	389.879	93.357
Chi-square/Degree of Freedom	X2 / df	< 4	8.861	2.593
Root Mean Square Error of Approximation	RMSEA	< .08	.162	.073
Tucker-Lewis Index	TLI	> .90	.821	.964
Comparative Fit Index	CFI	> .90	.857	.976
Hoelter's Critical N	Hoelter Index	75<value< 200	47	164

Table 19 indicates that a substantial reduction in the Chi-square/Degree of Freedom value appears in the revised model (8.861 vs. 2.593). Some improvement is also observed in the values

of RMSEA and Hoelter's Critical N. The RMSEA value, which decreased from .162 to .073 in the revised model, and the Hoelter's Critical N increased from 47 to 164. All goodness-of-fit statistics values indicate the adequacy of the revised measurement model of people-oriented leadership behaviors. All remaining goodness-of-fit statistics are also within the suggested limits. These results confirm the revised measurement model for people-oriented leadership behaviors as the valid measurement model for further SEM analysis. The revised measurement model is presented in Figure16.
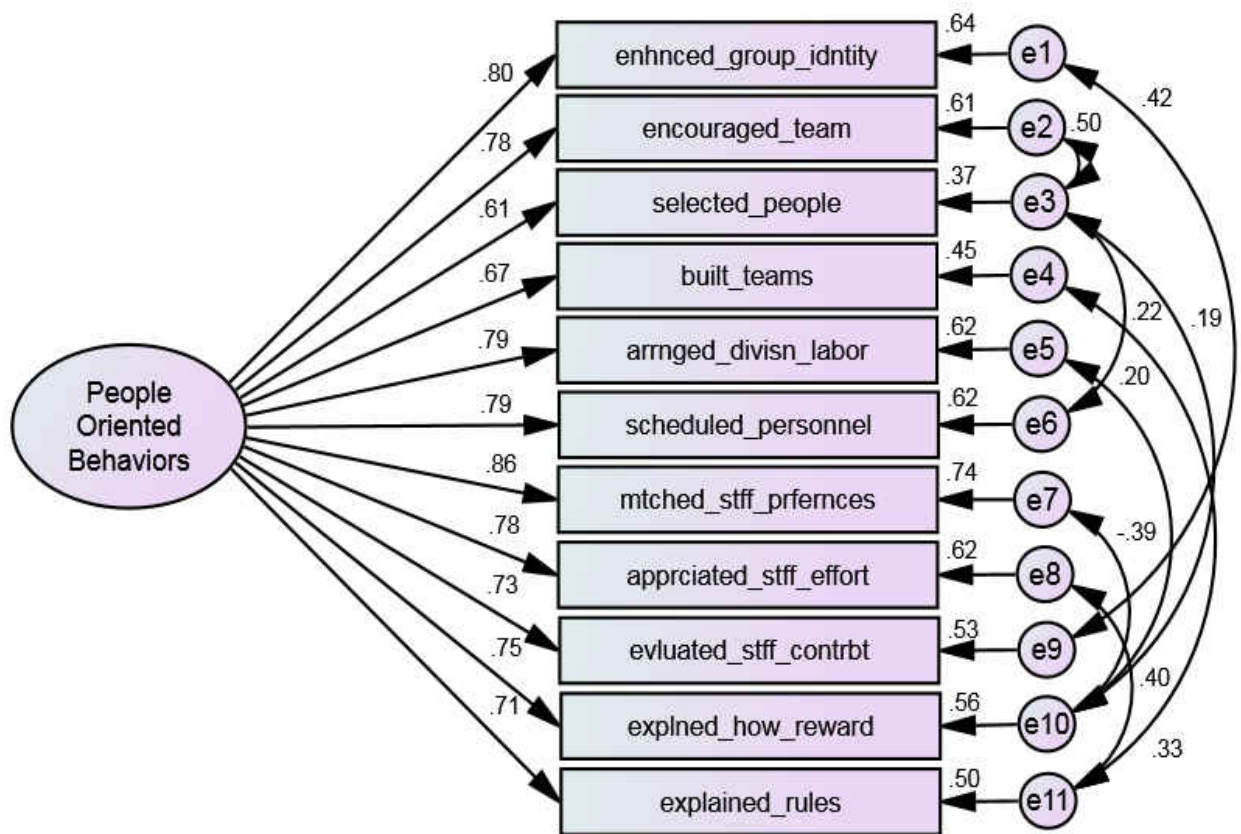

Figure 16. Revised Measurement Model for People-Oriented Leadership Behaviors

4.3.4 Organization-Oriented Leadership Behaviors

The latent construct of organization-oriented leadership behaviors is the last mediating latent construct of the study and is measured using fifteen items. Implementation of CFA validates the generic measurement model of organization-oriented leadership behaviors and is presented in Figure 17.
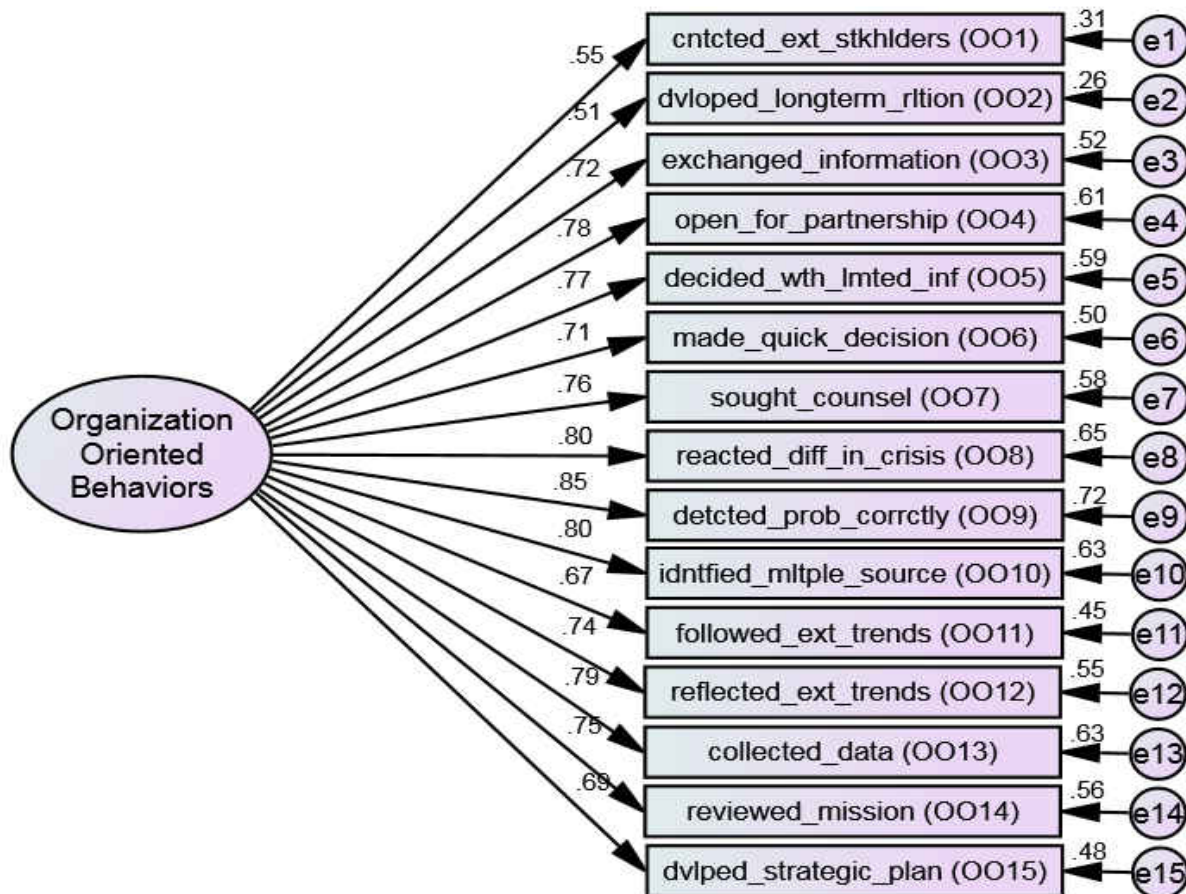

Figure 17. Generic Measurement Model for Leadership Organization-Oriented Behaviors

The critical ratios of parameter estimates for the generic model show that all regression coefficients were significant at $p < .05$ (CR > 1.96). After checking the critical ratios of parameter estimates, their strength was also evaluated to determine whether any indicators had

lower factor loadings below the established threshold value (.40). As seen in Figure 17, all indicators have substantially high factor loading values, from .51 to .85. Table 20 presents the parameter estimates for both generic and revised measurement models of organization-oriented leadership behaviors.

Table 20 *Parameter Estimates of Organization-Oriented Leadership Behaviors*

Indicator	Generic Model					Revised Model				
	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
OO1	1.000	.555				1.000	.517			***
OO2	1.009	.514	.134	7.525	***	.991	.471	.102	9.749	***
OO3	1.319	.723	.139	9.484	***	1.407	.718	.134	10.507	***
OO4	1.442	.784	.145	9.940	***	1.546	.776	.159	9.727	***
OO5	1.388	.769	.141	9.833	***	1.517	.778	.168	9.017	***
OO6	1.268	.707	.136	9.354	***	1.426	.735	.163	8.773	***
OO7	1.371	.759	.141	9.758	***	1.527	.782	.169	9.045	***
OO8	1.429	.803	.142	10.077	***	1.616	.842	.173	9.328	***
OO9	1.589	.850	.153	10.386	***	1.757	.870	.186	9.464	***
OO10	1.393	.796	.139	10.024	***	1.486	.788	.164	9.075	***
OO11	1.289	.670	.142	9.048	***	1.255	.606	.160	7.858	***
OO12	1.413	.744	.146	9.645	***	1.373	.687	.162	8.452	***
OO13	1.587	.791	.159	9.989	***	1.602	.746	.181	8.840	***
OO14	1.457	.745	.151	9.654	***	1.450	.686	.171	8.456	***
OO15	1.425	.555	.154	9.224	***	1.351	.612	.171	7.910	***

According to the result of goodness-of-fit statistics results of organization-oriented leadership behaviors, all of the goodness-of-fit statistics selected for this study were not within acceptable limits, suggesting that the model could be improved by pairing the measurement errors one at a time. Twenty-one pairs of measurement errors were correlated with each other, beginning with the one yielding the largest improvement in the model. After correlating twenty-one pairs of measurement errors, a well-fit model was achieved. After revision, all goodness-of-fit statistics indicate a good fit to the data. Goodness-of-fit statistics for both the generic and the revised models are presented in Table 21.

Table 21 *Goodness-of-Fit Statistics of Organization-Oriented Leadership Behaviors*

Fit Index	Acronym	Threshold	Generic Model	Revised Model
Chi-square	X2	Smaller the Better	792.673	196.551
Chi-square/Degree of Freedom	X2 / df	< 4	8.807	2.849
Root Mean Square Error of Approximation	RMSEA	< .08	.161	.078
Tucker-Lewis Index	TLI	> .90	.757	.943
Comparative Fit Index	CFI	> .90	.792	.962
Hoelter's Critical N	Hoelter Index	75<value< 200	43	137

All goodness-of-fit statistics, including chi- square/df (x2/df) with a value of 2.849,

RMSEA with a value of .78, CFI with a value of .962 , TLI with a value of .943, and Hoelter's

Critical N with a value of 137, demonstrate that the revised measurement model of organization-

oriented leadership behaviors fits the data. Therefore, the model was confirmed as a valid

measurement model for further SEM analysis. The revised measurement model of organization-
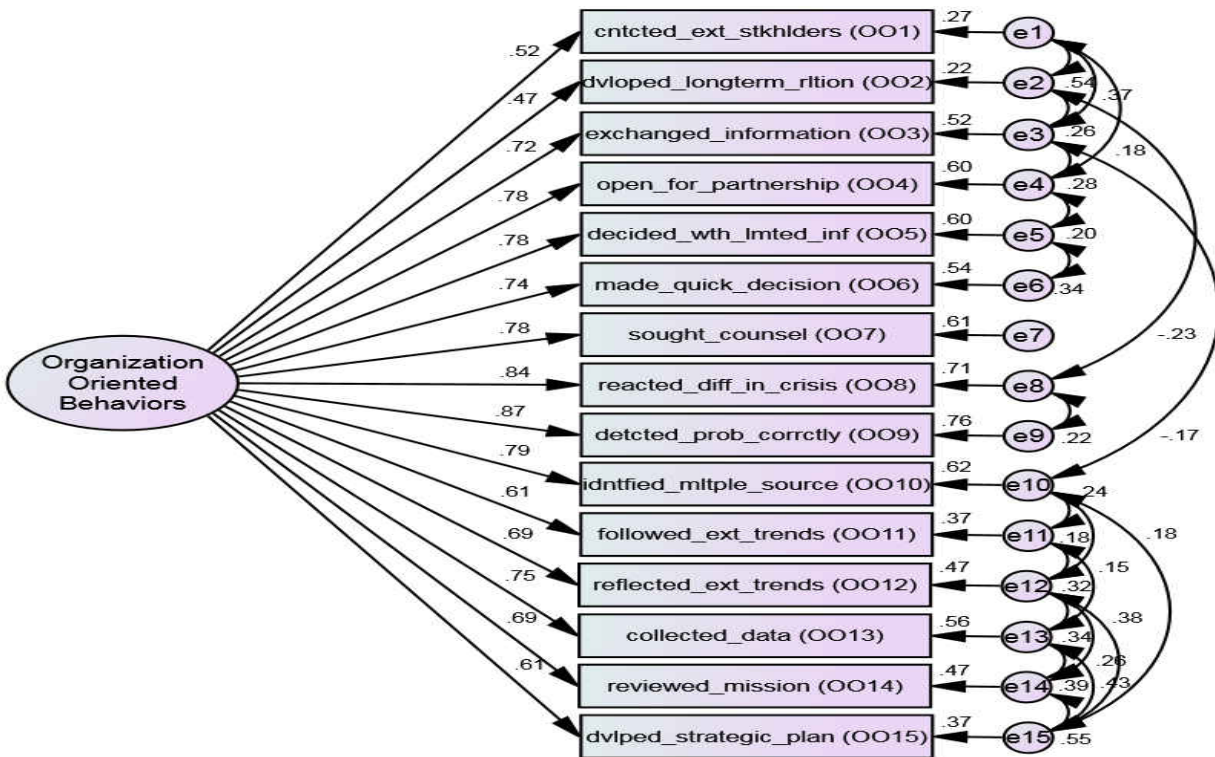
oriented leadership behaviors is presented in Figure 18.

Figure 18. Revised Measurement Model for Leadership Organization-Oriented Behaviors

4.3.5 Effectiveness of Crisis Leadership

The effectiveness of crisis leadership is the only endogenous latent construct in the study. The generic measurement model consists of eleven indicators. First, the critical ratio in standardized regression weight was utilized as the criterion in order to measure the significance level of the factor loading. The CFA results displayed that all indicators had significant factor loadings at p < .05 for the measurement model of the effectiveness of crisis leadership. Moreover, critical ratio levels of standardized regression weights were higher than +1.96 for all indicators. As the next step, the factor loading strength was examined. This is a crucial step to determine the relationship between the indicator and its latent variable. Each of the factor loadings values exceeded the determined threshold (0.40). Therefore, all the indicators were significant and strongly related to the effectiveness of crisis leadership latent construct, and they were all retained. Critical ratios of all indicators show that the factor loading of each is statistically significant at p < .05 (CR > 1.96). Figure 19 shows the initial CFA analysis results for the generic measurement model of the effectiveness of crisis leadership.
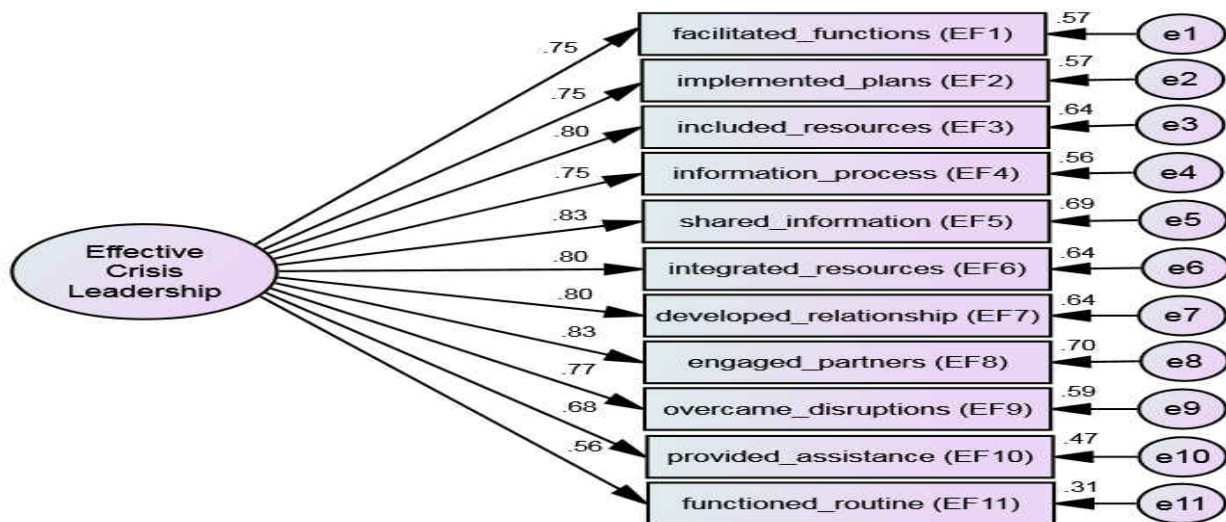

Figure 19. Generic Measurement Model for the Effectiveness of Crisis Leadership

Table 22 presents the parameter estimates for both generic and revised measurement models.

Table 22 *Parameter Estimates of the Effectiveness of Crisis Leadership*

	Generic Model					Revised Model				
Indicator	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
EF1	1.000	.753				1.000	.733			***
EF2	.962	.753	.071	13.536	***	.964	.736	.061	15.692	***
EF3	.996	.797	.069	14.444	***	1.022	.796	.074	13.884	***
EF4	.897	.750	.067	13.467	***	.924	.752	.071	13.065	***
EF5	.962	.832	.063	15.184	***	.995	.839	.068	14.685	***
EF6	.980	.797	.068	14.442	***	1.011	.801	.072	13.982	***
EF7	.951	.799	.066	14.493	***	.987	.808	.070	14.107	***
EF8	.990	.835	.065	15.235	***	1.019	.837	.070	14.656	***
EF9	.872	.766	.063	13.804	***	.894	.766	.067	13.317	***
EF10	.829	.684	.068	12.146	***	.838	.673	.072	11.613	***
EF11	.704	.557	.073	9.699	***	.703	.541	.076	9.242	***

Table 23 shows that among all selected goodness-of-fit statistics indices, RMSEA is the only unacceptable one with a value of .095 (should be under .80). With the purpose of improving the goodness-of-fit scores of this model, the error terms of two pairs of indicators were correlated with each other based on the MI. The revised measurement model of the effectiveness of crisis leadership is presented in Table 23.

Table 23 *Goodness-of-Fit Statistics of the Effectiveness of Crisis Leadership*

Fit Index	Acronym	Threshold	Generic Model	Revised Model
Chi-square	X2	Smaller the Better	161.901	105.851
Chi-square/Degree of Freedom	X2 / df	< 4	3.680	2.520
Root Mean Square Error of Approximation	RMSEA	< .08	.095	.071
Tucker-Lewis Index	TLI	> .90	.933	.962
Comparative Fit Index	CFI	> .90	.946	.971
Hoelter's Critical N	Hoelter Index	75<value< 200	113	165

Table 23 demonstrates the goodness-of-fit statistics for both of the generic and revised measurement models. The revised model resulted in important improvements and exposed better goodness-of-fit scores, especially for RMSEA, which decreased from .095 to .071. As seen in Table 23, all other values are also within the recommended limits. For instance, in the revised model TLI and CFI values increased from .933 and .962 to .946 and .971 respectively. Moreover, Hoelter's statistics increased from 113 to 165. The revised measurement model of the effectiveness of crisis leadership is presented in Figure 20.
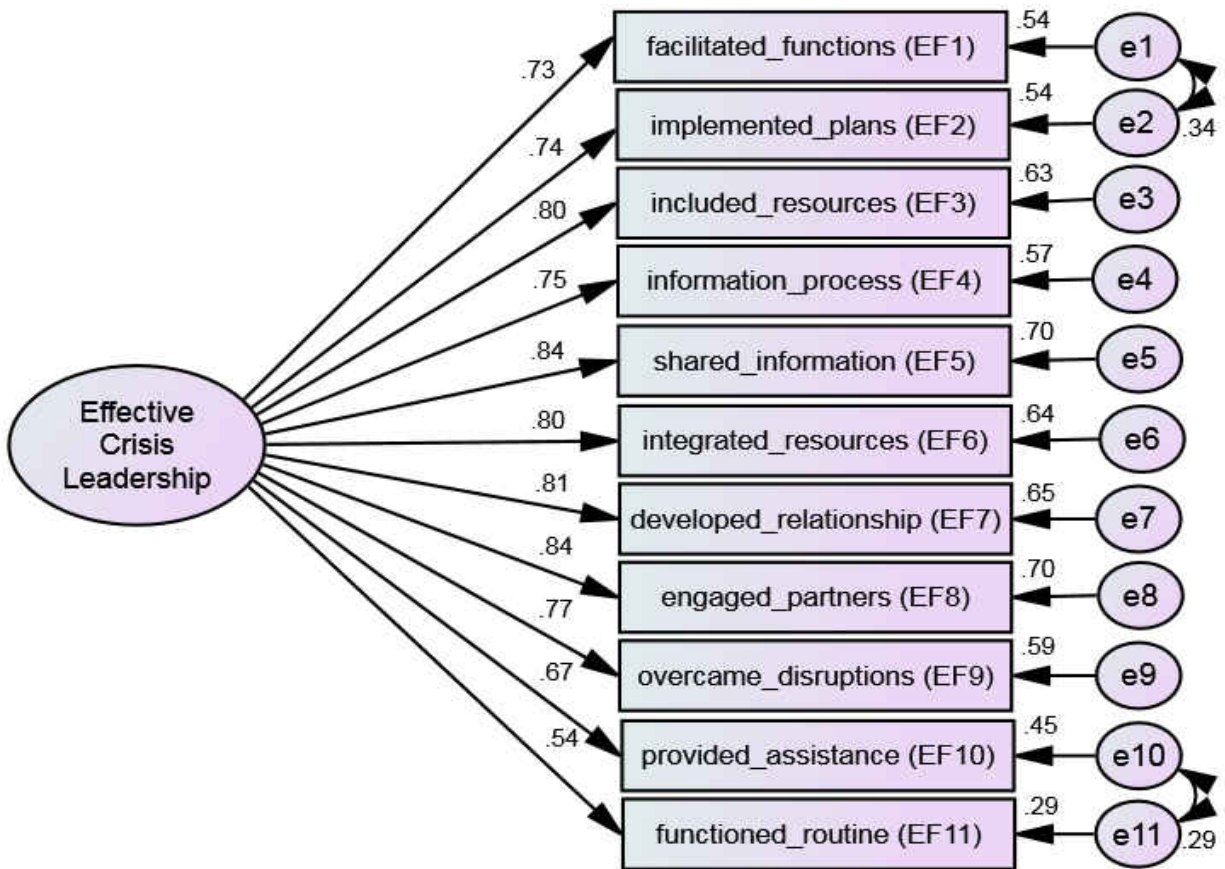

Figure 20. Revised Measurement Model for the Effectiveness of Crisis Leadership

4.4 Reliability

Reliability is a measure of consistency in measurement. The measurement results should give similar results when applied at different locations. In other words, independent measurements should have similar and stable results. Reliability refers to the productivity and stability of a scale. Reliability tests the extent to which a scale is able to measure the intended issue. For reliability, a test must be repeatable in and transferable to similar research (Trochim, 2006). There are various kinds of reliability analysis. Among them, Cronbach's alpha is the most frequently used and suitable one for constructs with many items (Trochim, 2006). Cronbach's alpha is substantially a reliability index value that identifies the extent to which the items represent a hypothetical variable, and the extent to which they are consistent with each other. Reliability refers to the quality of measurement in everyday terms and is one of the most important necessities for any survey instrument. Since this study is based on subjective self-report surveys, the reliability of the survey instrument is crucial to obtain accurate responses from participants. Valid inferences about a larger population of research interest can be drawn only from a survey instrument where established reliability statistics tests have shown it to be reliable.

In order to confirm the reliability of this study's scales, Cronbach's Alpha coefficient analyses were performed. The Cronbach's Alpha coefficient score is a widely used criterion for the internal consistency of survey instruments that contain ordinal data. This coefficient assesses the degree to which respondents answer similar test items in the same way. A higher reliability coefficient score implies a higher reliability level of the measurement scale.

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According to George and Mallery (2006), the excellent, good and acceptable internal consistency should be equal to or above of .90, .80, and .70 respectively. However, Kline (2005) claims that an acceptable level of internal consistency should be equal to or above .70. The threshold of .90 as the standard for internal consistency of items was chosen for this study. Table 24 indicates the Cronbach's Alpha values, calculated by SPSS for a group of indicators for leadership traits and skills (TS), task-oriented leadership behaviors (TO), people-oriented leadership behaviors (PO), organization-oriented leadership behaviors (OO), and the effectiveness of crisis leadership (EF).

Table 24 *Cronbach's Alphas Scores of Measurement Models*

Measurement Model	Number of Items		Cronbach's Alfa Score	
	Before	After	Before	After
Leadership Traits and Skills	15	14	.949	.945
Task-oriented Leadership Behaviors	9	8	.939	.932
People-oriented Leadership Behaviors	13	11	.950	.938
Organization-oriented Leadership Behaviors	15	15	.944	.944
Effectiveness of Crisis Leadership	11	1	.936	.936

Table 24 shows that all constructs achieved the standard of .90 with the lowest value of .932 for task-oriented behaviors, and the highest a value of .945 for leadership traits and skills. Consequently, there is no need to exclude any construct from the model.

4.5 Structural Equation Model (SEM)

A structural equation model is a statistical procedure to explore the causal links among variables in a structural model (Wan, 2002). This model includes all latent and control variables and the theoretically driven relationships among them to evaluate the significance of the hypothesis paths (Kaplan, 2000). The SEM developed for this study was validated in this section. The validation process of SEM was implemented in order to determine the causal links among

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all variables. The SEM model was created by gathering all the revised measurement models of exogenous, mediating, and endogenous latent variables, and control variables (Wan, 2002). This study includes only the revised measurement models of latent constructs, which are leadership traits and skills, task-oriented leadership behaviors, people-oriented leadership behaviors, organization-oriented leadership behaviors, and the effectiveness of crisis leadership. Five control variables: gender, professional position, tenure, education level, and the major of bachelor degree were added to the generic model to test the effects of these variables on the endogenous latent variables, since they might account for variation. Gender was coded as a dummy variable. The generic structural equation model is presented in Figure 21.
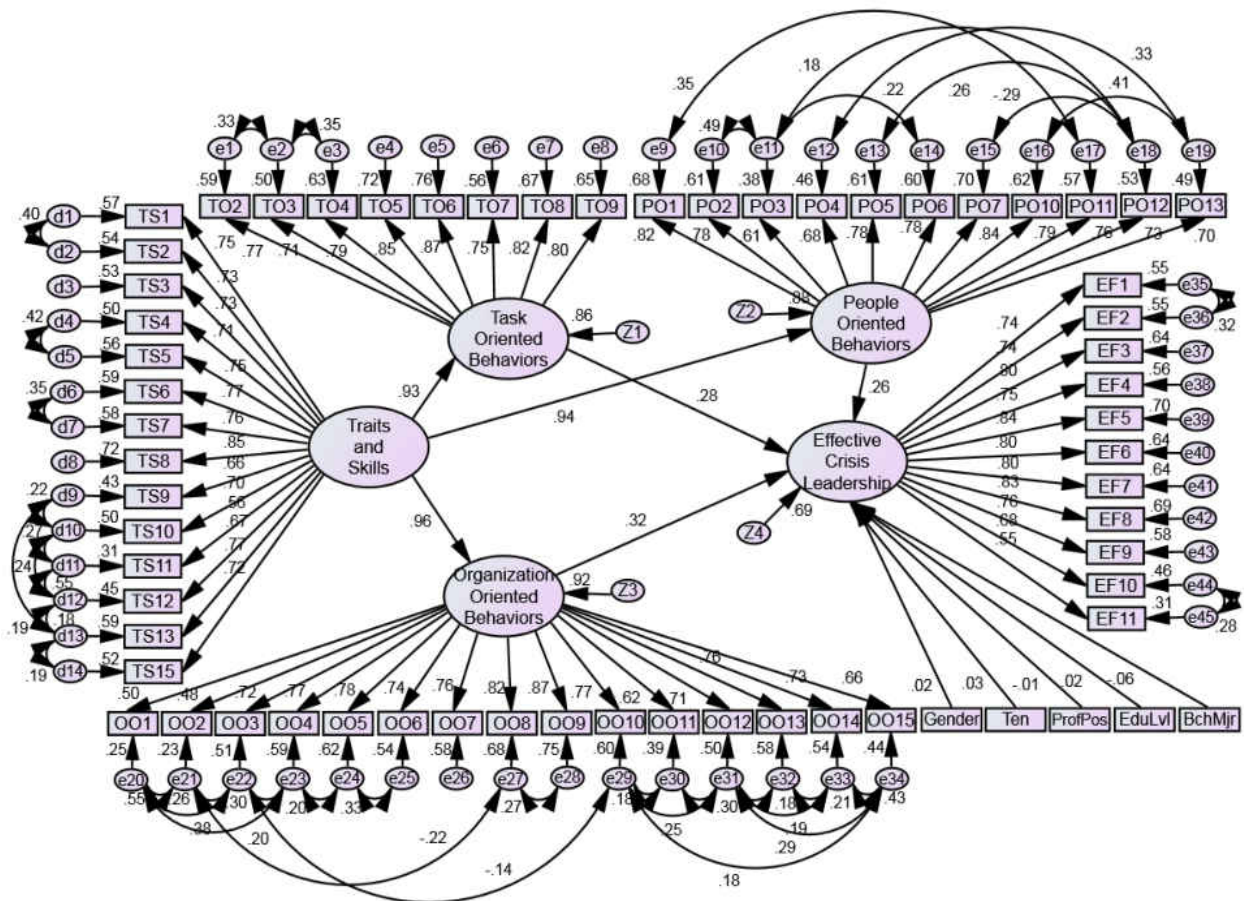

Figure 21. Generic Structural Equation Model (SEM)

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Wan's three-stage approach (2002) was used to validate the generic hypothesized

structural equation model. To understand the indicators' relevance, the critical ratio of

standardized regression weight of each indicator and structural paths between variables was

assessed in the first step to understand whether there were insignificant indicators or paths.

Critical ratio values equal to +1.96 or higher and -1.96 or lower illustrate the indicators'

significance at p < .05. On the basis of these criteria, all control variables: gender, professional

position, tenure, education level, and bachelor major were excluded from the generic model,

since the hypothesized relationships from these variables to endogenous variable failed to

demonstrate significance at p < .05. Table 25 presents the parameter estimates for the generic

structural equation model with control variables.

Table 25 *Parameter Estimates for Generic Structural Equation Model with Control Variables*

Generic Model with Control Variables					
Indicator	Unstandardized Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
PO ← TS	.997	.940	.069	14.430	***
OO ← TS	.569	.958	.066	8.672	***
TO ← TS	.950	.926	.072	13.270	***
EF ← TO	.302	.279	.115	2.620	.009
EF ← OO	.595	.319	.242	2.463	.014
EF ← PO	.273	.261	.120	2.272	.023
EF ← Gender	-.018	-.060	.011	-1.649	**.099**
EF ← Tenure	-.008	-.011	.027	-.307	**.759**
EF ← ProfPos	.023	.018	.046	.501	**.617**
EF ← EduLvl	.017	.034	.018	.954	**.340**
EF ← BchMjr	.143	.023	.228	.628	**.530**

Table 25 reveals that the hypothesized relationship of the effectiveness of crisis

leadership with each of the control variables as insignificant. Therefore, all of the control

variables were excluded from the model. Consequently, the critical ratios of the remaining

variables are more than 1.96 for the generic model, which exhibits that these critical ratios are

statistically significant at the .05 level for those variables. After removing all insignificant

variables from the model, parameter estimates for both the generic and revised structural
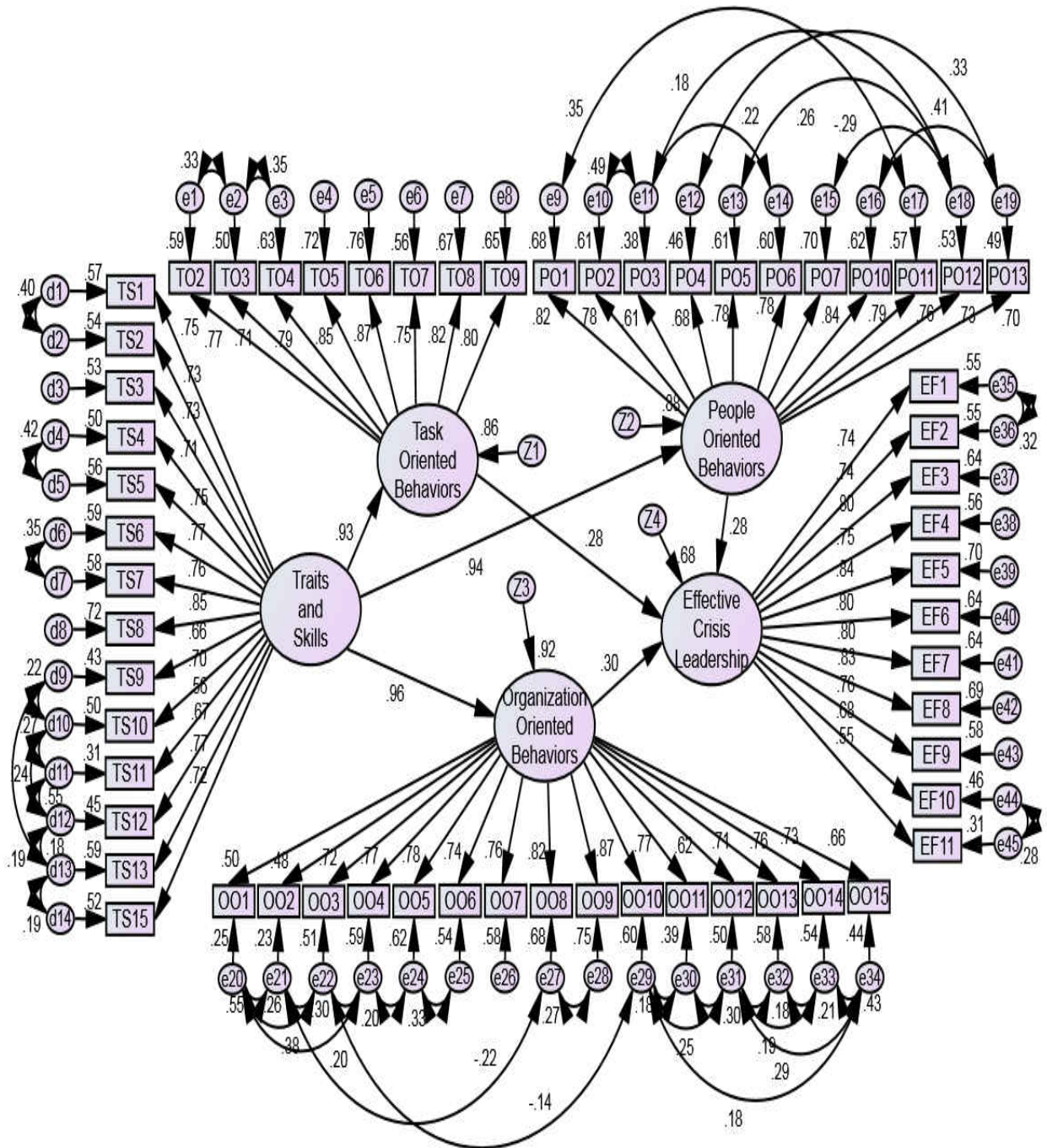
equation models is presented in Table 25.

Figure 22. First Revised Generic Covariance Model

Table 26 *Parameter Estimates for Generic and Revised Structural Equation Models*

Indicator		Generic Model without Control Variables					Revised Model				
		Unstandar. Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandar. Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
PO	← TS	.997	.940	.069	14.42	***	.991	.937	.069	14.453	***
OO	← TS	.569	.958	.066	8.673	***	.565	.954	.065	8.671	***
TO	← TS	.950	.926	.072	13.26	***	.956	.932	.071	13.428	***
EF	← TO	.301	.278	.116	2.588	.010	.358	.331	.121	2.952	.003
EF	← OO	.559	.300	.242	2.313	.021	.506	.270	.236	2.146	.032
EF	← PO	.295	.282	.122	2.427	.015	.275	.262	.118	2.325	.020
TS1	← TandS	1.000	.754				1.000	.757			
TS2	← TandS	.943	.732	.055	17.21	***	.943	.735	.055	17.277	***
TS3	← TandS	.899	.729	.068	13.27	***	.898	.732	.067	13.371	***
TS4	← TandS	1.006	.706	.079	12.78	***	1.005	.708	.078	12.866	***
TS5	← TandS	1.033	.748	.076	13.65	***	1.033	.750	.075	13.765	***
TS6	← TandS	.932	.766	.066	14.03	***	.930	.767	.066	14.122	***
TS7	← TandS	.887	.764	.063	13.99	***	.887	.766	.063	14.102	***
TS8	← TandS	1.125	.851	.071	15.89	***	1.124	.854	.070	16.055	***
TS9	← TandS	.852	.657	.072	11.78	***	.850	.657	.072	11.833	***
TS10	← TandS	.938	.705	.073	12.76	***	.933	.704	.073	12.790	***
TS11	← TandS	.751	.559	.076	9.879	***	.745	.556	.076	9.844	***
TS12	← TandS	.801	.670	.066	12.05	***	.795	.667	.066	12.036	***
TS13	← TandS	.918	.768	.065	14.07	***	.913	.766	.065	14.100	***
TS15	← TandS	.877	.719	.067	13.05	***	.873	.718	.067	13.082	***
TO2	← TOB	1.000	.770				1.000	.773			
TO3	← TOB	.931	.708	.059	15.75	***	.941	.718	.059	15.927	***
TO4	← TOB	1.057	.791	.071	14.81	***	1.057	.795	.071	14.970	***
TO5	← TOB	1.113	.850	.069	16.18	***	1.105	.847	.068	16.218	***
TO6	← TOB	1.148	.870	.069	16.68	***	1.144	.870	.068	16.782	***
TO7	← TOB	1.082	.746	.078	13.79	***	1.074	.744	.078	13.804	***
TO8	← TOB	1.063	.818	.069	15.42	***	1.035	.800	.069	15.058	***
TO9	← TOB	1.035	.805	.068	15.12	***	1.004	.784	.068	14.695	***
PO1	← POB	1.000	.824				1.000	.824			
PO2	← POB	.926	.781	.058	15.92	***	.924	.780	.058	15.903	***
PO3	← POB	.750	.614	.065	11.52	***	.748	.613	.065	11.502	***
PO4	← POB	.793	.679	.060	13.14	***	.792	.678	.060	13.115	***
PO5	← POB	.917	.783	.057	15.96	***	.918	.784	.057	15.976	***
PO6	← POB	.959	.777	.061	15.79	***	.960	.777	.061	15.820	***
PO7	← POB	1.060	.839	.060	17.68	***	1.060	.839	.060	17.696	***
PO10	← POB	1.016	.788	.063	16.14	***	1.016	.788	.063	16.136	***
PO11	← POB	.985	.758	.052	18.86	***	.985	.758	.052	18.854	***
PO12	← POB	.799	.728	.056	14.34	***	.800	.730	.056	14.372	***
PO13	← POB	.882	.703	.064	13.74	***	.880	.702	.064	13.719	***

	Generic Model without Control Variables					Revised Model				
Indicator	Unstandar. Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value	Unstandar. Regression Weights	Standardized Regression Weights	Standard Error	Critical Ratio	P Value
OO1 ← OOB	1.000	.504				1.000	.504			
OO2 ← OOB	1.045	.481	.104	10.00	***	1.028	.473	.104	9.886	***
OO3 ← OOB	1.445	.716	.138	10.45	***	1.447	.717	.139	10.447	***
OO4 ← OOB	1.573	.769	.163	9.628	***	1.579	.771	.164	9.619	***
OO5 ← OOB	1.574	.785	.176	8.939	***	1.586	.790	.177	8.959	***
OO6 ← OOB	1.470	.737	.169	8.682	***	1.488	.746	.171	8.723	***
OO7 ← OOB	1.531	.762	.174	8.821	***	1.540	.767	.174	8.837	***
OO8 ← OOB	1.620	.823	.178	9.123	***	1.639	.832	.179	9.155	***
OO9 ← OOB	1.798	.866	.193	9.320	***	1.810	.871	.194	9.334	***
OO10 ← OOB	1.497	.773	.169	8.876	***	1.493	.770	.169	8.856	***
OO11 ← OOB	1.334	.625	.168	7.953	***	1.304	.612	.166	7.853	***
OO12 ← OOB	1.451	.709	.170	8.509	***	1.425	.692	.170	8.399	***
OO13 ← OOB	1.701	.763	.193	8.823	***	1.670	.755	.190	8.776	***
OO14 ← OOB	1.565	.732	.181	8.653	***	1.536	.707	.181	8.493	***
OO15 ← OOB	1.509	.660	.184	8.200	***	1.458	.641	.181	8.060	***
EF1 ← ECL	1.000	.743				1.000	.746			
EF2 ← ECL	.959	.741	.060	15.89	***	.957	.743	.060	15.919	***
EF3 ← ECL	1.013	.800	.071	14.26	***	1.012	.802	.070	14.370	***
EF4 ← ECL	.908	.749	.068	13.26	***	.883	.731	.068	12.922	***
EF5 ← ECL	.980	.837	.065	15.01	***	.962	.825	.065	14.830	***
EF6 ← ECL	.996	.800	.070	14.27	***	.995	.802	.069	14.367	***
EF7 ← ECL	.966	.801	.068	14.30	***	.959	.799	.067	14.309	***
EF8 ← ECL	.997	.830	.067	14.87	***	.998	.834	.066	15.024	***
EF9 ← ECL	.875	.759	.065	13.45	***	.872	.760	.065	13.524	***
EF10 ← ECL	.831	.676	.070	11.85	***	.832	.680	.070	11.950	***
EF11 ← ECL	.711	.554	.074	9.584	***	.708	.554	.074	9.590	***

All hypothesized latent variables have significant relationships; therefore, all were preserved in the model except the control variables. The control variables were removed, and the SEM analysis was performed again. The results of the revised structural equation model presented significantly improved goodness-of-fit statistics values, but did not reach the accepted levels. Table 26 indicates that first the goodness-of-fit statistics of the generic SEM model did not demonstrate a satisfactory model fit for two of five selected indices despite there being a positive relationship among leadership traits and skills, leadership behaviors, and the

effectiveness of crisis leadership. Even though they are acceptable, TLI and CFI did not reach a

threshold value that is .90. Therefore, the model needed improvement. Except for those two

index scores, the other goodness-of-fit scores were at the satisfactory level for a good model fit.

For instance, RMSEA was .060 and that is under threshold value (.080). Hoelter's statistics was

also acceptable (154) since it is more than the minimum value (75). Moreover, the likelihood

ratio was 2.066, which is lower than the suggested level (4).

Therefore, based on the MI, four error terms of indicators (between e7-e8, e30-e32, e32-

e34, and e38-e39) were correlated and the model achieved better goodness-of-fit scores. The

goodness-of-fit statistics of generic and the revised structural equation model is illustrated in

Table 27.

Table 27 *Goodness-of-Fit Statistics of Generic and Revised Structural Equation Model*

Fit Index	Acronym	Threshold	Generic Model	Revised Model
Chi-square	X2	Smaller the Better	3314.545	3531.73
Chi-square/Degree of Freedom	X2 / df	< 4	2.066	2.018
Root Mean Square Error of Approximation	RMSEA	< .08	.060	.058
Tucker-Lewis Index	TLI	> .90	.882	.888
Comparative Fit Index	CFI	> .90	.890	.895
Hoelter's Critical N	Hoelter Index	75<value< 200	154	158

Table 27 exhibits the goodness-of-fit statistics for both generic and revised SEM models.

In the revised model, each critical ratio was statistically significant (p $\leq$.05). Better goodness-of-

fit scores were produced in the revised model. The goodness-of-fit statistics revealed some

improvement after removing the insignificant control variables and correlating error terms

among each other based on MI results. The TLI and CFI slightly improved from .882 and .890

respectively to .888 and .895 respectively. Even though the revised model did not reach the

recommended level (.90) for TLI and CFI, which were .888 and .895 respectively, these are

acceptable levels. The likelihood ratio decreased from 2.066 to 2.018. A minor change was also

seen in RMSEA value, which diminished from .060 to .053 (≤.08). The Hoelter's statistics in the

revised model that increased from 154 to 158, even though it is acceptable, also did not show

significant improvement,. Overall, the results displayed that an adequate model fit was provided
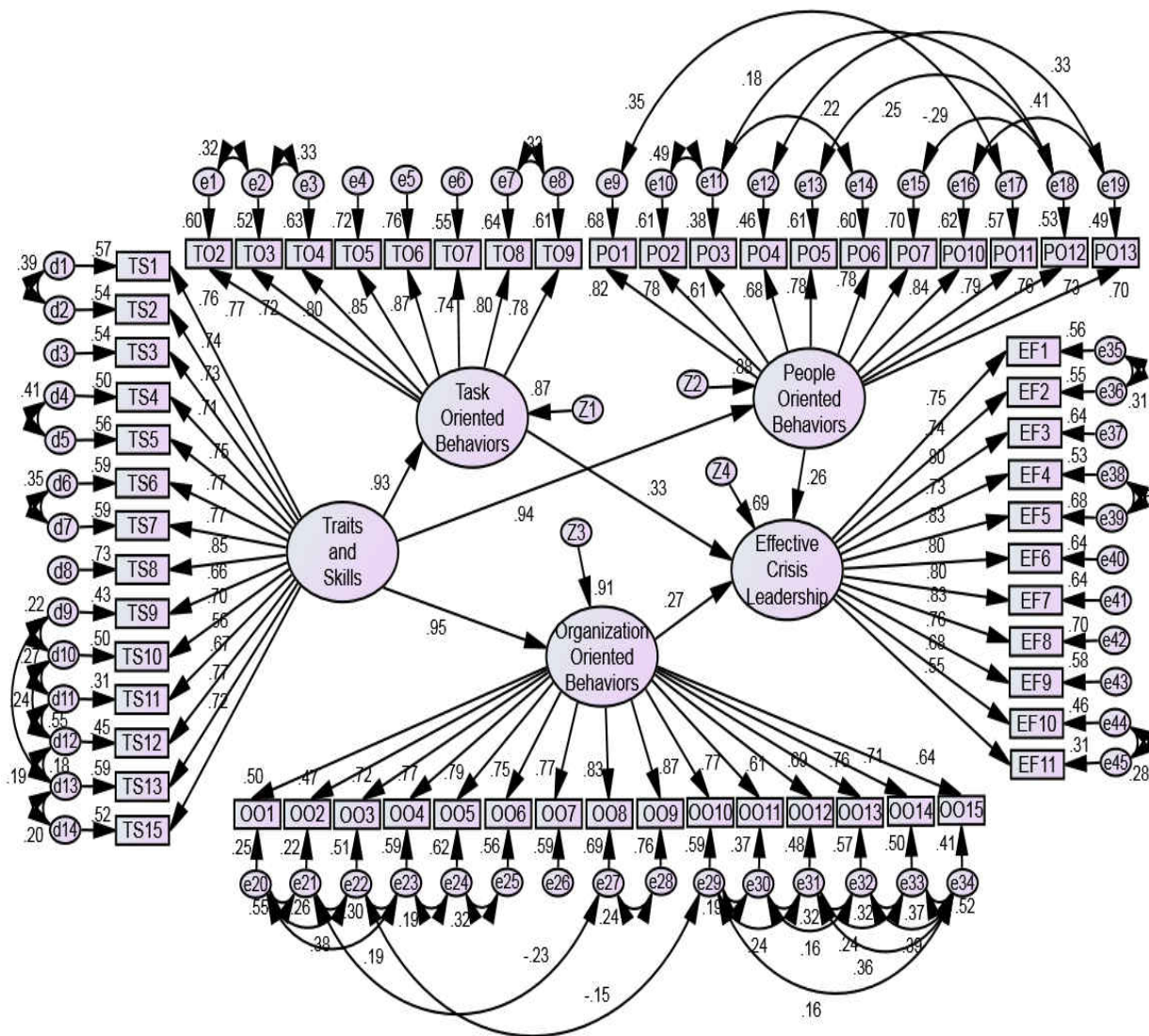
after the revision in the SEM model.

Figure 23. Revised Covariance Model

4.6 Mediating Effect

Since leadership task-oriented behaviors, people-oriented behaviors, and organization-oriented behaviors are the latent constructs of the study and are expected to mediate the relationship between endogenous and exogenous variables, a brief explanation of the concept of mediating is provided before testing the relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership.

The role of a mediator variable is to act as an intervening variable. In other words, a mediator variable constitutes a mechanism through which an exogenous variable is able to affect an endogenous variable. A mediator variable describes to what extent and why a relationship occurs between exogenous and endogenous variables. Generally, a mediator variable represents a person's attributes or intrinsic features (Peyrot, 1996). Before testing for a mediating effect, there must be a substantial relationship between exogenous and endogenous variable (Baron & Kenny, 1986). As a third variable, a mediator is shown between exogenous variables and endogenous variables in the causal pathway (Kim et al., 2001).

Baron and Kenny (1986) explained three mandatory conditions for mediation effect to exist in the model. First, the relationship between the exogenous and the mediating variable should be significant. Second, the mediating variable should be significantly related to the endogenous variable. Finally, the relationship between the exogenous and the endogenous variables should diminish when the mediating variable is inserted in the model. Full mediation occurs when the relationship between the exogenous and endogenous variables is not significant, but a significant relationship exists between the exogenous and mediating variable and the endogenous and mediating variables. In partial mediation, a significant amount of variance in

endogenous variable is accounted for by the mediating variable, but direct effect between exogenous and endogenous variables remains significant. Mediation refers to the transmission of the effect of an exogenous variable on an endogenous variable through one or more other variables. With complete mediation, the entire (or total) effect of an exogenous variable on an endogenous variable is transmitted through one or more mediator variables. Thus, the exogenous variable has no direct effect on the endogenous variable; rather, its entire effect is indirect. Multiple mediator variables can operate jointly at the same stage in a causal model, such that there are several indirect effects linking an exogenous variable to an endogenous variable. Multiple mediator variables can be linked sequentially, such that the indirect effect of an exogenous variable on an endogenous variable operates through a chain of mediator variables.

In an equation, if M is accepted as a mediator variable of the relationship between X (exogenous variable) and Y (endogenous variable); first, the exogenous variable X should relate to the endogenous variable Y, such that regression coefficient value is significant. This condition is used to establish that there is a relationship between X and Y to be mediated. Second, the exogenous variable X should relate to mediator variable M, such that regression coefficient value is significant. This condition establishes the first stage of the mediated effect. Third, the mediator variable M should relate to the endogenous variable Y, such that regression coefficient value is significant. This condition establishes the second stage of the mediated effect. Fourth, the exogenous variable X should no longer relate to the endogenous variable Y after the mediator variable M is controlled, such that regression coefficient value is not significant. Fulfilling all four conditions provides a proof for complete mediation, while fulfilling the first three conditions shows partial mediation. This means if the path from X to Y remains significant even when M is

in the model, a mediating effect can be assumed as partial mediation as long as the regression

coefficient value of the path from X to Y decreases.

The direct effect (regression coefficient value) of leadership traits and skills on the

perceived effectiveness of crisis leadership is shown in Figure 24, and the estimated parameters
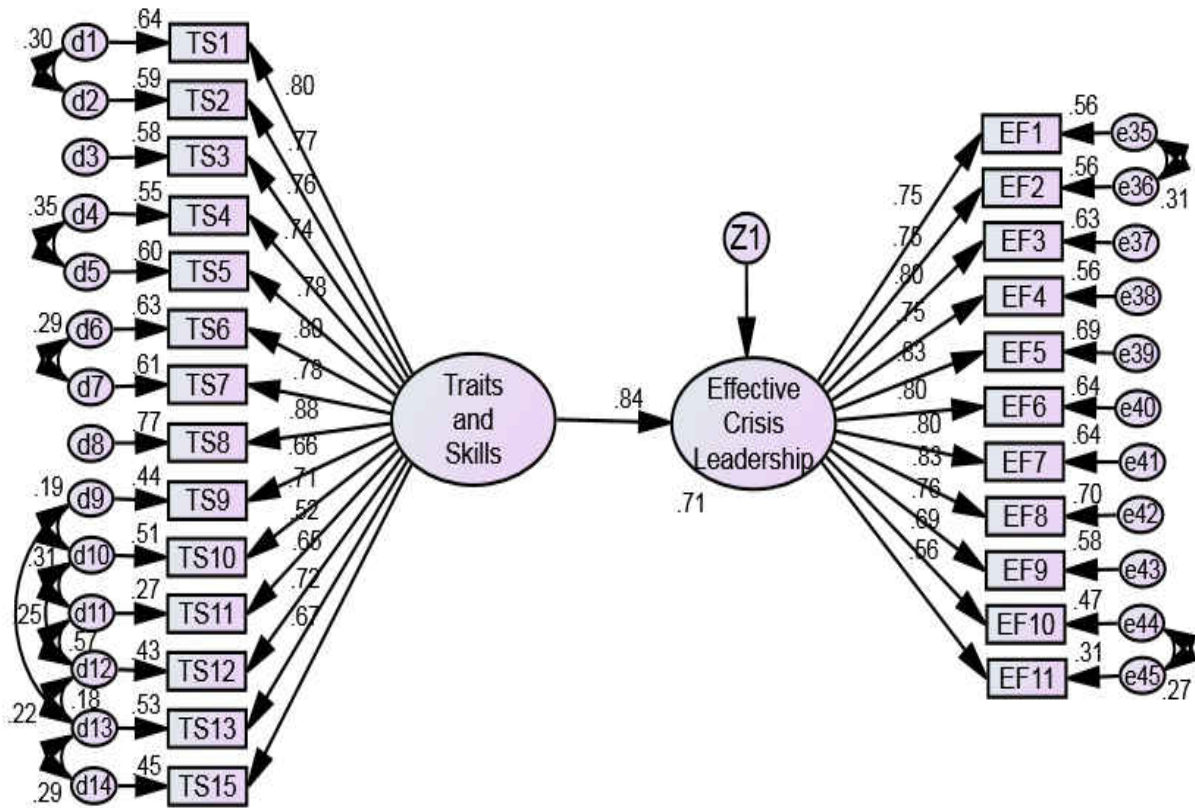
for direct relationship are given in Table 28.

Figure 24. Direct Relationship between Exogenous and Endogenous Variables

Table 28 *Parameter Estimates for Direct Relationship between Exogenous and Endogenous Variables*

Parameter Estimates for Direct Relationship

Variables	Unstandardized Regression	Standardized Regressio	Standard Error	Critical l	P Value
Effectiveness of Crs. Leads. ← Leadership Traits and Skills	.890	**.842**	.071	12.451	***

As seen in the Table 28, the standardized regression weight of direct effect from exogenous variable to endogenous variable was .842. At this point, the tables and figures below show the regression weights of the direct effects of exogenous variables on endogenous variables after putting each mediator variable in the model separately. The direct effect (regression weights) is expected to decrease when comparing the regression weights in the model without mediating variable to be able to discuss partial mediating.
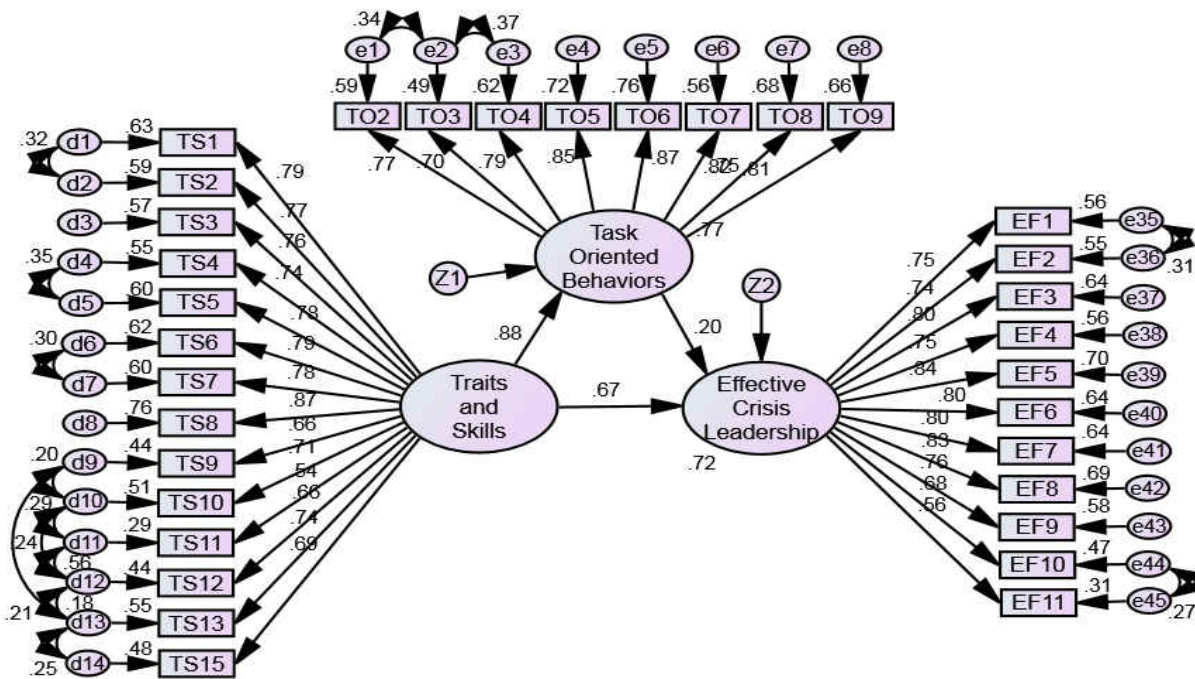

Figure 25. Relationship between Exogenous and Endogenous Variables after Mediating by Task-Oriented Behaviors

Table 29 *Parameters Estimates between TS and EF after Mediating by Task-Oriented Behaviors*

Parameters Estimates between TS and EF after Mediating (TO)

Variables	Unstandardized Regression	Standardized Regressio	Standard Error	Critical	P Value
Effectiveness of Crs. Leads. ← Leadership Traits and Skills	.711	**.670**	.108	6.595	***

According to Figure 25 and Table 29, the direct effect (the value of standardized regression weight) of leadership traits and skills on the effectiveness of crisis leadership decreased from .842 to .670 after including task-oriented behaviors (mediator variable) in the model. Therefore, the task-oriented behaviors variable operates as a partial mediator.
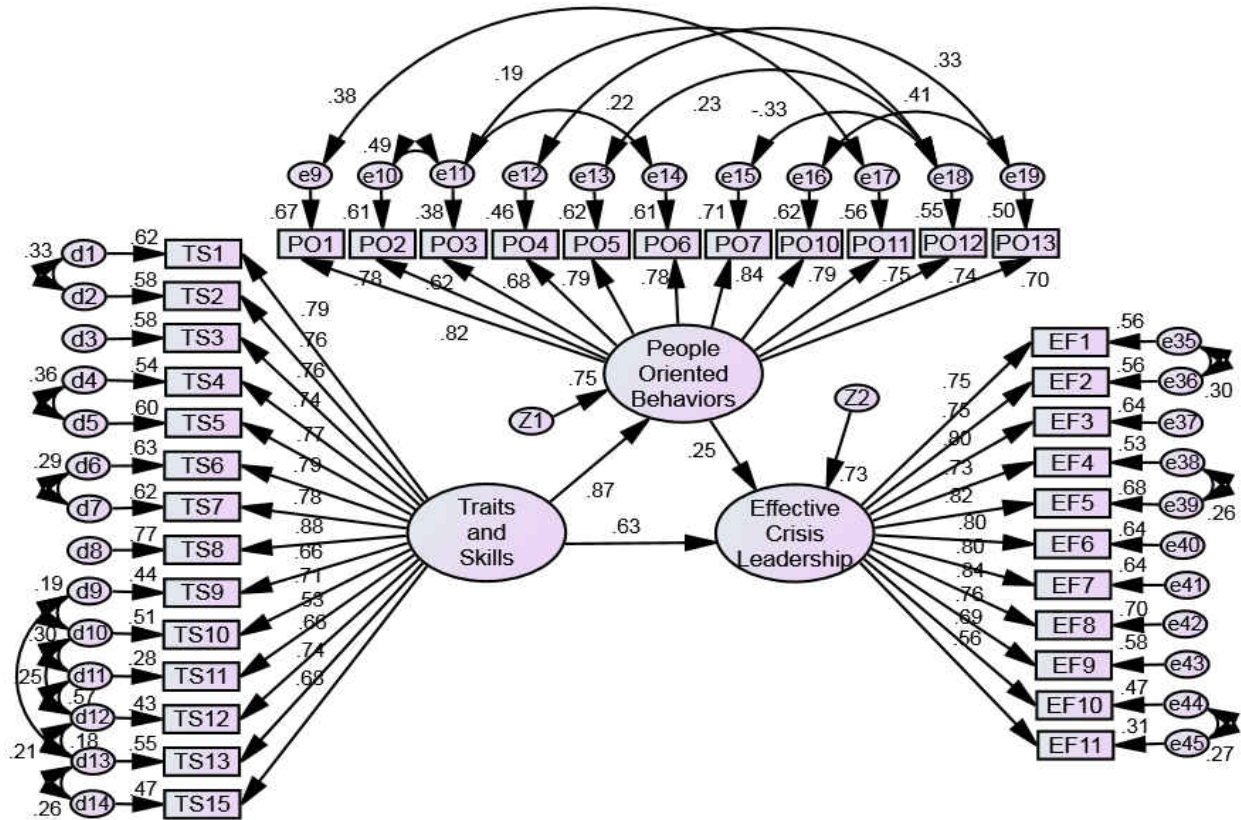

Figure 26. Relationship between Exogenous and Endogenous Variables after Mediating by People-Oriented Behaviors

Table 30 *Parameters Estimates between TS and EF after Mediating by People-Oriented Behaviors*

Parameters Estimates between TS and EF after Mediating (PO)

Variables	Unstandardized Regression	Standardized Regressio	Standard Error	Critical	P Value
Effectiveness of Crs. Leads. ← Leadership Traits and Skills	.675	**.628**	.103	6.553	***

According to Figure 26 and Table 30, the direct effect (the value of standardized regression weights) of leadership traits and skills on the effectiveness of crisis leadership decreased from .842 to .628 after including people-oriented behaviors (mediator variable) in the model. Therefore, it can be said that the people-oriented behaviors variable operates as a partial mediator.
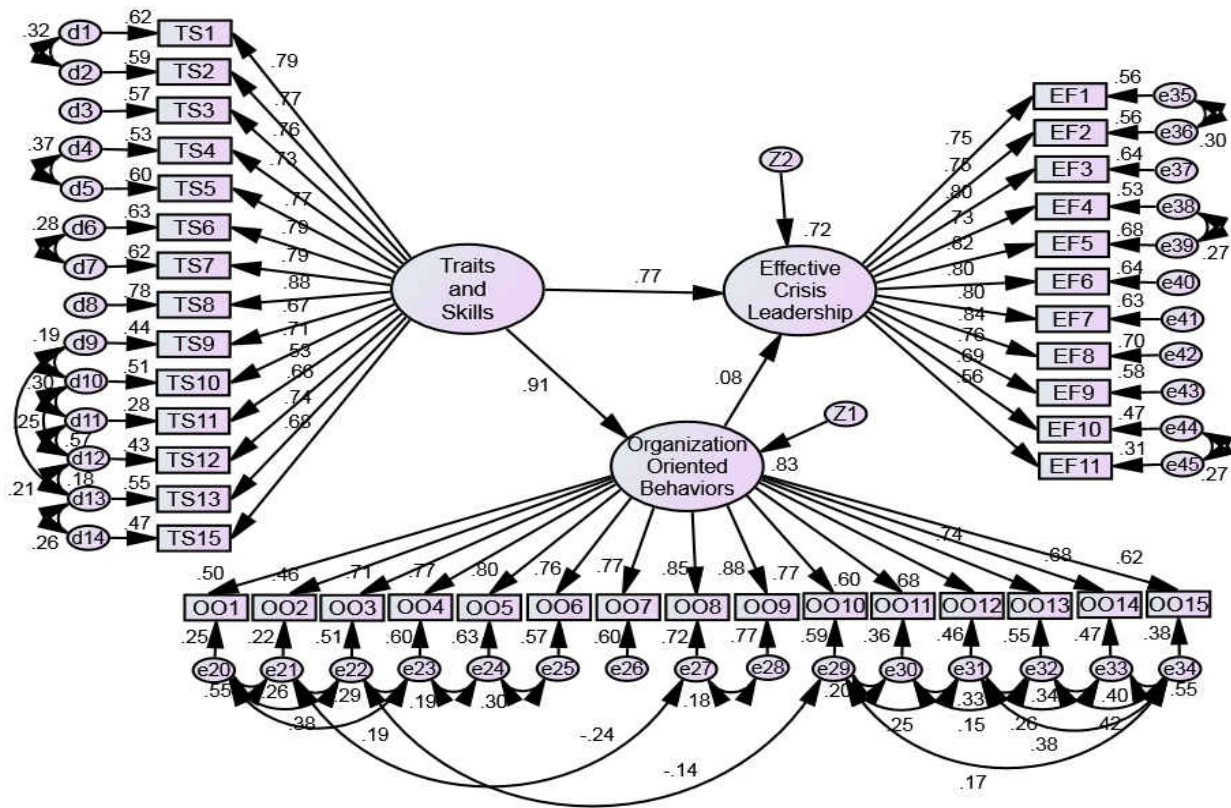

Figure 27. Relationship between Exogenous and Endogenous Variables after Mediating by Organization-Oriented Behaviors

Table 31 *Parameters Estimates between TS and EF after Mediating by Organization-Oriented Behaviors*

Parameters Estimates between TS and EF after Mediating (OO)					
Variables	Unstandardized Regression	Standardized Regressio	Standard Error	Critical	P Value
Effectiveness of Crs. Leads. ← Leadership Traits and Skills	.833	**.775**	.139	5.975	***

According to Figure 27 and Table 31, the direct effect (the value of standardized regression weights) of leadership traits and skills on the effectiveness of crisis leadership decreased from .842 to .775 after including organization-oriented behaviors (mediator variable) in the model. Therefore, it can be said that the organization-oriented behaviors variable operates as a partial mediator.

4.7 Hypotheses Testing

This study introduces five hypotheses to determine the role of leadership traits and skills and three types of leadership behaviors on the effectiveness of crisis leadership. In other words, this study aims to analyze the relationships between traits and skills, leadership behaviors, and the effectiveness of crisis leadership. Leadership behaviors are represented with three latent constructs, namely; task-oriented leadership behaviors, people-oriented leadership behaviors, and organization-oriented leadership behaviors. This part of the study assesses the anticipated hypotheses based on SEM analysis. Additionally, the summary of this assessment is given in Table 32. Based on the theoretical framework and literature review, the following hypothesizes were tested in this study through the results provided in the findings section:

H1: There is a positive relationship between core leadership competencies and the perceived effectiveness of collaborative crisis leadership.

The outcomes of revised SEM supported the first hypothesis of this study. The relationship among core competencies (leadership traits and skills, task-oriented leadership behaviors, people-oriented, leadership behaviors, and organization-oriented leadership behaviors) and the effectiveness of crisis leadership were all positive and statistically significant at the .05 level. Based on these results, these correlations have adequate statistical evidence to

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indicate that there is a relationship between core leadership competencies and perceived effectiveness of collaborative crisis leadership. Consequently, it is safe to claim that core leadership competencies positively influence perceived effectiveness of collaborative crisis leadership.

H2: Leadership traits and skills has a positive relationship with the perceived effectiveness of collaborative crisis leadership through its positive relationship with leadership task, people, and organization-oriented behaviors.

To assess whether leadership behaviors mediate the relationships between leadership traits and skills and the effectiveness of collaborative crisis leadership, the significance of the structural paths from leadership traits and skills to each leadership behaviors were checked. As the sub-hypotheses H2a, H2b, and H2c indicated, the results of revised SEM demonstrate that leadership traits and skills has significant and positive relationships with task-oriented, people-oriented, and organization-oriented leadership behaviors. As the test of H3, H4, and H5 revealed, the relationship between each leadership behaviors and the effectiveness of collaborative crisis leadership was significant and positive. Then, in order to understand whether there is a full or partial mediating relationship between each of leadership behaviors and exogenous and endogenous variables, the differences between direct affect (a direct relationship between leadership traits and skills and the effectiveness of crisis leadership) and indirect effect (effect after inserting mediating variable) were ascertained.

H2a. There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through task-oriented leadership behaviors.

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The results of revised SEM show that leadership traits and skills has a significant and positive relationship with task-oriented leadership behaviors, with a regression coefficient value of .932; and that a positive correlation exists between task-oriented leadership behaviors and the effectiveness of crisis leadership, with a correlation coefficient of .331 at $p < .05$. In order to understand whether task-oriented leadership behaviors fully or partially mediates the relationship; the significance of the direct effects of leadership traits and skills on the effectiveness of crisis leadership was checked. The relationship between leadership traits and skills and the effectiveness of crisis leadership (direct effect) was significant with a correlation coefficient of .842 at $p < .05$. However, after the mediating variable, task-oriented leadership behaviors, was inserted in the model, the correlation value between exogenous and endogenous variables was still positive and significant but diminished to a correlation coefficient of .670 at $p < .05$. This result means that task-oriented leadership behaviors partially mediates the relationship between leadership traits and skills and effectiveness of collaborative crisis leadership.

H2b. There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through people-oriented leadership behaviors.

The results of revised SEM show that leadership traits and skills has a significant and positive relationship with people-oriented leadership behaviors, with a regression coefficient value of .937; and that a positive correlation exists between people-oriented leadership behaviors and the effectiveness of crisis leadership, with a correlation coefficient of .262 at $p < .05$. In order to understand whether people-oriented leadership behaviors fully or partially mediates the

relationship; the significance of the direct effects of leadership traits and skills on the effectiveness of crisis leadership was checked. The relationship between leadership traits and skills and the effectiveness of crisis leadership (direct effect) was significant with a correlation coefficient of .842 at p < .05. However, after the mediating variable, people-oriented leadership behaviors, was inserted in the model, the correlation value between exogenous and endogenous variables was still positive and significant but diminished to a correlation coefficient of .628 at p < .05. This result means that people-oriented leadership behaviors partially mediates the relationship between leadership traits and skills and effectiveness of collaborative crisis leadership.

H2c. There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through organization-oriented leadership behaviors.

The results of revised SEM show that leadership traits and skills has a significant and positive relationship with organization-oriented leadership behaviors, with a regression coefficient value of .954. In addition, a positive correlation exists between organization-oriented leadership behaviors and the effectiveness of crisis leadership, with a correlation coefficient of .270 at p < .05. In order to understand whether organization-oriented leadership behaviors fully or partially mediates the relationship; the significance of the direct effects of leadership traits and skills on the effectiveness of crisis leadership was checked. The relationship between leadership traits and skills and the effectiveness of crisis leadership (direct effect) was significant with a correlation coefficient of .842 at p < .05. However, after the mediating variable, organization-oriented leadership behaviors, was inserted in the model, the correlation value between

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exogenous and endogenous variables was still positive and significant but diminished to a correlation coefficient of .775 at p < .05. This result means that organization-oriented leadership behaviors partially mediates the relationship between leadership traits and skills and effectiveness of collaborative crisis leadership.

The results indicated that leadership traits and skills has a positive relationship with the perceived effectiveness of collaborative crisis leadership, which is mediated by leadership task, people, and organization-oriented behaviors. To understand the total indirect effect of traits and skills on effectiveness of leadership, path coefficients may be used (Garson, 2012). The indirect effects are calculated by multiplying the path coefficients for each path. The total effect of variable leadership traits and skills (TO) on the variable effectiveness of crisis leadership (EF) is the sum of the values of all the paths from TO to EF. According to this formula:

Traits and Skills-> Task-Oriented Behaviors-> Effectiveness of Leadership is .93 * .33 = .30

Traits and Skills-> People-Oriented Behaviors-> Effectiveness of Leadership is .94 * .26 = .24

Traits and Skills-> Organization-Oriented Behaviors-> Effectiveness of Leadership is .95 * .27 = .26

Therefore, the total indirect effect is .30 + .24 + .26 = .80 at p < 0.05. Consequently, it is safe to say that effectiveness of crisis leadership level is indirectly influenced in a positive way by leadership traits and skills.

H3: *There is a positive relationship between task-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.*

The results of the analysis supported the third hypothesis of this study. The results of the revised SEM show that task-oriented leadership behaviors, a mediating latent variable, has a significant and positive relationship with effectiveness of collaborative crisis leadership, an endogenous latent variable, with a standardized regression coefficient value of .331 at p < .05. The relationship between task-oriented leadership behaviors and effectiveness of collaborative crisis leadership was statistically significant at p ≤.05. The critical ratio of this relationship was 2.952, which is higher than 1.96. Therefore, the results of this study specify that task-oriented leadership behaviors increases the effectiveness of collaborative crisis leadership.

H4: There is a positive relationship between people-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

The fourth hypothesis of this study would predict a positive relationship of people-oriented leadership behaviors, a mediating latent variable, with effectiveness of collaborative crisis leadership, an endogenous latent variable. The results of the revised SEM show that people-oriented leadership behaviors has a positive relationship with effectiveness of collaborative crisis leadership, with a standardized regression coefficient value of .262 at p < .05. The relationship between people-oriented leadership behaviors and effectiveness of collaborative crisis leadership was statistically significant at p ≤ .05. The critical ratio of this relationship was 2.325 which is higher than 1.96. Thus, the direction of the relationship is positive as expected, and the relationship between people-oriented leadership behaviors and the effectiveness of collaborative crisis leadership was found to be significant. The results of this study indicate that people-oriented leadership behaviors increases the effectiveness of collaborative crisis leadership.

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H5: There is a positive relationship between organization-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership.

Based on the analysis results, the SEM analysis also supported the last hypothesis of this study. With the standardized regression coefficient value of .27, there was a statistically significant relationship at $p \leq .05$ between organization-oriented leadership behaviors, a mediating latent variable, and the effectiveness of crisis leadership, an endogenous latent variable. The critical ratio score was 2.146, which is higher than the suggested score of 1.96. Consequently, it is safe to claim that that organization-oriented leadership behaviors positively influences effectiveness of collaborative crisis leadership. The hypothesis testing results are displayed in Table 32.

To explore the extent to which leadership traits and skills affect the perceived effectiveness of crisis leadership through its impact on task-oriented, people-oriented, and organization-oriented leadership behaviors, this study developed a conceptual framework for examining the relationship between leadership traits and skills and the perceived effectiveness of crisis leadership. The study also inserted the task-oriented, people-oriented variable, and organization-oriented leadership behaviors variable into the conceptual model to test whether they mediated the relationship between exogenous and endogenous variables. In general, the study findings support all of the research hypotheses.

Table 32 *Summary of Hypothesis Testing Results*

	Hypotheses	Results
H1	There is a positive relationship between core leadership competencies and the perceived effectiveness of collaborative crisis leadership	Supported
H2	There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership	Supported
H2a	There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through task-oriented leadership behaviors	Supported
H2b	There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through people-oriented leadership behaviors	Supported
H2c	There is a positive relationship between leadership traits and skills and the perceived effectiveness of collaborative crisis leadership through organization-oriented leadership behaviors	Supported
H3	There is a positive relationship between task-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership	Supported
H4	There is a positive relationship between people-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership	Supported
H5	There is a positive relationship between organization-oriented leadership behaviors and the perceived effectiveness of collaborative crisis leadership	Supported

In the following section, the results of research hypotheses and the implications derived from the findings are discussed in detail. The limitations of the study are mentioned and a few directions for future researchers are presented.

CHAPTER FIVE: DISCUSSIONS, IMPLICATIONS, AND LIMITATIONS

As presented in chapter 4, the research hypotheses were supported by the empirical findings of the study. The latent constructs have statistically significant relationships with the perceived effectiveness of crisis leadership. Moreover, the results show that mediating variables are also vital for comprehending the relationship between core leadership competencies and the effectiveness of crisis leadership. The following sections discuss these key findings and implications of the research.

5.1 Discussion of the Findings

The results of SEM analyses, which were presented in the previous chapter, will be expanded in this section. This study has found that task-oriented, people-oriented, and organization-oriented leadership behaviors, as mediating latent variables between exogenous and endogenous variables, all have a significant relationship with leadership traits and skills and the perceived effectiveness of crisis leadership.

The structures of crises have been more complicated in recent years. A large variety of crises and disasters have been experienced by societies, such as natural disasters, terrorist attacks, and major accidents. Any single agency or community is incapable of responding to those catastrophic, complex, and large-scale disasters on its own. Therefore, crisis management also requires more collaborative action among public, private, non-governmental organizations, and individual citizens. All these realities pushed governments and communities to have more component leaders in public administrative systems in order to manage complex crises which involve many people, organizations, and resources.

The provincial and district governors play a principal role in organization and operation of the local crisis management services in the Turkish public administrative system. The provincial and district governors in Turkey are the main coordinators of response operations during crisis situations since they manage the most appropriate mechanism for crisis management at the local level and provincial levels. The governors have authority, in parallel with their responsibility, for coordination of crisis situations in a collaborative environment. When a crisis situation occurs, the provincial and district governors bring together agencies from different sectors and expertise under their own leadership for the shared purpose of coping with the crisis, and to diminish danger and damage to life and belongings of respective communities.

This study formulated five separate hypotheses, claiming that there is a positive association between task-oriented, people-oriented, and organization-oriented behaviors and the effectiveness of crisis leadership, on the one hand, and leadership traits and skills, on the other. Another hypothesis claims that leadership traits and skills have a positive relationship with the effectiveness of crisis leadership through task-oriented, people-oriented, and organization-oriented leadership behaviors.

These hypotheses expected that an increase in the exogenous variable would produce an increase in mediator variables, and indirectly an increase in the endogenous variable. This claim stemmed from associated literature to different extents. A SEM was utilized as a statistical analysis method to test all of these assumptions. Based on the analysis results, the findings indicated that all of the above-mentioned hypotheses and assumptions were supported. These findings will be discussed in detail in the following paragraphs. Each of the constructs is explained in depth, including reliability analyses, CFA results, and SEM results.

5.1.1 Leadership Traits and Skills

The leadership traits and skills variable was intended to assess the extent to which these traits and skills are perceived as factors affecting the effectiveness of crisis leadership through leadership behaviors. This study hypothesized a positive association between leadership traits and skills and the perceived effectiveness of crisis leadership. The indicators selected for the latent construct of leadership traits and skills were: clarity and precision in decisions, self-confidence when making decisions, self-control under stress, making decisions independently, using initiative, reacting with distinctive methods to different situational necessities, adapting to different needs, diagnosing the situation quickly, communicating with stakeholders regularly, developing and executing external and internal communication with stakeholders, utilizing ICT, choosing appropriate communication channels and methods, identifying and reducing barriers for listening to the staff and other stakeholders, and involving all stakeholders in crisis communication plans. However, the generic measurement model of leadership traits and skills has fourteen indicators after one indicator (reducing barriers for listening to the staff and other stakeholders) was removed because of high correlation with the fifteenth indicator (involving all stakeholders in crisis communication plans). In general, these indicators focus on governors' three core leadership traits and skills, which are decisiveness and flexibility traits, and communication skill.

The measurement model was generated and checked for reliability and validity by using the remaining fourteen indicators. For all the latent constructs, a Cronbach's alpha score was used for reliability. According to the outputs of reliability tests, Cronbach's alpha scores of latent variables were higher than the threshold, which was determined as .90 for reliability (George and

Mallery, 2006). For the purpose of seeing the significance of each latent variable's indicators, the critical ratio scores were calculated. The conventional threshold value for the critical ratio for each indicator is accepted as lower than -1.96 and higher than 1.96 (Byrne, 2006; Wan, 2002). The standardized regression weights scores were all out of this range, representing significance at p < .05. In the next step, the factor loadings of all indicators were evaluated in terms of their strength because even though they are significant, indicators with factor loadings lower than .40 should be removed from the model. The factor loading values of all the indicators were greater than .40 (from .51 to .88); hence, none of them were excluded from the traits and skills measurement model. Among the fourteen indicators, the indicator "*diagnosed situation"* has the strongest impact on the latent variable of leadership traits and skills, with a regression coefficient of .88, followed by the indicator "*used distinctive methods"* with a regression coefficient of .80. With the same regression coefficient value of .79, both indicators, "clarity in decisions" and "adaptation to different needs", were found to be the third strongest indicators of the traits and skills construct. The other indicators had moderate regression weights except the indicator "utilized ICT", which had a noticeably lower regression coefficient value (.51) than other indicators.

Ten pairs of error terms were correlated in order to improve the model fit. After re-testing the scores for reliability, validity, and model fit, the results presented that the revised model of leadership traits and skills was reliable, valid, and fit.

5.1.2 Task-Oriented Leadership Behaviors

Task-oriented leadership behaviors is the first of three mediating variables of this study. This study hypothesized a positive association between task-oriented leadership behaviors and

the perceived effectiveness of crisis leadership in crisis situations. This latent variable was designed to measure the perceptions of Turkey's province and district governors as to what extend task-oriented leadership behaviors play a mediating role between leadership traits and skills and the perceived effectiveness of crisis leadership. Regarding the analysis outcomes, the research hypothesis was supported with a standard regression coefficient of positive .33, which means there is a statistically significant association between these two constructs as specified in the hypothesis testing.

The latent construct of task-oriented leadership behaviors originally had nine indicators, which were defining the problem and formulating their responses, developing a systematic approach in analyzing problems, generating alternatives, promoting collaborative problem solving, creating an organizational culture of innovation and creativity, benefiting from the creative and innovative ability of the staff and partner institutions, having willingness to take risks and to consider new and untested approaches, providing a welcoming atmosphere in which followers do not feel any pressure, and providing the tools and opportunities for learning and innovation. These indicators focus on the leaders' competencies of solving problems and managing innovation and creativity at the time of crisis as task-oriented leadership behaviors.

However, one pair of questions, "*defining the problem and formulating their responses*" and "*developing a systematic approach in analyzing problems,*" was highly correlated, thus one of them were excluded from the analysis to prevent a multicollinearity problem. Then a measurement model was created by utilizing the remaining eight indicators to analyze if the hypothesized model fits with the observed model. After eliminating one pair of highly correlated indicators some model fit statistics presented a better model fit than before, but the measurement

model did not achieve an overall model fit. Thus, two pairs of the error terms were correlated in order to achieve an acceptable model fit.

The results of CFA implied that all indicators in the revised measurement model have significant factor loadings at p < .05, and the factor loadings of indicators ranged between .67 and .87. While the indicator "*benefiting from the creative and innovative ability of the staff and partner institutions*" had the highest factor loading with the value of .87, the indicator "*generating alternatives*" had the lowest factor loading with the value of .67. The results show that each of the remaining indicators of the task-oriented leadership behaviors construct was significant and higher than the established threshold (.40). Therefore, the remaining eight indicators were retained in the revised model. Moreover, according to reliability analysis, the Cronbach's alpha scores of latent variables were .932 for the revised CFA model, which is higher than the determined threshold (.90) for reliability.

5.1.3 People-Oriented Leadership Behaviors

The second mediating latent variable of the model, people-oriented leadership behaviors, was designed to measure the extent to which people-oriented leadership behaviors plays a mediating role between leadership traits and skills and the effectiveness of crisis leadership. Originally this construct had thirteen indicators which were derived mostly from Van Wart's (2013) study, but it fell to eleven after two items were removed from the analysis because they have a high correlation with two other items. The indicators of people-oriented leadership behaviors constructs were as followed: Enhancing group identity, encouraging staff to work as a team, selecting the proper number of people, building teams with special training, skills, and competencies, arranging the division of labor, scheduling personnel, matching staff preferences

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and competencies to the work, evaluating the staff's performance, establishing a positive relationship with the staff, appreciating the staff's efforts, evaluating staff's contribution, explaining rewards, and explaining rules and procedures.

These indicators focus on the leaders' competencies for building teams, planning and organizing personnel, and motivating them during crisis as people-oriented leadership behaviors. A measurement model of people-oriented leadership behaviors was developed and validated through CFA using eleven indicators. However, the generic model did not show a good model fit; therefore, the model was revised by using modification indices. Then, based on MI outcomes, eight pairs of measurement errors were correlated to achieve a better model fit.

The standardized regression weight of each indicator on people-oriented leadership behaviors was assessed in the revised measurement model. All factor loadings were found to be significant at p < .05 and they were higher than the selected threshold (.40). Therefore, none of the indicators was excluded from the measurement model due to low factor loading. The factor loadings of the indicators were quite high, ranging between .51 (developing long term relations) and .85 (detecting problems correctly). While nine indicators of the construct have factor loading higher than .70 connecting external stakeholders and following external trends have relatively small factor loadings (.51, .55, and .67 respectively). These indicators also have a positive effect on the perceived effectiveness of crisis leadership, but their impacts are relatively lower than other indicators. With a Cronbach's Alpha score of .938, the revised measurement model of people-oriented leadership behaviors indicated strong support for the reliability of this scale.

5.1.4 Organization-Oriented Leadership Behaviors

The last mediating latent construct of the study was organization-oriented leadership behaviors. This constructs was measured by fifteen indicators which are contacting external stakeholders, developing long-term relationships, exchanging information, being open to partnerships, making decisions with limited information, making quick decisions, seeking counsel from others, reacting differently in crisis, detecting problems correctly, identifying and using multiple information sources, following up external trends, reflecting external trends, collecting data for strategic planning, regularly reviewing the mission, and developing a step-by-step strategic plan. These indicators focus on the leaders' competencies for networking and partnering, decision making, scanning the environment, and strategic planning at the time of a crisis as organization-oriented leadership behaviors.

A CFA was used to evaluate the validity and reliability of the organization-organization-orientedoriented leadership behaviors latent construct. The results of CFA revealed that all factor loadings are significant at $p < .05$. Since the threshold for acceptable factor loading was detected as .40, all fifteen indicators show highly satisfactory factor loadings on organization-oriented leadership behaviors, ranging from .47 (developing long term relations) to .87 (detecting problems correctly). However, not all of the selected goodness-of-fit statistics indicate a satisfactory fit for a generic measurement model. Therefore, according to the result of modification indices, error terms with the highest modification index values were correlated with each other in order to get a better model fit. After modifying the generic model, the factor loadings and goodness of fit statistics of the revised model demonstrated acceptable validity, and

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Cronbach's alpha coefficient value with .944 showed high reliability of the conceptualization for the organization-oriented leadership behaviors.

5.1.5 Effectiveness of Crisis Leadership

The effectiveness of crisis leadership is the endogenous latent variable of this study, which was evaluated with eleven indicators namely; facilitating any crisis management functions, implementing crisis management plans, including emerging resources, having adequate information processes, sharing information with other stakeholders, integrating resources, developing relationships with other stakeholders, engaging partners for crisis management, providing immediate assistance and resources to crisis victims, overcoming operational disruptions immediately caused by a crisis, and performing routine tasks while helping victims. These indicators highlight the perceptions of Turkish provincial and district governors on the extent leadership traits and skills influences the perceived effectiveness of crisis leadership using task-oriented, people-oriented, and organization-oriented leadership behaviors.

The measurement model of this construct was tested with CFA procedures. Even though four of the five selected goodness-of-fit statistic values fit the data for the generic model, RMSEA was higher (.095) than the acceptable level (.80). Therefore, the model was revised based on modification indices and all selected standards were achieved after revising the model.

After conducting CFA, the scores showed that each indicator had positive significant factor loadings at the .05, and the model was valid for this measurement model. Factor loading for indicators ranged between .54 and .84, which means all factor loading of indicators exceeded the threshold of .40. Thus, all the indicators were retained in the measurement model of the effectiveness of crisis leadership without any exclusion. Strong factor loadings were observed in

the indicators of EF5 (sharing information with other stakeholders) and EF7 (developing relationships with other stakeholders) with high values of .84 and .81 respectively. The indicator EF11 (performing routine tasks while helping victims) presented the lowest factor loading, which was .54.

Additionally, Cronbach's Alpha score was .936, which means the reliability was significant on the grounds that it is higher than the selected threshold (.90) for this study. Subsequently, it is safe to say that according to the CFA results, this measurement model for the effectiveness of crisis leadership confirmed a good model fit, validity, and reliability.

5.1.6 Structural Equation Model

The purpose of the study was to understand the relationship between core leadership competencies and the perceived effectiveness of crisis leadership. Van Wart (2004) developed the Leadership Action Cycle model, a leadership competency framework that focuses on public sector leadership, and can be utilized for all levels of government. The model proposes to synthesize many leadership study methods established by other scholars. The model includes 37 competencies, which are linked to administrative leadership. Leadership necessitates several features, such as evaluation skills, some personality qualities, and different behavioral competencies. The leadership action cycle model suggests that the relationship between leadership traits and skills and the effectiveness of crisis leadership is mediated by each of the task-oriented, people-oriented, and organization-oriented leadership behaviors. These leadership competencies (traits, skills, and behaviors) vary regarding followers' natures, the organization's success, and the current problems , and so on, even though some aspects of the leadership concept have been acknowledged on a worldwide scale. Hence, there is not one best set of

leadership competencies inasmuch as the required competencies can change from one entity to another even for the same leadership position.

A measurement model form was developed by using structural equation modeling in order to determine the relationship among the study variables. The SEM model included all the latent constructs and control variables of this study. The valid model with the best fit was acquired after implementing required revisions.

Based on the theoretical framework of the study and the findings of the literature review, the main research question that was addressed in this study was "What is the role of core leadership competencies (traits, skills, and behaviors) on the perceived effectiveness of crisis leadership?" The previous sections have explained the several sub-research questions and hypotheses that were formulated. To address the research questions and test the hypotheses, the regression path coefficients of the hypothesized model were evaluated for each variable.

The first hypothesis assumed that there is a relationship between core leadership competencies (leadership traits and skills, and task-oriented, people-oriented, and organization-oriented behaviors) and the perceived effectiveness of collaborative crisis leadership. According to the results of the SEM model, the relationship among core competencies (leadership traits and skills, task-oriented leadership behaviors, people-oriented, leadership behaviors, and organization-oriented leadership behaviors) and the perceived effectiveness of crisis leadership were all positive and statistically significant at the .05 level. Thus the results supported the first hypothesis of this study.

The second hypothesis supposed that leadership traits and skills has a positive relationship with the perceived effectiveness of crisis leadership through its positive relationship

with leadership task-, people-, and organization-oriented behaviors. Path coefficients may be used to decompose correlations in the model into indirect effects. Therefore, to find the total effect of traits and skills on the perceived effectiveness of leadership the formula below will be used (Garson, 2012).

The indirect effects are calculated by multiplying the path coefficients for each path. The total effect of the variable leadership traits and skills (TO) on the variable perceived effectiveness of crisis leadership (EF) is the sum of the values of all the paths from (TO) to (EF). According to this formula:

Traits and Skills-> Task-oriented Behaviors-> Perceived Effectiveness of Leadership is .93 * .33 = .30

Traits and Skills-> People-oriented Behaviors-> Perceived Effectiveness of Leadership is .94 * .26 = .24

Traits and Skills-> Organiz. Oriented Behaviors-> Perceived Effectiveness of Leadership is .95 * .27 = .26

Total indirect effect is .30 + .24 + .26 = .80 at $p < 0.05$

As a result, the findings of the final revised structural equation model indicated that the total indirect effect of leadership traits and skills on the perceived effectiveness of crisis leadership through leadership behaviors appears significant with a positive regression coefficient .80 at < 0.05. The finding indicates that the perceived effectiveness of crisis leadership level is indirectly influenced in a positive way by leadership traits and skills. In other words, the more the leaders in crisis situations use their traits and skills by way of leadership behaviors, the greater their perception of their effectiveness levels will be.

The third hypothesis claims that there is a relationship between task-oriented leadership behaviors and the perceived effectiveness of crisis leadership. The results of the analysis indicate that task-oriented leadership behaviors was the strongest effective mediating construct on endogenous variable with a positive regression coefficient .33 at < 0.05. The finding showed that the perceived effectiveness of crisis leadership level is positively influenced by task-oriented leadership behaviors. In other words, the more the leaders in crisis situations implement their task-oriented behaviors as a leader's competency, the greater the perception of their effectiveness levels will be.

The fourth hypothesis expects that there is a relationship between people-oriented leadership behaviors and the perceived effectiveness of crisis leadership. The results of the analysis verifying the influence of people-oriented leadership behaviors on the perceived effectiveness of crisis leadership reveal a positive and significant relationship ($\beta = 0.26$, $p < 0.05$). The finding indicates that the perceived effectiveness of crisis leadership level is positively influenced by people-oriented leadership behaviors. In other words, the more the leaders in crisis situations implement their people-oriented behaviors as a leadership competency, the greater the perception of their effectiveness levels will be.

Finally, the fifth hypothesis presumed that there is a relationship between organization-oriented leadership behaviors and the perceived effectiveness of crisis leadership. According to the outcomes of the statistical analysis, the influence of organization-oriented leadership behaviors on the perceived effectiveness of crisis leadership reveals a positive and significant relationship ($\beta = 0.27$, $p < 0.05$). The findings indicate that the perceived effectiveness of crisis leadership level is positively influenced by organization-oriented leadership behaviors. In other

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words, the more the leaders in crisis situations implement their organization-oriented behaviors as a leadership competency, the greater the perception of their effectiveness levels will be.

5.1.7 Control Variables

The control variables of this study, which are leaders' gender, professional position, tenure, education level, and bachelor major, were inserted into the model to evaluate those variables' impacts on the perceived effectiveness of crisis leadership during crises. This study could not find any empirical evidence regarding the relationships between these control variables and the perceived effectiveness of crisis leadership. However, some research found relationships between demographic features and leadership (Mowday et al., 1982). For example, an empirical study indicated that women are emotional and unstable, while men are more participatory and autocratic regarding their leadership characteristic (Heilman, 1989). Another study found a positive relationship between a leader's organizational tenure and the development of his/her abilities in managing a crisis situation effectively (Ohlott, Ruderman, & McCauley, 1994). Since the analytical results of this study do not indicate any significant relationship between the control variables and the perceived effectiveness of crisis leadership, all control variables were excluded from the final revised SEM model.

5.2 Implications

This study analyzed the impact of leadership traits and skills on the perceived effectiveness of crisis leadership by means of leadership behaviors in the crisis management context in Turkey. The implications that originated from this study will be discussed under three headings, namely; theoretical, methodological, and managerial and policy implications.

5.2.1 Theoretical Implications

The theoretical framework that guided this study was built on the extant literature. The theoretical suppositions of previous studies that beyond other possible explanatory factors, the perceived effectiveness of crisis leadership is a function of the core leadership competencies utilized by leaders during a crisis were supported and confirmed by this study.

Van Wart's (2004, 2011) Leadership Action Cycle Model was used as the main theoretical framework for this study. The model conceptualizes the core leadership competencies as the main factors that determine the perceived effectiveness of crisis leadership. According to the model, core leadership traits and skills, which are decisiveness, flexibility, and communication, and behavioral elements of leadership, namely task-, people-, and organization-related behaviors impact the perceived effectiveness of leadership in crisis situations such as disasters, terrorist attack, or major accidents. In his original model, Van Wart identified thirty-seven generic competencies for public sector leadership.

In another study, Kapucu and Van Wart (2008) indicate these that thirty-seven generic competencies may change and shrink depending upon the mission of the organization, the leader's position, and environmental requirements such as the crisis itself. Even though there are significant similarities in the wider view of leadership, the requirements and core competencies needed to achieve desired results differ under specific circumstances. From this point of view, by using the same theoretical framework, they determined twelve competencies from a field of thirty-seven as the core competencies for leadership effectiveness for the response phase of a crisis by implementing a quantitative investigation among senior emergency/disaster managers in the public sector. The impact of good leadership on diminishing the catastrophic effects of big

disasters/crisis was theorized by Kapucu and Van Wart (2006) in another study on the subject of catastrophic hurricanes in the 2004 Atlantic hurricane season in Florida. According to the results of their study, leaders have a significant effect in terms of minimizing the harmful consequences of calamitous events by using their leadership competencies. On the contrary, leaders may worsen the results of a crisis if they either do not have or do not use adequate leadership competencies.

The results of this study are consistent with studies included in the literature and establish the theoretical foundation of this study. In addition, this study used network theory to explain the perceived effectiveness of crisis leadership since a leader's networking performance among respondent organizations and individuals in a crisis situation generally impacts his/her perceived leadership effectiveness. Leaders generally need to coordinate effectively all different governmental agencies, other sector representatives, and even individuals who are volunteers in helping crisis victims. In such an environment, leaders need different kinds of authority sources, such as legal, contractual, and voluntary to deal with issues in disseminating information, organizing financial–material allocations, and distributing responsibilities and authority. Leaders with lack of inter-acting and collaborating competencies will not be as effective as they must function in these complex environments with many different stakeholders. The results also confirm the findings in previous studies in literature. Networking and partnering behaviors of leaders is represented with four indicators in the SEM revised model as the indicators of organization-oriented behaviors. Those four indicators had .50, .48, .72, and .77 factor loading, which are over the determined threshold (.40) and significant at $p < .05$ level. Based on the results of the SEM revised model networking and partnering behaviors of leaders during a crisis has a significant impact on the perceived effectiveness of crisis leadership as mentioned in

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Kapucu and Van Wart's (2006) study.

Other theories, which were used in this study, are transformational leadership theory and collaborative leadership theory. The model uses some characteristics of transformational leadership, such as decisiveness, while most of this theory's features are not applicable to leaders during a crisis. The competencies that stem from transformational leadership theory are environmental scanning, strategic planning, decision-making, managing organizational change, communication, motivating, building teams, and managing personnel change (Van Wart, 2011, p.102). In the findings and discussion sections, all these competencies, which are indicators of exogenous and mediating variables, had positive associations with higher factor loadings than the determined threshold (.40) at p < .05 level. Collaborative leadership theory emphasizes networking and partnering competencies of leaders the same as network theory. As mentioned above, networking and partnering behaviors of leaders had four indicators in the model which were all higher than the determined threshold (.40) and significant at p < .05 level. Therefore, the results of the revised SEM model are also comparable to previous studies for these two leadership theories.

In addition to the common above-mentioned theoretical implication, the point to be emphasized here is that the perceived effectiveness of leadership was examined only in the crisis management context, which means studies in different management areas may produce distinctive results. This study is a contribution to the general leadership literature, but it has more applicability in crisis management context.

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5.2.2 Methodological Implications

The first important methodological implication that resulted from this study is that the perceptions of provincial and district governors acting as primary responsible high-ranked officials during a crisis may be utilized to understand the overall perceived effectiveness of crisis leadership in the Turkish public administrative system. For the purposes of this study, provincial and district governors were surveyed to get an understanding of the performance of their colleagues as leaders during a crisis. Second, provincial and district governments might be the most appropriate level of government to study when considering crisis management. Even though there are some other responsible institutions for crisis management within the central government which play an important role in managing crises at the nation level, the provinces and districts are the main actors to deal with crises first hand.

The effectiveness (performance) measurement is the other significant strength of this study. Even though there are several studies with various methodological approaches in the literature on leadership context, the evaluation of perceived effectiveness is still an actual problem for those studies. In particular, there is no easy way to obtain unbiased data even when it is organizational data. Specifically in public and centralized institutes, to measure perceived effectiveness is a difficult task. From this perspective, by using a self-reported and perceptual measure method this study utilized a biased research method to evaluate perceived effectiveness of leadership. The measurement model embodied several indicators with various features of perceived effectiveness of leadership, which focuses on the performance of their colleagues during a crisis as perceived by provincial and district governors. On the other hand, even though there are some issues in measuring effectiveness, reliability analysis results show that the

perceived effectiveness of crisis leadership has a high internal consistency score (Cronbach's Alpha: .936). Furthermore, the results of CFA analyses indicate that the perceived effectiveness of crisis leadership has a significant model fit; therefore, it is considered as a valid measurement model. Moreover, the results confirm the consistency of measures, since there are positive and significant relationships among the perceived effectiveness of crisis leadership and its indicators.

The fourth methodological implication concerns the online survey method used in this study since it is one of the easiest and the fastest ways to distribute a survey questionnaire to the target population. An online survey can also remarkably reduce the costs of collecting data in comparison with other methods of survey administration. The researcher had access to the e-mail database for all Turkish district and provincial governors therefore e-mail was the most efficient and easiest way to reach the target population and to track their responses.

Indicators of core leadership competencies and the effectiveness of crisis leadership were derived from different studies, but especially from Kapucu and Van Wart's (2006, 2008, and 2011) studies. These indicators were selected to reflect all sides of competencies and the effectiveness of crisis leadership for this study. The scales for each construct did not have any validity or reliability issue. Besides, the indicators of the scales have high factor loading scores. Consequently, the aforementioned factors stated above indicate the strength of this study in terms of methodology.

Even though the survey was implemented in Turkish, it was created based on the extant literature in English. Therefore, the cultural differences considered when constructing the survey for this study. When translating, the survey questions were developed based on their functional meanings rather than their literal ones in order to diminish problems that might stem from

cultural differences. In addition, the translation was reviewed by several practitioners and academicians that are native speakers of Turkish native speaker and who are familiar with both the literature in the US and Turkish public administration in order to ensure reliability and validity of the measurement. Revisions were made according to their recommendations.

5.2.3 Managerial and Policy Implications

Crises, based on their size, can provide serious damage to the economic equilibrium of a state. The 1999 Marmara earthquake is accepted as one of the important reasons for the great depression in the Turkish economic and political structure at the beginning of the 2000's. The reason for its major effect on economic and political life was undoubtedly the lack of adequate crisis management structure and leadership. The economic and social crisis after the earthquake caused a remarkable defeat for the ruling coalition government. When considering this result, the vital importance of having an effective crisis management system and adequate crisis leaders can be understood in terms of political authorities' continuity. A mismanaged crisis can damage the reputation of a government and erode the citizens' trust of a government.

Crises are inevitable in organizational and societal life where organizations always need strong and capable leaders for such situations in order to overcome a crisis with minimal damage. Therefore, the Turkish Interior Ministry, the political authority of Turkey, must find ways to improve the crisis leadership capacity of the current staff and to employ more competent district governor candidates.

Leadership skills can be developed, and with this process, true leaders can be created from managers. As the highest ranked government authority in their jurisdictions, provincial or district governors should be trained in their leadership role. Their core leadership competencies

for crisis situations should be developed in training programs before appointing them to especially critical areas with crisis potential such as frontier towns or disaster areas. Administrators can be trained as technicians on how to manage and affect people by using their leadership competencies; in such a way, the concept of managerial leadership can be accessible. The related literature supports the idea that leadership traits are inborn competencies, but leadership skills and behaviors can be learned later. Innate characteristics are supporting features that facilitate the learning process, but alone they are not enough. The quality and content of education is important to learn to be a leader.

At this point, the competency model that was developed in this study can be utilized in several ways in the public management and policy area. First, the competency set is a good source to evaluate candidate district governors' adequacies during an interview or examination. The more a candidate fits the requirements of the district governor position, the more he/she will be perceived as an effective leader during a crisis. Therefore, a good match between the position and candidates' competencies will increase the potential for better crisis management. The General Directorate of Staff of the Turkish Interior Ministry may use this model as a criteria set when recruiting new district governors.

Crisis management is one of the most important duties of provincial and district governors. A governor needs to be adequately informed about his/her duties and responsibilities before appointed to his/her workplace. In this way, he/she recognizes and needs to increase his/her necessary competencies for crisis leadership. Education and training programs are the main tools to inform the governors properly. While there is a three year education and training program for candidate governors, crisis management education does not receive enough

emphasis in that program. In light of this or similar studies, an education and training program needs to be arranged for governors in order to provide them with the required skills and behaviors for crisis leadership. These programs may be more effective if they are arranged as a separate program by an outside organization, such as AFAD and universities. These organizations may certify the attendants according to their achievement. Governors with these certificates may be appointed to the provinces and districts with high potential for crises. Such an implementation in personnel policy will lead to a surge of governors acquiring the expertise they will need to improve their needed competencies.

Anyone who desires to be a governor in Turkey must have graduated from some certain disciplines. They must have education in public administration, law, economy, finance, and so on. None of these majors has a curriculum that includes crisis management, despite the fact that they have classes which are distantly related to public administration, such as international relations. In other words, formal education at undergraduate or graduate level in Turkey does not provide required competencies for crisis leadership by future governors. The Interior Ministry may inform the universities about this necessity or some legal arrangement may be developed at the governmental level in order to eliminate this gap. Again, these competencies can be a framework for such a curriculum that aims to provide necessary competencies for future governors.

According to the results of this research, task-oriented leadership behaviors greatly increase the effectiveness of crisis leadership. However, the effects of people-oriented and organization-oriented leadership behaviors on the effectiveness of crisis leadership are also not low. Research results can be interpreted as provincial and district governors should consider the

potential of their subordinates, develop and motivate them to perform their tasks, and maintain good communication with them. Although the research results do emphasize the importance of task-oriented behavior, it is not possible to say that focusing only on task-oriented behaviors alone will increase the efficiency of crisis management. In such a case, there will not be any change or development either in the personnel or in the structure of the organization.

A person can be a leader with his/her inherent traits, skills, and behaviors. For instance, traits such as decisiveness and flexibility are accepted as necessary competencies for leadership. Without these necessary competencies, legal authority is not enough to be a leader. Legal authority can be a necessary foundation, but to what extent a person can skillfully use that authority will determine that person's perceived leadership level. For this reason, provincial and district governors should not deem their statutory authority sufficient to be accepted as a leader; instead, they should identify and develop their own leadership capacity in the light of academic knowledge and experience. This is because a person can only develop his/her leadership capacity if he/she realizes his/her own individual traits and skills.

5.3 Limitations

This research has a cross-sectional design, which is a time saving and efficient technique to examine research hypotheses. However, this creates the first limitation of this study since cross-sectional research gathers the data at one point in time. Cross-sectional research is questionable for lack of a sequential timeline; in other words, a time-order sequence is not available in order to infer causation (Shadish, Cook and Campbell, 2002). Utilization of multiple methods and sources, such as agency records, interviews, and first-line managers' evaluations, could help researchers to collect and analyze more valid data about the effects of leadership

traits, skills, and behaviors on the perceived effectiveness of crisis leadership.

The data collection method is another limitation of this study. This study uses a self-report survey as the primary data source, which makes it subject to the method variance problem to some extent because respondents might have a tendency to not indicate their actual behaviors and views. Additionally, the questions in the survey were answered based on respondents' perceptions. This situation results in a selection bias in answering the survey. In other words, survey participants may select more a popular response for themselves rather than the true one. Even though it is an obligation for the researcher to keep the participants' responses confidential and there is a guarantee of confidentiality for survey participants about their identities, the participants might not have answered as they thought about organizational and personal attributes in a highly hierarchical organization. That situation leads to skewness in the data.

Construct validity is another important limitation since the primary goal of this study is to elicit the relationships between abstract concepts: leadership traits, skills, and behaviors and the perceived effectiveness of crisis leadership in the Turkish public administrative system. Construct validity refers to the extent to which the developed scales measure the theoretically driven constructs. However, there may be other applicable items that were not involved in the measurement model, though the latent constructs of the study were measured by several indicators with the purpose of encompassing all scopes of the constructs. On the other hand, by using confirmatory factor analysis to validate the latent constructs of the study, an effort was made to minimize the construct validity threat.

5.4. Future Research

This research does not stand alone. It is supported by and corroborates the extensive research of Van Wart (2004, 2011) and Kapucu and Van Wart (2006, 2008). This project validates and enhances their findings while providing a basis for future research. In this study, a questionnaire was conducted in order to uncover the relationship between leadership competencies and the effectiveness of crisis leadership through the perception of provincial and district governors. To obtain more detailed information, one may make interviews with leaders, and may examine leaders in their work environments. As discussed in the limitations section, this study uses a self-report survey as the primary data source, which makes the study subject to a method variance problem to some extent. Moreover, because structural equation modeling was used to discover the relationships between variables, the study is limited to the quantitative method. Future researchers can take the findings of this research as a starting point, and to bring these results to a further point they can use other qualitative or mixed methods and sources, such as agency records, interviews, and first-line managers' assessments to reflect on this topic in more detail.

This research utilized a cross-sectional research design, which collects the data at one point in time. This method investigated the research questions and examined the research hypotheses. Practitioners and policy makers can infer from the results and make policy decisions to solve the issue in a short period of time because a cross-sectional research lets the researcher distribute the results quickly. However, cross-sectional research has been criticized because it lacks temporal precedence. At this point, longitudinal research can be a solution to expose the real causal process of how core leadership competencies impact the perceived effectiveness of

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crisis leadership. With longitudinal research, the researchers can study the stability of and changes in predictors, and their impacts on outcome variables linearly. An analysis of the influence of leadership competencies on the perceived effectiveness of crisis leadership has not been completed. The data from this research project could be used as a basis for a longitudinal study.

Further analysis of the data compiled from this project, in conjunction with a longitudinal study, could lead to the development of an assessment tool that could be used to predict the perceived effectiveness of crisis managers' leadership capacity. This predictive tool could be used in the assessment of future governors in a recruiting process. This project provides a basis for further research and comparison to the competency requirements of other positions within the Turkish public administrative system.

Another important direction for future research is to conduct multi-group analysis to evaluate whether or not provincial and district governors perceive leadership competencies' impacts on the perceived effectiveness of crisis leadership in the same way. This will help to obtain various perspectives about the topic of this study from multiple groups.

The present study collected demographic data on gender, professional position, tenure, educational level, and major of bachelor degree. None of these five control variables were found to be significant. Adding more demographic variables and measuring insignificant control variables with more vigorous methods would allow future researchers to examine the effects of more variables on the perceptions of provincial and district governors on the study topic.

Findings from this study demonstrate that three different leadership traits and skills (decisiveness, flexibility, and communication) positively impact the effectiveness of crisis

leadership through three types of leadership behaviors, which are task-oriented (problem solving and managing innovation and creativity), people-oriented (team building, personnel planning, motivating), and organization-oriented (networking and partnering, decision making, scanning the environment, and strategic planning) leadership behaviors. These twelve leadership competencies were determined as core competencies for crisis leadership from among thirty-seven generic leadership competencies by Kapucu and Van Wart according to the results of their quantitative study. Even though the above-mentioned twelve competencies emerged as a result of quantitative research, the potential impact of other leadership competencies on the perceived effectiveness of crisis leadership need to be investigated.

5.5. Summary

The most important requirement for an organization during a crisis is effective leadership. By answering research questions, this research provided Turkish provincial and district governors, as leaders during crises, with useful knowledge that can be used under stressful circumstances. By using the SEM statistical analysis method, the research showed to what degree each of the core leadership competencies impacts the perceived effectiveness of crisis leadership. This research was established on and contributes to earlier studies on collaborative crisis management in the public sector and perceived effective leadership during a crisis. Even though previous studies have researched collaboration in crisis management, they did not focus on leadership in public sector crisis management. It is expected that this research provided additional insight into the implementation of network theory and collaborative leadership theory in crisis management.

APPENDIX A: SURVEY

This survey helps to examine the effectiveness of collaborative crisis leadership. This survey will be used to understand to what extent leadership traits and skills, task-oriented, people-oriented, and organization-oriented leadership behaviors have an influence on collaborative crisis leadership. The survey takes about 20 minutes to complete. Your responses are confidential and will not be revealed without your consent; only aggregate results will be made available. There will not be any identifiers in the questionnaires. I would be happy to provide you with the final results upon request. If you have any concerns or questions please feel free to contact me at ysfustun@yahoo.com or at +1 (407) 965-7126.

Yusuf Ustun
Senior Administrative Inspector
PhD. Student at UCF

Please consider a crisis situation (a terrorist bombing, flood, winter storm, earthquake, etc.) that you had opportunity to examine, investigate, or observe closely, and rate each of the following statements in section 1, 2, 3, and 4.

<u>Section 1:</u> **Effectiveness of Collaborative Leadership in Crises**

Strongly Agree	*Agree*	*Neither Agree nor Disagree*	*Disagree*	*Strongly Disagree*
5	4	3	2	1

The district or province governorship which I had opportunity to examine, investigate, or observe closely in the crisis situation...

[ ] facilitated any crisis management functions (evacuation, temporary housing, alternative communication tools, warnings etc.).
[ ] successfully implemented crisis management plans in mobilizing its own personnel (authorized employees) and resources.
[ ] successfully included emerging resources (volunteers and other emergent stakeholders) in the implementation of crisis management plans.
[ ] had adequate information processes in which communication tools and communicated material were satisfactory.
[ ] shared information with other partnering organizations and impacted citizens.
[ ] integrated resources with other partnering organizations.

[ ] developed relationships that are beneficial to the responding organizations, the mass media, and citizens in general.
[ ] engaged partners for crisis management.
[ ] overcame operational disruptions immediately caused by crisis.
[ ] provided immediate assistance and resources to crisis victims.
[ ] effectively performed routine tasks while helping victims to cope with crisis.

Section 2: Leadership Traits and Skills that Affect Leadership Effectiveness

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5	4	3	2	1

The district or province governors whom I had opportunity to examine, investigate, or observe closely in the crisis situation...

Decisiveness
[ ] had clarity and precision in decisions.
[ ] had high level self-confidence when making decisions.
[ ] loose his/her self-control under stress.
[ ] can make decisions independently when appropriate by considering himself/herself as the primary decision maker.
[ ] did not hesitate to use initiative, if necessary, by taking into account possible risks.

Flexibility
[ ] had capacity to react with distinctive methods to different situational necessities.
[ ] adapted to different needs (such as adapting to an extremely stressful working environment) when needed.
[ ] can diagnose the situation quickly and determine the proper form of behavior that will achieve a positive result.

Communication
[ ] communicated with stakeholders regularly, as needed.
[ ] developed and executed external and internal communication with stakeholders (victims, organizations, the media).
[ ] utilized information and communication technology (ICT) in order to maintain a precise and constant flow of information.
[ ] chose appropriate communication channels and methods (Internet, TV, radio, etc.)
[ ] identified barriers for listening to the staff and other stakeholders.
[ ] reduced barriers for listening to the staff and other stakeholders.
[ ] involved all stakeholders in crisis communication plans.

Section 3: Task-oriented Leadership Behaviors that affect Leadership Effectiveness

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5	4	3	2	1

The district or province governors whom I had opportunity to examine, investigate, or observe closely in the crisis situation...

Problem Solving
[ ]   defined the problem and formulated responses.
[ ]   developed a systematic approach in analyzing problems/issues.
[ ]   generated alternatives by creating a list of options to solve problems and choose one of the best options.
[ ]   promoted collaborative problem solving by considering the perspectives of others.

Managing Innovation & Creativity
[ ]   created an organizational culture of innovation and creativity by encouraging and rewarding followers who intend to make change and achieve successful results.
[ ]   benefited from the creative and innovative ability of the staff and partner institutions.
[ ]   had willingness to take risks and to consider new and untested approaches.
[ ]   provided a welcoming atmosphere in which followers do not feel any pressure.
[ ]   provided the tools and opportunities for learning and innovation.

Section 4: People-Oriented Leadership Behaviors that affect Leadership Effectiveness

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5	4	3	2	1

The district or province governors whom I had opportunity to examine, investigate, or observe closely in the crisis situation...

Team Building
[ ]   enhanced group identity by creating a group mission, vision, common interests, and shared values among participating organizations.
[ ]   encouraged the staff to work as a team.
[ ]   selected the proper number of people with well-balanced capabilities for the best group structure.
[ ]   built teams with special training, skills, and competencies.

Planning & Organizing Personnel
[ ]   arranged the division of labor according to the duties and responsibilities of staff.
[ ]   scheduled personnel by using negotiation and perceptions of fairness (therefore specific staff assignments can be understood and accepted by followers).
[ ]   matched staff preferences and competencies to the work as much as possible.

[ ] evaluated and supported the staff's performance and helped them perform better.

Motivating
[ ] established a positive relationship with the staff by making them feel that their contribution is important.
[ ] appreciated the staff's efforts in timely and appropriate manner.
[ ] fairly evaluated the staff's contribution to crisis response team.
[ ] explained how rewards and significant commendations are distributed and used them to motivate followers.
[ ] explained rules and procedures to ensure that subordinates understand the consequences of deviations and executed punishment when deviations occurred.

Section 5: Organization-Oriented Leadership Behaviors that affect Leadership Effectiveness

Strongly Agree	*Agree*	*Neither Agree nor Disagree*	*Disagree*	*Strongly Disagree*
5	4	3	2	1

The district or province governors whom I had opportunity to examine, investigate, or observe closely in the crisis situation...

Networking and Partnering
[ ] periodically contacted external stakeholders, politicians, and other strategic allies.
[ ] developed long-term relationships with stakeholders.
[ ] constantly exchanged information with other organizations in the network.
[ ] was open to partnerships during crisis intervention, and answered to collaboration needs of others at the maximum level.

Decision Making
[ ] made decisions with limited information under time pressure in response to crises.
[ ] made quick decisions in crisis compared to routine management.
[ ] sought counsel from others in analyzing the situation.
[ ] reacted differently during the crisis (although nervous, became more focused and solutions oriented).
[ ] detected the problems correctly without losing the complete picture and made correct decisions by considering the possible consequences.

Scanning the Environment
[ ] identified and used multiple relevant sources of external information.
[ ] followed up on the significant external trends, such as new developments in technology.
[ ] reflected on the significance of external trends for organization.

Strategic Planning

[ ] collected systematic and comprehensive data for strategic planning from the staff and stakeholders.

[ ] regularly reviewed the mission and capabilities of the organization for strategic planning.

[ ] developed a step-by-step a comprehensive strategic plan for crisis management.

Section 6: Open Ended Questions

1) What are the top five competencies of a crisis leader that are crucial for effective leadership when responding to an extreme cases or crisis?

    _____

    _____

2) What competencies would you add for effective crisis leadership in Turkey?

    _____

    _____

Section 7: Demographics

Please provide the following demographic information about yourself:

1. What is your gender?

_____Male

_____Female

2. What is your professional position?

_____Province Governor

_____Deputy Province Governor

_____District Governor

_____Administrative Senior Inspector

_____Interior Ministry High or Middle Level Bureaucrat

3. What category below includes your tenure in the profession position?

_____1-4 years

_____5-9 years

_____10-14 years

_____15-19 years

_____20-24years

_____25 or more years

4. What is the highest level of school you have completed?

_____Bachelor

_____Graduate

_____Doctorate

5. What was your undergraduate major?
_____Public Administration
_____Economics
_____Public Finance
_____International Affairs
_____Business Administration
_____Econometrics
_____Labor economics and industrial relations
_____Law
_____Other (Please specify)_____

Thank you for your participation!

APPENDIX B: SURVEY IN TURKISH

ANKET

Bu anket kriz durumlarında işbirliğine dayalı liderliğin etkinliğinin anlaşılmasına yardımcı olmak üzere hazırlanmıştır. Anket, liderlik özellik, beceri ve davranışlarının kriz durumlarında işbirliğine dayalı kriz liderliği üzerindeki etkisini ölçmeyi amaçlamaktadır. Anketin tamamlaması yaklaşık 20 dakika sürecektir. Vermiş olduğunuz cevaplar gizli kalacak, rızanız dışında hiç bir şekilde açıklanmayacak ve sadece toplu sonuçlar kamuoyu ile paylaşılacaktır. Anket kağıtlarında cevaplayan kişinin veya temsil ettiği kurumun kim olduğunun anlaşılmasına neden olacak hiç bir madde olmayacaktır. Talep halinde toplu sonuçları isteyenlerle paylaşmaktan memnuniyet duyarım.

Yusuf Ustun
Mülkiye Başmüfettişi
UCF Doktora Öğrencisi

Lütfen yakından inceleme, araştırma ya da gözlemleme fırsatı bulduğunuz bir kriz durumunu (bombalı terör saldırısı, sel, deprem, vb.; örneğin, Van Depremi, Hatay İlinde sivillere yönelik bombalı saldırı ya da Gezi Parkında yapılması planlanan çalışmalar gerekçesi ile İstanbul İlinde meydana gelen toplumsal olaylar) düşünerek aşağıda yer alan bölüm 1, 2, 3 ve 4'deki ifadelere ne derece katıldığınızı cevap ölçeğini kullanarak değerlendiriniz.

Bölüm 1: Kriz durumlarında işbirliğine dayalı liderlik etkinliği

Tamamen katılıyorum	*Katılıyorum*	*Ne katılıyorum ne de katılmıyorum*	*Katılmıyorum*	*Tamamen katılmıyorum*
5	*4*	*3*	*2*	*1*

Bu kriz esnasında yakından inceleme, araştırma ya da gözlemleme fırsatı bulduğum kaymakamlık veya **valilik** …

[ ] her türlü kriz yönetim fonksiyonunu (tahliye, geçici barınma, iaşe, alternatif iletişim araçları, uyarılar vb.) yerine getirmiştir.

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[ ] kendi personelini ve kaynaklarını harekete geçirme konusunda kriz yönetim planlarını başarılı bir şekilde uygulamıştır.
[ ] kendiliğinden oluşan kaynakları (gönüllüler ve diğer paydaşlar) planların uygulanmasına başarılı bir şekilde dahil etmiştir.
[ ] tatmin edici iletişim araçları ve materyallerinin kullanıldığı, başarılı bir kriz iletişim metodu uygulamıştır.
[ ] iletişim sürecine diğer görevli ve gönüllü kuruluşları ve krizden etkilenen vatandaşları yeterli oranda dahil etmiştir.
[ ] krize müdahale eden diğer kuruluşlarla kaynaklarını başarılı bir şekilde entegre edebilmiştir.
[ ] diğer görevli örgütler, medya ve vatandaşlar ile kriz yönetiminde başarıya katkı sağlayacak ilişkiler geliştirmiştir.
[ ] kriz yönetimi için diğer kuruluşlar ile kurulan ortaklıklara başarıyla dahil olmuştur.
[ ] krizin meydana getirdiği operasyonel aksaklıkları giderebilmiştir.
[ ] hızlı bir şekilde kriz mağdurlarına yardım ulaştırabilmiştir.
[ ] kriz mağdurlarına yardım ederken, aynı zamanda rutin görevlerini etkin bir şekilde yürütebilmiştir.

Bölüm 2: **Lider Etkinliğine Tesir Eden Liderlik Özellikleri ve Becerileri.**

Tamamen katılıyorum	*Katılıyorum*	*Ne katılıyorum ne de katılmıyorum*	*Katılmıyorum*	*Tamamen katılmıyorum*
5	*4*	*3*	*2*	*1*

Bu kriz esnasında yakından inceleme, araştırma ya da gözlemleme fırsatı bulduğum kaymakam veya vali …

Kararlılık
[ ] açık ve kesin kararlar almıştır.
[ ] yüksek düzeyde kendine güvene sahiptir.
[ ] stres altında kontrolünü kaybetmemiştir.
[ ] kendisinin öncelikli karar verici olduğunun farkında olarak, gerekli durumlarda bağımsız karar alabilmiştir.
[ ] gerektiğinde, işin sağlıklı yürümesi için muhtemel riskleri de göz önünde bulundurarak inisiyatif kullanmaktan çekinmemiştir.

Esneklik
[ ] farklı durumlar için gerekli olan farklı yöntemlerle, krizi yönetme kapasitesine sahiptir.
[ ] ihtiyaç olduğunda farklı gereksinimlere uyum sağlamıştır (örneğin, oldukça stresli çalışma ortamlarına adaptasyon sağlayabilmiştir).
[ ] problemi hızlı bir şekilde teşhis edebilmiş ve pozitif bir netice elde edecek uygun davranış şeklini belirleyebilmiştir.

İletişim
[ ] gerekli durumlarda sürekli/kesintisiz iletişimi sağlamıştır.

[ ] krizden etkilenenler, diğer paydaşlar, kurumlar ve medya ile başarılı bir iletişim kurmuş ve bunu devam ettirmiştir.

[ ] kesin ve sürekli bilgi akışını sağlamak için internet vb. bilgi ve iletişim teknolojilerini kullanmıştır.

[ ] ihtiyaca en uygun iletişim kanallarını ve metotlarını belirleyebilmiştir.

[ ] çalışanlar ile iletişimine engel olan hususları tespit etmiştir.

[ ] çalışanlar ile iletişimine engel olan hususları azaltmıştır.

[ ] kriz esnasında ihtiyaç duyulacak olan iletişim ile ilgili planlamalara diğer kuruluşlar ve paydaşları dahil etmiştir.

Bölüm 3: Lider etkinliğine tesir eden görev odaklı liderlik davranışları.

Tamamen katılıyorum	Katılıyorum	Ne katılıyorum ne de katılmıyorum	Katılmıyorum	Tamamen katılmıyorum
5	4	3	2	1

Bu kriz esnasında yakından inceleme, araştırma ya da gözlemleme fırsatı bulduğum kaymakam veya vali …

Sorun Çözme

[ ] sorunu tüm boyutlarıyla tanımlamış ve buna uygun çözümler üretmiştir.

[ ] sorunları analiz etmek için sistematik bir yaklaşım geliştirmiştir.

[ ] ihtiyaç anında kullanmak çözüm seçenekleri üretmiştir.

[ ] çalışanların ve diğer (resmi, özel veya gönüllü) kuruluşların görüşlerini dikkate alarak işbirliğine dayalı problem çözmeyi teşvik etmiştir.

Yenilik ve Yaratıcılığı Yönetme

[ ] değişiklik yapmak ve başarılı sonuçlar elde etmek amacında olan çalışanları cesaretlendirerek ve ödüllendirerek yenilik ve yaratıcılığa dayalı bir örgüt kültürü oluşturmuştur.

[ ] çalışanların ve işbirliği yapılan kurumların yaratıcı ve yenilikçi yeteneklerinden yararlanmıştır.

[ ] risk alma, yeni ve denenmemiş yaklaşımları dikkate alma konusunda isteklidir.

[ ] çalışanların herhangi bir baskı hissetmediği, yaratıcılıklarını geliştirmeye uygun, rahat bir çalışma atmosferi sağlamıştır.

[ ] öğrenme ve yenilik için gerekli araç ve olanakları sağlamıştır.

Bölüm 4: Lider etkinliğine tesir eden kişi odaklı liderlik davranışları.

Tamamen katılıyorum	Katılıyorum	Ne katılıyorum ne de katılmıyorum	Katılmıyorum	Tamamen katılmıyorum
5	4	3	2	1

Bu kriz esnasında yakından inceleme, araştırma ya da gözlemleme fırsatı bulduğum kaymakam veya vali …

Takım Oluşturma

[ ] grup misyonu, vizyonu, ortak çıkarlar ve paylaşılan değerler oluşturarak krize müdahale eden kişi ve kuruluşlar arasında bir grup kimliği geliştirmiştir.

[ ] çalışanlarını takım halinde çalışmaları için teşvik eder ve destekler.

[ ] kriz müdahale ekiplerini birbirini tamamlayan yeteneklere sahip, uygun sayıda kişiden oluşturmuştur.
[ ] kriz müdahale ekiplerini bu alanda özel eğitime ve yeteneğe sahip kişilerden oluşturmuştur.

Personel Planlaması ve Organizasyonu
[ ] krize müdahale kapsamında personelin görev ve sorumluluklarıyla ilgili gerekli iş bölümünü yapmıştır.
[ ] çalışanlar tarafından anlaşılabilir ve kabul edilebilir olan bir personel görevlendirmesi/ planlaması yapmıştır.
[ ] mümkün olduğunca yapılacak işin niteliklerine uygun bilgi birikimi ve yeteneklere sahip çalışanlar arasından personel tercihleri / yetkilendirme ve görevlendirme yapmıştır.
[ ] çalışanların performanslarını değerlendirmiş ve daha iyi performans göstermeleri için onlara yardımcı olmuştur.

Motivasyon
[ ] çalışanların katkılarının ve düşüncelerinin önemli olduğunu hissettirerek onlarla pozitif ilişkiler kurmuştur.
[ ] çalışanların ve grupların çabalarını zamanında ve gerekli şekilde takdir etmiştir.
[ ] çalışanlarının performanslarını adil şekilde değerlendirmiştir.
[ ] çalışanları motive etmek üzere ödüllendirme sistemini kullanmış, ödül ve takdirlerin ne şekilde dağıtıldığını onlara açıklamıştır.
[ ] çalışanların sonuçlarını anlamalarını sağlamak için kuralları ve prosedürleri onlara açıklamış ve kurallardan sapmalar olduğunda gerekli cezaları uygulamıştır.

Bölüm 5: Lider etkinliğine tesir eden organizasyon odaklı liderlik davranışları

Tamamen katılıyorum	Katılıyorum	Ne katılıyorum ne de katılmıyorum	Katılmıyorum	Tamamen katılmıyorum
5	4	3	2	1

Bu kriz esnasında yakından inceleme, araştırma ya da gözlemleme fırsatı bulduğum kaymakam veya vali …

Ağ ve Ortaklık Oluşturma
[ ] diğer kuruluşlar, siyasetçiler ve stratejik ortaklar ile periyodik olarak temas halinde bulunmuştur.
[ ] diğer kuruluşlar, siyasetçiler ve stratejik ortaklar ile uzun vadeli ilişkiler geliştirmiştir.
[ ] krize müdahale ağındaki diğer kuruluşlarla sürekli bilgi alışverişinde bulunmuştur.
[ ] krize müdahale sırasında her türlü işbirliğine açık olup, başkalarının işbirliği ihtiyaçlarına maksimum seviyede cevap vermiştir.

Karar Alma
[ ] zaman baskısı ve sınırlı bilgiye rağmen uygun kararlar alabilmiştir.
[ ] rutin durumlara kıyasla daha hızlı karar alabilmiştir.

[ ] durumun analizine daha az zaman harcamak için diğer kişi ve kuruluşların fikirlerinden yararlanmıştır.

[ ] stres altında olmasına rağmen, daha dikkatli ve çözüm odaklı davranabilmiştir.

[ ] bütünü gözden kaçırmadan sorunu doğru algılamış ve olası sonuçları da göz önünde bulundurarak zamanında ve en doğru kararı almıştır.

Dış Çevre Taraması

[ ] birden fazla harici bilgi kaynağı tespit etmiş ve bunları kullanmıştır.

[ ] yeni teknolojiler vb. önemli dış gelişmeleri takip etmiştir.

[ ] kurum için sorun oluşturabilecek organizasyon dışı gelişmelerin farkına varmış ve bunlar için çözüm geliştirmiştir.

Stratejik Planlama

[ ] stratejik planlama yapabilmek için çalışanlardan ve diğer paydaşlardan sistematik ve kapsamlı veri toplamıştır.

[ ] örgütün misyon ve yeteneklerini düzenli olarak gözden geçirmiştir.

[ ] kriz yönetimi için adım adım stratejik plan geliştirmiştir.

Bölüm 6: Açık Uçlu Sorular

1 – Kriz durumlarında etkin bir liderlik için bir liderin sahip olması gereken en önemli ilk beş özellik, yetenek veya davranış sizce nelerdir?

_____

_____

2 – Kriz durumlarında etkin liderlik için başka hangi özellik, yetenek veya davranışları eklerdiniz?

_____

_____

Bölüm 7: Demografik bilgiler

Aşağıdaki demografik bilgilerden sizinle ilgili uygun olan şıkkı (x) işareti ile işaretleyiniz.

1. Cinsiyetiniz?
_____Erkek
_____Bayan

2. Mesleki pozisyonunuz?
_____Vali
_____Vali yardımcısı
_____Kaymakam
_____Mülkiye Müfettişi
_____Bakanlık Merkez Teşkilatı
_____Kaymakam Adayı

3. Mesleki görev süreniz?

_____1-4 yıl arası
_____5-9 yıl arası
_____10-14 yıl arası
_____15-19 yıl arası
_____20-24 yıl arası
_____25 yıl ve daha fazlası

4. Mezuniyet dereceniz?
_____Lisans
_____Yüksek lisans
_____Doktora

5. Mezun olduğunuz fakülte ya da bolum?
_____Kamu Yönetimi
_____Ekonomi
_____Maliye
_____Uluslararası İlişkiler
_____İşletme
_____Ekonometri
_____Çalışma Ekonomisi ve Endüstriyel İlişkiler
_____Hukuk
_____Diğer (lütfen belirtiniz) _____

Katılımınız için teşekkür ederim!

APPENDIX C: INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Yusuf Ustun**

Date: **May 22, 2014**

Dear Researcher:

On 5/22/2014, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Collaborative Crisis Management in the Public Sector: Effective Leadership under Stress
Investigator:	Yusuf Ustun
IRB Number:	SBE-14-10318
Funding Agency:	
Grant Title:	
Research ID:	N / A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 05/22/2014 12:43:10 PM EDT

IRB Coordinator

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