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has been found to be complete and satisfactory in all respects,
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Abstract

Poor leadership in emergency management has been a major contributor to loss of life and property stemming from modern disaster events. Compounding this problem is that little published research has examined the effectiveness of particular leadership styles for emergency management. Using the full range leadership model as a framework, the study investigated the relationship between leadership styles and positive outcomes during emergency events. Specifically, the study addressed whether transformational leadership is the predominant and most effective leadership style for local and state government emergency managers. The Multifactor Leadership Questionnaire 5X Short (MLQ 5X Short) was administered to a sample of 42 state and local government emergency managers in the southwestern United States. Pearson product-moment correlations and Spearman's rank-order correlations indicated that transformational leadership is significantly correlated to key leadership outcomes, subordinates' extra efforts exerted when performing duties, effectiveness of their efforts, and their satisfaction with their jobs. The results also indicated a statistically significant correlation between the frequency of disaster exercises participated in the past 3 years and the prevalence of transformational leadership style. The more disaster exercises emergency managers participated in, the more likely they were to exhibit transformational leadership versus transactional or laissez-faire leadership. The implication for positive social change stemming from this study is an increased emphasis on emergency management leadership training and operational management strategies. The implementation of such strategies can result in the reduction of loss of life and property caused by disaster events.

Government Emergency Managers' Leadership Styles

by

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Dedication

This research study is dedicated to my lovely wife, Ruth Leticia Wilderman, who was an ever encouraging and supporting force. It is also dedicated to my parents, my brother, my grandmother, and my friends who never ceased to believe I could complete this endeavor.

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Chapter 1: Introduction to the Study

Background

Natural disasters are the largest cause of loss of life and property in the United States (Cigler, 2006). Emergency management is the profession concerned with the minimization of loss of life and property resulting from disasters. Perry (2003) defined *emergency management* as "the implementation of plans and the use of personnel and equipment to achieve the tactical and task requirements of response to address a given threat" (p. 406). Emergency management has become more complicated since the September 11, 2001, terrorist attacks (Waugh & Streib, 2006). In addition, the United States has become more serious about emergency management (Cigler, 2006).

The field of emergency management has evolved from a classic top-down bureaucratic approach to one of complex interrelationships and shared responsibilities among many organizations. The field needs to be based on a more dynamic and flexible model (Waugh & Streib, 2006). Leadership is a key element in emergency management and a necessary component to allow the field to become more dynamic and effective (Boin & Hart, 2003; Fox, 2009). Research identifying the most effective leadership styles for emergency managers has been scarce. In addition, previous research has determined that leadership in emergency management is not as effective as it should be (Devitt & Borodzicz, 2008).

The field of emergency management requires dynamic, adaptive, and creative leadership (Waugh & Streib, 2006). Fox (2009) and Lester (2007) determined that creativity and initiative increase the effectiveness of emergency management.

Transformational leadership fosters leader and follower creativity, initiative, and the ability to adapt to quickly changing circumstances effectively (Bass, 1990a).

The theoretical framework of this study supports the proposition that transformational leadership is the most effective leadership style for emergency managers. This proposition is based on the aspects of emergency management identified by previous research as necessary for effective emergency management operations. This study determined whether transformational leadership is the predominant and the most effective leadership style for government emergency managers in the state of Arizona. Previous research indicated that current leadership in the field of emergency management is not effective (Boin & Hart, 2003; Fox, 2009).

Knowing whether transformational leadership is common and effective for government emergency managers in the state of Arizona will contribute to the growing body of research on leadership in emergency management. Ineffective leadership in emergency management may result in greater loss of life and property from disaster events. Identifying the most effective leadership style for emergency managers in Arizona may help to mitigate the effects of disaster events and result in lower casualties and economic costs.

Statement of the Problem

The paramount problem with emergency management is ineffective leadership. The lack of improvement in emergency management effectiveness has resulted in a greater loss of life and property (Lester & Krejci, 2007). Lester and Krejci (2007) and Waugh and Streib (2006) demonstrated that leadership in emergency management has

become a more important issue in recent years and is in need of attention. The study of leadership is becoming an increasingly crucial issue in organizational effectiveness in modern times (Bass, Avolio, Jung, & Berson, 2003). Some leadership styles may be more effective than others in the field of emergency management.

There is little research into leadership styles of emergency managers, though there is abundant research into the characteristics required by emergency management leaders to be effective. Identifying the most suitable leadership style that promotes the characteristics determined to be beneficial in emergency management leaders will help to address the problem. To help remedy this situation, this exploratory study using Bass and Avolio's (1995) full range of leadership theory was conducted to determine whether transformational leadership is the most effective leadership style for local and state government emergency managers in Arizona. The study also determined which leadership style was the predominant style exhibited at the time of the study. The results of this study will contribute to the growing body of research on emergency management leadership and can be used to make recommendations to improve the effectiveness of emergency management efforts. More effective emergency management will result in a reduction in the loss of life and property from disaster events.

Purpose of the Study

The purpose of this quantitative study was to determine whether transformational leadership is the predominant and most effective leadership style for government emergency managers in the state of Arizona. The Multifactor Leadership Questionnaire (MLQ) 5X Short was the instrument used for the collection of the required leadership

style, leadership outcome, and demographic data used by the study. The potential correlation between transformational leadership and the three leadership outcomes of effectiveness, extra effort, and satisfaction were investigated to determine the overall effectiveness of the transformational leadership's style for the study's population. Additional correlational analyses were conducted to determine whether six demographic variables were statistically significantly correlated to the three styles of leadership investigated. The results of this study may be used to inform future government emergency manager leadership training and hiring practices, resulting in more effective emergency management.

Research Questions and Hypotheses

Primary Research Questions and Hypotheses

The primary research questions (RQs) determined whether transformational leadership is the predominant and most effective leadership style for local and state government emergency managers in Arizona.

RQ1: What is the predominant leadership style exhibited by local and state government emergency managers in Arizona?

H_{01}: Transformational leadership is not the predominant leadership style exhibited by local and state government emergency managers in Arizona.

H_{a1}: Transformational leadership is the predominant leadership style exhibited for local and state government emergency managers in Arizona.

RQ2: What leadership style is related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona?

H_{02}: Transformational leadership is not related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona.

H_{a2}: Transformational leadership is related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona.

Secondary Research Questions and Hypotheses

The secondary research questions, RQ3 to RQ8, were used to determine whether these independent variables correlated with the particular leadership styles exhibited by emergency managers.

RQ3: Is there a statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited?

H_{03}: There is no statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited.

H_{a3}: There is a statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited.

RQ4: Is there a statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited?

H_{04}: A statistically significant correlation does not exist between an emergency managers' years of experience in the field of emergency management and the leadership styles exhibited.

H_{a4}: A statistically significant correlation exists between an emergency managers' years of experience in the field of emergency management and the leadership styles exhibited.

RQ5: Is there a statistically significant correlation between an emergency manager's number of subordinates and the leadership styles exhibited?

H_{05}: A statistically significant correlation does not exist between an emergency manager's number of subordinates and the leadership styles exhibited.

H_{a5}: A statistically significant correlation does exist between an emergency manager's number of subordinates and the leadership styles exhibited.

RQ6: Is there a statistically significant correlation between the size of the government organization and the leadership styles exhibited?

H_{06}: There is no statistically significant correlation between the size of the government organization and the leadership styles exhibited.

H_{a6}: There is a statistically significant correlation between the size of the government organization and the leadership styles exhibited.

RQ7: Is there a statistically significant correlation between the frequency of disaster exercises participated in the last 3 years and the leadership styles exhibited?

H_{07}: There is no statistically significant correlation between frequency of exercises participated in the past 3 years and the leadership styles exhibited.

H_{a7}: There is a statistically significant correlation between frequency of exercises participated in the past 3 years and the leadership styles exhibited.

RQ8: Is there a statistically significant correlation between the frequency of actual disaster events participated in the past 3 years and the leadership styles exhibited?

H_{08}: There is no statistically significant correlation between frequency of disaster events participated in the past 3 years and the leadership styles exhibited.

H_{a8}: There is a statistically significant correlation between frequency of disaster events participated in the past 3 years and the leadership styles exhibited.

Theoretical Foundation and Conceptual Framework

Leadership is fundamental to the success of emergency management efforts (Boin & Hart; 2003; Fox, 2009). Recent research into disasters such as 9/11 and Hurricane Katrina has attributed failures in the emergency management efforts to poor leadership (Lester, 2007; Waugh & Streib, 2006). Therefore, studies that can contribute to determining the most effective leadership styles for emergency management should be undertaken.

Bass and Avolio's (1994) theory of transformational leadership was the foundation for this study's exploratory inquiry into the most effective leadership style for government emergency managers. They suggested that transformational leadership is more effective and more productive than any other leadership style. Bass and Avolio (1995) proposed that leadership styles can be organized hierarchically from the least to the most effective. This organization lists passive-avoidant leadership style as the least

effective, transactional leadership style as more effective, and transformational leadership style as the most effective.

Knowing whether transformational leadership is the most effective leadership style for emergency managers will help to identify and promote the most effective leadership style in the discipline. This study is based primarily on the theories of Bass and Avolio (1995) on transformational leadership. The theoretical framework on which this study is based is that higher order leadership styles, transformational leadership in particular, affects leaders and followers positively and to a greater degree than other leadership styles. This positive effect results in greater leader and follower initiative, creativity, proactivity, and flexibility.

The use of transformational leadership in emergency management may therefore result in personnel adapting more easily and more quickly to the rapidly changing circumstances that are common during disaster events. Easier and faster adaptation to the rapidly changing circumstances may result in more effective emergency management efforts. Higher order leadership styles, especially transformational leadership, may result in more creative and effective solutions. This could potentially contribute to an increase in the effectiveness of emergency management leadership. More effective leadership in emergency management would result in the reduction of loss of life a property from disaster events. Figure 1 represents the theoretical framework of this study.

Each vertical column represents a major concept, beginning with leadership factors. The prevalence of particular leadership factors determines the prevalence of a leadership style. The leadership styles influence leader and follower behaviors. The leader and

follower behaviors result in behavior impacts. Behavior impacts then influence overall the effectiveness of emergency management.

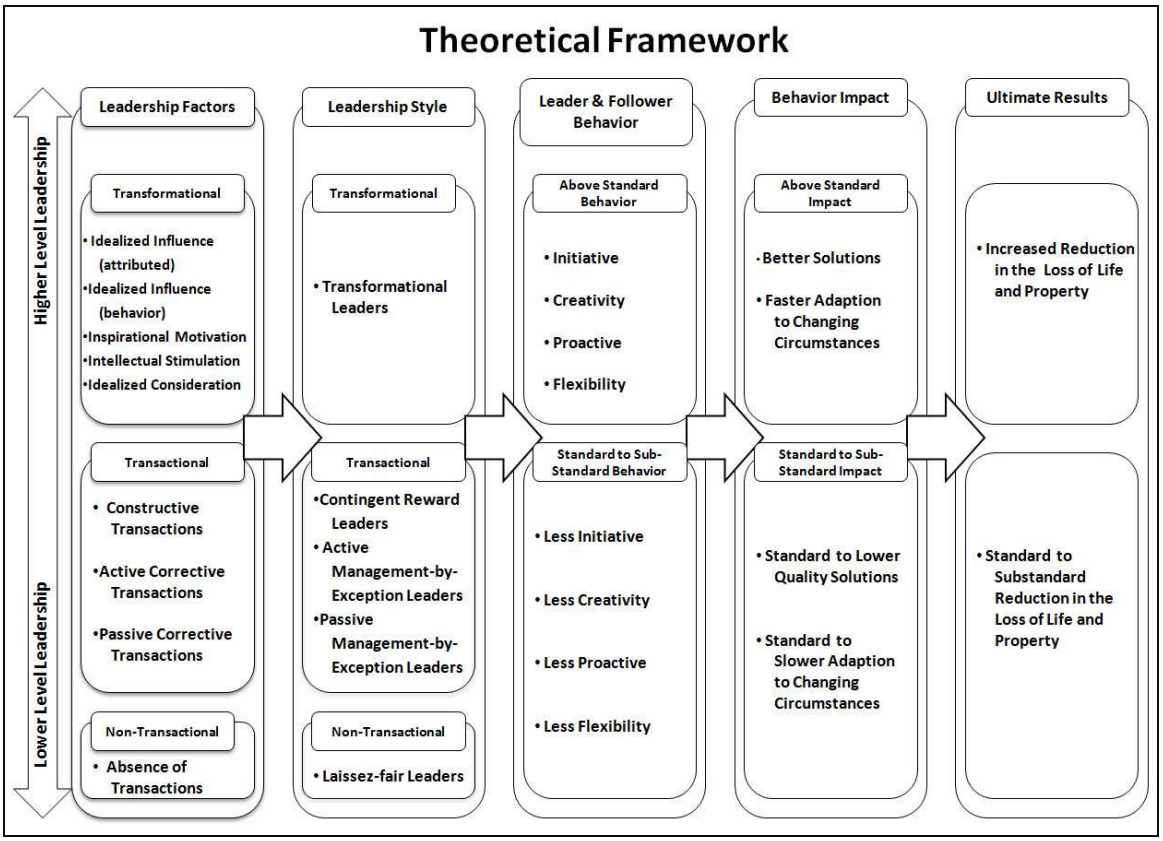

Figure 1. Theoretical framework for primary research questions.

There may be a correlation between leadership styles and the demographics of this study's population. There have been numerous previous studies researching whether such correlations exist between demographics and leadership styles of other populations. Many of these previous studies performed their correlation research using the Multifactor Leadership Questionnaire to identify the leadership styles (Carioti, 2011; Domerchie, 2011; & Lohr, 1982). The collection of demographic information such as participants' years of experience, number of subordinates, size of organization, and number of

trainings attended have been used to identify if correlations exist between demographics and leadership (Fox, 2009; Hutchinson, 2011; McBride-Jones 1991; & Sutherland, 2011).

Identifying whether such correlations exist can help to determine if these variables are contributing factors that may be used to predict, or even alter, the prevalence of particular leadership styles. Therefore, studies, such as this one, that contribute to determining whether these six demographics are correlated to the leadership styles exhibited by emergency managers should be undertaken. Included in Chapter 2 is a more detailed description of the theoretical framework. Chapter 2 also provides a detailed discussion into the nature of leadership, leadership research, emergency management, and leadership within the field of emergency management.

Nature of the Study

The primary objective of this cross-sectional quantitative study was to determine whether transformational leadership was the most predominantly exhibited and most effective leadership style for government emergency managers in the state of Arizona. The disciplines researched for this study were leadership and emergency management. Some leadership styles are more effective than others in different circumstances (Bass, 1990a). Leadership is a key element in emergency management and a necessary component to allow the field to become more dynamic and effective (Boin & Hart, 2003; Fox, 2009). Effective leadership in emergency management can result in the reduction of loss of life a property from disaster events.

A gap exists in the research literature identifying the most effective leadership styles for emergency management. Identifying demographic characteristics of emergency

managers may help to predict the leadership styles exhibited. The demographic characteristics can also assist in the development of training and hiring practices aimed at promoting a particular leadership style in the discipline.

Definitions of Terms

The following terms and phrases are defined as used in this study.

Crisis: "Any incident(s), human-caused or natural, that require(s) urgent attention and action to protect life, property, or environment" (International Standards Organization, 1990, p. 2).

Descriptive statistics: "Measurements or numbers used to summarize or describe data sets" (McNabb, 2008, p. 118).

Disaster: An event that causes, or threatens to cause, loss of life, human suffering, public and private property damage, and economic and social disruption. Disasters and emergencies require resources that are beyond the scope of local agencies in routine responses to day-to-day emergencies and accidents, and may be of such magnitude or unusual circumstances as to require response by several or all levels of government—Federal, State and local (FEMA, 1983, p. 5).*Emergency:* Any occasion or instance—such as a hurricane, tornado, storm, flood, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, fire, explosion, nuclear accident, or any other natural or man-made catastrophe—that warrants action to save lives and to protect property, public health, and safety. (FEMA, 1996, p. GLO-2).

Emergency manager: The local emergency manager has the day-to-day responsibility of overseeing emergency management programs and activities. This

manager works with chief elected and appointed officials to ensure that there are unified objectives with regard to the community's emergency response plans and activities. This role entails coordinating all aspects of a jurisdiction's mitigation, preparedness, response and recovery capabilities. The emergency manager coordinates all components of the emergency management program for the community, to include assessing the availability and readiness of local resources most likely required during an incident and identifying any shortfalls. (Blanchard, 2008, p. 361).

Emergency management: "The process through which the Nation prepares for emergencies and disasters, mitigates their effects, and responds to and recovers from them" (FEMA, 2002, p. 57).

Event (Catastrophic): For purposes of this plan, a catastrophic event is any natural or manmade incident, including terrorism, that leaves extraordinary levels of mass casualties, damage, and disruption, and that severely affects the population, infrastructure, environment, and economy. A catastrophic event results in sustained national effects over a prolonged period of time; exceeds resources normally available in the local, State, Federal, and private sectors; and significantly interrupts governmental operations and emergency services to such an extent that national security could be threatened. In contrast to a Major Disaster or Emergency as defined in the Stafford Act, a catastrophic event is characterized as an incident of low or unknown probability but extremely high consequences" (Department of Homeland Security [DHS], 2004, p. 60).

Hazard: "Hazard means an event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss,

damage to the environment, interruption of business, or other types of harm or loss" (FEMA, 1997, p. xxi).

Idealized influence (also known as charismatic leadership): Transformational leaders act in ways that make them role models. They are respected, admired, and trusted. Followers identify with them and describe them in terms that imply extraordinary capabilities, persistence, and determination. These leaders are willing to take risks. They can consistently be relied on to do the right thing, displaying high moral and ethical standards (Mind Garden, 2010, p. 2).

Individualized consideration: Transformational leaders act as mentors and coaches. Individual desires and needs are respected. Differences are accepted and two-way communication is common. These leaders are considered to be good listeners, and along with this comes personalized interaction. Followers of these leaders move continually toward development of higher levels of potential. (Mind Garden, 2010, p. 2).

Inferential statistics: "Statistical techniques used to make estimates or inferences about the characteristics of interest for a population using the data from a sample data set" (McNabb, 2008, p. 118).

Inspirational motivation: "These leaders embody the term 'team spirit.' They show enthusiasm and optimism, providing both meaning and challenge to the work at hand. They create an atmosphere of commitment to goals and a shared vision" (Mind Garden, 2010, p. 2).

Intellectual stimulation: "A Transformational Leader encourages creativity and fosters an atmosphere in which followers feel compelled to think about old problems in a new way. Public criticism is avoided" (Mind Garden, 2010, p. 2).

Local government: (A) a county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; (B) an Indian tribe or authorized tribal organization, or in Alaska a Native village or Alaska Regional Native Corporation; and (C) a rural community, unincorporated town or village, or other public entity. (Homeland Security Act of 2002, 2002, p. 2141)

Manmade disaster: "Disaster due to a sudden or slow breakdown, technical fault, error, or involuntary or voluntary human act that causes destruction, death, pollution, and environmental damage" (Gunn, 1990, p. 375).

Mitigation: Activities designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of an incident. Mitigation measures may be implemented prior to, during, or after an incident. Mitigation measures are often developed in accordance with lessons learned from prior incidents. Mitigation involves ongoing actions to reduce exposure to, probability of, or potential loss from hazards. Measures may include zoning and building codes, floodplain buyouts, and analysis of hazard-related data to determine where it is safe to build or locate temporary

facilities. Mitigation can include efforts to educate governments, businesses, and the public on measures they can take to reduce loss and injury. (DHS, 2006, p. 104)

Natural disasters: A natural disaster is a serious disruption to a community or region caused by the effects of a naturally occurring rapid onset event that threatens or causes death, injury, or damage to property or the environment and that requires significant and coordinated multi-agency and community response. Such serious disruption can be caused by any one, or a combination, of the following natural hazards: bushfire, earthquake, flood, storm, cyclone, storm surge, landslide, tsunami, meteorite strike, or tornado" (Australian Government, 2002, p. 1)

Preparedness: The term *preparedness* refers to the existence of plans, procedures, policies, training, and equipment necessary at the Federal, State, and local level to maximize the ability to prevent, respond to, and recover from major events. The term *readiness* is used interchangeably with preparedness. (White House, 2003)

Response: Activities that address the short-term, direct effects of an incident, including immediate actions to save lives, protect property, and meet basic human needs. Response also includes the execution of emergency operations plans and incident mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes. Response activities include applying intelligence and other information to lessen the effects or consequences of an incident; increased security operations; continuing investigations into the nature and source of the threat; ongoing surveillance and testing processes; immunizations, isolation, or quarantine; and specific law enforcement operations aimed at preempting, interdicting, or disrupting illegal

activity, and apprehending actual perpetrators and bringing them to justice. (DHS, 2004, p. 20)

Recovery: Those long-term activities and programs beyond the initial crisis period of an emergency or disaster and designed to return all systems to normal status or to reconstitute these systems to a new condition that is less vulnerable. Rebuilding communities so individuals, businesses, and government infrastructure can function on their own, return to normalcy, and are protected against future hazards" (FEMA, 1992, p 9)

Risk management: Federal, State, local, tribal, territorial, and private-sector entities identify and assess risks; prioritize and select appropriate protection, prevention, and mitigation solutions based on reduction of risk; monitor the outcomes of allocation decisions; and undertake corrective actions. Additionally, risk management is integrated as a planning construct for effective prioritization and oversight of all homeland security investments. (DHS, 2007, p. 6)

Reliability: "The best available approximation of the truth of a given proposition, inference, or conclusion" (Trochim & Donnelly, 2008, p. 14).

Validity: "The degree to which a measure is consistent or dependable; the degree to which it would give you the same result over and over again, assuming the underlying phenomenon is not changing" (Trochim & Donnelly, 2008, p. 80).

Assumptions

This study assumed that all of the respondents would answer the questionnaire truthfully. It also assumed respondents would truthfully represent themselves as

emergency managers. It was also assumed that previous research, as well as the assertions made by previous researchers based on their findings, was accurate. An example of such an assumption based on previous research was the determination that current leadership in the field of emergency management may not be effective. This study assumed that the use of more effective leadership styles by emergency managers would ultimately result in a reduction in the loss of life and property caused by disasters.

Scope and Delimitations

This study was bound to answering only the previously mentioned research questions. The results of the primary research questions determined whether transformational leadership is the predominant leadership style exhibited by, and most effective leadership style for, government emergency managers in the state of Arizona. The secondary research questions determined whether there were statistically significant correlations between the leadership styles exhibited and six independent variables. The theoretical framework proposed the logical argument that transformational leadership may be the most effective leadership style for emergency management. The study population included state, county, and municipal government emergency managers in the state of Arizona. It did not include emergency managers from federal government, non-profit organizations, or for-profit organizations. It also did not include emergency managers from other geographic regions.

Limitations

Limitations that could have affected the generalizability of the findings were the limited number of participants, the geographical distribution of the participants, the

voluntary participant recruitment method, and the self-reporting data collection process. Participants were recruited on a voluntary basis and were solicited from only local and state government organizations. The study was conducted in the geographical region of a single state, Arizona, and was therefore limited to the population within this state. The reporting of the data through the use of a self-administered questionnaire incurs the risk that the participants may not have been honest in their responses or may not have reported them accurately.

Significance of the Study

Currently, no empirical research has shown whether any particular leadership style is more effective than any others in the field of emergency management. However, recent research has established the importance of leadership in emergency management (Boin & Hart, 2003; Fox, 2009). This study determined whether transformational leadership was the most effective leadership style for government emergency managers in the state of Arizona. The study also determined if six demographic variables were statistically correlated to the leadership styles exhibited. The results of this study will contribute to the body of literature of leadership and emergency management.

Determining whether transformational leadership is the most effective leadership style for this study's population, and whether any of the six demographic variables were statistically correlated, can help further the understanding of leadership in the discipline of emergency management. A better understanding of leadership in emergency management, and the identification of the most effective leadership style for the discipline, can contribute to improvements in emergency management. The results of this

study can be incorporated into government emergency management training, hiring policies, and practices. Fostering the most effective leadership style for emergency management would result in more effective emergency management initiatives, and therefore a reduction in the loss of life and properly from disaster events.

Summary

Effective leadership is important to the success of emergency management efforts (Boin & Hart; 2003; Fox, 2009). The United States has given higher priority to emergency management, especially since the 9/11 and Hurricane Katrina disasters (Cigler, 2006). Recent research into disasters such as 9/11 and Hurricane Katrina has attributed the failures in emergency management specifically to poor leadership (Lester, 2007; Waugh & Streib, 2006). The field of emergency management needs to be based on a more dynamic and flexible leadership model if it is expected to handle modern disaster events competently (Waugh & Streib, 2006).

Identifying the most effective, dynamic, and flexible leadership style in emergency management will reduce the loss of life and property resulting from disaster events. Transformational leadership has been determined to be best suited for environments that require leader and follower creativity, initiative, and the ability to adapt to quickly changing circumstances effectively (Bass, 1990a). These same attributes are required for effective emergency management (Boin & Hart, 2003; Fox, 2009). This study determined whether transformational leadership was the most effective leadership style for government emergency managers in Arizona. A review of the literature supporting the theoretical framework of this study and more detailed

information about the theoretical components is included in Chapter 2. Chapter 3 includes information about the methodology, the data collection instrument, and the statistical analyses performed to answer the research questions. The study results are reported in Chapter 4. Chapter 5 provides interpretations of the findings and offers recommendations for action and future research.

Chapter 2: Literature Review

Introduction

The purpose of this quantitative study was to determine whether transformational leadership is the predominant and most effective leadership style for government emergency managers in the state of Arizona. Despite the increased attention that emergency management has received in the last decade, a high loss of life and property resulting from disasters continues to occur. Leadership in emergency management has become a more important issue in recent years and is in need of attention (Lester & Krejci, 2007; Waugh & Streib, 2006).

Previous research has indicated that current leadership in the field of emergency management is not effective (Boin & Hart, 2003; Fox, 2009). Little research exists regarding whether any particular leadership style may be more effective than others in government emergency management. Identifying the most effective leadership style for emergency managers may help to mitigate the effects of disaster events and result in lower casualties and economic costs.

This chapter begins with a review of leadership theories and research approaches. The most common accepted definitions and views of leadership, as well as the significance and effect of leadership in organizations, are then reviewed. Next, various leadership theories are described and explored. Justification for the selection of transformational leadership theory for this study is provided. Then the field of emergency management is explored. This chapter concludes with a synthesis of the literature reviewed of the disciplines of leadership and emergency management.

Literature Search Strategy

All literature research was performed using Walden University Library's online resources with access to a multitude of academic journal databases, dissertation databases, and electronic books. The literature review was accomplished primarily with the use of Walden University Library's Thoreau database search engine to identify relevant journal articles. The Thoreau database search engine searches multiple academic database search engines simultaneously to provide a list of results from these several other search engines. Some of the search engines and correlated databases included in the Thoreau search were EBSCO, ProQuest, SAGE, and ScienceDirect. Other multidisciplinary search engines used were EBSCOhost Academic Search Complete, ProQuest Central, and ScienceDirect.

This study's literature review also included the use of published dissertations from both Walden University and other universities. The Walden University Library provided two dissertation searches—one for Walden University dissertations only and another for dissertations from all universities including Walden University. Both of these dissertation searches were powered by the ProQuest search engine. Keywords used in literature review searches included *leadership*, *transformational leadership*, *transactional leadership*, *effective leadership*, *MLQ*, *Multifactor Leadership Questionnaire*, *emergency management*, *emergency*, *crisis management*, *crisis*, *disaster*, *government*, and *local government*. A date range was not specified for the database searches, though more recently published literature was favored. The greater majority of the literature reviewed was published in the past 13 years. A few resources referenced were published before the

year 2000. The oldest article reviewed was published in 1982. The seminal leadership theory texts used by this study were published by the researchers James M. Burns, Bernard M. Bass, and Bruce J. Avolio.

Theoretical Foundation and Conceptual Framework

The theoretical foundation on which this study is based is Bass and Avolio's (1994) Full Range of Leadership model and theory. In the Full Range of Leadership Model, Bass and Avolio (1994) propose that transformational leadership is the most effective leadership style in most circumstances. The terms *transformational leadership theory* and *full range of leadership theory* are frequently used interchangeably (Yukl & Lepsinger, 2006). This study determined whether the transformational leadership style was indeed the most effective leadership style for government emergency managers in the state of Arizona. The theory of transformational leadership indicates a significant positive effect on many of the leadership characteristics that are required for effective emergency management initiatives (Lester, 2007; Lester & Krejci, 2007). Some of these characteristics include solution creativity, ability to work independently, ability to work cooperatively, ability to communicate effectively, quick adaption to changing circumstances, and general increases in performance efficiency and effectiveness. Therefore, the transformational leadership style might be the most effective style for leaders in the field of emergency management. The theoretical foundation demonstrates this positive correlation.

The Theoretical foundation also demonstrates the opposite negative correlation of lower order, or less effective, leadership styles. Before a specific leadership style can be

proposed for emergency management, it must be proven to be the most effective. In order to prove that a particular leadership style is the most effective in emergency management, research is required to establish a positive, statistically significant correlation between that particular leadership style and effective emergency management.

Literature Review

Leadership Research

Leadership is a universal phenomenon that exists wherever two or more people are interacting, be it a small group of people, an organization, a country, or an entire civilization (Bass, 1997a; Bass, Avolio, & Goodheim, 1987). Leadership is considered one of the most important factors, if not the most important factor, in determining the success or failure of organizations (Bass & Avolio, 1993). Researchers have provided clear evidence that good leadership affects organizational success as well as employee job satisfaction, stress, and turnover (Chen & Silverthorne, 2005). Researchers have directly correlated the quality of leadership to the success of groups and organizations (Hoyt & Blascovich, 2003). Management and leaders from all levels of an organization can significantly affect the organizational culture, policies, and performance (Bertrand & Schoar, 2003).

Leadership cannot be defined by any single accepted standard definition. How the term *leadership* is defined depends on the context in which it is applied and studied (Bass, 1990a). Leadership is a complex concept and subject of study that has resulted in the development of hundreds of theories and methods of research (Bass et al., 2003). Yukl (1999), a leading contemporary researcher of leadership, defined leadership as "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" (p. 7). Bass and Avolio (1995) defined leadership as the "interaction between two or more members of a group…" and stated that leadership occurs "when one group member modifies the motivation or competencies of others in the group" (p. 20). For the purposes of this study, the interpretations of leadership provided by both Bass and Avolio (1995) and Yukl (1999) were used.

Leadership, the subject of extensive academic research, is an exceptionally complex area of study (Phills, 2005). The study of leadership is important because it affects everyone. Researchers have acknowledged that leadership is not concentrated at one level. It is persistent throughout all levels of an organization and present within virtually all interactions (Gordon & Yukl, 2004). Yukl (1989) stated, "The widespread fascination with leadership may be because it is such a mysterious process, as well as one that touches everyone's life" (p. 1). Just as leadership has been described and interpreted in countless fashions, researchers have studied and measured it just as often.

Today's rapidly changing environments and technology require leadership that is capable of adapting just as quickly (Ahn, Adamson, & Dornbusch, 2004). The increasing interconnectivity and interdependence of the modern world require more capable leaders with abilities and skills that were not as necessary in the past (Moran, Perrin, & Blauth, 2005; Sapriel, 2003). Modern leadership is more inclusive of followers, demonstrating greater consideration for employees rather than treating them simply as objects of productivity , like machines in a factory. Leaders initiate and organize work (Bass,

1990a). The type of work has changed. Leaders play a more important role in the success of their followers than in previous eras.

Previous leadership models were overly simplistic and generalized. These characteristics made them inadequate for the study and examination of leadership in the modern age (Antonakis, Avolio, & Sivasubramaniam, 2003). More complex leadership theories were required. The transformational leadership theory accounts for the complex leader–follower social interactions and is appropriate for contemporary leadership research. Jones (2001) stated that Weber's model of charismatic leadership from 1946 described the ability of some leaders to influence their followers as magical. The unidentified ability of some leaders to influence followers more significantly and profoundly than other leaders whom possessed comparable characteristics could not be accounted for with earlier models. Transformational leadership theory has identified these mysterious characteristics of leadership which were previously not understood and incorporated them into the model.

The growing interest in the study of leadership, along with the practical desire to be able to identify individuals capable of leadership, has resulted in various methods of identifying and testing for leadership (Terpstra, Mohamed, & Kethley, 1999). Hunt (1999) argued that the reinvigorated interest in leadership research in recent years has been based on a paradigm shift in how leadership is viewed. He posited that this paradigm shift resulted from the neocharismatic theories, such as transformational leadership. Research using the transformational leadership theory has been expanding in scope. Contemporary research using the transformational leadership theory has focused

on moderating and mediating variables (Antonakis et al., 2003). Drake (2010) found that a correlation existed between level of education and transformational leadership. He discovered that the higher educated the leaders were, the higher they scored on the Multifactor Leadership Questionnaire.

Transformational leadership theory includes components of other leadership theories, including the trait, situational, exchange, and humanistic theories. Transformational leadership has become one of the most accepted theories in contemporary leadership research. Lowe (2000) stated that transformational leadership theory is more commonly accepted than all other leadership research theories combined. Transformational leadership theory recognizes and emphasizes the emotions and values of leaders and followers as integral components of the leadership influence, whereas older theories emphasized primarily rational processes (Yukl, 1999). The most common instrument used to measure transformational leadership is the MLQ 5X Short. Other instruments can measure transformational leadership, but they are not as commonly used and have not been as strongly validated. Because of their popularity in contemporary leadership research and the proven validity of the instrument, the transformational leadership theory and the MLQ 5X Short were selected for this study. Martin (2010) demonstrated that the MLQ 5X Short is not only the most popularly used leadership questionnaire in recent years but also that its use is increasing.

Transformational Leadership Theory

Bass (1990a) argued that previous research of leader–follower interactions focused primarily on transactional leadership. This previous research did not explain why

some leaders were much more successful than others even when their leadership styles were the highest level of transactional leadership (as cited in Antonakis et al., 2003). He modified the conception of transformational leadership to be a higher order of leadership than transactional leadership along a spectrum, but not mutually exclusive. This concept included transactional leadership as part of transformational leadership and even allowed for the exhibition of transformational leadership traits in primarily transactional leaders. Transformational leadership must include transactional leadership, but transactional leadership might not include transformational leadership (Bass, 1990a).

Bass (1990a) organized the three leadership styles referenced in his model by the most effective to the least effective. Transformational leadership is the most effective style, followed by transactional leadership, and ending with passive/avoidant leadership as the least effective style (Bass, 1997a). This order of leadership styles comprises the leadership styles along the spectrum of the full range of leadership model. The full range of leadership model was developed by Bass and Avolio (1995) to measure and determine an individuals' leadership along this spectrum. Bass and Avolio argued that the "explanatory constructs" of transformational leadership, as they organized and defined them in the Full Range of Leadership Model, are applicable in all leadership instances (as cited in Antonakis et al., 2003, p. 269). The Full Range of Leadership Model will be described in detail later in this chapter.

Bass (1997a) also proposed three distinct corollaries of transformational leadership theory. The first corollary is that there is a hierarchy of leadership styles. This hierarchy is represented by the ordering of the three leadership styles in the Full Range of

Leadership Model. Transformational leadership is ordered as the most effective leadership style, transactional leadership in the middle, and passive-avoidant leadership as the least effective leadership style. The second corollary is that there is a one-way augmentation effect, in that transformational leadership affects transactional leadership positively but not vice versa. The third corollary states that regardless of the culture examined, the leadership prototypes and ideals of any culture are the same as those of transformational leadership. Transformational leadership, as defined by Bass (1990a) and Burns (1978), match what is commonly conceived as ideal leadership. To understand what comprises transformational leadership, it is necessary to understand the earlier theory of transactional leadership.

Transactional Leadership

Transactional leadership caters to the immediate self-interests of leaders and followers (Bass, 1999). The concept is based on an exchange of rewards and punishments by the leader that acknowledges the effort or lack of effort of followers (Aarons, 2006). For example, if followers perform to a degree defined by the leaders, they will receive bonuses or promotions. They provide the work that the leaders ask for, and in return, they receive something that they want, such as financial compensation. If the followers do not meet a standard in their performance, they can expect some form of penalization in exchange. This description of transactional leadership demonstrates management of resources. As a leadership method, transactional leadership is effective only if the followers both want the rewards and fear the penalties (Bass, 1990a).

Both management and transactional leadership, described as synonymous, focus on the exchange of something for something else without consideration of any of the effects of human social interaction. Bass (1999) identified levels of transactional leadership that range from the most effective to the least effective. The most effective level is contingent reward: Leaders clarify the requirements and conditions for rewards and punishments for the followers. These leaders ensure that their followers clearly understand the requirements of their jobs, what it takes to earn rewards, and what may result as punishments. Transactional leadership can be considered authoritative leadership (Aldoory & Toth, 2004; Tatum, Eberlin, Kottraba, & Bradberry, 2003). Judge and Piccolo (2004) established that a contingent reward system is required for the building of any level of trust between leaders and followers. Hinkin and Schriesheim (2008a) stated that contingent reward does not include correcting the followers' mistakes.

Active management by exception is the second most effective level of transactional leadership. In active management by exception, the leaders monitor their followers' activities and intervene only when the followers fail to meet set standards. In active management by exception, leaders actively monitor and correct the followers' problems (Hinkin & Schriesheim, 2008b).

The third level of transactional leadership is passive management by exception. In passive management by exception, the leaders do not actively monitor their followers; instead, they wait until the followers bring issues to their attention before taking action.

The least effective method is laissez-faire leadership. These leaders actively and deliberately avoid making decisions and taking action, even when problems are brought

to their attention. Laissez-faire leadership is the absence of transactional leadership. Passive management by exception and laissez-faire leadership can be counterproductive over the long term (Bass, 1990a; Hinkin & Schriesheim, 2008a). Job dissatisfaction has a significant negative effect on employee performance, especially among the followers of laissez-faire leaders (Handsome, 2009). Not only do laissez-faire leaders neglect to lead but they also prevent the followers from taking corrective action, whether the laissez-faire leaders are present or not. Laissez-faire leaders inhibit their followers. This style of leadership negatively affects organizational productivity and reduces efficiency (Davis, 2008; Howell, Neufeld, & Avolio, 2005). Transformational leadership theory was established on the foundation of transactional leadership theory. Transformational leadership theory builds on transactional theory with the incorporation of additional aspects of leadership as a phenomenon.

Transformational Leadership

Transformational leadership accounts for more aspects of the leadership experience and explains the additional positive effects of some leaders over those who practice only transactional leadership styles. Transformational leadership has many additional benefits over other leadership styles. Transformational leadership results in higher levels of productivity and greater effectiveness of small groups through large organizational endeavors than other leadership styles. In general, transformational leadership results in increased performance, even over that of the highest level of transactional leadership (Bass, 1990a; Bass et al., 2003; Burns, 1978).

Transformational leadership results in greater commitment from followers to the leadership and the organization (Barling, Weber, & Kelloway, 1996). Researchers have viewed transformational leadership as a driving force for productivity and organizational change for increased performance (Avolio, Bass, & Jung, 1999). Tucker and Russel (2004) stated that, "organizations need transformational leaders" (p. 109). Transformational leadership may be autocratic, with the leadership being directive and not having to include followers in the decision-making process. It can also be democratic, such as when the leadership allows followers to participate in decision-making (Bass, 1997a). Transformational leaders can be both directive and participative (Bass, 1990b).

The types of decisions that leaders must make determine the style of leadership considered to be the most effective in particular circumstances (Bass, 1997a). Transformational leadership can be present anywhere leadership is present, be it in small teams or groups, large organizations, or entire nations (Bass, 1997a). Any member of a group can exhibit leadership, regardless of formal position. Leadership is not restricted to individuals who possess titles of authority or who have formal, designated powers over others.

Transformational leadership, as defined by Burns (1978) and Bass (1990a), is the result of the influence that the followers allow others to have over them because they want to be led. Followers share in the leaders' visions and adopt the leaders' goals for themselves. Examples of transformational leaders include Ross Perot (Bass, 1990b) and Henry Kissinger (Bass, 1997a). Perot is a successful American business owner who ran as a presidential candidate in 1992 and 1996. Perot is an example because of how closely

he works with his subordinates. He shares his vision and goals with his followers, who in return have adopted the same shared vision and goals. He is also an example because of his personal involvement in the rescue of two of his employees held hostage in Iran in 1979 (Bass, 1990b).

Henry Kissinger is a Nobel Peace Prize recipient and previous national security advisor and secretary of state for the U.S. government. Kissinger is an example of a transformational leader because of the way he categorized international diplomacy as being based on either self-interest, as exhibited by transactional leadership, or moral principles, as represented by transformational leadership (Bass, 1997a).

Adolf Hitler can be considered an example of a successful transactional leader. His authority was significantly influential in directing others, even though he could not be considered a transformational leader. Hitler had tremendous influence over millions of people, but power to influence others does not define a leader. Burns (1978) described Hitler as a tyrant rather than a leader, explaining that in terms of power usage, tyrants and leaders are complete opposites (p. 248). Tyrants influence followers through transactional leadership. In this case, the transaction may be for the followers to do the tyrant's bidding, and in return, the tyrant spares the followers' lives.

In comparison, the followers of true leaders—transformational leaders, as Burns described them—follow them willingly. Although transactional leadership can be an effective method of leadership on its own, transformational leadership can make it even more so (Bass, 1990b; Hinkin & Schriesheim, 2008a). Transformational leadership Improves transactional leadership. Transformational leaders raise the standards of their

followers and the organization, they take calculated risks, and they can successfully entice others to join in their vision and adopt their goals as their own (Bass, 1990b).

Avolio, Walumbwa, and Weber (2009) stated that the benefits of transformational leadership are both financial and psychological. Transformational leadership is the most effective for organizations and the most satisfying for the followers (Peterson, Walumbwa, Bryon, & Myrowitz, 2009).

Transformational Versus Transactional Leadership

The primary difference between transactional leadership and transformational leadership lies in how the leaders and followers interact and view one another in a social context. Transactional leaders rely on their legitimate power, whereas transformational leaders use more coercive power. Transactional leaders use the power derived from their position of authority over their followers as the source of their influence. The followers of transactional leaders may not share the same vision and goals as their leaders, but they cooperate because they gain something that meets their personal goals and needs in exchange.

A contingent reward system alone may not be the most effective in the modern Knowledge Age workforce. Pearce (2004) stated, "Authoritarian control of knowledge workers can stifle the very innovation and creativity that one desires from them" (p. 55). Aarons (2006) posited that transactional leaders limit creativity and innovation, even though transactional leadership can still be effective on its own.

Transformational leaders share their visions and goals with their followers, who subsequently adopt them as their own. These leaders are capable of motivating their

followers by arousing their emotions and willingness to share in their visions and goals. This mutual agreement in visions and goals enables the followers of transformational leaders to follow because they want to, not because they have to.

Following transformational leaders means satisfying their own needs while working toward visions and goals shared with the leaders. The followers' desire to succeed is based on the same premises, visions, and goals of the transformational leader. In transactional leadership, the leaders' and the followers' reasons for their efforts vary. Transactional leaders and followers do not share the same visions and goals.

Transformational leaders also always keep the needs of society as well as those of their followers in mind when exerting their influence (Lester & Krejci, 2007). Because of this consideration of others and how their decisions affect more than just their immediate concerns, Burns (1978) and Bass (1990a) argued that transformational leadership is a higher order of leadership than one based solely on contingent reward, such as transactional leadership.

Burns posited that true leaders, transformational leaders, can elevate people and organizations to higher levels of needs and moral development. Transformational leaders constantly challenge the organizational culture (Bass, 1990a). They change what does not work about an organization to realize their goals. They are not confined to the organization's existing culture or restricted by preestablished norms.

Transactional leadership does not change the organization. Transactional leaders will work only within the confines of their organizations' cultures and norms and are subsequently restricted by them (Bass, 1997a). Transactional leaders remain within the

bounds of established organizational cultures and rules (Hinkin & Schriesheim, 2008b). In contrast, transformational leaders act as a catalyst for organizational change by attracting other transformational leaders, thus facilitating organizational transformation (Bass, 1990b).

Transformational leaders will actively work to change organizations to support the organizations' promotion of transformational leadership. Such changes result in organizations that promote greater creativity and work actively to stimulate their employees intellectually (Bass, 1990a; Hinkin & Schriesheim, 2008b). Problem organizations can use transformational leadership concepts to resolve organizational issues (Bass, 1990a). Transformational leaders help to align employees' interests and values with those of the organization, and vice versa (Bass, 1999). The alignment of the organizational goals with the workers' goals creates an organizational entity with greater potential to achieve these goals.

Bass (1990a) identified four factors of additional influence exhibited by transformational leaders that set transformational leadership apart from, and above, transactional leadership. They are the four "I's" of transformational leadership: *Idealized influence*, *Inspiration*, *Intellectual stimulation*, and *Individualized consideration*. The four I's of transformational leadership are described in greater detail in the next section.

The transactional leadership style still exists and underlies the transformational leadership style, but it is enhanced by transformational leadership's inclusion of these four additional factors. Transformational leadership augments and enhances transactional

leadership in most leadership circumstances (Bass et al., 2003). Transformational leadership cannot exist without a foundation of transactional leadership to build on.

Success in leadership, per the transformational leadership theory, is not exclusive to the transformational leadership style. Though transformational leadership is considered a higher order style of leadership and is commonly considered more effective than the transactional style of leadership, there are circumstances in which transactional leadership can be the more effective approach (Bass, 1990a; Bryman & Stephens, 1996). Howard (2005) posited that leaders must be capable of adequately understanding situations to be able to alter their leadership styles accordingly. This enables them to determine the most appropriate leadership styles to use for any given situation.

Transformational leadership enhances transactional leadership. This enhancement makes the elements of transactional leadership more effective. Transformational leaders may use solely transactional leadership methods when they are best suited for the circumstances (Antonakis et al., 2003). The transformational–transactional leadership paradigm views leadership as based on either contingent reinforcement or the moving of followers beyond their self-interests for the greater good of the group (Bass, 1997a). This is not to say that transformational leadership is the only effective leadership style. What it does suggest is that transformational leadership is the only leadership style to motivate followers to do more than only what satisfies their own desires.

Even though the definition of transformational leadership requires leaders to try to act for the greater good, they are still capable of inadvertently causing harm (Clements & Washbush, 1999). Jacques, Garger, and Thomas (2008) argued that a balance between

leadership styles, which includes a balance between concern for the task and concern for people, is necessary in the practice of leadership. Success in leadership can be attained by the higher orders of transactional leadership, such as active management by exception. However, transformational leadership is more likely to be the more effective leadership style in most circumstances (Bass et al., 2003). Research comparing the transactional and transformational leadership styles has determined that transformational leadership is the style preferred by most followers (Aarons, 2006; Sellgren, Ekvall, & Tomson, 2006). The best leaders practice a combination of transformational and transactional leadership styles (Bass, 1999). Because transactional leadership is the foundation of transformational leadership, it is included in the measurement of transformational leadership.

The Four I's of Transformational Leadership

As previously noted, the four behavior factors defined by Bass (1990a) as exhibited by transformational leaders are Idealized influence, Inspiration, Intellectual stimulation, and Individualized consideration. These four factors set transformational leaders apart from transactional leaders.

Idealized influence. Idealized leaders display conviction for what they believe. They emphasize the importance of trust, purpose, ethics, and commitment. Idealized leaders are viewed by their followers as worthy of following. Followers admire, respect, and trust these leaders (Bass et al., 2003). Idealized influence also may be described as similar to charisma (Bass, 1990a, 1999). However, charisma can be distinguished from idealized influence in that idealized influence includes a moral factor that considers effects beyond those of self-interest (Schyns, Felfe, & Blank, 2007). Berson, Shamir,

Avolio, and Popper (2001) determined that the leaders' level of confidence influences how strongly their followers embrace the visions of the leaders. Lim and Ployhart (2004) determined that idealized influence not only accounts for how leaders behave but also for the positive emotional effect on the followers. Because transformational leaders are emotionally and intellectually more appealing, the individuals with whom they work are more likely to be willing to follow them (Bass, 1997b).

Inspiration. Leaders who exhibit inspiration have a vision of the future and can communicate this vision to their followers, who then adopt it for themselves (Bass, 1990a). Transformational leaders set an example of the higher standards and level of performance that they expect from their followers. They also exhibit confidence and determination. Followers work to meet their leaders' high expectations because they are motivated to put their own self-interests aside for those of the larger shared vision (Berson & Linton, 2005).

Transformational leaders are able to create a vision of the future that motivates and inspires followers and fosters organizational change (Matzler, Schwarz, Deutinger, & Harms, 2008; McLaurin & Amri, 2008). Inspirational leaders attract followers. People have a general desire to follow leaders who inspire them (Northouse, 2007). Hofmann and Jones (2005) asserted that the collective behavior of work groups can determine a consistency in performance over time. They found that when workers share a similar vision, understand the goals, and know the objectives, they can perform much better than workers who are subject to a more process-oriented management style.

Intellectual stimulation. Intellectual stimulation derives from leaders who challenge their followers to be creative and question their own and others' assumptions and beliefs (Bass, 1990a). Transformational leaders encourage their followers to adopt new perspectives and express their ideas and reasons without fear of retribution. The followers then become more creative and innovative, and they are capable of developing and acting on more effective solutions (Bass, 1990a).

Intellectual stimulation promotes more creative problem solving, especially when dealing with more complex problems (Rowold & Heinitz, 2007). Transformational leaders will stimulate followers by including them in discussions (Bass, 1990a). The followers are part of the decision-making process and feel genuinely appreciated for their contributions. Through this inclusion, they also attain a more thorough understanding of issues and learn ways to resolve them.

Individualized consideration. Leaders exhibit individualized consideration when they pay attention to the needs of individual followers rather than treat all followers in the same way. Transformational leaders recognize the unique developmental needs of individual followers and help them to satisfy these needs (Bass, 1990a). They help their followers to develop both professionally and personally by providing them with opportunities for such growth (Bass, 1990a).

Transformational leaders are interested in helping their followers to develop to their fullest potential (Oshagbemi & Gill, 2004). Individualized consideration also means that the leaders are genuinely interested in the welfare of their followers and will make leadership decisions with such considerations in mind (Bass, 1990a). Individualized

consideration is also shown when leaders coach individual followers or recognize and express appreciation for individual followers' efforts (Failla & Stichler, 2008).

Transformational Leadership on Followers

Leaders who exhibit transformational leadership promote the self-actualization of their followers (Bass, 1999). They are able to successfully communicate a desire for greater moral maturity and the desire to pursue causes greater than those of the individual (Bass, 1999). The followers are able to look beyond their own self-interests toward the greater good by understanding and accepting the missions and values fostered by their leaders (Bass, 1990a). These followers are subject to increased maturity, motivation, understanding, self-concept, and self-worth (Bass, 1997a). They are more satisfied with their jobs, the work they perform, and their leadership (Bass, 1999). Transformational leaders help their followers to believe in themselves (Bass et al., 2003). In this respect, transformational leaders help their followers to grow personally and professionally.

The transformational leaders' and followers' interests and values are aligned with those of the organization (Bass, 1999). Trust in leadership is required for such an alignment to occur. This trust is fostered through transformational leadership (Bass, 1999). Followers of transformational leaders are more creative, innovative, and adaptable, as are the transformational leaders themselves than those of lower order leadership (Bass et al., 2003). They have greater capacity and likelihood to find more effective solutions to problems and mitigate issues. Followers of transformational leaders have greater advantage and freedom to be creative in their solution development. They are encouraged to share their ideas and to participate in decision-making processes. In

this respect, transformational leaders have empowered their followers to be more effective (Bass, 1999). These followers are more involved in their work. They are more concerned with the quality, cost, and effectiveness of their endeavors (Bass, 1999).

Transformational leadership also enhances group and team cohesiveness. This improves followers' performance in highly interdependent environments (Bass et al., 2003). Jung and Sosik (2002) found a positive correlation between transformational leadership and the followers' ability to work independently (i.e., away from the leader). Choi (2006) stated that charismatic leadership, such as transformational leadership, promotes "clearer role perceptions, improved task performance, greater job satisfaction, stronger collective identity and group cohesiveness, more organizational citizenship behaviors, and stronger self-leadership among the followers" (p. 24). Essentially, the followers of transformational leaders work better with others as well as independently.

Having a better understanding of the followers through individual consideration allows transformational leaders to more strongly influence them and elevate them beyond their immediate self-interests (Schyns et al., 2007). The genuine concern of transformational leaders for their followers fosters respect and trust among the followers for such leaders (Rowold & Heinitz, 2007). The contributions of the followers of transformational leaders are greater than those of the followers of transactional leaders (Bass, 1999).

Followers of transformational leaders are more likely to put forth extra effort, whereas transactional leadership is less effective in encouraging extra effort (Bass, 1999). Howell and Avolio (1993) determined in a yearlong study of transformational and

transactional leaders that the transformational leaders positively influenced work unit performance more than transactional leaders. Bass et al. (2003) contended that the followers of transformational leaders are more willing than the followers of transactional leadership to take on greater challenges.

Transformational leaders develop their followers' autonomy by providing them with more authority and decision-making power. Their individualized consideration and intellectual stimulation help their followers to achieve the goals of the shared vision (Osborn & Marion, 2009). Additionally, the followers have greater confidence to persevere in challenging conditions (Bass et al., 2003).

Transformational leadership tends to spread throughout an organization. It starts with transformational leaders who encourage similar behaviors in their followers. Their followers then become transformational leaders themselves and continue the spread of transformational leadership on to others they interact with (Bass, 1999). The positive attitudes of transformational leaders are transmitted to the followers and throughout the organization (Bono & Llies, 2006). Murphy (2005) asserted that the element of inspirational motivation of transformational leadership creates a cascading effect on followers. They then become excited to share the leadership's vision and in turn excite others to do the same. Avolio, Zhu, Koh, and Bhatia (2004) asserted that transformational leadership is positively associated with the attitudes of employees toward the organization as well as reduced turnover. They concluded that the followers of transformational leadership are more committed to the organization. Kearney and Gebert

(2009) found that transformational leadership can moderate diversity within work teams resulting from differences in age, nationality, and level of education.

Sources of Transformational Leadership

Little is known about the conditions leading to transformational leadership (Bass, 1997a). In addition, not everyone is capable of becoming a transformational leader (Bass, 1997a; Bass et al., 2003). Although most leaders are followers and most followers are leaders depending on the interaction, it is the context in which the interactions take place that determines the roles. Burns (1978) stated, "Different people play different roles in different contexts" (p. 171). One source for the development of transformational leadership is leadership education. Leadership education in general has been increasing the past few decades.

Bass (1990a) argued that transformational leadership should be emphasized in leadership training. Transformational leadership can be both learned and influenced by genetics, but neither training nor genetics alone can change transactional leaders into transformational leaders (Bass, 1990a). The leaders themselves must truly internalize the factors that set transformational leadership apart from transactional leadership. Bass (1990a) argued that transformational leadership cannot be feigned for any extended period of time. It also should be noted that there is a difference between leader development and leadership development (Bass et al., 2003). Leader development focuses on the individuals to enhance their capacity and potential as leaders. Leader development is only part of leadership development. Leadership development recognizes the importance of, and accounts for, the interpersonal skills required for successful

leadership. Leadership development includes improving the interactions between leaders, followers, and others from a social context.

Previous exposure to transformational leadership is another potential source that can lead to the development of transformational leadership, even when the exposure is not current (Bass, 1999). Such exposure may derive from a relationship with a previous boss or the observed interactions between transformational leaders and their followers. This exposure can then lead to the adoption of transformational leadership behaviors by the observer.

Full Range of Leadership Model

Bass and Avolio (1995) developed the full range of leadership model to include a variety of leadership styles of differing effectiveness. The model has three main categories of leadership in a hierarchy ordered by the most effective to the least effective; transformational, transactional, and laissez-faire (Antonakis et al., 2003). The instrument designed by Bass and Avolio specifically for leadership style research is known as the MLQ. The MLQ measures the presence of twelve factors of leadership. Nine of these factors are related directly to the three general styles of leadership.

Transformational leadership is measured using five factors: (a) idealized influence (attributed); (b) idealized influence (behavior); (c) inspirational motivation; (d) intellectual stimulation; and (e) individualized consideration. Transactional leadership is measured using three factors: (a) contingent reward leadership; (b) management-by-exception (active); and (c) management-by-exception (passive). The presence of laissez-faire leadership is measured by a single factor also referred to as laissez-faire (see Figure

2). The outcome of leadership is measured by three factors in the MLQ: extra effort, effectiveness, and satisfaction.

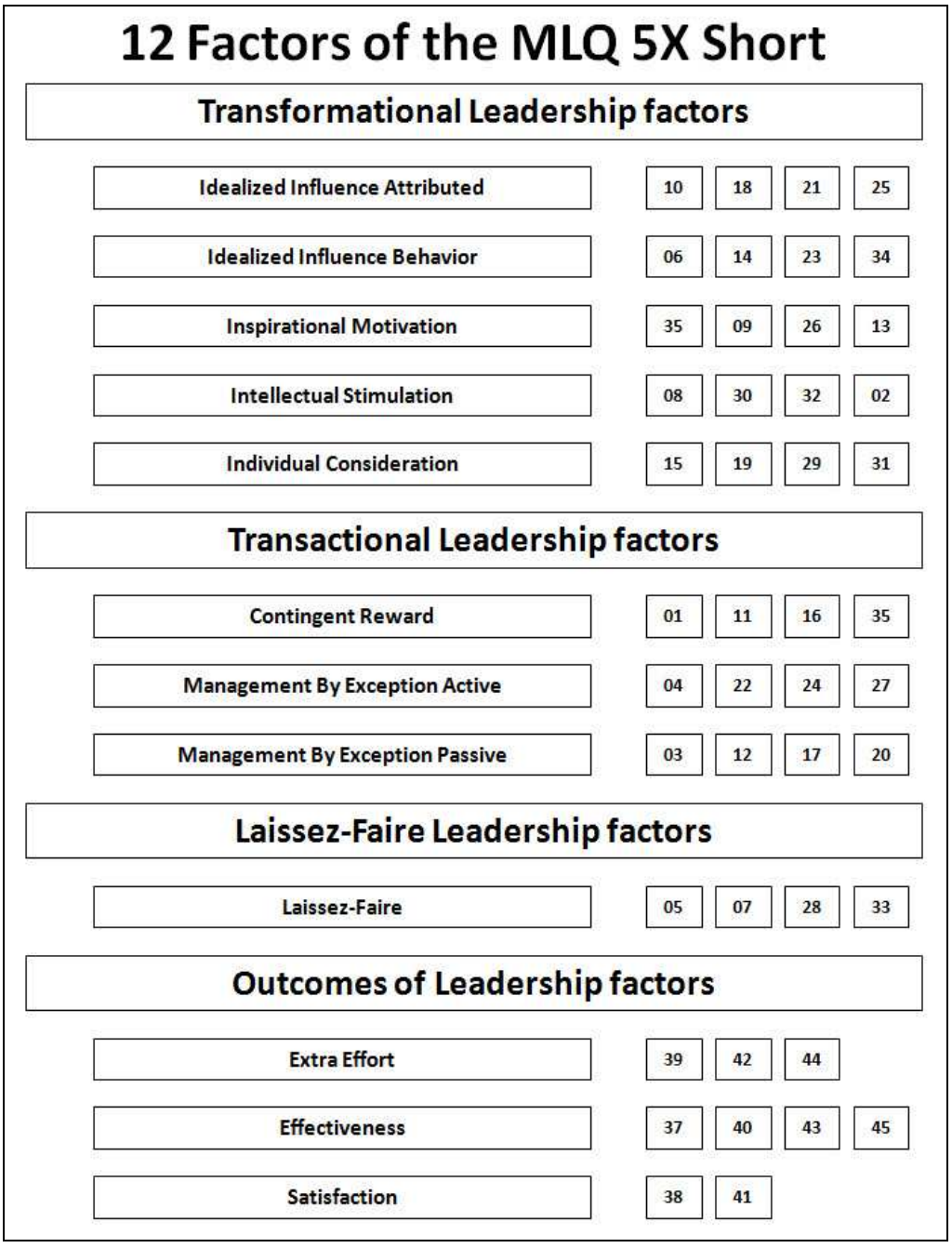

Figure 2. Three leadership styles included in model, twelve factors of leadership, and number of correlating questions in MLQ 5X Short per factor.

Emergency Management

Emergency management is the profession concerned with the minimization of loss of life and property resulting from disasters. The field of emergency management arose from the need for communities to be prepared for, adequately respond to, and recover from disasters (Peerbolte, 2010). Natural disasters are the largest cause of loss of life and property in the United States (Cigler, 2006). Emergency management has become more complicated since the 9/11 terrorist attack (Waugh & Streib, 2006), and the United States has become more serious about emergency management since 9/11 (Cigler, 2006). The field has evolved from a classic top-down bureaucratic approach to one of complex interrelationships and shared responsibilities among many organizations.

Emergency management has become "a more dynamic and flexible network model that facilitates multi-organizational, intergovernmental, and intersectoral cooperation" (Waugh & Streib, 2006, p. 131). There has been a shift in the thinking of emergency management from a predominantly reactive discipline to a more proactive approach that emphasizes preparation and planning (Peerbolte, 2010). The most common model of emergency management divides the field into four phases of a repeating cycle: mitigation, preparedness, response, and recovery (Kapucu, 2008; see Figure 3).

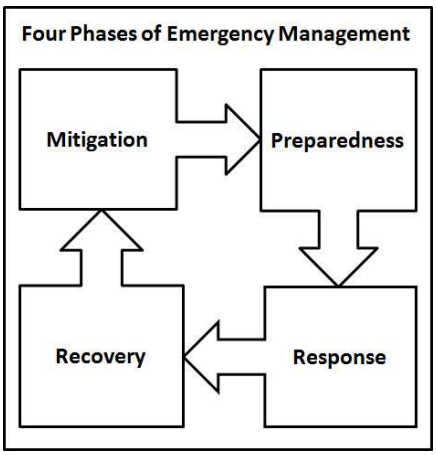

Figure 3. Four phases of emergency management.

The terms *emergency* and *disaster* need to be distinguished from one another. The size and complexity of an event determines what organizations handle it and whether it is designated an emergency or a disaster. Emergencies are typically considered small events, whereas disasters are large-scale emergencies requiring greater resources. Emergencies related to structural fires, automobile accidents, break-ins, and health can be resolved by small portions of emergency response resources. Disasters can be natural or human-based events. Examples of disasters are large industrial fires, forest fires, earthquakes, floods, and terrorist attacks. Recovery from disasters requires efforts and resources from multiple organizations, whereas emergencies typically require resources from a single organization or agency (Harrington, 2010).

Americans live in a "risk society," in which concerns about personal safety and health are higher on the social and political agendas (Boin & Hart, 2003). The public expects the government to be prepared for disasters (Lester & Krejci, 2007). Unfortunately, a large gap exists between citizens' expectations and government

leadership efforts to mitigate disasters (Boin & Hart, 2003). Leadership in the field of emergency management plays an important role in the effectiveness of emergency management efforts.

Research into the most effective leadership styles for emergency, crisis, and high-stress circumstances has been insufficient. Leadership is a key component in determining the success or failure of emergency management operations. Therefore, which leadership style will increase the effectiveness of emergency management endeavors needs to be determined. The widespread effects of emergency management efforts on the lives of citizens and the economy justified the effort of conducting this study.

Leadership in Emergency Management

Leadership is a key element of emergency management (Boin & Hart, 2003; Fox, 2009). Demiroz and Kapucu (2012) stated that "leadership is one of the key aspects of managing emergencies and crises successfully" (p. 99). Boin (2009) argued that more leadership research in the field of emergency management is necessary. Research of disasters such as 9/11 and Hurricane Katrina has attributed failures in emergency management specifically to poor leadership (Lester, 2007; Waugh & Streib, 2006).

There has been a call for more leadership research in the public sector in general (Aarons, 2006). More specifically, there has been a call for investigating leadership research in high stress environments, such as those found in emergency management and crisis management (Bass et al., 2003). There has been no research performed identifying the effectiveness of any particular leadership style in crisis situations versus those of leaders in noncrisis scenarios. (Wooten & James, 2008).

Harrington (2010) stated:

> In the 21st century, no aspect of crisis response will be more important than efficient leadership. The ability of those in positions of authority to lead under pressure will dictate how successful the public safety industry and society are in overcoming future crises. (p. 37)

Despite the increasing amount of literature and studies in and related to emergency management, there is still significant room for improvement in the profession. Von Lubitz, Beakley, and Patricelli (2008) commented:

> Despite the explosive growth of interest in disaster prevention, management, and consequence management and countless scholarly books, journal papers, media reports, post-hoc studies of practically all major disaster management operations and exercises reveal major faults of leadership, preparation, and readiness at practically all levels of the involved chains of command. (p. 1)

Research has determined that the current models of leadership in emergency management are inadequate (Devitt & Borodzicz, 2008). Schoenberg (2005) posited that leaders and leadership skills could be more important when actually dealing with crises as they occur rather than while preparing for them. The identification of a variety of leadership characteristics with correlations to the success of emergency management leaders has helped to resolve these previous shortcomings . Per Fox (2009), the three key influences of leadership in emergency management are communication, clarity of vision, and care for others. Waugh and Streib (2006) posit dynamic, adaptive, and creative leadership is required in emergency management. Creativity and initiative have also been

identified to increase the effectiveness of emergency management efforts (Fox, 2009; Lester, 2007; Waugh & Streib, 2006).

Each disaster event is unique and needs good leadership to help emergency management personnel adapt to the situation and be decisive (Fox, 2009). Emergency management leadership and response systems must be flexible and able to adapt quickly to changing situations (Waugh & Streib, 2006). Leaders in emergency management need to be able to acquire situational awareness in high-stress environments and act on it in a timely manner (Dayson, 2010).

Disaster management requires multiorganizational, transjurisdictional, polycentric response networks, all of which are required to work together (Boin & Hart, 2003). Emergency management requires shared authority between or among multiple organizations (Waugh & Streib, 2006). To cope successfully with modern disasters, preparedness and cooperation are required between or among emergency response agencies (Cardwell & Cooney, 2000; Carlson, 1999). Dealing with disasters requires collaboration. Effective collaboration is fundamental in the field of emergency management (Bitto, 2007; Buck, Trainor, & Aguirre, 2006; Lester & Krejci, 2007; Waugh & Streib, 2006). Communication, coordination, and cooperation are key elements of emergency management (McCreight, 2007; Rosenthal, 2003; Wise & Nader, 2002). Effective leadership unifies multiagency efforts and promotes more effective responses (Lester & Krejci, 2007).

The interpersonal skills of the leaders are important in fostering cooperation and collaboration efforts. Interorganizational coordination increases emergency management

efficiency and effectiveness, and it is a required component of emergency management (Conlan, 2006; Kapuku, 2005; McEntire, 2002; Waugh & Streib, 2006). The trust required among organizations can be fostered by effective interorganizational cooperation (Kapuku, 2005). Waugh and Streib (2006) suggested that there is a need for more integration of agencies in emergency management. Lester (2007) postulated that a less centralized structure with more collaboration is better suited to emergency management because it facilitates more initiative.

Harrington (2010) promoted a shift from reactive crisis management to proactive crisis management through leadership that focuses on such. According to the International City/County Management Association, "The management of crisis is always preferable to management by crisis. This is particularly the case in emergency management, where the emphasis is not on reacting to disasters but on proaction to lessen the impact when disasters do occur" (as cited in Harrington, 2010, p. 288). Increased emphasis on emergency management at the local government level as part of a decentralized approach may help. Clarke and Chenoweth (2006) argued in support of the need for local government emergency management to be better prepared for disasters.

Transformational Leadership in Emergency Management

Transformational leadership in emergency management has a positive effect on emergency management efforts (Lester & Krejci, 2007; Waugh & Streib, 2006). Lester and Krejci (2007) argued that transformational leadership principles are needed in emergency management. These principles are the recognition an organization's need to change, leadership's ability to adapt to changing conditions, openness to other

perspectives, and the development of a shared vision and common purpose adopted at all levels of the organization.

Emergency managers must be able to think critically if they are expected to handle increasingly complex disaster events effectively (Peerbolte, 2010). Transformational leadership is more adaptive than transactional leadership (Bass, 1997a). Transformational leadership is at the core of adaptive leadership, which is capable of responding more effectively to changing circumstances (Bass et al., 2003). The individuals working in emergency management must be able to work effectively in high-stress and quickly-changing disaster response environments. Smith, Montagno, and Kuzmenko (2004) posited in a study comparing servant leadership and transformational leadership that transformational leadership is "more suitable for a dynamic external environment, where employees are empowered with greater responsibility and encouraged to innovate, take initiative and risk" (p. 89). The quickly-changing changing disaster response environments can result in higher stress levels for emergency management professionals.

Transformational leadership helps to alleviate the role stress of followers in higher stress environments (Dale & Fox, 2008). Farazmand's (2009) theory of surprise management as an approach to emergency management calls for organizational leadership behavior to be collaborative, participative, and flexible, all of which are characteristics of transformational leadership. During a crisis, leaders must be capable of replacing normal processes so that they can make decisions quickly for more effective responses. To do so, they must have the trust of key stakeholders (Garcia, 2006).

Transformational leaders attain the trust of their followers and others with whom they interact.

Harrington (2010) argued that emergency managers need to be able to think creatively by establishing collaborative relationships with other agencies and organizations to resolve disaster situations effectively. There is an increased need for research into leadership in crisis management. Kettle remarked:

> The 9/11 Commission, which spent months pouring through government records on the attack, pointed to a failure of imagination as perhaps the most underlying cause of government's poor response to the attacks. Since then, that failure of imagination has continued. Top federal officials said in Katrina's wake that they had no idea that Katrina could cause so much damage or that thousands of New Orleansians were marooned for days without food, water, shelter, or medical care. (as cited in Harrington, 2010, p. 274)

Transformation leadership's fostering of creativity and imaginative solutions by leaders and followers would help to address this noted absence.

Implementing Transformational Leadership in Emergency Management

The costs of truly implementing transformational leadership throughout the field of emergency management and related organizations are high (Lester, 2007). Lester (2007) also postulated that institutionalizing transformational leadership will need to be thorough if it is to endure, and maintaining it after implementation requires that the stakeholders adapt to changes and continue to embrace the principles of transformational leadership. The individuals involved in the process from all levels in the organization must feel that

their participation in the implementation is significant and that they can make a positive contribution to the system. All levels of emergency management require leadership, and all of them can benefit from transformational leadership (Lester, 2007; Lester & Krejci, 2007).

For transformational leadership to truly take hold and change emergency management, it needs to be adopted by top managers (Lester, 2007; Lester & Krejci, 2007). Innovative change, such as the implementation of transformational leadership throughout an organization, needs to be supported by top management not only during the implementation phase but also continuously after adoption if it is to be successful (Damanpour & Schneider, 2006). Top leadership also needs to be involved in training (Lester, 2007).

Transformational leadership is vital at all levels within the organization, and quick decision-making is vital in emergency management situations (Lester & Krejci, 2007). Transformational leadership grants authority to act down the chain of command (Lester, 2007; Lester & Krejci, 2007). Transformational leadership allows lower levels to make important decisions when cut off from above. Implementing transformational leadership in an organization requires a shift in beliefs (Lester & Krejci, 2007). An approach that spans the whole organization would be required to change to a transformational style of leadership (Lester & Krejci, 2007).

The type of staff is also vital to the successful adoption of this type of leadership (Lester & Krejci, 2007). Organizations attempting to implement transformational leadership should anticipate some change in staff. Individuals who are not willing to

change will leave, and others who embrace the new leadership style will join the organization (Lester & Krejci, 2007). Potter, Burns, Barron, Grofebert, and Bednarz (2005) argued that intercultural and jurisdictional barriers can interfere with attempted changes to organizational leadership. These barriers should be anticipated, and plans to overcome them should be developed. Lester (2007) asserted that prexisting issues of authority and collaboration within an organization need to be addressed before transformational leadership can take hold, and that implementing a new leadership style will change attitudes toward authority.

Summary

The importance and benefit of effective leadership in the field of emergency management was established in this chapter. This paper recognized the limited amount of preexisting literature investigating the effectiveness of particular leadership styles in the field of emergency management. The literature related to the study of leadership and the field of emergency management was explored. The benefits of transformational leadership applied to the discipline of emergency management were examined. Some of the potential difficulties of implementing transformational leadership in emergency management organizations were reviewed. Determining the most effective leadership style for emergency management may improve the effectiveness of emergency management efforts and result in a reduction of the loss of life and property from disaster events. Included in Chapter 3 is a description of the methodology used to answer the research questions. The study's findings are reported in Chapter 4. Chapter 5 provides interpretations of the findings and offer recommendations for action and future research.

Chapter 3: Methodology

Introduction

The purpose of this study was to determine whether transformational leadership was the predominant leadership style exhibited by, and if it is the most effective leadership style for, local and state government emergency managers in Arizona. The research also identified statistically significant correlations between the leadership styles exhibited and six independent variables. This chapter includes descriptions of the study design, the target population and study sample, the data collection methods and analyses, the data collection instrument, and the ethical protection of the participants.

Research Design and Rationale

The transformational leadership theory, which is based on Bass and Avolio's (1995) Full Range of Leadership Model, was selected as the most appropriate theory for this study. A questionnaire was used to collect the quantitative data necessary to determine whether transformational leadership was the predominant leadership style exhibited, and if transformational leadership was the most effective leadership style. The same questionnaire was also used to collect data for the six independent variables used for the correlations analyses. The quantitative design was selected as the most appropriate for this study based on all of the data being in a numeric format. The approach, design, and methodology were selected because of their popularity in modern leadership research and their acceptance by leading researchers in the field.

A cross-sectional approach was selected for this study. The descriptive aspect of the approach can determine previously unknown conditions by exploring and describing

possible correlations (Sahar-Khiz, 2010). The previously unknown conditions were whether a transformational leadership style is predominantly exhibited by local and state level government emergency managers in the state of Arizona, whether transformational leadership was the most effective leadership style, and whether six independent variables were correlated to the three leadership styles investigated.

Because little is known about the leadership styles of emergency managers, the descriptive approach was appropriate for this study. No peer-reviewed literature was found determining which leadership styles may be most effective for emergency management. However, a plethora of peer-reviewed literature exists of descriptive studies of leadership styles and their effectiveness in a variety of other disciplines. Descriptive studies determine the circumstances or state of a phenomenon of interest at a point in time (McNabb, 2008). The use of a cross-sectional approach for its exploratory and descriptive nature facilitated the discovery of whether transformational leadership was the leadership style predominantly exhibited by and most effective for government emergency managers in the state of Arizona.

Because a qualitative or a mixed methods approach was not suitable for this study, the quantitative approach was used. A quantitative approach to this study was the logical choice because of the availability of a questionnaire that had been validated, reliable, and used in similar research. The quantitative approach allowed for the collection and analysis of relatively large data sets to be statistically analyzed. The statistical analyses were required to determine whether correlations existed between variables. The qualitative methodology alone or qualitative methodology as part of a

mixed methods approach would not have met these requirements (McNabb, 2008). A qualitative approach would not have been suitable to answer the research questions (RQs). Quantitative studies using self-administered surveys are easier to administer and are better-suited for data collection intended for statistical analysis (Vespie, 2010).

This study was non-experimental since there was no control group (Trochim, 2006). It was determined to what degree the variables occurred in the sample as well as whether any specific statistically significant correlations could be identified between the variables. An experimental study was not appropriate. Since the study required only a single sampling of the target population at a single point in time, the cross-sectional design was selected (McNabb, 2008). By conducting this study, the current state of the variables could be determined and whether relationships existed between them.

The dependent variables in this study used for RQ2 through RQ8 were the score values for the three leadership styles as attained through the use of the MLQ 5X Short questionnaire data collection instrument. The independent variables used to answer RQ2 were the leadership outcome score values as attained through the use of the MLQ 5X Short questionnaire. The independent variables used to answer RQ3 through RQ8 were the values attained from the six additional demographic questions appended to the MLQ 5X Short questionnaire for the purpose of this study. These six independent variables were (a) emergency managers' years of experience as emergency managers, (b) years of experience in the field of emergency management, (c) number of subordinates for each emergency manager, (d) size of each emergency manager's organization, (e) frequency of

emergency management exercises participated in within the last 3 years, and (f) frequency of actual disasters participated in within the last 3 years.

The study used a quantitative design as dictated by the quantitative nature of the data used and analyses required to answer the research questions. Data was collected using the MLQ 5X Short questionnaire. Appropriate statistical analyses were performed to answer the research questions. Then the study results were provided along with recommendations for future research and actions.

Population

The target population for this study was the 112 state and local government emergency managers in the state of Arizona. This population included state, county, and municipal government emergency managers. It did not include emergency managers from federal government, non-profit organizations, or for-profit organizations. This population was selected because of the diversity of government environments and its geographical proximity. Arizona has an assortment of environments that range from desert urban areas, such as the city of Phoenix with almost 1.5 million residents, to extremely isolated, high-mountain rural areas with towns populated by only a few hundred residents. A similar target population and a sampling rationale were used by Peerbolte (2010) in a quantitative study investigating the critical-thinking skills of emergency responders in the state of Virginia.

Sampling Method

A sample of convenience was taken from the target population of all state and local government emergency managers in the state of Arizona. Each emergency manager

who participated in the study completed a self-assessment questionnaire. These emergency managers also had the option to have their subordinates, peers, or superiors complete a similar version of the same questionnaire. The target population comprised all 112 state, county, and municipal emergency managers in the state of Arizona. This population included state, county, and municipal government emergency managers only, but did not include emergency managers from federal government, non-profit organizations, or for profit organizations.

The sample was selected for its geographic proximity and for the convenience to recruit participants from the state, county, and municipal level governments with the cooperation of two organizations. These two organizations were the Arizona Division of Emergency Management (ADEM) and the Arizona Emergency Services Association (AESA). The sample comprised volunteers from the target population of all state, county, and municipal level government emergency managers in Arizona.

A confidence level of 95% was selected for the study with a confidence interval of 12. A sample size of 42 participants was required from the population of 112 to meet the confidence level. The Creative Research Systems' calculator was used to determine the study's required sample size (Creative Research Systems, 2012).

Recruitment and Data Collection

A request was made to the ADEM and AESA organizations for assistance in recruiting participants for the study. Both ADEM and AESA were cooperative in helping to recruit participants for the study. The AESA president sent out two e-mails on behalf of the study using the AESA email listserv to solicit participants. The AESA also

provided direct contact information for all Arizona state, county, and municipal government emergency managers. The contact information included the names, email addresses, phone numbers, and mail addresses for all Arizona government emergency managers. This information was initially used to call these emergency managers by telephone. Due to the exceptional difficulty in actually having the opportunity to speak to these individuals directly, additional methods of contact were used. Emails sent directly to potential participants and traditional letter mail composed the final methodologies of contact. The direct emails and postal mailed invitations elicited the greatest number of participants for the study. The researcher's email was provided in the invitation. Potential participants were encouraged to ask questions and express any concerns they may have had. They were also informed of the voluntary nature of the study and that they could leave the study at any time. Informed consent was provided when participants emailed the researcher stating that they understood the study and were willing to participate.

Invitations were sent to all 112 potential participants to request their voluntary participation in the study. The services of Mind Garden were used to administer the questionnaire. Mind Garden is an independent psychological publishing company. The Mind Garden system provided the participants with links and access information to the MLQ 5X Short online questionnaire via e-mail. The six additional questions used to collect the demographic data for the six independent variables were appended to the MLQ 5X Short questionnaire administered by Mind Garden. Mind Garden provided the raw data results on the completion of the data collection phase of the study. Mind Garden was selected because it is the official publisher of Bass and Avolio's (2004) MLQ 5X

Short questionnaire. Mind Garden was also selected because the company could facilitate the collection of the data by providing an online data collection interface. Once the participants agreed to join the study, they were provided access to the online questionnaire hosted by the Mind Garden website.

Instrument

The MLQ 5X Short questionnaire, designed by Avolio and Bass (2004), was selected as the data collection instrument. The MLQ 5X Short is a self-administered survey that takes approximately fifteen minutes to complete. The MLQ 5X Short determines the extent to which an individual exhibits each of the three leadership styles included in the study. These three leadership styles are transformational, transactional, or passive avoidant. The MLQ 5X Short measures the presence of 12 factors of leadership related to these three styles of leadership. Transformational leadership is measured using five factors: (a) idealized influence (attributed), (b) idealized influence (behavior), (c) inspirational motivation, (d) intellectual stimulation, and (e) individualized consideration. Transactional leadership is measured using two factors: (a) contingent reward leadership and (b) management by exception (active). Passive avoidant leadership is measured using two factors: (a) management by exception (passive) and (b) laissez-faire. In addition to the nine factors previously mentioned that are used for measuring leadership styles, three outcomes of leadership factors are measured. These three leadership outcomes are extra effort, effectiveness, and satisfaction. They are used to measure the results of leadership independent of leadership style (Bass & Avolio, 2004).

The MLQ 5X Short had a total of 45 questions, 36 of which were used to determine the presence and magnitude of nine specific leadership factors. The leadership factors awere based on the leadership behaviors tied to one of the three leadership styles. The remaining nine factors were used to determine the presence and magnitude of the three leadership outcomes. Of the 45 questions included in the MLQ 5X Short, 20 determined the presence and magnitude of transformational leadership, eightdetermined the presence and magnitude of transactional leadership, and eight determined the presence and magnitude of passive avoidant leadership. The other nine questions measure the three outcomes of leadership. Three of the nine leadership outcome questions determined the presence and magnitude of the factor of extra effort, four determined the presence and magnitude of the factor of effectiveness, and two determined the presence and magnitude of the factor of satisfaction. Each of the 45 questions was answered using a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*frequently, if not always*). An example of the MLQ 5X Short questionnaire and the MLQ 5X Short scoring key can be found in the Appendix.

Den Hartog, Van Muijen, and Koopman (1997), as well as Lowe, Kroeck, and Sivasubramaniam (1996), investigated the validity of the MLQ 5X Short and found it to be both valid and reliable for measuring the presence of transformational leadership. Den Hartog et al. found that the MLQ 5X Short had an alpha coefficient of .95 for determining transformational leadership. Lowe et al. used a meta-analytical approach to establish the validity and reliability of the MLQ 5X Short as an instrument to measure leadership styles and effectiveness. Cole, Bedeian, and Field (2006) determined that

administration of the MLQ 5X Short through a web-based method versus a paper-and-pencil method did not significantly affected the validity of the results. The potential for bias in using the MLQ 5X Short was considered and known examples of bias were identified. The examples of bias were taken into consideration, although none of the examples reviewed were relevant in this study (Lievens, Van Geit, & Coetsier, 1997).

Scores on the MLQ 5X Short were calculated as a mean of a particular factor. They are obtained by adding the scores of each factor's responses and dividing this total by the number of questions used to measure the factor. The results of the calculations of the 12 factors are used to provide percentile values representing the magnitude of each of the 12 factors. The resulting magnitude values for the leadership factors were used in this study to determine whether the participating emergency managers exhibited stronger transformational leadership style factors than transactional or passive avoidant styles. The resulting magnitude values for the leadership outcome factors were used in this study to determine the effectiveness of the exhibited leadership styles.

The MLQ 5X Short was administered through the Mind Garden website (www.mindgarden.com). Study participants were given a URL link connecting them to the Mind Garden website testing page where they completed the questionnaire. Participants were required to provide identification information, such as their names and those of their organizations. They were also required to provide values for the questions correlating to the six independent variables. The participants completed the entire MLQ 5X Short, including the additional data collection for the six independent variables, online through the Mind Garden website. After the data collection process was finished,

the raw data was downloaded from the Mind Garden website and used for the study analysis.

Variables

The dependent variable, which was provided by the results of RQ1, included the magnitude of the presence of the three leadership styles: transformational, transactional, or laissez faire. Following are the RQs and hypotheses that guided the study:

RQ1: What is the most predominant leadership style exhibited by local and state government emergency managers in Arizona?

H_{01}: Transformational leadership is not the most predominant leadership style exhibited by local and state government emergency managers in Arizona.

H_{a1}: Transformational leadership is the most predominant leadership style exhibited for local and state government emergency managers in Arizona.

OH1 (Operational Hypothesis): The prominence of transformational leadership style versus transactional leadership style and passive avoidant leadership style will be demonstrated by the values of leadership style factors from the MLQ 5X Short. The higher the score value, the more prominent the leadership style is exhibited.

RQ2: What leadership style is strongly related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona?

H_{02}: Transformational leadership is not strongly related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona.

H_{a2}: Transformational leadership is strongly related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona.

OH2 (Operational Hypothesis): There is a stronger positive relationship between transformational leadership style and the leadership outcomes than other leadership styles and the leadership outcomes. The strength of the correlations, as well as if they are statistically significant, will be calculated using Pearson product-moment correlation.

The independent variables were used to help explain the results of the dependent variables in the primary research questions. This was accomplished by determining whether there was a statistically significant correlation between the leadership styles exhibited and the six independent variables collected. The six independent variables are: (a) emergency managers' years of experience as emergency managers, (b) emergency managers' years of experience in the field of emergency management, (c) number of subordinates for each emergency manager, (d) size of each emergency manager's organization, (e) frequency of emergency management exercises participated in the past 3 years, and (f) frequency of actual disasters participated in the past 3 years. These variables were represented by integers provided by the participants in response to the six correlating questions. These independent variables, along with their correlating questions and hypotheses, are as follow:

The variable of the number of years that emergency managers had held the position of emergency manager was collected. This variable served in the correlational analysis to determine whether the length of time that the emergency managers had held

the position of emergency manager was statistically correlated to the leadership styles currently exhibited. McBride-Jones (1991) collected data on the same independent variable of the number of years that emergency managers had held the position. McBride-Jones (1991) used this independent variable to determine whether a correlation existed between it and the results of the Fisher-Tack Effective Leadership Inventory. Lohr (1982) also collected data on the number of years that the leaders had held their position. Lohr (1982) studied the leadership styles of school superintendents using the Leader Behavior Description Questionnaire. This independent variable was addressed by RQ3.

RQ3: Is there a statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited?

H_{03}: There is no statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited.

H_{a3}: There is a statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited.

OH3 (Operational Hypothesis): There is no relationship between emergency managers' years of experience as emergency managers and the transformational leadership style. The strength of the correlations, as well as if they are statistically significant, will be calculated using Spearman's rank-order correlation analyses.

The variable of the number of years of experience in the field of emergency management was collected. This variable served in the correlational analysis to determine whether the length of time that the emergency managers had been in the field of emergency management was statistically correlated to the leadership styles currently

exhibited. This variable is distinctly different from the previously listed variable, which is the duration of time the participant held the position of emergency manager. McBride-Jones (1991) collected data on the same independent variable of number of years in the field of emergency management to determine whether a correlation between this independent variable and the results of the Fisher-Tack Effective Leadership Inventory. Lohr (1982), who studied the leadership styles of school superintendents using the MLQ, also collected data on the number of years of experience of the leaders as an independent variable. Hutchinson (2011) collected data on the number of years of professional experience that the participants had as an independent variable. Hutchinson (2011) used this independent variable to provide a potential explanation of his study's MLQ questionnaire results. This independent variable was addressed by RQ4.

RQ4: Is there a statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited?

H_{04}: There is no statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited.

H_{a4}: There is a statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited.

OH4 (Operational Hypothesis): There is no relationship between emergency managers' years of experience in the field of emergency management and the transformational leadership style.

The variable of an emergency manager's number of subordinates was collected. This variable served in the correlational analysis to determine whether the emergency manager's number of subordinates was statistically correlated to the leadership styles currently exhibited. Sutherland (2010) and Carioti (2011) collected data on the number of direct subordinates as an independent variable. They used this independent variable to help explain the results of the leadership styles based on their studies' MLQ questionnaire results. This independent variable was addressed by RQ5.

RQ5: Is there a statistically significant correlation between emergency managers' number of subordinates and the leadership styles exhibited?

H_{05}: There is no statistically significant correlation between emergency managers' number of subordinates and the leadership styles exhibited.

H_{a5}: There is a statistically significant correlation between emergency managers' number of subordinates and the leadership styles exhibited.

OH5 (Operational Hypothesis): There is no relationship between emergency managers' number of subordinates and the transformational leadership style.

The variable of the size of the emergency managers' organization was collected. This variable served in the correlational analysis to determine whether the size of the emergency managers' organization was statistically correlated to the leadership styles currently exhibited. McBride-Jones (1991) collected data on a similar independent

variable; the level of local government that employed the leaders studied. This variable indicated the size of the organization, thus facilitating identification of a correlation between organization size and the MLQ questionnaire results. Domerchie (2011) and Sutherland (2010) also collected data on the size of the organization as an independent variable. They used this variable to help to explain the results of the leadership styles based on their studies' MLQ questionnaire results. The independent variable of the size of each emergency manager's organization was addressed by RQ6.

RQ6: Is there a statistically significant correlation between emergency managers' size of the organization and the leadership styles exhibited?

H_{06}: There is no statistically significant correlation between emergency managers' size of the organization and the leadership styles exhibited.

H_{a6}: There is a statistically significant correlation between emergency managers' size of the organization and the leadership styles exhibited.

OH6 (Operational Hypothesis): There is no relationship between emergency managers' size of organization and the transformational leadership style.

The variable of the number of emergency management training exercises that the emergency managers had participated in the past 3 years was collected. This variable served in the correlational analysis to determine whether the number of emergency management training exercises that the emergency managers had participated in the past 3 years was statistically correlated to the leadership styles currently exhibited. This variable served in the correlational analysis to determine whether the number of

emergency management training exercises that the emergency managers had participated in the past 3 years was statistically correlated to the leadership styles currently exhibited.

RQ7: Is there a statistically significant correlation between the frequency of disaster exercises participated in the last 3 years and the leadership styles exhibited?

H_{07}: There is no statistically significant correlation between frequency of exercises participated in the past 3 years and the leadership styles exhibited.

H_{a7}: There is a statistically significant correlation between frequency of exercises participated in the past 3 years and the leadership styles exhibited.

OH7 (Operational Hypothesis): There is no relationship between the frequency of disaster exercises participated in the past 3 years and the transformational leadership style.

The variable of the number of actual disasters that the emergency managers had participated in the past 3 years was collected. This variable served in the correlational analysis to determine whether the number of actual disasters that the emergency managers had participated in the past 3 years was statistically correlated to the leadership styles currently exhibited. Fox (2009) collected data on the number of incidents that incident commanders had participated in. Fox (2009) used this variable to identify a potential correlation between this independent value and the results of the MLQ. This independent variable was addressed by RQ8.

RQ8: Is there a statistically significant correlation between the frequency of actual disasters events participated in the past 3 years and the leadership styles exhibited?

H_{08}: There is no statistically significant correlation between frequency of disasters events participated in the past 3 years and the leadership styles exhibited.

H_{a8}: There is a statistically significant correlation between frequency of disasters events participated in the past 3 years and the leadership styles exhibited.

OH8 (Operational Hypothesis): There is no relationship between the frequency of actual disaster events participated in the past 3 years and the transformational leadership style.

Data Analysis

The descriptive and inferential statistics garnered from this study were used to determine the predominant and most effective leadership style exhibited by state and local government emergency managers in Arizona. They were also used to determine the distribution of leadership styles within the sample.

Descriptive analyses provided valuable information about the sample. Trochim (2006) stated that descriptive statistics "form the basis of virtually every quantitative analysis of data" (p. 14). Examples of descriptive statistics from this study included distribution, central tendencies, and dispersion of the collected data. Specific examples of descriptive statistics included the average number of years that the participants had held the title of emergency manager, and the average number of disasters that the participants had participated in within the past 3 years. An example of a statistic of central tendency included in the study was the mean for each variable collected.

Inferential statistics were used to make determinations about the target population being researched. The Pearson product-moment correlation was used to determine

whether a statistically significant correlation existed between leadership styles and leadership outcomes. These datasets met all four of the following assumptions required to be able to use the Pearson's product-moment correlation; (a) both variables are continuous, (b) there was a linear relationship between the variables, (c) there were no significant outliers, and (d) the variables were approximately normally distributed (Lund Research Ltd., 2013). This correlation determined whether transformational leadership was an effective leadership style. Brown et al. (1996), Fenn and Mixon (2011), and Goodwin et al. (2001) also used the Pearson product-moment correlation to establish if statistically significant correlations existed with MLQ questionnaire results.

Spearman's rank-order correlation coefficient was used to determine whether a statistically significant correlation existed between leadership styles and the demographic variables. The demographics datasets did not meet the fourth assumption required for use of the Pearson's product-moment correlation which was that the variables were approximately normally distributed (Lund Research Ltd., 2013). Therefore, the Spearman's rank correlation was used. To use the Spearman's rank-order correlation, the following two assumptions were met; (a) the two variables were ordinal and (b) there was a monotonic relationship between the variables (Lund Research Ltd., 2013). Chan and Chan (2005), Eshraghi et al. (2011), and Lenhardt et al. (2011) also used the Spearman's rank-order correlation coefficient to establish if statistically significant correlations existed with MLQ questionnaire results. These inferential statistical analyses helped to determine whether any of the independent variables had a statistically significant correlation to the style of leadership exhibited by the study’s sample of local and state

government emergency managers in Arizona. Statistics describing the sample distribution characteristics were included to add depth to the analysis and aid in the explanation of the results.

The software used to perform the data management and analyses for this study was Microsoft Office Excel 2007 and the statistical analysis software add-in for Microsoft Office Excel 2007 named Analyze-It Standard Edition created by Analyze-it Software, Ltd. All tables resulting from these analyses, which helped to illustrate the results of the analyses, are in Chapter 4.

Threats to Validity

Trochim (2006) stated, "There are three major threats to external validity because there are three ways you could be wrong— people, places or times." Threats to the external validity of the study include the geographic region of the study being limited to a single state and the point in time when the data was collected. The generalizability of the results to populations of other geographic regions and at other points in time may be limited. Threats to the internal validity of the study include the social desirability bias and false respondent bias. The social desirability bias occurs when study participants answer questions on a survey that they feel may be more socially acceptable than they may have answered ordinarily. The false respondent bias occurs when someone other than the study's intended participant completes the survey (Trochim & Donnelly, 2008).

Protection of Participants

The participants were volunteers and were not compensated for their participation. They were notified of the option to withdraw from the study at any time

without penalty. They were also assured that every precaution would be taken to ensure the confidentiality of all personal information shared and that the study would not portray information in a manner which could be used to identify them in the results.

Participants were ensured that the study adhered to the Walden University Institutional Review Board (IRB) requirements for research (IRB approval #12-29-12-163588). All personal data collected for the study was secured, and will be destroyed 5 years after completion of the study, as per Walden's IRB requirements. The data are stored only in password-protected directories on an encrypted flash drive, which is stored in a locked filing cabinet.

All of the participants were provided with detailed information about this study. This information included the purpose of the study, the role of the researcher in the study, how the study results would be made available on completion, assurances of confidentiality of the collected information, and their right to withdraw from the study at any time. Participants were also given the researcher's personal contact information in case they had any questions or concerns about the study.

Summary

Chapter 3 included information about the research design, setting and sample, instrument and materials, data collection and analyses methods, and measures to protect the participants. Chapter 4 will report the study findings. Chapter 5 will explain the study findings and offer recommendations for action and future research.

Chapter 4: Results

Introduction

The purpose of this cross-sectional study was to determine whether transformational leadership was the predominant leadership style and whether transformational leadership is the most effective leadership style for a sample of state and local government emergency managers in the state of Arizona. The gap in the literature in the research on the leadership styles of emergency managers was addressed by this study through the identification of the most predominant leadership style and the most effective leadership style of government emergency managers in Arizona. This study also determined whether a statistically significant correlation existed between six other variables and the three leadership styles investigated. This chapter will discuss the study's data collection and analysis results.

Data Collection

Data were collected on two separate occasions. The first data collection occurred in May of 2012 and resulted in 16 completed surveys. A second data collection effort was conducted in January of 2013 and resulted in 26 completed surveys. Of the 112 potential participants, a total of 51 responded as willing to participate; 42 of these 51 completed the questionnaire. Therefore, the data were used from the 42 completed surveys. The nine incomplete surveys were excluded from the study. The total survey response rate for the study was 37.5%. A multitude of previous studies have used the MLQ questionnaire with similarly small response rates, such as those performed by Anderson (2010), Drake (2010), Hernandez (2010), Kest (2007), and Shepeard (2007).

Results

Analysis of Questionnaire Responses

RQ1: Is transformational leadership the dominant leadership style exhibited by local government emergency managers? Results from the MLQ 5X Short demonstrating the prevalence of the nine leadership factors allowed for the assessment of the frequency of the three leadership styles (i.e., transformational leadership, transactional leadership, and laissez-faire leadership). The resulting data values were between 0 (*complete lack of presence*) and 4 (*highest level of presence*). The results for the leadership factors, which comprise each of the three leadership styles, are represented in the same manner. Table 1 shows the MLQ 5X Short results and descriptive statistics from the study for the transformational leadership factors. Table 2 shows the MLQ 5X Short results and descriptive statistics for the transactional leadership factors, and Table 3 shows results for the passive-avoidant leadership factors. They are ordered from the highest order leadership, transformational, to the lowest order leadership, passive-avoidant. For each leadership factor and leadership outcome, the mean score, minimum score, maximum score, and standard deviation are provided. Table 4 provides the results and descriptive statistics for the leadership outcomes. The mean score for each of the three leadership styles is provided in Table 5. A factor percentile, obtained from the MLQ 5X Short Manual and based on the mean score of each MLQ factor from this study, is also provided in Tables 1 through 4. The factor percentile describes the percentage of participants from previous studies that had a lower value than this study. This normative value was attained from previous studies with a total of 3,755 MLQ self-evaluator

participants (Avolio & Bass, 2005). The leadership outcomes are also included in the table and are represented in the same fashion as the leadership factors. Table 1 shows the aggregate results and descriptive statistics of the leadership outcome factors.

Table 1

Transformational Leadership Style Multifactor Leadership Questionnaire Results and Statistics

Leadership Style Factor	*N*	Mean	Min	Max	*SD*	Percentile
Idealized Attributes (IA)	42	3.07	1.25	4.00	0.76	60
Idealized Behaviors (IB)	42	2.97	1.75	4.00	0.54	30
Inspirational Motivation (IM)	42	3.27	2.25	4.00	0.60	60
Intellectual Stimulation (IS)	42	2.89	1.00	4.00	0.65	40
Individual Consideration (IC)	42	3.15	1.00	4.00	0.65	40

Note. Ratings based on a 5-point Likert scale of 0 (*not at all*) to 4 (*frequently, if not always*)

Table 2

Transactional Leadership Style Multifactor Leadership Questionnaire Results and Statistics

Leadership Style Factor	*N*	Mean	Min	Max	*SD*	Percentile
Contingent Reward (CR)	42	3.02	1.50	4.00	0.63	50
Mgmt by Exception-Active (MBEA)	42	1.40	0.00	3.00	0.77	40

Note. Ratings based on a 5-point Likert scale of 0 (*not at all*) to 4 (*frequently, if not always*)

Table 3

Passive-Avoidant Leadership Style Multifactor Leadership Questionnaire Results and Statistics

Leadership Style Factor	*N*	Mean	Min	Max	*SD*	Percentile
Mgmt by Exception-Passive (MBEP)	42	0.71	0.00	2.25	0.60	20
Laissez-Faire (LF)	42	0.16	0.00	1.00	0.25	10

Note. Ratings based on a 5-point Likert scale of 0 (*not at all*) to 4 (*frequently, if not always*)

Table 4

Leadership Outcomes Multifactor Leadership Questionnaire *Results and Statistics*

Leadership Style Factor	*N*	Mean	Min	Max	*SD*	Percentile
Idealized Attributes (IA)	42	3.01	1.33	4.00	0.72	70
Idealized Behaviors (IB)	42	3.38	1.00	4.00	0.60	60
Individual Consideration (IC)	42	3.29	2.00	4.00	0.63	60

Note. Ratings based on a 5-point Likert scale of 0 (*not at all*) to 4 (*frequently, if not always*)

Table 5

Leadership Styles Aggregate Scores from Multifactor Leadership Questionnaire

Leadership Style	Score
Transformational Leadership Style	3.07
Transactional Leadership Style	2.21
Passive-Avoidant Leadership Style	0.44

Note. Ratings based on a 5-point Likert scale of 0 (*not at all*) to 4 (*frequently, if not always*)

The most predominant leadership style exhibited by Arizona government emergency managers was discovered by reviewing the MLQ 5X Short results. The results demonstrated the presence and magnitude of each of the nine leadership factors measured. The mean of each leadership style's factors provided a value by which the prominence of each leadership style could be determined from the total sample.

Research Question 1

RQ1: What is the most predominant leadership style exhibited by local and state government emergency managers in Arizona? The results of the MLQ 5X Short survey provided a measure of the prominence of the three leadership styles included in the study: transformational leadership, transactional leadership, and passive-avoidant leadership. The aggregate results from the MLQ 5X Short identified the most predominant leadership style exhibited as transformational leadership ($M = 3.07$) as shown in Table 1. Transactional leadership style was the second most predominant leadership style exhibited ($M = 2.21$) and passive-avoidant leadership style was the least predominant ($M = 0.44$).

The MLQ 5X Short scoring is based on a 5-point Likert scale of 0 (not at all), 1 (once in a while), 2 (sometimes), 3 (fairly often), and 4 (frequently, if not always). This study's transformational leadership style aggregate mean score value of 3.07 describes the use of the exhibition of the transformational leadership style by the sample as "fairly often" to "frequently, if not always." The aggregate measure of the prominence of transformational leadership was derived from the mean of the five leadership factors that

make up the measure of transformational leadership in the MLQ 5X Short. The most prevalent transformational leadership factor was inspirational motivation (M = 3.27). The second most prevalent transformational leadership factor was individual consideration (*M* = 3.15). The third most prevalent transformational leadership factor was idealized attributes (*M* = 3.07). Idealized behavior was the fourth most prevalent transformational leadership factor (M = 2.97) and intellectual stimulation was the least prevalent transformational leadership factor (M = 2.89).

Hypothesis 1

Null Hypothesis 1 stated that transformational leadership is not the most predominant leadership style exhibited by local and state government emergency managers in Arizona. Alternative Hypothesis 1 stated that transformational leadership is the dominant leadership style exhibited by local and state government emergency managers in Arizona. The predominant leadership style exhibited by state and local government emergency managers in Arizona was found to be transformational; therefore Alternative Hypothesis 1 was accepted and Null Hypothesis 1 was rejected.

Research Question 2

RQ2: What leadership style is strongly related to leadership outcomes in terms of extra effort, effectiveness, and satisfaction for local and state government emergency managers in Arizona? Pearson's product-moment correlation was used to determine if there was a statistically significant correlation between leadership styles and leadership outcomes as well as between the individual leadership factors and leadership outcomes. These datasets meet all four of the following assumptions required to be able to use the

Pearson's product-moment correlation; (a) both variables are continuous, (b) there was a linear relationship between the variables, (c) there were no significant outliers, and (d) the variables were approximately normally distributed (Lund Research Ltd., 2013).

The Pearson product-moment correlation analyses results are interpreted by the value *r* and where it falls within the following ranges; (a) values between -0.09 to 0.0 and 0.0 to 0.9 have no correlation, (b) values between -0.3 to -0.1 and 0.1 to 0.3 have a small correlation, (c) values between -0.5 to -0.3 and 0.3 to 0.5 have a medium correlation, (d) and values between -1.0 to -0.5 and 0.5 to 1.0 have a strong correlation. Correlations with a negative value are negatively correlated and correlations with a positive value are positively correlated.

Table 6 shows the results of the Pearson product-moment correlation analyses between each of the five transformational leadership factors and each of the three leadership outcome factors. Table 7 shows the results of the Pearson product-moment correlation analyses between the two transactional leadership factors and each of the three leadership outcome factors. Table 8 shows the results of the Pearson product-moment correlation analyses between the two passive-avoidant leadership factors and each of the three leadership outcome factors. The majority of the strongest correlations to leadership outcomes occurred with transformational leadership factors. With a value of 40 for the degrees of freedom, and an alpha level of .05, a Pearson product-moment correlation critical value of 0.304 or greater was required to establish that a statistically significant correlation existed.

Table 6

Transformational Factors and Leadership Outcomes Pearson Correlations

Leadership Style Factor	*N*	EE r	Correlation	EFF r	Correlation	SAT r	Correlation
IA	42	0.720	Strong-Positive	0.764	Strong-Positive	0.670	Strong-Positive
IB	42	0.546	Strong-Positive	0.383	Medium-Positive	0.428	Medium-Positive
IM	42	0.686	Strong-Positive	0.655	Strong-Positive	0.667	Strong-Positive
IS	42	0.761	Strong-Positive	0.676	Strong-Positive	0.585	Strong-Positive
IC	42	0.735	Strong-Positive	0.677	Strong-Positive	0.682	Strong-Positive

Note. IA = idealized attributes, IB = idealized behaviors, IM = inspirational motivation, IS = intellectual stimulation, IC = individualized consideration, EE = extra effort, EFF = effectiveness, SAT = satisfaction, *r* = Pearson product correlation.

Table 7

Transactional Factors and Leadership Outcomes Pearson Correlations

Leadership Style Factor	*N*	EE r	Correlation	EFF r	Correlation	SAT r	Correlation
CR	42	0.645	Strong-Positive	0.538	Strong-Positive	0.489	Medium-Positive
MBEA	42	-0.087	None	-0.187	Strong-Negative	-0.069	None

Note. CR = contingent reward, MBEA = management by exception-active, EE = extra effort, EFF = effectiveness, SAT = satisfaction, r = Pearson product correlation.

Table 8

Passive-Avoidant Factors and Leadership Outcomes Pearson Correlations

Leadership Style Factor	*N*	EE r	Correlation	EFF r	Correlation	SAT r	Correlation
MBEP	42	-0.360	Medium-Negative	-0.522	Strong-Negative	-0.392	Medium-Negative
LF	42	-0.467	Medium-Negative	-0.584	Strong-Negative	-0.368	Medium-Negative

Note. MBEP = management by exception-passive, LF = laissez-faire, EE = extra effort, EFF = effectiveness, SAT = satisfaction, r = Pearson product correlation.

Table 9 shows the results of the Pearson product-moment correlation analyses between each of the three leadership styles and the three leadership outcome factors. The leadership style score value is the mean score of the leadership factors that make up each

style. The strongest correlations to leadership outcomes occurred with the transformational leadership style with values described as strongly positively correlated to all three leadership outcomes. Therefore the transformational leadership style is the most effective leadership style for this study's sample. The leadership outcome of extra effort had the highest positive Pearson product-moment correlation value to transformational leadership ($r = 0.690$), followed by effectiveness ($r = 0.633$), and satisfaction ($r = 0.606$).

The correlation values between the transactional leadership style and the three leadership outcomes were in a range that could be described as exhibiting a small positive correlation. The leadership outcome of extra effort had the highest positive Pearson product-moment correlation value to transactional leadership ($r = 0.279$), followed by satisfaction ($r = 0.210$), and effectiveness (0.176).

All of the Pearson product-moment correlation values attained between passive avoidant leadership and the leadership outcomes demonstrated a negative correlation. The strongest negatively correlated leadership outcome with passive avoidant leadership was effectiveness ($r = -0.553$), which can be described as a strong correlation. Both extra effort ($r = -0.414$) and satisfaction ($r = -0.380$) were found to have a medium correlation to passive avoidant leadership.

Table 9

Leadership Styles and Leadership Outcomes Pearson Correlations

Leadership Style	*N*	EE r	Correlation	EFF r	Correlation	SAT r	Correlation
Transformational	42	0.690	Strong-Positive	0.633	Strong-Positive	0.606	Strong-Positive
Transactional	42	0.279	Small-Positive	0.176	Small-Positive	0.210	Small-Positive
Passive-Avoidant	42	-0.414	Medium-Negative	-0.553	Strong-Negative	-0.380	Medium-Negative

Note. EE = extra effort, EFF = effectiveness, SAT = satisfaction, r = Pearson product correlation.

Hypothesis 2

Null Hypothesis 2 stated that transformational leadership is the most effective leadership style for state and local government emergency managers in Arizona. Alternative Hypothesis 2 stated that transformational leadership is not the most effective leadership style for local and state government emergency managers in Arizona. The most effective leadership style for local and state government emergency managers in Arizona who participated in the study was found to be the transformational leadership style. Therefore, Null Hypothesis 2 was accepted and Alternative Hypothesis 2 was rejected.

Research Questions 3 through 8 Descriptive Statistics

Pearson's product-moment correlation was not used to determine if there was a statistically significant correlation between leadership styles and the demographic variables. The demographics datasets did not meet the fourth assumption required for use of the Pearson's product-moment correlation, that the variables were approximately normally distributed (Lund Research Ltd., 2013). Therefore, the Spearman's rank correlation was used. To use the Spearman's rank-order correlation, the following two assumptions were met; (a) the two variables were ordinal and (b) there was a monotonic relationship between the variables (Lund Research Ltd., 2013).

The Spearman's rank-order correlation coefficient analyses results are interpreted by the value *r* and where it falls within the following ranges; (a) r_s values between 0.9 to 1.0 have very high correlation, (b) r_s values between 0.7 and 0.89 have strong correlation, (c) r_s values between 0.5 and 0.69 have moderate correlation, (d) r_s values between 0.3 and 0.49 have moderate to low correlation, (e) r_s values between 0.16 and 0.29 have weak to low correlation, and (f) r_s values below 0.16 are too low to be meaningful (Bold Ed., 2013).

To answer RQ3 to RQ8, data for the six additional independent variables was collected. The correlating questions were appended to the beginning of the MLQ 5X Short questionnaire. These questions were used to determine (a) emergency managers' years of experience as emergency managers, (b) years of experience in the field of emergency management, (c) emergency manager's number of subordinates, (d) size of each emergency manager's organization, (e) frequency of emergency management

exercises participated in the past 3 years, and (f) frequency of actual disasters participated in the past 3 years.

The average number of years of experience as emergency managers was 5.52 years. Fenn and Mixon (2011), Lohr (1982), McBride-Jones (1991), and Wart and Kapucu (2011) also used the years of experience of study participants in their studies of leadership. The average number of years in the field of emergency management was 9.83 years. In their studies of leadership, Fenn and Mixon (2011), Hutchinson (2011), Lohr (1982), and McBride-Jones (1991) also used the number of years their study participants have been in their professional discipline. The participants had an average of 3.52 direct reports. Carioti (2011), Sutherland (2011), and Wart and Kapucu (2011) also collected data on the number of direct reports of their study participants for their studies of leadership. The average organization size value was 1.67, indicating an average organization size between 501 and 1,000 employees. Domerchie (2011), Sutherland (2011), and Wart and Kapucu (2011) also used the size of their participants' organizations in their studies of leadership. Wart and Kapucu (2011) broke down the number of employees in the organizations into several numeric ranges to be selected by the participants on the survey. Wart and Kapucu (2011) then used these values in Pearson product-moment correlation coefficient analyses to determine if relationships existed between them and MLQ leadership styles and leadership factors. The average number of disaster exercises participated in was 8.52. For their studies of emergency management, Kokcu et al. (2012) and Smith et al. (2012) also used the number of exercises in which their study participants had participated. The average number of actual disasters

participated in was 2.00. Fox (2009) and Wart and Kapucu (2011) both attained their study participants' number of disasters participated in for their studies of leadership. The descriptive statistics from the survey results for the six independent variables can be seen in Table 10.

Table 10

Transformational Leadership Style Multifactor Leadership Questionnaire Results and Statistics

Demographic Variables	*N*	Total	Mean	Min	Max	*SD*
Years in position of emergency manager	42	232	5.52	0	30	5.64
Years in field of emergency management	42	413	9.83	1	37	8.75
Number of direct reports	42	148	3.52	0	40	6.79
Size of organization	42	n/a	1.67	1	9	1.37
Disaster exercises participated in	42	358	8.52	1	25	6.83
Actual disasters participated in	42	84	2.00	0	12	3.15

Research Question 3

RQ3: Is there a statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited? The Spearman's rank-order correlation coefficient was used to determine whether a statistically significant correlation existed. The significance level of .05 was selected for this analysis. The Spearman's rank-order correlation coefficient value would need to be less than -0.305 or greater than 0.305 for a correlation to be statistically significant. None of the leadership styles' coefficient values was greater than the critical value; therefore, none of the three leadership styles had a statistically significant correlation to the emergency managers' years of experience as emergency managers.

Hypothesis 3

Null Hypothesis 3 stated that there is no statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited. Alternative Hypothesis 3 stated that there is a statistically significant correlation between emergency managers' years of experience as emergency managers and the leadership styles exhibited. Null Hypothesis 3 was not rejected because no correlation was found between emergency managers' years of experience as emergency managers and the leadership styles exhibited. Table 5 shows the results of the Spearman's rank-order correlation coefficient analysis to the three leadership styles for RQ3.

Research Question 4

RQ4: Is there a statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited? The Spearman's rank-order correlation coefficient was used to determine whether a statistically significant correlation existed. The significance level of .05 was selected for this analysis. The Spearman's rank-order correlation coefficient value would need to be less than -0.305 or greater than 0.305 for a correlation to be statistically significant. None of the leadership styles' coefficient values was greater than the critical value; therefore, none of the three leadership styles had a statistically significant correlation to the emergency managers' years of experience in the field of emergency management.

Hypothesis 4

Null Hypothesis 4 stated that there is no statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited. Alternative Hypothesis 4 stated that there is a statistically significant correlation between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited. Null Hypothesis 4 was not rejected because no statistically significant correlation was found between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited. Table 5 shows the results of the Spearman's rank-order correlation coefficient analysis to the three leadership styles for RQ4

Research Question 5

RQ5: Is there a statistically significant correlation between emergency managers' number of subordinates and the leadership styles exhibited? The Spearman's rank-order correlation coefficient was used to determine whether a statistically significant correlation existed. The significance level of .05 was selected for this analysis. The Spearman's rank-order correlation coefficient value would need to be less than -0.305 or greater than 0.305 for a correlation to be statistically significant. None of the leadership styles' coefficient values was greater than the critical value; therefore, none of the three leadership styles had a statistically significant correlation to emergency managers' number of subordinates.

Hypothesis 5

Null Hypothesis 5 stated that there is no statistically significant correlation between emergency managers' number of subordinates and the leadership styles exhibited. Alternative Hypothesis 5 stated that there is a statistically significant correlation between emergency managers' number of subordinates the leadership styles exhibited. Null Hypothesis 5 was not rejected because no statistically significant correlation was found between emergency managers' number of subordinates and the leadership styles exhibited. Table 5 shows the results of the Spearman's rank-order correlation coefficient analysis to the three leadership styles for RQ5

Research Question 6

RQ6: Is there a statistically significant correlation between emergency managers' size of the organization and the leadership styles exhibited? The Spearman's rank-order

correlation coefficient was used to determine whether a statistically significant correlation existed. The significance level of .05 was selected for this analysis. The Spearman's rank-order correlation coefficient value would need to be less than -0.305 or greater than 0.305 for a correlation to be statistically significant. None of the leadership styles' coefficient values was greater than the critical value; therefore, none of the three leadership styles had a statistically significant correlation to emergency managers' size of the organization.

Hypothesis 6

Null Hypothesis 6 stated that there is no statistically significant correlation between emergency managers' size of the organization and the leadership styles exhibited. Alternative Hypothesis 6 stated that there is a statistically significant correlation between emergency managers' size of the organization and the leadership styles exhibited. Null Hypothesis 6 was not rejected because no statistically significant correlation was found between emergency managers' size of the organization and the leadership styles exhibited. Table 5 shows the results of the Spearman's rank-order correlation coefficient analysis to the three leadership styles for RQ6

Research Question 7

RQ7: Is there a statistically significant correlation between the frequency of disaster exercises participated in the past 3 years and the leadership styles exhibited? The Spearman's rank-order correlation coefficient was used to determine whether a statistically significant correlation existed. The significance level of .05 was selected for this analysis. The Spearman's rank-order correlation coefficient value would need to be

less than -0.305 or greater than 0.305 for a correlation to be statistically significant. The transformational leadership style coefficient ($r_s = 0.463$) was greater than the critical value; therefore, transformational leadership style had a statistically significant positive correlation to the frequency of disaster exercises participated in the past 3 years. The transactional leadership style coefficient ($r_s = 0.200$) was not greater than the critical value; therefore, the transactional leadership style did not have a statistically significant correlation to the frequency of disaster exercises participated in the past 3 years. The passive-avoidant leadership style coefficient ($r_s = -0.285$) was greater than the critical value; therefore, the passive-avoidant leadership style did not have a statistically significant correlation to the frequency of disaster exercises participated in the past 3 years.

Hypothesis 7

Null Hypothesis 7 stated that there is no statistically significant correlation between frequency of exercises participated in the past 3 years and leadership styles exhibited. Alternative Hypothesis 7 stated that there is a statistically significant correlation between frequency of exercises participated in the past 3 years and the leadership styles exhibited. Null Hypothesis 7 was rejected because a statistically significant correlation was found between frequency of exercises participated in the past 3 years and the transformational leadership style exhibited. Table 5 shows the results of the Spearman's rank-order correlation coefficient analysis to the three leadership styles for RQ7

Research Question 8

RQ8: Is there a statistically significant correlation between the frequency of actual disaster events participated in the past 3 years and the leadership styles exhibited? The Spearman's rank-order correlation coefficient was used to determine whether a statistically significant correlation existed. The significance level of .05 was selected for this analysis. The Spearman's rank-order correlation coefficient value would need to be less than -0.305 or greater than 0.305 for a correlation to be statistically significant. None of the leadership styles' coefficient values was greater than the critical value; therefore, none of the three leadership styles had a statistically significant correlation to the frequency of actual disaster events participated in the past 3 years.

Hypothesis 8

Null Hypothesis 8 stated that there is no statistically significant correlation between frequency of disaster events participated in the past 3 years and the leadership styles exhibited. Alternative Hypothesis 8 stated that there is a statistically significant correlation between frequency of disaster events participated in the past 3 years and the leadership styles exhibited. Null Hypothesis 8 was not rejected because no statistically significant correlation was found between the frequency of disaster events participated in the past 3 years and the leadership styles exhibited. Table 11 shows the results of the Spearman's rank-order correlation coefficient analysis to the three leadership styles for RQ8.

Table 11

Leadership Styles and Demographic Variables Spearman Correlations

	Transformational		Transactional		Passive-Avoidant	
Variables	r_s	Correlation	r_s	Correlation	r_s	Correlation
Years in position of emergency manager	0.0.32	None	-0.036	None	0.213	Weak-Low Positive
Years in field of emergency management	0.045	None	-0.161	Weak-Low Negative	0.125	None
Number of direct reports	-0.020	None	-0.153	None	-0.035	None
Organization size	-0.066	None	0.028	None	0.109	Weak-Low Negative
Disaster exercise participation	0.463	Moderate-Low Positive	0.200	Weak-Low Positive	-0.285	Strong-Positive
Actual disaster participation	0.156	None	-0.058	None	-0.056	None

Note. r_s = Spearman's rank-order correlation

Summary

The results of the findings from the MLQ 5X Short are presented in this chapter. The results from the additional six independent variables were also presented in this chapter. Analysis of the results for RQ1 determined that the dominant leadership style exhibited by government emergency managers in Arizona included in this study exhibited the transformational leadership style the most predominantly. Analysis of the results for RQ2 determined that transformational leadership is the most effective leadership style for the government emergency managers in Arizona who were included in this study. Analysis of the results of the six additional demographic independent variables used to answer RQ3 to RQ8 determined that five of the six had no statistically significant correlation between the variables and the three leadership styles exhibited. The only demographic independent variable found to have statistically significant correlations to the leadership styles was the number of disaster exercises participated in the past 3 years by the emergency managers included in the study. A statistically significant positive correlation was discovered between this variable and the transformational leadership style. In Chapter 5, the study summary, conclusions, and recommendations are presented. The implications of the findings and proposals for future research are also discussed. The positive social contribution of the study will also be reviewed.

Chapter 5: Summary, Conclusions, and Recommendations

Introduction

The purpose of this cross-sectional study was to determine whether transformational leadership is the most effective leadership style for government emergency managers in state of Arizona and if it was also the predominant style exhibited. There is little research into leadership styles of emergency managers in general, and there is less known research specifically directed toward determining whether any particular leadership style may be more effective than others in emergency management. This lack of existing research was addressed by identifying whether transformational leadership was the most effective leadership style for government emergency managers in the state of Arizona and whether it was the predominant leadership style exhibited at the time of the study. It also contributed to the literature by determining whether a correlation existed between six independent variables and the leadership styles exhibited. The Multifactor Leadership Questionnaire 5X Short was used to collect data for the study.

Correlation analyses were used to determine whether transformational leadership was the most effective leadership style and whether a statistically significant correlation existed between the leadership styles investigated and the six demographic variables collected. The Pearson product-moment correlation and Spearman's rank-order correlation were used for the correlation analyses.

For Research Question 1, the predominant leadership style exhibited by state and local government emergency managers in Arizona was found to be the transformational

style; therefore Alternative Hypothesis 1 was accepted. For Research Question 2, the most effective leadership style for local and state government emergency managers in Arizona was found to be the transformational leadership style; therefore Null Hypothesis 1 was accepted. For the six secondary research questions (RQ3–RQ8), only Research Question 7's alternative hypothesis was accepted when a statistically significant correlation was discovered. The remaining secondary research questions (RQ3–RQ6 and RQ8) lacked statistically significant correlations; therefore the null hypotheses were accepted. Only two statistically significant correlations were found of the seven correlation analyses performed to answer research questions RQ2 through RQ8 (see Table 12).

Table 12

Research Question 2 through Research Question 8 Correlation Analyses Results

Research question and independent variable	Correlation?	Hypothesis supported
RQ2 -Transformational Leadership Style Most Effective	Yes	H_{a2}
RQ3 -Years as emergency manager	No	H_{03}
RQ4 -Years in emergency management	No	H_{04}
RQ5 - Number of subordinates	No	H_{05}
RQ6 - Size of organization	No	H_{06}
RQ7 - Disaster exercises	Yes	H_{a7}
RQ8 - Actual disasters	No	H_{08}

Note. RQ = Research Question

Interpretation of the Findings

Research Question 1

The aggregate study results showed that the predominant leadership style exhibited was the transformational leadership style. Fox (2009) had found transformational leadership to be the most predominant leadership style for incident commanders, a discipline closely related to emergency management. Rose-Smith (2012) found that emergency managers in the state of Virginia practiced transformational leadership more frequently than transactional or passive-avoidant leadership. Normative values for the MLQ, based on a plethora of studies with a total of 27,285 participants, also demonstrated that transformational leadership is the most prominent leadership style exhibited by leaders (Mind Garden, 2010).

Research Question 2

Transformational leadership was determined to be the most effective leadership style for emergency managers in the state of Arizona. Newman (2012) found transformational leadership was a more effective leadership style for local government leaders.

Research Question 3

A statistically significant correlation was not established between how many years an emergency manager has held the title of emergency manager and the leadership styles exhibited. These results paralleled those of Lohr (1982), who also was unable to find evidence of a statistically significant correlation between how long the leaders have held the position of leadership and the factors of their leadership styles. McBride-Jones (1991)

also could not find a statistically significant correlation between the number of years of experience that the leaders had in their positions and the leadership factors that they exhibited.

Research Question 4

A statistically significant correlation was not established between emergency managers' years of experience in the field of emergency management and the leadership styles exhibited. These results concurred with the findings of Lohr (1982). Lohr (1982) was also unable to establish a statistically significant correlation between how long the leaders had been in the discipline and their leadership styles. Hutchinson (2011) and McBride-Jones (1991) also could not establish a statistically significant correlation between the number of years of experience that the leaders had in their positions and the leadership factors that they exhibited.

Research Question 5

No statistically significant correlation was established between emergency managers' number of subordinates and the leadership styles exhibited. Research by Carioti (2011) and Sutherland (2011) also was not able to establish a statistically significant correlation between number of subordinates and the leadership factors exhibited.

Research Question 6

A statistically significant correlation was not established between emergency managers' size of the organization and the leadership styles exhibited. Studies performed by Domerchie (2011), McBride-Jones (1991), and Sutherland (2011), also did not

establish a correlation between organization size and the leadership factors exhibited by the leaders.

Research Question 7

A statistically significant correlation was established between the frequency of disaster exercises participated in the past 3 years and the leadership styles exhibited in this study. Fox (2009), who performed a similar study, was not able to establish a statistically significant correlation between the number of exercises that the leaders participated in and the leadership factors exhibited by the leaders. The identification of this correlation may suggest that the use of more disaster exercises incorporated into the training regime of emergency managers may increase the likelihood of their use of transformational leadership. This increase in the use of transformational leadership may result in more effective emergency management efforts.

Research Question 8

A statistically significant correlation was not established between the frequency of actual disasters events participated in the past 3 years and the leadership styles exhibited. Fox (2009) also was not able to establish a statistically significant correlation between the number of actual events that the leaders participated in and the leadership factors exhibited by the leaders.

Limitations of the Study

This study was limited by its small sample from a target population from a single state and only three levels of government. This study's sample comprised only state and local government emergency managers in the state of Arizona. It did not include

emergency managers from federal government, non-profit organizations, or for-profit organizations. Also, the self-reporting of the data incurs the risk that the participants may not have been honest in their responses or may not have reported them accurately. Finally, a nonresponsive bias resulting from the voluntary participation recruiting method of the study may have affected sample results and the generalizability of the results (Peytchev, Baxter, & Carley-Baxter, 2009). These limitations may have affected the generalizability of the study results to other geographic areas and other emergency managers from other types of organizations.

Recommendations for Future Research

The results showed that transformational leadership was the predominant leadership style exhibited by state and local government emergency managers in Arizona. The study results also determined that transformational leadership was the most effective leadership style for this study's population. Of the six demographic independent variables explored, only one was discovered to have a statistically significant correlation to the leadership style exhibited.

Future studies should be undertaken to determine if transformational leadership is also the most effective leadership style for emergency managers in other geographic regions, other levels of government, and other types of organizations that contribute to emergency management efforts. Additional research should be directed at identifying independent variables statistically correlated to the leadership styles exhibited by emergency managers. The identification of such independent variables and the most

effective leadership styles may aid in the hiring and training practices, as well as the identification, of effective emergency managers.

Implications for Social Change

Lack of improvement in emergency management effectiveness has resulted in greater loss of life and property (Lester & Krejci, 2007). Lester and Krejci (2007), as well as Waugh and Streib (2006), demonstrated that leadership in emergency management has become a more important issue in recent years and is in need of attention. Research identifying the most effective leadership styles for emergency managers has been scarce. This study's results provide a greater understanding into the leadership currently exhibited in emergency management.

The results of this study can be used to support future studies in verifying that transformational leadership is the most effective leadership style for emergency management and in verifying the identification of correlating variables. The incorporation of this knowledge into emergency management hiring and training practices could result in more effective emergency management efforts. More effective emergency management efforts can mitigate the negative effects of disaster events with a reduction in the loss of life and property. Such a reduction in the negative effects of disasters on society defines the positive social benefit of this study.

Conclusion

Emergency management is an important discipline directly affecting the welfare of the populace. Natural disasters are the largest cause of loss of life and property in the United States (Cigler, 2006). The United States has become more serious about

emergency management since the 9/11 and Hurricane Katrina disasters (Cigler, 2006), but improvements have yet to be made in the field of emergency management to make it more effective (Lester & Krejci, 2007). As members of a profession concerned about the minimization of loss of life and property resulting from disasters, emergency management leaders play an integral role in the success of emergency management operations (Boin & Hart, 2003; Fox, 2009). Previous research has determined that leadership in emergency management is not as effective as it should be (Devitt & Borodzicz, 2008). Determining the most effective leadership style for emergency management would increase the overall effectiveness of the discipline by decreasing the loss of life and property from disaster events. Peoples' lives and livelihoods depend on the effectiveness of emergency management efforts. This study is in the vanguard of the research required to determine the most effective leadership style for emergency management.

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Appendix A: MLQ 5X Short Example Questionnaire

Multifactor Leadership Questionnaire - Leader Form (5X Short)

Name _____ Date _____

Organization _____

The following are five sample questions for the appendix as authorized by Mind Garden Inc.

This questionnaire is to describe your leadership style as you perceive it. Please answer all items on this sheet. **If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.**

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word "others" may mean your peers, clients direct reports, supervisors, and/or all of these individuals.

Rating Scale

Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
0	1	2	3	4

I re-examine critical assumptions to question whether they are appropriate …….. 0 1 2 3 4

I talk about my most important values and beliefs…..…..…..…..…..…..…..…..…..…..…..…..… 0 1 2 3 4

I spend time teaching and coaching..... 0 1 2 3 4

I avoid making decisions 0 1 2 3 4

I heighten others' desire to succeed 0 1 2 3 4

Appendix B: Survey Instrument Permission Letter

mind garden

www.mindgarden.com

To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material for his/her research:

Instrument: *Multifactor Leadership Questionnaire*

Authors: *Bruce Avolio and Bernard Bass*

Copyright: *1995 by Bruce Avolio and Bernard Bass*

Five sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any published material.

Sincerely,

Robert Most
Mind Garden, Inc.
www.mindgarden.com

Appendix C: Walden IRB Approval Letter

Dear Mr. Wilderman--

This email is to notify you that the Institutional Review Board (IRB) has approved your application for the study entitled, "An Exploratory Study of Local Government Emergency Managers' Leadership Styles."

Your approval # is 12-29-12-163588. You will need to reference this number in your dissertation and in any future funding or publication submissions. **Also attached to this e-mail is the IRB approved consent form.**

Your IRB approval expires on December 28, 2012. One month before this expiration date, you will be sent a Continuing Review Form, which must be submitted if you wish to collect data beyond the approval expiration date.

Your IRB approval is contingent upon your adherence to the exact procedures described in the final version of the IRB application document that has been submitted as of this date. If you need to make any changes to your research staff or procedures, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive an IRB approval status update within 1 week of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for research activities conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with the policies and procedures related to ethical standards in research.

When you submitted your IRB application, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to the researcher.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the IRB section of the Walden web site or by emailing irb@waldenu.edu: http://inside.waldenu.edu/c/Student_Faculty/StudentFaculty_4274.htm

Researchers are expected to keep detailed records of their research activities (i.e., participant log sheets, completed consent forms, etc.) for the same period of time they retain the original data. If, in the future, you require copies of the originally submitted IRB materials, you may request them from Institutional Review Board.

Please note that this letter indicates that the IRB has approved your research. You may not begin the research phase of your dissertation, however, until you have received the **Notification of Approval to Conduct Research** (which indicates that your committee and Program Chair have also approved your research proposal). Once you have received this notification by email, you may begin your data collection.

Both students and faculty are invited to provide feedback on this IRB experience at the link below

http://www.surveymonkey.com/s.aspx?sm=qHBJzkJMUx43pZegKlmdiQ_3d_3d

Sincerely,
Leilani Endicott, Ph.D.
Chair, Institutional Review Board
Director, Office of Research Integrity and Compliance
Walden University
Email: leilani.endicott@waldenu.edu
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Curriculum Vitae

EXPERIENCE

Eight years of working for local government in the field of Information Technology specializing in Geographic Information Systems.

EDUCATION

2013 Ph.D. in Public Policy and Administration
Walden University
Minneapolis, MN

2007 Master of Public Administration
Troy University
Troy, AL

2003 Bachelor of Arts in Geography
University of Arizona
Tucson, AZ

1999 Associate of Arts in General Studies
Cochise Community College
Sierra Vista, AZ

EMPLOYMENT

2005 - 2006 Geographic Information Systems Technician
Planning and Development Department
Pinal County, AZ

2006 - 2011 Geographic Information Systems Business Applications Specialist
Information Technology Department
Pinal County, AZ

2012 - Present Geographic Information Systems Project Manager
Tucson Parks and Recreation Department
City of Tucson, AZ

CERTIFICATION

2011 GISP - Certified Geographic Information Systems Professional