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Leading Through Crisis: Competencies for Effective Sport Security Professionals

Steven Gerald Miller
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The University of Southern Mississippi

LEADING THROUGH CRISIS: COMPETENCIES FOR EFFECTIVE SPORT SECURITY PROFESSIONALS

by

Steven Gerald Miller

A Dissertation
Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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December 2012
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ABSTRACT

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Professional sporting events represent an increasingly growing segment of the national economy and, as a pastime, include annual participation from hundreds of millions of spectators. Providing effective safety and security for these events is a daunting task. Many professional sport venues are iconic structures for mass gatherings that represent susceptible targets for crises such as rising episodes of fan violence, natural disasters, and acts of terrorism.

As concerns are ongoing, professional sport organizations need security professionals who not only have the competencies to manage a crisis, but who also lead an organization post-crisis in order to affect organizational learning and improvement. A combination of crisis management and crisis leadership competencies has been developed through this research and form the dependent variables of the newly formed Crisis Readiness Score (CRS) research instrument.

The study documents and establishes a baseline for the perceived levels of these crisis readiness competencies. Through hypothesis testing, the study also examines the relationships between education levels, experience levels, and participation in training on the crisis readiness competencies. The study targeted individuals responsible for security at six major professional sport venues throughout the United States and Canada. The questionnaire was sent to 151 security directors with 71 of the surveys completed. A
statistical multiple regression was performed to analyze the hypotheses. Education level was not found to be a significant predictor of crisis readiness competency development. Both experience level and participation in training were found to be significant predictors of crisis readiness competency development.

The study enhances previous collegiate sport security research by identifying the level of competencies held by the professional sport security workforce. The findings also establish a baseline to which subsequent measures of such competencies can be compared.
ACKNOWLEDGMENTS

I would like to thank the dissertation director, Dr. Brent Hales, and the other committee members, Dr. Stacey Hall, Dr. Dale Lunsford, Dr. Chad Miller, and Dr. Brian Richard, for their support and guidance throughout the course of this project. I would especially like to thank Dr. Hales for his leadership and patience as I completed the phases of this endeavor.

Special thanks goes to Dr. Lou Marciani and the staff at the National Center for Spectator Sports Safety and Security (NCS\textsuperscript{4}) for their support and willingness to share their time and valuable domain-specific knowledge and resources.
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CHAPTER I
INTRODUCTION

Every year in the United States millions of people attend sporting events. These events represent an important part of American culture. In general, sports represent passion for athletic competition, enjoyment as a pastime whether participating or viewing, and an ever-growing business segment of the national economy. Unfortunately, there are risks and potential threats associated with holding sporting events. The events of September 11, 2001 served as a horrific awakening to America’s vulnerabilities. Acts of terrorism and other types of crises are real possibilities for mass gatherings such as sporting events.

Crises of many types serve as daily threats to sport venues. According to Fried (2005), sporting events are especially susceptible to acts of terrorism, natural disasters and fan violence. In a New York Times release, sport venues were number five in a top ten list of the most likely terrorist targets (Lipton, 2005). The short-term and long-term effects of crises like these can have a devastating impact not only on the citizenry but also on the national economy. According to Sauter and Carafano (2005), the 9/11 attacks cost the New York City economy $83 billion and the U.S. economy over $100 billion. In response to the events of 9/11, the United States government began taking steps to address the country’s ability to deal with crises such as terrorism and natural disasters. The Homeland Security Act (2002) created the Department of Homeland Security (DHS) to oversee and manage the need to detect, prevent, prepare for, respond to, and recover from acts of terrorism. DHS also became the parent organization of the Federal

In addition to the creation of government agencies tasked with the mission of keeping the country safe, a rapid increase in security technology development has emerged. On the market today are thousands of devices, sensors, and systems designed to aid in safety of and security for sporting events and venues. Products such as video cameras and person-screening devices represent a few of the methods used in enhancing spectator security (Miller, Veltri, & Gillentine, 2008). The development of technology has been a welcome addition to the tools available to sport venue security managers as they work to thwart threats and avoid crises. However, technology alone cannot solve the safety and security problems facing the sport venue industry. Financial resource constraints affect the installation and use of technology, and research shows that most sport venues have not been designed with high levels of security in mind (Then & Loosemore, 2006).

In addition to technology’s role in averting crises at sport venues, human capital must also be developed effectively and efficiently. Researchers acknowledge the need for training with respect to skills and knowledge needed for sport safety and security management (Hall, Fos, Marciani, & Zhang, 2011). The need for training and development in this field has been highlighted by deficiencies in areas such as terrorism and emergency management (Baker, Connaughton, Zhang, & Spencer, 2007).

Considering the millions of spectators at events each year, sport venue security managers are charged with an enormous responsibility to ensure the public’s safety. However, there has been very little development in terms of standard procedures and
baseline competencies to assist those in this profession. In fact, according to Hall et al. (2011), there are no baseline safety and security standards enforced in the U.S. for sport venues. This lack of standards and known best practices makes for an added element of risk in securing sport facilities and associated crisis threats. Therefore, security practices tend to vary from venue to venue (Hall, Marciani, Phillips, & Cunningham, 2009).

Also, the only documented research on competencies for sport venue managers was conducted by Cunningham (2007). Cunningham’s (2007) research led to the development of a survey instrument that measured perceived capabilities of athletic administrators responsible for sport event safety and security in intercollegiate athletics. Cunningham’s (2007) study targeted only those working at collegiate football venues. Although valuable, this research represents only a fraction of the people working in the area of sport venue management.

In addition to collegiate events, professional sport events make up a large portion of annual spectator sport attendance. Professional sport venues are especially susceptible to crises such as terrorist attacks because of their economic value, public image, and ease of access (Miller et al., 2008). Unlike college sport venues, most professional venues are managed by private sector corporations.

Cunningham’s (2007) research and survey instrument for security and crisis management capabilities focused on the DHS/FEMA framework of four phases of emergency management: prevention-mitigation, preparation, response, and recovery (U.S. Department of Homeland Security, Federal Emergency Management Agency, 2010). As shown by the last phase, recovery, this methodology was designed for individuals and organizations to return to a state of normal conditions. Some researchers, however, see
crises as opportunities to learn and improve, not simply to return to the status quo (Brockner & James, 2008; Carmeli & Sheaffer, 2008).

It has been well documented that crises prepare organizations for change (Kotter, 2008; Lerbinger, 1997). As organizations competing in the marketplace, professional sport venue management firms have an opportunity to develop crisis management skills into crisis leadership skills that position the organization for learning and improvement.

Statement of the Problem

The problem addressed by this study was the need to establish a baseline of the security management competencies of those responsible for safety and security at professional sport venues. Also, knowing that professional venues are made up of private sector organizations, an opportunity existed to examine perceived levels of crisis leadership competencies that extend beyond crisis management competencies. A better understanding of both crisis management competencies and crisis leadership competencies may assist professional sport venue firms not only in recovering from a crisis, but also in learning, adapting, and improving their organizations. The combined analysis of crisis management and crisis leadership competencies offered a comprehensive measure of the overall state of crisis readiness of these professionals. Cunningham’s (2007) research considered only the competencies related to prevention of, preparation for, response to, and recovery from crises. However, this new comprehensive measure of crisis readiness includes prevention, preparation, response, recovery, and learning and improvement. This study sought to extend Cunningham’s (2007) research on crisis management competencies by including crisis leadership competencies to provide a more comprehensive analysis of perceived skills of those targeted by the study.
In today’s world of technology-driven solutions, the importance of human capital development is often overshadowed. However, researchers such as Hershberg (1996) argue the importance of highly developed human capital as a source of comparative advantage in today’s global economy. Hershberg (1996) posits that workers must be flexible, adaptable, quick learners and problem solvers. Workforce competencies, like those considered in this study, consist of the knowledge, skills, abilities, and personality characteristics that make up the foundation of workforce behaviors (Huselid, Becker & Beatty, 2005). Also, according to Kaplan and Norton (1996), organizational learning is the key to developing the skills and competencies of a firm’s human capital. To further stress the importance of organizational learning, Dychtwald, Erickson, and Morison (2006) argue that lifelong learning is now a business performance imperative.

Unfortunately, many firms traditionally have failed to create human capital development programs that align with organizational needs.

The Theory of Strategy Maps (Kaplan & Norton, 2004) offers a road map to align organizational strategy with human capital strategies. This framework is anchored by the four actions listed below:

1. Identify strategic job families—Focus on the critical few jobs that have the greatest impact on executing strategy.

2. Build the competency profile—Define the competencies required of those critical jobs.

3. Assess human capital readiness—Assess the current competencies and skills of the employees in the strategic job families.

4. Build a human capital development program—Build a program to close the
gap between required competencies and current competencies.

The study of workforce competencies for sport security professionals is in its infancy. While Cunningham’s (2007) study developed an instrument to explore and document security management capabilities of those responsible for safety and security of venues at the collegiate level, no identified research exists that measures capabilities of the sport venue security managers at the professional sports level. As an extremely large segment of overall spectator sport attendance, venues hosting professional sporting events need to be included in this area of research. Furthermore, no research has explored crisis leadership competencies and how they may differ from those of crisis management. Establishing a baseline of the competency levels of professional sport venue security managers allows for the development of instruction and training programs that target identified deficiencies. Information obtained from this study could be valuable in assessing the human capital readiness of sport security professionals. This study can also assist in ensuring that resources are used wisely in developing human capital training programs that elevate the knowledge, skills, and abilities of those who protect the lives of our country’s citizens and the assets represented by the sport facilities and adjacent infrastructure (Baker et al., 2007).

Purpose of the Study

The purpose of this study was to establish a baseline of the perceived levels of crisis management and crisis leadership competencies of professional sport venue security executives and to examine the relationship between personal characteristics and the level of perceived competencies. These executives are located in major professional sport venues across the United States and Canada. Personal characteristics were
comprised of education level, years of experience, and participation in training. The respondents’ perceived levels of competencies that were measured were a combination of security/crisis management competencies taken from Cunningham’s (2007) Capabilities in Athletic Security Management (CASM) instrument and crisis leadership competencies developed from the review of literature. The combination of these two types of competencies forms an overall measure of crisis readiness.

**What is Crisis Readiness?**

Crisis readiness is composed of crisis management competencies and crisis leadership competencies designed into a single instrument. Cunningham’s (2007) CASM instrument provides the framework for measuring crisis management competencies with respect to sport security management. The eight constructs within the CASM clearly address the four phases of emergency management that have guided researchers in the sport security management field (FEMA, 2010). However, simply recovering from a crisis or incident does nothing to prepare an organization for future crises (Mitroff & Anagnos, 2001). Crisis leadership and its associated competencies involve moving beyond the basic crisis management activities that return conditions to a normal state. Many researchers view crises as opportunities for organizations to learn and improve (Brockner & James, 2008; Carmeli & Sheaffer, 2008). Crisis leadership competencies discovered through the review of literature form the basis of skills and knowledge that leaders need to guide their organizations through tough times. These new skills can also be used to drive organizational learning and continuous improvement (Pauchant & Mitroff, 1992). The inclusion of crisis leadership competencies in this study added an
important measure of an organization’s preparedness to engage in post-crisis learning and improvement.

This new measure of crisis readiness is important not only for the sport security industry, but also for other industries, as well. In today’s global economy, competition among all organizations is fierce. Simply returning to the status quo following a crisis does not lead to a stronger, more competitive firm (Mitroff & Anagnos, 2001). Firms that engage in post-crisis learning and improvement are better positioned to improve future performance (Pearson & Mitroff, 1993). Also, according to Roux-Dufort (2009), post-crisis learning and reflection foster improvements in communication and resource coordination. Whether operating in the sports industry or any other business segment, the concepts of organizational learning, continuous improvement, communication, and resource coordination are universal indicators of organizational success.

Hypotheses

H1. There is a positive relationship between venue security executives’ education levels and the level of crisis readiness competencies they perceive themselves to possess.

H2. There is a positive relationship between venue security executives’ years of experience and the level of crisis readiness competencies they perceive themselves to possess.

H3. There is a positive relationship between participation in training by venue security executives and the level of crisis readiness competencies they perceive themselves to possess.
H₄. There is a positive relationship between venue security executives’ education levels coupled with participation in training and the level of crisis readiness competencies they perceive themselves to possess.

H₅. There is a positive relationship between venue security executives’ years of experience coupled with participation in training and the level of crisis readiness competencies they perceive themselves to possess.

Limitations, Assumptions, and Design Controls

This study was limited to professional sport venue security executives and did not include any other participants from levels such as collegiate or amateur. The study was also limited to the six professional sports of football, baseball, basketball, auto racing, hockey, and soccer. The study was limited to professional sports franchises and associated venues that are based in the United States. However, four of the sports and associated venues included in the study—baseball, basketball, hockey, and soccer—have teams that operate in Canada.

Although applicable to many industries, the measurement of crisis readiness in this study was limited to the professional sports industry and, specifically, to the franchises of sports organizations listed above. This study was also limited by the fact that it relied exclusively on self-reported measures of the participants in a single survey. Therefore, the assumption was made that all respondents answered the survey questions honestly and accurately. The assumption was also made that each respondent was capable of completing the survey and returning it electronically via the Internet.
Definition of Key Terms

*Agency*—A division of government with a specific function or a non-governmental organization (e.g., private contractor, business, etc.) that offers a particular kind of assistance (Incident Command System-100, 2005).

*All-hazards*—An approach for prevention, mitigation, preparedness, response, continuity, and recovery that addresses a full range of threats and hazards, including natural, human-caused, and technology-caused (National Fire Protection Association [NFPA], 2010, p. 5).

*Competencies*—The knowledge, skills, and abilities that allow one to perform a task (Boyatzis, 1982).

*Crisis*—A major unpredictable event that has potentially negative results (Barton, 1993).

*Critical infrastructure*—Systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or a combination of these matters (Sauter & Carafano, 2005).

*Incident*—An occurrence or event, natural or human-caused, which requires an emergency response to protect life or property (Incident Command System-100, 2005).

*Terrorism*—The unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population or any segment thereof, in furtherance of political or social objectives (WMD Threat and Risk Assessment Manual, 2005).
Threat—A product of intention and capability of an adversary to take action which would be detrimental to an asset (Schwarz, Hall, & Shibli, 2010).

Acronyms

**CASM** Capabilities in Athletic Security Management  
**CRS** Crisis Readiness Score  
**DHS** Department of Homeland Security  
**FEMA** Federal Emergency Management Agency  
**FBI** Federal Bureau of Investigation  
**IAAM** International Association of Assembly Managers  
**J&J** Johnson & Johnson, Inc.  
**MLB** Major League Baseball  
**MLS** Major League Soccer  
**NASCAR** National Association of Stock Car Auto Racing  
**NBA** National Basketball Association  
**NCAA** National Collegiate Athletic Association  
**NCS4** National Center for Spectator Sports Safety and Security  
**NFL** National Football League  
**NHL** National Hockey League  
**SPSS** Statistical Package for Social Sciences  
**WMD** Weapons of Mass Destruction

Summary

Sporting events have become an important part of American culture, as well as a significant and growing segment of the national economy. Crises such as terrorism,
natural disasters, and fan violence are examples of incidents that can have devastating effects on the people, facilities, and the economy associated with sporting events. The men and women charged with providing safety and security at these events have a daunting task and need to be equipped with the skills and knowledge to carry out their jobs effectively and efficiently.

Existing research in the field has addressed the crisis and security management competencies needed with respect to prevention, preparation, response, and recovery from crises. The importance of crisis management competencies is a critical part of being prepared for and dealing with a crisis. However, these skills and abilities will only take an organization back to its pre-crisis condition.

Although not considered by previous research, crisis leadership competencies present a set of skills and knowledge that have tremendous post-crisis value. An organization’s ability to learn, adapt to new realities, and improve from a crisis event is critical to its survival and future success (Heifetz, Grashow, & Linsky, 2009; James & Wooten, 2005). Business success today is not guaranteed by simply returning to the status quo after a crisis has occurred. Organizational leaders must push their firms to learn from crises and incidents in order to prevent future occurrences. According to James and Wooten (2005), successful organizations will have an orientation to learning that sparks continuous improvement and enhances competitiveness. These characteristics, measured as crisis leadership competencies, complement existing measures of crisis management competencies by extending a path for moving beyond just managing a crisis. This new state of crisis readiness encompasses the skills needed to prevent, prepare, respond, and recover, as well as to lead through learning, reflection, and improvement.
The benefits of possessing crisis leadership competencies are extremely important to organizational success whether in the area of sports or other industries. Learning-oriented leaders respond more positively to adverse conditions and are less discouraged by challenges (Cron, Slocum, VandeWalle, & Fu, 2005). Crisis leadership characteristics also influence whether leaders will engage in learning and actually move an organization beyond crisis management and on the road to organizational improvement (Wooten & James, 2008). When measured together, the combination of crisis management and crisis leadership competencies presents a comprehensive level of crisis readiness never before measured. Research was needed to better understand the level of these competencies held by sports security professionals to establish a baseline and accurately target areas for training and professional development programs.

Chapter II continues with a review of the literature to investigate the evolution of crisis management and how it differs from crisis leadership. Chapter II also discusses the development of security management research and how it shaped the research for this study. Chapter III describes the research methods used in obtaining research data for the study.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Sport security management is a relatively new field of research in which little is known about the capabilities possessed by the professionals tasked with providing safety and security at sporting events. The only identified research describing such competencies has been performed with respect to those working at the collegiate level (Cunningham, 2007). Cunningham’s (2007) research also addressed only security management/crisis management competencies and did not consider crisis leadership competencies.

Research is needed to establish a baseline for competencies of those responsible for professional sporting events. An analysis of the gaps and deficiencies in needed competencies could prove valuable in designing and delivering training and professional development programs that effectively close existing gaps.

The literature review investigates the evolution of modern crisis management along with the types and characteristics of crises. Theories of crisis phases are examined and compared to understand the relevance each has for individuals and organizations. Crisis management is compared to and contrasted with crisis leadership, and resulting crisis leadership competencies are documented. The combination of crisis management competencies and crisis leadership competencies forms a new measure of overall crisis readiness. The existing research regarding sport security management is documented and reviewed, as it forms the foundation for the study’s relevance.
History of Crisis Management

Humans have long been faced with emerging situations and crises. The literature offers various definitions of a crisis. A general definition from Merriam-webster.com (n.d.) defines a crisis as “an unstable or crucial time or state of affairs in which a decisive change is impending; especially one with the distinct possibility of a highly undesirable outcome”. There are also several definitions of crisis in relation to organizations. Barton (1993) defined it as “a major unpredictable event that has potentially negative results. The event and its aftermath may significantly damage an organization and its employees, products, services, financial condition, and reputation” (p. 2). Fearn-Banks (1996) saw it as “a major occurrence with a potentially negative outcome affecting an organization, company or industry, as well as its publics, products, services, or good name” (p. 1).

Historically, the concept of crisis came from the medical field (Shrivastava, 1987). It referred to the progression of an illness as it overcame the body’s ability to heal itself. This illustration represents one of the two basic categories of crises: natural. The other category is the man-made crisis. Within these two basic categories of crises, Lerbinger (1997) identified seven types of crises: 1) natural, 2) technological, 3) confrontation, 4) malevolence, 5) skewed management values, 6) deception, and 7) management misconduct. Various forms of these crises can affect all individuals, organizations, and individuals within organizations in different ways. Crises of the industrial type are always triggered by a specific man-made cause. This is known as a triggering event (Shrivastava, 1987).
Classes of Crises

Lerbinger (1997) classified the seven types of crises into three classes: 1) crises of the physical world, 2) crises of the human climate, and 3) crises of management failure. Physical world crises include those that are natural disasters, technology-related accidents, and technology-related environmental impacts. These types of crises are important to the present study, as a natural disaster could impact any place or event at any time. Human climate crises include confrontation and malevolence. This area is of special importance to the study since major crisis management concerns with respect to sports organizations are acts of terrorism and fan violence. Management failure crises encompass skewed values, deception, and misconduct. Although not an emphasis area in the study, management failure crises are still possibilities for any organization, including sports venue management firms. James and Wooten (2005) categorized two types of organizational crises as shown in Table 1.

Table 1

*Types of Organizational Crises*

<table>
<thead>
<tr>
<th>Sudden Crises</th>
<th>Smoldering Crises</th>
</tr>
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<tbody>
<tr>
<td>Natural disasters</td>
<td>Product defects</td>
</tr>
<tr>
<td>Terrorist attack</td>
<td>Rumors/scandals</td>
</tr>
<tr>
<td>Plant explosion</td>
<td>Workplace safety</td>
</tr>
<tr>
<td>Workplace violence</td>
<td>Bribery</td>
</tr>
<tr>
<td>Product tampering</td>
<td>Sexual harassment</td>
</tr>
<tr>
<td>Sabotage</td>
<td>Consumer activism</td>
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Table 1 (continued).

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<thead>
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<tr>
<td>Sabotage</td>
<td>Consumer activism</td>
</tr>
<tr>
<td>Hostile takeover</td>
<td>Mismanagement</td>
</tr>
<tr>
<td>Executive kidnapping</td>
<td>Whistle blowing</td>
</tr>
<tr>
<td>Environmental spill</td>
<td>Class action lawsuits</td>
</tr>
<tr>
<td>Technology disruption</td>
<td>Labor disputes</td>
</tr>
</tbody>
</table>

Note: James & Wooten, 2005, p. 142.

Sudden crises are those events that are unexpected and completely out of the organization’s control. In such cases the organization is not at fault and in no way has responsibility for the event. This study will focus on crisis management as it relates to private sector organizations, specifically professional sports venue organizations. The first two types of sudden crises listed, natural disasters and terrorist attacks, are of special relevance for this study. Natural disasters and terrorist attacks are two of the primary types of crises affecting the safety and security of sport venues (Stevens, 2007). The second type of crisis listed is the smoldering crisis. Although a possibility for any organization, this type of crisis is not a priority in the development of the study.

Characteristics of Crises

Crises can be threats to people and/or organizations. These threats can result in different undesirable outcomes. Damage from crises can include injuries or deaths, financial loss, environmental harm, structural or property damage, and damaged
reputations (Loewendick, 1993). Coombs (1999) argued that crises are unpredictable but not unexpected. As civilization advances, the potential for new and more frequent types of crises increases daily. Modern crises are becoming increasingly complex and overwhelming. They are not confined by common boundaries and many times can have long-lasting impacts (Boin & ‘t Hart, 2003). The availability of instantaneous information also contributes to the awareness and frequency of occurrences all over the world. Crises, near and far, have become part of our daily lives. Perrow (1984) found that “as our technology expands, as our wars multiply, and as we invade more and more of nature, we create systems – organizations and the organization of organizations – that increase the risks for the operators, passengers, innocent bystanders and future generations” (p. 3). The recent tsunami that impacted Japan is a good example of a natural disaster that, in turn, caused a technology-related crisis. The tsunami resulted in disruptions to the country’s nuclear facilities. This presents a crisis that could have a devastating effect on many citizens, as well as on their supply of natural resources for years to come.

Modern crises have become the products of modernization processes including globalization, deregulation, technological advances, and information and communication technology to name a few (Boin & ‘t Hart, 2003). Today, even the slightest mishaps can quickly escalate into major events (Perrow, 1999). Twenty-eight major industrial accidents have occurred since 1900, with major being defined as fifty or more resulting deaths (Shrivastava, 1987). Of particular interest is that half of these 28 incidents have occurred in the last 20 or so years. Mitroff (2002) identified 40 major crises over the past two decades including Three Mile Island, the Bhopal/Union Carbide disaster, the
Challenger explosion, the destruction of the World Trade Center, earthquakes in Turkey and India, and the Tylenol poisonings. He argues that these crises represent a growing frequency of abnormal accidents resulting not only from nature and human error but also from revenge, corruption or other motives. Whereas a normal crisis can be considered as an occurrence of nature such as an earthquake or hurricane, abnormal crises, according to Mitroff (2002) are intentional. Abnormal crises often fit into James and Wooten’s (2005) category of sudden crises, as demonstrated by the case of sabotage in one of the most widely known intentional crisis events: the Tylenol poisonings.

Beginning of Modern Crisis Management

In October 1982, Tylenol capsules were found to be contaminated with cyanide, resulting in the deaths of eight people (Shrivastava & Mitroff, 1987). This incident created a national health risk and a major crisis for the makers of Tylenol, Johnson & Johnson (J & J). Because of J & J’s exceptional handling of the crisis, they became known as the standard for crisis management (Mitroff & Anagnos, 2001). According to Mitroff and Anagnos (2001), the modern field of crisis management began with the Tylenol poisonings; however, they posit that J & J failed to learn the proper lessons of crisis management. J & J didn’t realize that taking tainted products from shelves and owning up to the incident was not good enough. Mitroff and Anagnos (2001) identified that, as an organization, J & J did not learn from the event, and thus did not develop new organizational procedures and policies to prevent further occurrences. Peter Drucker, as cited by Dean (2004), points out that many firms get into trouble not because they are failures but because they have been successful for a long time. Drucker terms this “the
failure of success” and points to this concept as the moral of the Tylenol poisonings (Mitroff & Anagnos, 2001, p. 18).

Theories of Crisis Phases

As shown in the sections above, crises can be caused by nature or man, and of these there can be thousands of different underlying causes. Different types of crises can affect individuals, groups, and organizations in drastically different ways. Over the years, models and guidelines have been established to educate and prepare individuals and organizations for crises.

The literature on crisis management focuses on emergency management of all-hazards events, as well as on the management of business crises. Crisis management is defined as the strategic planning for a crisis that removes some of the risk and allows an organization to operate more freely and with less damage from the negative occurrence (Fearn-Banks, 1996). Government agencies including the Federal Emergency Management Agency (FEMA) and the U. S. Department of Homeland Security (DHS) have taken the lead on developing emergency management guidelines and educational programs to inform, train, and educate the public with respect to all-hazards events (U.S. Department of Homeland Security, 2010). The DHS website includes information on preparing individuals and families for weather-related disasters and other forms of natural disasters, as well as acts of terrorism. FEMA resources assist individuals and organizations in developing emergency management plans that are based on the framework of four phases of emergency management: 1) prevention-mitigation, 2) preparedness, 3) response, and 4) recovery (see Figure 1).
Figure 1. Four Phases of Emergency Management (FEMA, 2010)

The first phase, prevention-mitigation, includes any activities that prevent the occurrence of emergencies, reduce their chances of occurring, or reduce the damage from those that are unavoidable. The second phase, preparedness, includes plans made to save lives and effectively respond to an incident. The third phase, response, involves actions taken in an emergency to save lives and prevent further damage to human and physical assets. The fourth phase, recovery, includes actions taken to return to normal following an emergency.

As shown by the last phase, recovery, this methodology was designed for individuals and organizations to return to a state of normal conditions. Some researchers, however, see crises as opportunities to learn and improve, not simply to return to the status quo (Brockner & James, 2008; Carmeli & Sheaffer, 2008). According to Pauchant and Mitroff (1992) an actual crisis is a “tremendous opportunity for learning” (p. 158).
The opportunity to use a crisis as a catalyst for learning and improvement does not seem to be evident in the widely used FEMA framework for emergency management. However, much research has been conducted to study how business firms handle crises. Researchers studying business crises have identified five phases that represent a business crisis life cycle (Coombs, 1999; Mitroff & Pearson, 1993). This cycle forms the basis for the crisis management model shown below in Figure 2. These five phases are 1) signal detection, 2) preparation and prevention, 3) damage containment, 4) recovery, and 5) learning.

Figure 2. Five Phases of Crisis Management in a Business Crisis Life Cycle (Pearson & Mitroff, 1993)

The signal detection phase is characteristic of small indicators of a lurking crisis. The failure of organizations to respond to these indicators can result in loss of revenue, reputation, human life, or a combination of these (Hutchins & Wang, 2008). Preparation involves preparing an organization to manage a crisis event. In this phase, the resource allocation and activities required to handle the event are defined. The containment phase involves limiting the impact of the crisis to prevent additional losses. In the recovery phase procedures are enacted to bring the organization back to normal operating conditions. The final phase, learning, focuses on learning from the event and using that knowledge to improve the organization (Hutchins & Wang, 2008). Pearson and Mitroff (1993) suggest that an organization should use the learning phase to engage in a critical
examination of the lessons learned from going through a crisis. Unfortunately, they found that many organizations avoid this phase because of the possibility of causing only bad experiences to reemerge.

The phases in Figures 1 and 2 are similar, with the exception of the last phase, learning. Where the FEMA framework concludes at the point of a return to normal conditions (recovery phase), the cycle in Figure 2 above includes post-crisis activity in the form of learning and reflection. The learning phase allows for lessons to be transferred to future incidents and provides a catalyst for organizational improvement (Pearson & Clair, 1998). Without this phase, an organization risks repeating the same mistakes that lead to the crisis in the first place.

James and Wooten (2005) posit that understanding these phases is necessary in order for leaders to develop the competencies to guide their organizations through tough times. As shown by the J & J Tylenol case, neglecting the learning phase of the crisis cycle can be very costly and can result in lost opportunities to improve an organization (Mitroff & Anagnos, 2001). Pearson and Mitroff (1993) found that firms engaging in learning and improvement post-crisis are better poised to address current problems and improve future capabilities. This research shows that merely managing a crisis through the recovery phase will not position an organization to better handle future crises. Furthermore, there is a lost opportunity to leverage an event for learning and continuous improvement that can strengthen overall competitiveness. It now becomes important to see where crisis management ends and crisis leadership begins.
Crisis Management Versus Crisis Leadership

Understanding and following the guidelines of a methodology like that of FEMA in Figure 1 can aid in bringing individuals and even some organizations back to a state of normalcy. Effective crisis management skills are necessary to bring an organization back to at least pre-crisis conditions. This would seem to be a logical stopping point for individuals wishing to get their lives back to normal. In terms of improving and advancing an organization, though, the literature reveals the importance of the learning and redesign phase and the significance of leadership throughout this phase. Research shows that the most critical factor in successfully resolving a crisis is effective leadership (Yusko & Goldstein, 1997).

According to Heifetz et al. (2009), crisis leadership has two distinct phases. The first phase is the emergency phase. In this phase, an organization addresses the initial threat and responds to and recovers from it. This phase is much like the first four crises phases discussed in both Figures 1 and 2. Heifetz et al. (2009) refer to the second phase as the adaptive phase, in which the root causes of the crisis are addressed and changes are made to adapt to the organization’s new reality. This phase is similar to the learning phase in Figure 2. Adaptive leaders are not content to stop at the business recovery phase. Rather, they see the crisis as an opportunity to learn from the incident, initiate change, and improve the organization. Conceptually, adaptive leadership is based on a two-goal approach. An organization must be lead through the current challenge, while building adaptability to successfully compete in a new environment. Without moving into the adaptive phase, an organization is setting itself up to resume operations with the same vulnerabilities that lead to the crisis in the first place. Therefore, the absence of an
adaptive phase could allow for a crisis to reemerge (Weiss, 2002). This two-phased approach to crisis leadership is another good rationale for the need to move beyond a crisis response that stops at recovery and include a comprehensive system that also engages in learning, redesign, and organizational improvement.

With effective crisis leadership, an organization can come through a crisis in a better position than it was prior to an incident (Brockner & James, 2008). However, many leaders stop crisis management activity at the business recovery phase (Wooten & James, 2008). Crisis leadership involves moving beyond the crisis management activities that lead to a return to previous normal conditions. Several researchers argue that exceptional crisis management must include the learning and reflection phase (Mitroff, 1988; Wooten & James, 2004). This is consistent with the theory of adaptive leadership proposed by Heifetz et al. (2009).

According to Brockner and James (2008), when leaders adopt a learning orientation, crises are more likely to be seen as opportunities rather than threats. Even though, on the surface, there seems to be little logic in this theory, other researchers concur with this concept. Sitikin (1992) found crises to be a spark in creating organizational learning and associated improved business results. Kotter (2008) argues that a sense of urgency brought on by a crisis is often the initial key to beginning positive change and organizational improvement. Wooten and James (2008) argue that learning and development comprise the root of crisis leadership. This is another indication that crisis management stops at the recovery phase of a crisis, and crisis leadership continues through the learning and improvement phases.
Roux-Dufort (2009) cites two important reasons for crisis leaders to engage in post-crisis learning and reflection. First, the traditional improvements such as better communication, resource coordination, and training can be addressed. Second, an organization can look deeper into an event to learn the reasons that made the crisis possible and study potential changes that can prevent future occurrences. Roux-Dufort’s (2009) argument is similar to the concept of adaptive leadership proposed by Heifetz et al. (2009). Both researchers agree that a crisis often times places an emphasis on glaring weaknesses that need improvement. As firms deal with crises, they can also learn about and address deficiencies. Adjusting or adapting to the new reality and initiating organizational improvement simultaneously positions a firm for success going forward. James and Wooten (2005) also agree with this concept. They contend that learning involves reflecting on the cause and effect of the crisis in order to develop a new business paradigm that restructures the organization and makes it stronger.

Cron et al. (2005) found that learning-oriented people responded more positively to adverse conditions and were less discouraged by challenges. These characteristics may influence whether leaders will engage in learning and actually move an organization beyond basic crisis management and on the road to organizational improvement (Wooten & James, 2008). Bass (1985) argued that leaders must create a work environment that uses a competency-based approach to crisis management. The literature on competencies is quite broad; however, there are some areas of research that focus on the skills and capabilities required for times of crisis. The following section will review the literature on crisis leadership competencies.
Crisis Leadership Competencies

Competencies are made up of the knowledge, skills, and abilities that allow one to perform a task (Boyatzis, 1982). Researchers have studied the competencies required to effectively lead through and beyond crises, and they contend that it is difficult to create a consistent theory of effective crisis leadership. One reason for this difficulty, according to Pearson and Clair (1998), is due to the dynamic causes and contexts of crises. Every crisis is unique, and it is therefore difficult to simply establish a pattern for how each will play out. Another cause relates to the nature of crises themselves, as they occur rarely, which limits the ability to study and develop information (Wooten & James, 2008).

In today’s rapidly changing environment (both business and natural), there seems to be a need for leadership competencies specific to times of crisis. Mitroff (2002) said “if the study of modern crises has demonstrated anything, the primary lesson to be derived is that we have to develop our capabilities to detect as many crises as possible before they occur” (p. 21). In addition to the use of technology, some of these capabilities should be demonstrated in the form of competencies developed by the human capital that lead organizations through times of crisis.

In a broad sense, key components of crisis leader effectiveness could be seen as behaviors, commitment, experience, skills, and training (Devitt & Borodzicz, 2008). Defining a set of one-size-fits-all competencies for crisis leaders is probably not feasible. According to Yusko and Goldstein (1997), “it would be difficult, if not impossible, to present a pre-set list of critical crisis competencies for the many and varied types of potential crises” (p. 220). However, they do contend that some competencies are likely to be needed for most any type of crisis.
The literature focuses on people management competencies, as well as task
cOMPETENCIES. Researchers agree that crisis leadership is no longer just about handling
the technical aspects of a crisis. People management competencies are just as important
as task competencies (Boin & Lagadec, 2000; Borodzicz & Van Haperen, 2002; Hutchins
& Wang, 2008). Another area of study has been in developing competencies that focus on
moving an organization past crisis management and into becoming a crisis-adverse,
learning organization (James & Wooten, 2005).

James and Wooten (2005) outline six competencies needed by a crisis leader
when dealing with an organizational crisis:

1. Building an environment of trust
2. Reforming an organization’s mindset
3. Supporting the creation of an expanded mindset: identifying obvious and
   obscure vulnerabilities of the organization
4. Making wise and rapid decisions
5. Taking courageous action
6. Learning from crisis to affect change. (p. 60)

This list of competencies is broad; however, it appears to be applicable across all
industries and types of organizations. It is understood that the research of James and
Wooten (2005) is focused on business crises that emphasize the smoldering type. This
study will focus on sudden crises that occur in sporting events, though sport organizations
are also vulnerable to the same smoldering crises as any other business firm. Although
not on the list above, Wooten and James (2008) argue that, during a crisis, an important
responsibility of a leader is to look out for the well being of those affected by the crisis.
They believe this perspective will allow leaders to understand what others are going through and ultimately act in the best interest of stakeholders.

It is also important to note that James and Wooten (2005) emphasize the importance of learning from a crisis to initiate organizational change (number six above). This concept is in agreement with the theory of adaptive leadership discussed earlier. As organizations move from the emergency phase to the adaptive phase, they need learning-oriented leaders to help adjust to the new reality post-crisis and work to improve the organization (Heifetz et al., 2009).

Flin and Slaven (1995) conducted research on methods for selecting and training on-scene emergency commanders. These commanders were those responsible for crisis management at the scene of an event and included both civil and military applications. This ranged from fires, riots, and natural disasters to battles and situations of war. Listed below are nine competencies they found to be required for such a commander.

1. Leadership ability
2. Communication skills, especially briefing and listing
3. Delegating
4. Team working
5. Decision making under time pressure and especially under stress
6. Evaluating the situation (situation awareness)
7. Planning and implementing
8. Remaining calm and managing stress in self and others
9. Preplanning to prepare for possible emergencies. (p. 115)
Flin and Slaven (1995) concluded that all on-scene commanders, whether civil or military, had to be competent in their abilities to evaluate a situation, make decisions under stress, and monitor an action plan through an emergency response team.

Yusko and Goldstein (1997) identified a set of crisis leadership competencies that encompass a mix of task and people management capabilities:

1. Analysis/problem solving skills
2. Framing skills (framing crises as opportunities or threats)
3. Motivational skills
4. Instilling follower confidence (empowering followers in a crisis)
5. Technical competencies (market knowledge, technological expertise)
6. Negotiation and conflict resolution skills
7. Communication skills (oral, written)
8. Decision making capabilities
9. Behavioral flexibility/adaptability
10. Innovation/resourcefulness/creativity
11. Interpersonal sensitivity
12. Planning and organizing. (p. 220)

The competencies lists developed by Flin and Slaven (1995) and Yusko and Goldstein (1997) each include task and people management types. The commonality in each listing suggests that these researchers are in agreement on the capabilities required.

Crichton and Flin (2001) found non-technical skills to be as important as technical expertise and knowledge when dealing with crises and emergencies. They specifically
identified the ability to work effectively under stress and make decisions under pressure as critical non-technical competencies.

Another related study was conducted by Crichton, Lauche, and Flin (2005) in which they assessed the incident command skills used in an oil industry drilling incident. Their study also highlighted the importance of both non-technical and technical skills. The specific skills identified by Crichton et al. (2005) are listed below.

1. Situation assessment
2. Decision making
3. Team coordination
4. Leadership
5. Communicating
6. Monitoring
7. Delegating
8. Prioritizing
9. Planning
10. Stress management. (p. 118)

Of these skills, situation awareness, decision making, communication, teamwork, and leadership were identified as being critical to the response and recovery phases of the incident. Table 2 below depicts a summary of the tasks and behaviors associated with these critical skills.
Table 2

*Command Skills for Strategic and Tactical Incident Management Team Members*

<table>
<thead>
<tr>
<th>Category</th>
<th>Element</th>
<th>Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Situation Assessment</td>
<td>Information gathering</td>
<td>Obtains summary of current situation from others</td>
</tr>
<tr>
<td></td>
<td>Shared awareness</td>
<td>Shares view of current situation with others</td>
</tr>
<tr>
<td></td>
<td>Projection/Prediction</td>
<td>Discusses contingencies and identifies potential future problems</td>
</tr>
<tr>
<td></td>
<td>Expectations</td>
<td>Articulates expectations (i.e. goals and potential event evolution)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gathers information and diagnoses problem</td>
</tr>
<tr>
<td>2. Decision making</td>
<td>Problem definition/Diagnosis</td>
<td>Recalls previous similar experiences; considers alternative courses of action</td>
</tr>
<tr>
<td></td>
<td>Option generation</td>
<td>Identifies risks and discusses alternative courses of action; considers time available in which to select course of action</td>
</tr>
<tr>
<td></td>
<td>Risk and time assessment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Response selection (analytical/rule-based strategy use)</td>
<td>Identifies options and selects course of action</td>
</tr>
<tr>
<td></td>
<td>Outcome review</td>
<td>Checks outcome against expectations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distributes tasks appropriately among team and detects gaps and inconsistencies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensures that all team members are engaged in the task and are participating to achieve the goal</td>
</tr>
</tbody>
</table>
Table 2 (continued).

<table>
<thead>
<tr>
<th>Category</th>
<th>Element</th>
<th>Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Teamwork</td>
<td>Team and workload management</td>
<td>Acknowledges other team members’ tasks</td>
</tr>
<tr>
<td></td>
<td>Coordination of activities</td>
<td>Takes charge of situation if required, identifies intentions and goals; establishes and implements incident management team structure (if required)</td>
</tr>
<tr>
<td></td>
<td>Consideration and support</td>
<td>Participates in planning and encourages task completion; modifies plans in response to situation if required</td>
</tr>
<tr>
<td></td>
<td>Command</td>
<td>Determines key goals and prioritizes tasks and activities</td>
</tr>
<tr>
<td>4. Leadership</td>
<td>Planning &amp; replanning</td>
<td>Checks that tasks are being appropriately undertaken</td>
</tr>
<tr>
<td></td>
<td>Provide direction</td>
<td>Briefing/debriefing</td>
</tr>
<tr>
<td></td>
<td>Delegation</td>
<td>Conducts briefings/debriefings to share information</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>Uses clear and open communication with others</td>
</tr>
<tr>
<td></td>
<td>Communication with others</td>
<td></td>
</tr>
</tbody>
</table>

Note: Crichton et al., 2005, p. 124.

Research shows that the skills identified above have been found to be necessary parts of any crisis leader’s competency profile. However, Devitt and Borodzicz (2008) suggest there are some omissions from this list that are important to consider. First, they argue that these skills do not account for the cultural and/or political environment in which a crisis leader may have to operate. Second, “crisis leaders need to be able to put themselves in the position of all stakeholders, including the victims, and be able to recognize their diverse needs and feelings” (Devitt & Borodzicz, 2008, p. 212). Third,
leaders managing crises are under extreme stress and may revert to a management style that is most closely aligned with their own expertise or comfort level.

The political environment is an issue not addressed by the researchers’ competency lists above. However, the second omission listed by Devitt and Borodzicz (2008) citing the need for leaders to put themselves in the positions of the stakeholders is addressed in competency 11 (Interpersonal Sensitivity) of the list of Yusko and Goldstein (1997). The third omission cited by Devitt and Borodzicz (2008) regarded the possibility of reverting to other management styles due to stress. While this is not addressed in detail, it is listed as a needed competency as number 10 (Stress Management) in the aforementioned skills list (Crichton et al., 2005). The following section explores the competencies required for professional sport venue managers.

Sport Security Management Research

Of the types of crises reviewed in the literature, sport events are especially susceptible to acts of terrorism, natural disasters, and fan violence (Fried, 2005). Research shows that most sport venues have not been designed with the intent of high levels of security (Then & Loosemore, 2006). One method for increasing spectator safety is through the use of technology such as video cameras, access control devices, and screening devices (Miller et al., 2008). However, with limited resources, most sport organizations cannot implement and maintain comprehensive security measures with technology alone. Another means of enhancing safety and security at sporting events is through the development of competent, capable personnel. According to Hall et al. (2011), all sport venue security personnel should be trained and equipped with the knowledge, skills, and abilities related to sport safety and security management. However,
it has been documented that there is a deficiency in sport staff training, especially with respect to terrorism and associated emergency management (Baker et al., 2007).

Need for Defined Security Management Competencies.

The events of September 11, 2001 and other subsequent incidents demonstrate the need for sport venue management professionals to continually develop and enhance their competencies. Natural disasters, terrorism, and fan violence, as noted in the previous section, are at the forefront of crisis possibilities for these professionals.

Natural disasters and weather-related events represent the most common form of possible crisis for sport events. Even though all sport venues are susceptible to acts of terrorism, weather related incidents are among the most likely events to occur at sporting events. The following examples highlight recent natural disasters and weather-related incidents at sporting events:

1. 2011 New Haven Open: Over 4,000 people were evacuated when the earthquake that originated in Virginia shook the stadium. Play was delayed for over 2 hours (“Earthquake, Anyone?,” 2011).

2. 2011 Notre Dame Football Game: Severe weather that included lightning forced the evacuation of fans twice at Saturday’s game. The 3:30 pm game didn’t conclude until 10 pm (“Notre Dame Calls Stadium Evacuation Successful”, 2011).

3. 1989 World Series: A major earthquake struck the San Francisco bay area minutes before a World Series game was scheduled to begin at Candlestick park. Sixty-seven people were killed and damage was estimated at $6 billion (“World Series Earthquake”, 1989).
Terrorism is cited as one of the most common risks associated with the security of sport venues (Stevens, 2007). The Federal Bureau of Investigation (FBI) defines terrorism as “the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population or any segment thereof, in furtherance of political or social objectives” (WMD Threat and Risk Assessment Manual, 2005, pp. 2-4). According to Toohey and Taylor (2008), there have been 168 sport-related terrorist attacks between 1972 and 2004. Listed below are examples of terrorist incidents at sport events.

1. 1972 Olympic Games in Munich: The Palestinian Black September Group took hostages. Eleven Israeli athletes, five terrorists, and a German policeman were killed (“Israeli 1972 Olympic Team Murdered in Munich”, 2011).

2. 2002 Madrid Car Bomb: A car bomb exploded outside a Madrid soccer stadium injuring 16 people (Tremlett, 2002).

3. 1996 Olympic Games: A bomb was exploded by Eric Rudolph at the Atlanta Olympic Games. There was one death and over 100 injuries (Suburban Emergency Management project, 2005).

These examples represent man-made crises that occurred on foreign soil, as well as in the United States. While less likely to occur than a weather-related crisis, terrorist incidents have the ability to disrupt not only the business of the venue, but also local, national, and world economies and human sentiment.

A growing area of concern for sport venue managers is the recent rise in fan violence. Incidents among spectators pose a problem for the venue in terms of customer satisfaction and the potential impact of future attendance. On a broader level, the
reputation of an entire league or industry can be tarnished. Any of these occurrences can have an adverse effect on a venue from a business perspective. The following incidents demonstrate this recent surge in fan-induced violent acts.

1. 2011 Major League Baseball (MLB) Game: A San Francisco Giants fan was severely beaten outside Dodgers Stadium on March 31 (Nachman, 2011).

2. 2011 National Football League (NFL) Game: At a Raiders versus 49ers game, 70 fans were ejected, 12 were arrested, two were shot in the parking lot and one was severely beaten in a restroom. (Klemko, 2011).

3. 2011 NFL Game: During the Cowboys versus Jets game on 9/11, a fight broke out and one fan used a Taser on another fan (Associated Press, 2011).

Among their many roles, professional sport venue managers must be prepared to handle crises that arise from natural disasters, terrorist events, and acts of fan violence. As private sector organizations, the operation of the venue and future business may be severely impacted by any of these events.

Sport Security Management Competencies

The study of sport security management is in its infancy; however, there have been some significant findings by those researchers in the field. Pantera et al. (2003) researched game day security operations at Division IA college football and basketball venues. Even though there were no significant statistical conclusions found, the study highlighted several important issues. The research emphasized the need for communication, planning, and developing and practicing coordinated responses to various potential crises.
Research conducted by Hall (2006a, 2006b) resulted in the development of 134 standards for event security management for university venues. This represents the first documented research-based set of standards for sport event security. Hall’s research highlighted the importance of standards for credentialing, emergency management, communication, training, and modeling and simulation. Hall (2006b) also pointed out the need for industry standards to be established and enforced to ensure compliance by venue operators.

Cunningham’s (2007) research documented the perceived levels of crisis management competencies required by those responsible for sport event security management in intercollegiate athletics. His study targeted athletic directors tasked with event management and facility operations at Division IA universities with football programs. Cunningham developed a survey instrument based on competencies or capabilities of best practices from literature reviewed from the U.S. Department of Homeland Security (DHS), the International Association of Assembly Managers (IAAM) and the National Collegiate Athletic Association (NCAA). Questions were developed based on eight cognitive constructs and associated competencies identified by the researcher. The resulting survey instrument is called the Capabilities in Athletic Security Management (CASM), as shown in Appendix A. The eight constructs of Cunningham’s (2007) CASM include:

1. Emergency evacuation planning
2. Agency Collaboration
3. Spectator Control
4. Policies and Procedures
5. Liability
6. Emergency/Crisis Management
7. Credential Control
8. Perimeter Control. (p. 39)

Cunningham’s (2007) research was the first documented study to assess crisis preparedness of those responsible for sporting events at the largest colleges and universities in the United States. This research showed that the highest and second highest perceived competencies were “determining which agency has the authority regarding cancellations of sporting events due to security measures” and “proper credential dissemination” respectively (Cunningham, 2007, p. 67). The lowest and second lowest perceived competencies were “how to conduct disaster scenario exercises with public safety agencies” and coordination and evacuation using an all-hazards approach (Cunningham, 2007, p. 68). Cunningham’s findings are consistent with other prior research in the field. Beckman (2006) found disaster scenario training exercises to be one of the biggest gaps facing those in the sport event security industry. Beckman (2006) also found a lack of capability to conduct a game-day audit to be of concern. Cunningham (2007) posits that assessing sport event security practices should be “unannounced and completed by an outside party” (p. 69).

Cunningham (2007) considers disaster scenario training, evacuation planning, and game day audits to be the three most critical areas in need of future research and associated training and development. While Cunningham’s instrument includes a thorough mix of security and crisis management competencies, it does not address crisis leadership competencies identified in the Review of Literature.
Factors Affecting Competency Development

Of the many factors that could possibly attribute to the development of workforce competencies, the Review of Literature focused on three specific areas. Education levels, work experience, and participation in training are the three variables under consideration as influencers of competency development.

Education, and especially higher education, is known to be an important factor in preparing students with the skills needed in today’s society (Carnevale & Desrochers, 2004). The education system must be flexible for effective competency development in order to respond to changing world economic situations (Gray & Herr, 1998).

The economic impact of education is well documented in the literature. Worker education levels have significant economic implications (Hanushek, 2005). According to Porter (1990), education and training comprise the most important driver of industry advances and growth. Florida (2002) found a connection between successful economies and their access to educational institutions. Florida posits that geographical areas with concentrations of technology, talent, and tolerance are positioned to lead in innovation and creativity based economic development. Further, he attributes workforce success to its ability to access university education and successful research. Hanushek (2005) argues that education’s impact on competency development affects national growth rates. Hanushek (2005) goes on to argue that economic growth eventually determines the standard of living for the workers in a society.

A second factor affecting competency development is a person’s work experience. Throughout the literature, researchers argue that competency development is linked to the learner’s experiences (Brookfield, 1991; Dewey, 1997; Knowles, 1984). According to
some learning theorists, learning is grounded in experience (Maslow, 1970; Rogers, 1983). Learning occurs by observation and modeling in social settings such as the workplace (Dewey, 1997). Beach and Vyas (1998) argue that work experience fosters learning and development in ways not found at school or college. Specifically, they suggest three forms of learning available through work experience. The three forms are 1) *learning on the fly* (i.e., making requests for help), 2) *learning by collaborating* (i.e., working for and with more experienced people), and 3) *learning by observing*. Beach and Vyas posit that these learning methods are geared toward the workplace and not toward school settings.

Other researchers have also found work experience to be an important factor in competency development. According to Huselid et al. (2005), employee competency growth is accomplished primarily through real work experience. They argue that as competencies grow through experience, employees become more valuable and career opportunities are enhanced.

A third factor to be considered when analyzing competency development is a person’s participation in training and development programs. According to Mathieu, Tannenbaum, and Salas (1992), almost all employees receive some form of training throughout their careers. They stress that employees rely on training to improve existing skills and to learn and develop new skills.

Other researchers emphasize the importance of training’s impact on performance. Chiaburu and Marinova (2005) cite training as an important method for increasing job performance. According to Dean, Dean, and Rebalsky (1996), training is considered to be a primary solution for performance improvement.
Training’s impact on competency development is also noted by the amount of effort expended on training and development programs. According to Van Buren and Erskine (2002), organizations allocate significant human and financial resources to personnel training. As a result, organizations should continuously evaluate the effectiveness of their training efforts (Holton & Baldwin, 2003).

Organizations must continually leverage training programs to help employees develop new skills and capabilities (Brinkerhoff, 2005). Along with the effects of education and work experience, this study will examine the effects of training on sport security competencies.

Crisis Readiness

The Review of Literature reveals an opportunity to expand Cunningham’s (2007) research to include the measurement of crisis leadership competencies of those in the sports security field. To date, knowledge and skills required for crisis management have been developed to address the theory of crisis phases that reflect those of the FEMA model (FEMA, 2010). While valuable, these models only consider prevention of, preparation for, response to, and recovery from crises. This concept seems appropriate for individuals who, after experiencing a crisis, are simply attempting to return to a state of normalcy.

Research into the phases of a business crisis life cycle, however, challenges the FEMA model. The ability of an organization, post-crisis, to learn and improve offers a valuable new component not present in the FEMA model (Pearson & Mitroff, 1993). The addition of the learning phase stresses the importance of learning from an event and using that knowledge to improve an organization (Hutchins & Wang, 2008). Without this phase,
an organization risks repeating the same mistakes that lead to a crisis in the first place (Pearson & Clair, 1998).

Since many organizational leaders stop crisis management activity at the business recovery phase, the learning and improvement phase is never addressed (Wooten & James, 2008). However, the Review of Literature revealed the crisis leadership competencies necessary to leverage a crisis by learning from it and initiating organizational improvement. These crisis leadership competencies coupled with the crisis management competencies developed through Cunningham’s (2007) research form the new measure of crisis readiness created by this study. As a quantitative instrument, the researcher can now measure not only one’s ability to prevent, prepare, respond, and recover, but also to learn and improve an organization when dealing with crises. This new instrument, called the Crisis Readiness Score (CRS), offers a valuable tool to assess and evaluate leaders’ levels of readiness with respect to leading an organization before, during, and after a crisis. Although developed for the study of professionals in the sports security industry, the CRS could be applied across a broad array of industries. For example, regardless of the type of organization, leaders with crisis leadership competencies are more likely to see crises as opportunities rather than threats (Brockner & James, 2008). Leaders with crisis leadership skills also put their organizations in a position to come through a crisis in a better condition that it was prior to the incident (Brockner & James, 2008). Also, according to Heifetz et al. (2009), during a crisis, learning-oriented leaders are needed to make the transition from the crisis management phase to the crisis leadership phase. The CRS emphasizes not only being prepared for a crisis, but also learning from a crisis in order to initiate organizational improvement. This
concept is fundamental to any organization wanting to survive a crisis and then thrive in today’s competitive world.

Considering the CRS as a tool for self-evaluation, organizations could benefit from knowing where they stand in terms of viewing crises as opportunities or threats. Also, firms could assess their level of readiness to initiate organizational change and improvement.

Summary

Crises have existed throughout history. The potential for crises and their negative outcomes is a real possibility for events of mass gatherings such as spectator sporting events. As a field of study, sport security management is in its early stages, but research in this area has begun to identify standards and best practices for sport venues. Recent research has also identified some of the competencies required for personnel tasked with safety and security at sport venues. To date, those responsible for collegiate sporting events have been the study of such research. Therefore, an opportunity exists to explore and document the competencies of those working in professional sport venue environments.

Due to their economic value, visibility, and locations, professional sport venues present an especially susceptible target for crises such as acts of terrorism (Fried, 2005). As a large segment of the spectator sport industry, professional sport venue management represents a section of the workforce that has not been included in any research to assess skills and abilities. As private sector corporations, professional sport venues are excellent candidates for continuous organizational improvement. This type of improvement can be attributed to the crisis leadership competencies identified in the Review of Literature.
Therefore, in addition to crisis management competencies, crisis leadership competencies offer an additional construct to Cunningham’s (2007) CASM instrument. This new measure of combined crisis management and crisis leadership competencies is called the Crisis Readiness Score (CRS). This new tool measures the overall level of crisis preparedness of organizational leaders as it considers competencies needed before, during, and after a crisis. With the CRS, researchers can study whether organizational leaders have what it takes to be ready for a crisis, handle an emerging crisis, and lead with learning and improvement after a crisis.

Chapter III will present the method of research chosen for this study. The survey population will be defined and the survey instrument will be explained. Data collection and analysis will also be discussed.
CHAPTER III
RESEARCH DESIGN AND METHODOLOGY

Introduction

Events and mass gatherings such as sporting events will always be targets for crises such as acts of terrorism, natural disasters, and acts of fan violence (Fried, 2005). Technology is continuously being developed to aid in addressing these types of threats. In addition to technological advances, the professional development of the workforce is also an important component of ensuring safety and security at sporting events. Those tasked with securing these events need the competencies to prepare for potential crises, manage crises that occur, and lead their organizations out of crises.

Even though the study of sport security management is a relatively new field, much has been learned through the history of managing various types of crises. However, little is known about the skills of those actually working in the sport security management field. In the years since 9/11, research has begun to address the need for standards and best practices for the safety and security of events at sport venues (Pantera et al., 2003; Hall, 2006a). Research has also begun that addresses the specific knowledge, skills, and abilities of those responsible for safety and security in sport venues (Cunningham, 2007). This study sought to expand Cunningham’s research, which explored sport security/crisis management competencies, by creating a new construct of dependent variables that represent crisis leadership competencies. The combination of the crisis management and crisis leadership competencies creates a new measure of overall crisis readiness. The resulting instrument is called the Crisis Readiness Score (CRS).
The method of research chosen for this study was survey research. Web-accessed, self-administered questionnaires were used for data collection. According to Bourque and Fielder (2003), self-administered questionnaires are among the most frequently used data collection methods in research studies. The study focused on collected data that measured the security/crisis management and crisis leadership competencies of professional sport venue security executives. The CRS was the instrument used to collect this data. Cunningham’s (2007) research, which studied only collegiate security managers, identified the need to baseline the competencies and levels of training of those responsible for security at professional sports venues. In keeping with this need for further research, only professional sport venue security executives were studied in this body of work. Additionally, the Review of Literature revealed the need to expand the scope of competencies needed by these professionals. In addition to the security/crisis management competencies identified by Cunningham (2007), crisis leadership competencies have been developed through the literature review. This new construct has resulted in a new instrument, the CRS, which was used to establish a baseline of overall crisis readiness of professional sport security executives. The CRS indicated areas of deficiency with respect to individual competencies. The CRS also assisted in determining if education levels, experience levels, and participation in training programs positively influence levels of competency with respect to the constructs under examination. This information can be used in the design and development of future training and professional development programs.
Problem and Purposes Overview

The problem addressed by this study was the need to establish a baseline of the security management competencies of those responsible for safety and security at professional sport venues. Also, the only documented research that measured competency levels of those in sport venue security management roles was focused solely on collegiate sport venues (Cunningham, 2007).

The purpose of this study was to establish a baseline of the perceived levels of crisis readiness competencies of professional sport venue security executives and to examine the relationship between personal characteristics and their levels of perceived competencies. These executives work in major professional sport venues across the United States and Canada. Personal characteristics were comprised of two independent variables that included levels of formal education and years of security management experience. Participation in training was the intervening variable, and the dependent variables were made up of the security management and crisis leadership competencies under consideration. Figure 3 depicts the conceptual framework of the study. This framework is a visual representation of the two independent variables (education and experience) influencing the dependent variables (competencies) mediated by a single intervening variable (participation in training).
Figure 3. Conceptual Framework.

The following section lists the Hypotheses that were tested by this study.

Hypotheses

Listed below are the directional statistical hypotheses of this study. They were tested at least at the .05 level of significance.

$H_1$. There is a positive relationship between venue security executives’ education levels and the level of crisis readiness competencies they perceive themselves to possess.

$H_2$. There is a positive relationship between venue security executives’ years of experience and the level of crisis readiness competencies they perceive themselves to possess.

$H_3$. There is a positive relationship between participation in training by venue security executives and the level of crisis readiness competencies they perceive themselves to possess.

$H_4$. There is a positive relationship between venue security executives’ education levels coupled with participation in training and the level of crisis readiness competencies they perceive themselves to possess.
H$_5$. There is a positive relationship between venue security executives’ years of experience coupled with participation in training and the level of crisis readiness competencies they perceive themselves to possess.

The researcher chose these Hypotheses based on three documented factors that affect workforce competency development. Education, with an emphasis on higher education, is an important factor in competency development (Carnevale & Desrochers, 2004; Grey & Herr, 1998; Hanushek, 2005). Work experience was chosen as an independent variable because of its role in positively impacting competency development. Some researchers argue that learning and competency development is grounded in experience (Maslow, 1970; Rogers, 1983). Participation in training programs was selected as the third independent variable because of its impact on work performance and competency development (Chiaburu & Marinova, 2005). Some researchers even consider training to be the primary method for improving workforce performance (Dean et al., 1996).

Population and Sample

The study included participants from the six major professional sports of football, baseball, basketball, auto racing, hockey, and soccer. Only professional sport venues with minimum average spectator attendances of 10,000 or more per game were considered for this study. Therefore, only venues used by the National Football League (NFL), Major League Baseball (MLB), National Basketball Association (NBA), National Association of Stock Car Auto Racing (NASCAR), National Hockey League (NHL), and Major League Soccer (MLS) were included in the survey population.
The total population for the study was 151 participants. This number was composed of the number of venues that host the events of each listed league. It is important to note that the number of survey participants was smaller than the number of sports organizations due to shared use of venues. For example, the NFL’s New York Jets and New York Giants share the use of MetLife Stadium. Therefore, the survey participant was the director of security at that venue and not a separate participant from each team. Also, some venues are shared between two different leagues. For example, the NFL’s Oakland Raiders and the MLB’s Oakland A’s share the O.co Coliseum. There are also a total of 10 arenas shared between NBA and NHL teams that reside in the same cities. Careful consideration was made when accounting for these shared resources to avoid sending multiple survey invitations to the same security director. The total population (n=151) represents the sample that was surveyed. Using a sample size calculator from ResearchInfo.com (Creative Research Systems, n.d.), with a 95% confidence level and a 5% confidence interval, the required sample size was determined to be 109 of the 151 participants in the study.

Research Instrument

The instrument used for this investigation was a modification of Cunningham’s (2007) CASM questionnaire shown in Appendix A. The researcher previously corresponded with Cunningham and obtained his permission for use of the instrument. The instrument created for this study is the Crisis Readiness Score (CRS) questionnaire that is shown in Appendix D.

Participants were asked to complete the CRS, a 50 item questionnaire containing two sections. The first section of the CRS, shown in Appendix B, contains questions
about the independent variables along with requests for basic information regarding demographics, certifications, professional organizational memberships, professional development topics, and preferred methods of training and development course delivery. The independent variables are levels of formal education and years of experience. The mediating variable, participation in training, is exogenous to the other independent variables. It was included to test for a positive relationship on the capabilities identified in section two, either by itself or as an interaction effect with one of the primary independent variables.

The second section of the CRS contains the dependent variables that were measured in the study. These include the 32 original security/crisis management capabilities questions from the CASM along with 8 additional crisis leadership questions developed by the researcher and shown in Appendix C. The crisis leadership questions have been developed from the Review of Literature in Chapter II. The questions in section two are based on a five point Likert-type scale. The questions are posed as self-perceived levels of capabilities with respect to security/crisis management (questions 11-42) or crisis leadership (questions 43-50). The capabilities are self-perceptions of the participants’ capabilities ranked from 1 (very low capability), 2 (somewhat low capability), 3 (moderate capability), 4 (somewhat high capability) to 5 (very high capability). This is an ordinal scale of measurement, and the negative end of the scale has been listed first as recommended by Fink (2003). The researcher made a change to question 29 due to the participants in the study. The word “university” has been changed to “organization’s” to accurately reflect the change from collegiate venues to professional venues.
The eight crisis leadership questions are shown as questions 43 through 50 in Appendix C and then again in the overall CRS questionnaire in Appendix D. These questions were presented to a focus group of security executives at a National Center for Spectator Sports Safety and Security (NCS\(^4\)) Advisory Board meeting. As a result of the focus group, four of the eight questions were modified to incorporate recommendations that added clarity to the questions. These adjustments should allow for more accuracy in participant responses.

Listed below are each of the crisis leadership questions created for the questionnaire.

43. identify venue safety and security vulnerabilities (James & Wooten, 2005)

44. frame a crisis as an opportunity rather than a threat (James & Wooten, 2005; Yusko & Goldstein, 1997)

45. learn from a crisis and seek measures to prevent similar crises from re-emerging (Mitroff, 2002; Roux-Dufort, 2009)

46. learn from a crisis and affect change toward organizational improvement (Hutchins & Wang, 2008; James & Wooten, 2005; Pearson & Clair, 1998)

47. make decisions under the pressure of a crisis (Crichton, et al., 2005; Flinn & Slaven, 1995)

48. assess situations with respect to safety and security and address them before they become crises (Crichton, et al., 2005; Flinn & Slaven, 1995)

49. implement tasks that will resolve a safety and/or security crisis (Flinn & Slaven, 1995; Yusko & Goldstein, 1997)
50. demonstrate interpersonal sensitivity with respect to those affected by a crisis (Flinn & Slaven, 1995; Heifetz et al., 2009; Yusko & Goldstein, 1997)

These eight items make up the ninth construct, Crisis Leadership, and comprise the last eight questions in the second questionnaire section.

The CASM instrument was previously reviewed by a panel of sport event security personnel and a panel of sports professionals enrolled in a graduate sports administration class. Cunningham (2007) conducted a pilot study to determine face and content validity. Construct validity was not addressed in Cunningham’s study. However, Creswell (2003), citing Humbley and Zumbo (1996), identified measures of construct validity based on “whether the scores serve a useful purpose and have positive consequences when used” (p. 158). Within this context, the literature revealed that the scores serve a very important purpose in determining gaps and deficiencies in preparedness of those who provide safety and security at sports and entertainment venues throughout the United States. Positive consequences can result from the development of training and professional development programs that effectively close the identified gaps. The pilot study also assessed the reliability of the instrument. In terms of reliability after use of the instrument, Cunningham’s (2007) research revealed the Cronbach’s alpha to be .901. This relatively high value indicates that the survey items measure the true score to a large degree without much of an error component.

Data Collection

For this study, an online version of the CRS questionnaire was developed using SurveyMonkey. This method was chosen because of its low cost, ability to quickly reach the participants, and quickly return results to the researcher (Dillman, Smyth, & Christian,
The procedure for administering the questionnaire and increasing the return rate was a three-step process. The first step was to make personal phone calls to each person listed in the survey population. During the call, each person was briefed about the study and its importance, and each was asked for their participation in completing an electronic version of the questionnaire. The participant’s email address was then verified and the survey time frame was discussed. An email containing a link to the survey was sent to the participant immediately following the phone conversation. This email is listed in Appendix E.

Three days after completing step one, the second step was to send out emails to all targeted participants who did not return the initial phone calls. They were sent similar information describing the study, its importance, and asked for their participation. Those who agreed to participate were emailed the link to take the survey. One week after step two, step three involved a follow-up email encouraging all participants to complete and return the questionnaire. The follow-up email is listed in Appendix F.

Participants were assured that no identifying information would be revealed. They were asked to complete the questionnaires within three days of the time they received it. The data collection period ended four weeks after the first questionnaires were sent to participants.

Data Analysis

At the conclusion of the data collection period, data was recorded and analyzed with the use of the Statistical Package for Social Sciences (SPSS) software. The first objective in analyzing the data was to establish the baseline knowledge of the crisis readiness competencies of security executives in the professional sports industry. This
required the use of descriptive statistics to calculate the means for each competency being measured. The means were used to establish a baseline for the self-perceived competencies of the participants. The baseline scores were composed of means calculated for each individual dependent variable (competency), each of the nine constructs, and the total of all nine constructs. The total mean for all nine constructs represents the overall CRS. The mean scores of each dependent variable and construct were important in determining individual areas of deficiency.

The next objective was to test for the effects of independent factors such as education levels, years of experience, and participation in training on the development of crisis readiness competencies. The first coefficient (b1), corresponding to Hypothesis 1, analyzed the impact of education level on the level of crisis readiness competencies. The second coefficient (b2), corresponding to Hypothesis 2, analyzed the impact of experience level on the level of crisis readiness competencies. The third coefficient (b3), corresponding to Hypothesis 3, analyzed the impact of training participation on the level of crisis readiness competencies. The fourth coefficient (b4), corresponding to Hypothesis 4, analyzed the interaction effects of training participation and education level on crisis readiness competencies. The fifth coefficient (b5), corresponding to Hypothesis 5, analyzed the interaction effects of training participation and experience level on crisis readiness competencies.

This test required the use of multiple regression analysis (Agresti & Finlay, 1999). The regression equation for this study was represented by the following:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 \]

Where \( Y \) = mean CRS score
a = constant
X1 = education level
X2 = experience level
X3 = training participation
X4 = X1*X3 (interaction between education and training)
X5 = X2*X3 (interaction between experience and training)
b1 through b5 are the regression coefficients corresponding to each of the variables X1 through X5 respectively

According to Huck (2008), this equation is the most important link between the raw scores collected in the surveys and the findings extracted from the data analysis. The researcher chose to use a block or hierarchical regression for the study. With hierarchical regression, the researcher was able to add terms to the regression model in stages and see the change in variance ($R^2$) at each stage (Stockburger, 2001). With the use of SPSS, the regression equation above was analyzed to perform the hypothesis testing for the five Hypotheses in question.

Summary

Security directors of professional sports venues were surveyed to establish their self-perceived security/crisis management and crisis leadership competencies through the use of the newly formed CRS instrument. In addition to establishing this baseline of self-reported competencies, the study also tested for the effects of independent factors of education levels, years of experience, and participation in training on these competencies. The study also tested for interaction effects of training when coupled with education levels and for interaction effects when coupled with experience levels. The sample for the
study was made up security directors at venues of major leagues within the sports of football, baseball, basketball, auto racing, hockey, and soccer. In addition, to be considered for inclusion in the study, each venue must host games/races that have an average attendance of at least 10,000 spectators. Emails to the prospective survey participants included links to the questionnaires. The completed questionnaires were returned to a web-based collection point. SPSS software was used to record and analyze the data for the surveys. Chapter IV presents an analysis of the results of this study.
CHAPTER IV
RESULTS OF ANALYSIS

The purpose of this study was to establish a baseline of the perceived levels of crisis readiness competencies of professional sport venue security executives and to examine the relationship between personal characteristics and the their levels of perceived competencies. These executives work in major professional sport venues across the United States and Canada. The total survey population was 151 security executives from six professional sport leagues (MLB, MLS, NASCAR, NHL, NBA, and NFL). The entire population was asked to participate. A total of 77 (51%) of those in the population began the survey. The number of participants who completed the survey in its entirety was 69 (46%).

Demographic and Descriptive Data

In this study, descriptive statistics were used to describe the population and to establish a baseline of mean scores of the crisis readiness competencies of the population. The baseline scores are composed of means calculated for each individual dependent variable (competency), each of the nine constructs, and the total of all nine constructs. The total mean for all nine constructs represents the overall crisis readiness score (CRS).

A total of 85.5% (n = 65) of the respondents were male and 14.5% (n = 11) were female. Table 3 expresses the division of respondents among age groups.
Table 3

*Age of Survey Respondents*

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 26</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>26-35</td>
<td>11</td>
<td>14.5%</td>
</tr>
<tr>
<td>36-45</td>
<td>21</td>
<td>27.6%</td>
</tr>
<tr>
<td>46-55</td>
<td>22</td>
<td>28.9%</td>
</tr>
<tr>
<td>Over 55</td>
<td>22</td>
<td>28.9%</td>
</tr>
</tbody>
</table>

Concerning race/ethnicity of the total respondents, 90.8% (n = 69) self-reported as Caucasian, 5.3% (n = 4) reported as Hispanic, and 3.9% (n = 3) reported as African American. Table 4 shows the highest levels of education obtained by the survey respondents. The majority of respondents (43.8%) reported having a bachelor’s degree followed by 26% with master’s degrees.
Table 4

*Highest Level of Education of Survey Respondents*

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>4</td>
<td>5.50%</td>
</tr>
<tr>
<td>Some college</td>
<td>11</td>
<td>15.10%</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>6</td>
<td>8.20%</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>32</td>
<td>43.80%</td>
</tr>
<tr>
<td>Master's degree</td>
<td>19</td>
<td>26.00%</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>1</td>
<td>1.40%</td>
</tr>
</tbody>
</table>

The number of years of experience (in the security/operations management field) held by each respondent is displayed in Table 5 below. A quarter of the respondents reported having between 13 and 20 years of total field experience, while 47.4% reported having over 20 years of experience.
Table 5

*Total Years of Experience of Survey Respondents*

<table>
<thead>
<tr>
<th>Total Years of Experience</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 3</td>
<td>5</td>
<td>6.6%</td>
</tr>
<tr>
<td>4 to 7</td>
<td>2</td>
<td>2.6%</td>
</tr>
<tr>
<td>6 to 10</td>
<td>6</td>
<td>7.9%</td>
</tr>
<tr>
<td>8 to 12</td>
<td>8</td>
<td>10.5%</td>
</tr>
<tr>
<td>13 to 20</td>
<td>19</td>
<td>25.0%</td>
</tr>
<tr>
<td>Over 20</td>
<td>36</td>
<td>47.4%</td>
</tr>
</tbody>
</table>

The number of years of experience held by each respondent (in their current position) is displayed in Table 6 below. Nearly half of the respondents reported they had six or less years of experience in their current positions. Less than 3% reported having over 20 years of experience in their current positions.
Table 6

*Years of Experience in Current Position of Survey Respondents*

<table>
<thead>
<tr>
<th>Years of Experience in Current Position</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 3</td>
<td>18</td>
<td>24.3%</td>
</tr>
<tr>
<td>4 to 6</td>
<td>16</td>
<td>21.6%</td>
</tr>
<tr>
<td>7 to 10</td>
<td>10</td>
<td>13.5%</td>
</tr>
<tr>
<td>8 to 12</td>
<td>14</td>
<td>18.9%</td>
</tr>
<tr>
<td>13 to 20</td>
<td>14</td>
<td>18.9%</td>
</tr>
<tr>
<td>Over 20</td>
<td>2</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

The frequency with which respondents participate in crisis management, security management, and/or crisis leadership training programs is shown in Table 7 below. Approximately 85% of the respondents reported occasional to frequent participation in training, while approximately 15% reported little to no participation.
Survey respondents were asked to indicate their interests in learning more about various areas of venue security management. Respondents selected from a list of nine topic areas with the instructions to select all that were of interest. The results of the interest in these topic areas are shown below in Table 8.

Table 8

*Venue Security Management Topics of Interest*

<table>
<thead>
<tr>
<th>Topics of Interest</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crowd Management</td>
<td>44</td>
<td>62.9%</td>
</tr>
<tr>
<td>Evacuation Planning</td>
<td>47</td>
<td>67.1%</td>
</tr>
<tr>
<td>Agency Collaboration</td>
<td>21</td>
<td>30.0%</td>
</tr>
<tr>
<td>Liability</td>
<td>24</td>
<td>34.3%</td>
</tr>
</tbody>
</table>
Table 8 (continued).

<table>
<thead>
<tr>
<th>Topics of Interest</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency/Crisis Management</td>
<td>50</td>
<td>71.4%</td>
</tr>
<tr>
<td>Credential Control</td>
<td>28</td>
<td>40.0%</td>
</tr>
<tr>
<td>Perimeter Control</td>
<td>21</td>
<td>30.0%</td>
</tr>
<tr>
<td>Policies and Procedures</td>
<td>31</td>
<td>44.3%</td>
</tr>
<tr>
<td>Crisis Leadership</td>
<td>34</td>
<td>48.6%</td>
</tr>
</tbody>
</table>

Survey respondents were asked to report their preferred method of delivery for training and development courses. Respondents were not limited to one selection. As shown in Table 9 the majority of respondents prefer conferences for training methods followed by online and onsite delivery.

Table 9

*Preferred Training Delivery Methods of Survey Respondents*

<table>
<thead>
<tr>
<th>Training Methods</th>
<th>Respondents</th>
<th>Percent of Respondents in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-campus</td>
<td>13</td>
<td>17.8%</td>
</tr>
<tr>
<td>Online</td>
<td>36</td>
<td>49.3%</td>
</tr>
<tr>
<td>At Conference</td>
<td>44</td>
<td>60.3%</td>
</tr>
<tr>
<td>Onsite (work place)</td>
<td>33</td>
<td>45.2%</td>
</tr>
</tbody>
</table>
The baseline measures of crisis readiness competencies are derived from the mean scores of each of the nine crisis readiness constructs. These measures are shown in Table 10 below. The overall crisis readiness score (CRS) of the sample population is also indicated in this table. The CRS is derived from the average scores of the nine constructs. See Appendix G for the means and standard deviations of each competency from each of the nine constructs. Using a scale ranked 1 through 5, with 1 being “very low capability” and 5 being “very high capability,” respondents were asked to indicate their levels of capabilities across the nine constructs. Crisis Leadership is reported to be the highest ranked self-perceived construct (M = 4.25, SD = 0.68). The Emergency/Crisis Management construct has the lowest ranking with M = 3.80 and SD = 0.76. The Overall CRS score (M = 4.07, SD = 0.64) is the mean of all 40 competency questions.

Table 10

Mean Crisis Readiness Score of Survey Respondents

<table>
<thead>
<tr>
<th>Construct</th>
<th>Survey Questions</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emer. Evac. Plan</td>
<td>11-13</td>
<td>3.81</td>
<td>0.70</td>
<td>71</td>
</tr>
<tr>
<td>Agency Collab.</td>
<td>14-19</td>
<td>4.20</td>
<td>0.69</td>
<td>71</td>
</tr>
<tr>
<td>Spectator Control</td>
<td>20-22</td>
<td>4.20</td>
<td>0.76</td>
<td>71</td>
</tr>
<tr>
<td>Policies and Proced.</td>
<td>23-26</td>
<td>4.11</td>
<td>0.76</td>
<td>71</td>
</tr>
<tr>
<td>Liability</td>
<td>27-30</td>
<td>4.00</td>
<td>0.84</td>
<td>71</td>
</tr>
<tr>
<td>Emer./Crisis Mgt.</td>
<td>31-34</td>
<td>3.80</td>
<td>0.76</td>
<td>71</td>
</tr>
</tbody>
</table>
Table 10 (continued).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Survey Questions</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credential Control</td>
<td>35-37</td>
<td>4.11</td>
<td>0.83</td>
<td>71</td>
</tr>
<tr>
<td>Perimeter Control</td>
<td>38-42</td>
<td>4.13</td>
<td>0.82</td>
<td>70</td>
</tr>
<tr>
<td>Crisis Leadership</td>
<td>43-50</td>
<td>4.25</td>
<td>0.68</td>
<td>69</td>
</tr>
<tr>
<td>Overall CRS</td>
<td></td>
<td>4.07</td>
<td>0.64</td>
<td>69</td>
</tr>
</tbody>
</table>

Factor and Reliability Analyses

Factor analysis is a statistical procedure used to determine meaningful clusters of shared variance (Rummel, 1970). Communality is a term used to describe the proportion of variance accounted for by the common factors of a variable. Communalities range from zero to one. Zero means that the common factors do not explain any variance, and one means the common factors explain all the variance (Osborne & Costello, 2005).

According to Velicer and Fava (1998), item communalities are considered high if they are all 0.8 or greater. Also, according to Velicer and Fava (1998), an item with a communality of less than 0.4 may not be related to the other items. This could also suggest that an additional factor should be explored. As a rule of thumb, Tabachnick and Fidell (2001) cite 0.32 as the minimum loading for an item. The number of items in a factor can also be an issue. Osborne and Costello (2005) argue that a factor with fewer than three items is usually unstable. They posit that five or more strongly loading items (0.5 or greater) indicate a solid factor.
A principal-axis factor analysis with oblique rotation was performed on each of the nine constructs as well as for the overall CRS measurement. Tables 11 through 19 depict the results of the factor loading for each construct. Table 20 presents the factor loadings for the overall CRS measurement. Of the 10 constructs evaluated, the number of items within each factor ranged from three to nine. The minimum and maximum loadings ranged from 0.671 to 0.915. Included below each factor table is the calculated Cronbach’s Alpha along with the percentage of variance among each construct.

Table 11

*Factor Loadings for Emergency Evacuation Planning Construct*

<table>
<thead>
<tr>
<th>Emergency Evacuation Planning Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare a written disaster plan</td>
<td>0.882</td>
</tr>
<tr>
<td>Coordinate an evacuation using all-hazards approach</td>
<td>0.905</td>
</tr>
<tr>
<td>Coordinate an evacuation using our venue's plan</td>
<td>0.812</td>
</tr>
</tbody>
</table>

The factor analysis for the Emergency Evacuation Planning Construct confirmed a viable index, as the measures were one-dimensional and explained 75% of the variance. The Cronbach’s Alpha for this construct was 0.832.
Table 12

*Factor Loadings for Agency Collaboration Construct*

<table>
<thead>
<tr>
<th>Agency Collaboration Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborate with public safety agencies to establish game day policies</td>
<td>0.818</td>
</tr>
<tr>
<td>Collaborate with public safety agencies to set up command center operations</td>
<td>0.866</td>
</tr>
<tr>
<td>Determine which agency has authority to cancel events</td>
<td>0.814</td>
</tr>
<tr>
<td>Develop and carry out training session with public safety agencies</td>
<td>0.858</td>
</tr>
<tr>
<td>Determine necessity for a bomb sweep</td>
<td>0.837</td>
</tr>
<tr>
<td>Conduct disaster scenario exercises with public safety agencies</td>
<td>0.719</td>
</tr>
</tbody>
</table>

The factor analysis for the Agency Collaboration Construct confirmed a viable index, as the measures were one-dimensional and explained 67% of the variance. The Cronbach’s Alpha for this construct was 0.898.

Table 13

*Factor Loadings for Spectator Control Construct*

<table>
<thead>
<tr>
<th>Spectator Control Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine the security measures for tailgating</td>
<td>0.868</td>
</tr>
<tr>
<td>Determine security measures for intense rivalries</td>
<td>0.843</td>
</tr>
<tr>
<td>Develop crowd screening and control policies</td>
<td>0.888</td>
</tr>
</tbody>
</table>
The factor analysis for the Spectator Control Construct confirmed a viable index, as the measures were one-dimensional and explained 75% of the variance. The Cronbach’s Alpha for this construct was 0.833.

Table 14

*Factor Loadings for Policies and Procedures Construct*

<table>
<thead>
<tr>
<th>Policies and Procedures Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide procedures to the public announcer</td>
<td>0.795</td>
</tr>
<tr>
<td>Establish policies and procedures dealing with a bomb threat</td>
<td>0.861</td>
</tr>
<tr>
<td>Develop a pre- and post-event security checklist</td>
<td>0.896</td>
</tr>
<tr>
<td>Conduct game day audits</td>
<td>0.817</td>
</tr>
</tbody>
</table>

The factor analysis for the Policies and Procedures Construct confirmed a viable index, as the measures were one-dimensional and explained 71% of the variance. The Cronbach’s Alpha for this construct was 0.828.

Table 15

*Factor Loadings for Liability Construct*

<table>
<thead>
<tr>
<th>Liability Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be aware of legal issues that may arise during a crisis</td>
<td>0.867</td>
</tr>
<tr>
<td>Request copies of reports for liability record keeping</td>
<td>0.828</td>
</tr>
<tr>
<td>Work with attorney to ensure documentation gathered properly</td>
<td>0.879</td>
</tr>
</tbody>
</table>
Table 15 (continued).

<table>
<thead>
<tr>
<th>Liability Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be aware of repercussions that could come from poor training, poor maintenance, carelessness, misconduct, or staff fatigue</td>
<td>0.908</td>
</tr>
</tbody>
</table>

The factor analysis for the Liability Construct confirmed a viable index, as the measures were one-dimensional and explained 76% of the variance. The Cronbach’s Alpha for this construct was 0.783.

Table 16

*Factor Loadings for Emergency/Crisis Management Construct*

<table>
<thead>
<tr>
<th>Emergency/Crisis Management Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct an immediate meeting with EMS team</td>
<td>0.882</td>
</tr>
<tr>
<td>Coordinate a media press release</td>
<td>0.720</td>
</tr>
<tr>
<td>Ensure training of all athletic personnel as to response procedures</td>
<td>0.782</td>
</tr>
<tr>
<td>Have a reliable interoperable communication system</td>
<td>0.816</td>
</tr>
</tbody>
</table>

The factor analysis for the Emergency/Crisis Management Construct confirmed a viable index, as the measures were one-dimensional and explained 64% of the variance. The Cronbach’s Alpha for this construct was 0.872.
Table 17

*Factor Loadings for Credential Control Construct*

<table>
<thead>
<tr>
<th>Credential Control Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinate proper credential dissemination</td>
<td>0.910</td>
</tr>
<tr>
<td>Establish guidelines for vendor credentials</td>
<td>0.915</td>
</tr>
<tr>
<td>Establish guidelines for media and public official credentials</td>
<td>0.903</td>
</tr>
</tbody>
</table>

The factor analysis for the Credential Control Construct confirmed a viable index, as the measures were one-dimensional and explained 83% of the variance. The Cronbach’s Alpha for this construct was 0.815.

Table 18

*Factor Loadings for Perimeter Control Construct*

<table>
<thead>
<tr>
<th>Perimeter Control Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designate perimeter areas for inspection of spectators for prohibited items</td>
<td>0.847</td>
</tr>
<tr>
<td>Establish an outer perimeter for keeping unticketed and unauthorized individuals away form venue</td>
<td>0.843</td>
</tr>
<tr>
<td>Designate a perimeter entrance checkpoint for game day staff</td>
<td>0.785</td>
</tr>
<tr>
<td>Have policies for vehicles pausing or stopping within the perimeter control (drop-off area)</td>
<td>0.907</td>
</tr>
<tr>
<td>Coordinate all traffic flow evacuations</td>
<td>0.830</td>
</tr>
</tbody>
</table>
The factor analysis for the Perimeter Control Construct confirmed a viable index, as the measures were one-dimensional and explained 71% of the variance. The Cronbach’s Alpha for this construct was 0.901.

Table 19

*Factor Loadings for Crisis Leadership Construct*

<table>
<thead>
<tr>
<th>Crisis Leadership Competencies</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify venue safety and security vulnerabilities</td>
<td>0.828</td>
</tr>
<tr>
<td>Frame a crisis as an opportunity rather than a threat</td>
<td>0.870</td>
</tr>
<tr>
<td>Learn from a crisis and seek measures to prevent similar crises from re-emerging</td>
<td>0.846</td>
</tr>
<tr>
<td>Learn from a crisis and affect change toward organizational improvement</td>
<td>0.861</td>
</tr>
<tr>
<td>Make decisions under the pressure of a crisis</td>
<td>0.798</td>
</tr>
<tr>
<td>Assess situations with respect to safety and security and address them before they become crises</td>
<td>0.879</td>
</tr>
<tr>
<td>Implement tasks that will resolve a crisis</td>
<td>0.909</td>
</tr>
<tr>
<td>Demonstrate interpersonal sensitivity to those affected by a crisis</td>
<td>0.808</td>
</tr>
</tbody>
</table>

The factor analysis for the Perimeter Control Construct confirmed a viable index, as the measures were one-dimensional and explained 72% of the variance. The Cronbach’s Alpha for this construct was 0.921.
Table 20

*Factor Loadings for Crisis Readiness Score*

<table>
<thead>
<tr>
<th>Crisis Readiness Score</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Evacuation Planning Scale</td>
<td>0.786</td>
</tr>
<tr>
<td>Agency Collaboration Scale</td>
<td>0.906</td>
</tr>
<tr>
<td>Spectator Control Scale</td>
<td>0.835</td>
</tr>
<tr>
<td>Policies and Procedures Scale</td>
<td>0.889</td>
</tr>
<tr>
<td>Liability Scale</td>
<td>0.853</td>
</tr>
<tr>
<td>Emergency/Crisis Management Scale</td>
<td>0.868</td>
</tr>
<tr>
<td>Credential Control Scale</td>
<td>0.671</td>
</tr>
<tr>
<td>Perimeter Control Scale</td>
<td>0.833</td>
</tr>
<tr>
<td>Crisis Leadership Scale</td>
<td>0.901</td>
</tr>
</tbody>
</table>

The factor analysis for the overall Crisis Readiness Score confirmed a viable index, as the measures were one-dimensional and explained 71% of the variance. The Cronbach’s alpha was computed to be 0.945, which was consistent with the instrument developed by the previous researcher (Cunningham, 2007).

**Analysis of Hypotheses**

The focus of the Research Hypotheses in this study was to examine if a relationship exists between personal characteristics and the level of perceived competencies of security executives working in major professional sport venues across the United States and Canada. Personal characteristics are comprised of two independent variables that include levels of formal education and years of security management.
experience. Participation in training is the intervening variable, and the dependent variable is made up of the security management and crisis leadership competencies that comprise the crisis readiness score (CRS). For this analysis, the CRS is the mean of the sums of survey questions 11 through 40.

The correlations among the variables in the study are shown in Table 21 below. The dependent variable, CRS, has no significant correlation with education level. The CRS does have a significant positive correlation with experience level, training, and the interaction of experience and training all at the level of p < .01. At the p < .05 level, CRS is significantly and positively correlated with the interaction of education level and training.

Education level has no significant correlation with experience level, training, or the interaction of experience and training. Education level has a positive significant correlation with the interaction of education level and training at the p < .01 level.

Years of experience is significantly and positively correlated with training, the interaction of education and training, and the interaction of experience and training all at the p < .01 level. Participation in training is significantly and positively correlated with the interaction of education level and training and the interaction of experience and training all at the p < .01 level. The interaction variables, education and training and experience and training, have a positive significant correlation at the p < .01 level.
Table 21

*Correlations of Variables*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CRS</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed. Level</td>
<td>-0.061</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yrs. Exp.</td>
<td>0.456**</td>
<td>-0.143</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>0.576**</td>
<td>-0.052</td>
<td>0.380**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed. Train.</td>
<td>0.364*</td>
<td>0.563**</td>
<td>0.717**</td>
<td>0.311**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Exp. Train.</td>
<td>0.582**</td>
<td>-0.074</td>
<td>0.857**</td>
<td>0.766**</td>
<td>0.644**</td>
<td>1</td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01

A multiple regression analysis was performed on the variables to test the hypotheses in the study. Table 22 lists the results of the regression. The data from the regression is used to determine whether to accept or reject the null hypotheses. An explanation of each Hypothesis analysis is offered below.
Table 22

*Results of Sequential Regression Models of Crisis Readiness Competencies*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
<th>Block 4</th>
<th>Block 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>-0.061</td>
<td>0.006</td>
<td>0.02</td>
<td>-0.472</td>
<td>-0.395</td>
</tr>
<tr>
<td>Experience</td>
<td>0.457***</td>
<td>0.286**</td>
<td>-0.262</td>
<td>0.031</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>0.472***</td>
<td>0.440***</td>
<td>0.617*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed. Train.</td>
<td></td>
<td></td>
<td></td>
<td>0.702</td>
<td>0.611</td>
</tr>
<tr>
<td>Exp. Train.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.332</td>
</tr>
<tr>
<td>F</td>
<td>0.242</td>
<td>8.395***</td>
<td>14.065***</td>
<td>11.146***</td>
<td>8.923***</td>
</tr>
<tr>
<td>Deg. of F</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Adj. R-sq</td>
<td>-0.012</td>
<td>0.183</td>
<td>0.373</td>
<td>0.381</td>
<td>0.375</td>
</tr>
<tr>
<td>Chg. in R-sq</td>
<td>0.195</td>
<td>0.19</td>
<td>0.008</td>
<td>-0.006</td>
<td></td>
</tr>
</tbody>
</table>

Note. Standardized coefficients reported
n=66
*p<.05
**p<.01
***p<.001

\(H_1\): The purpose of this research was to determine whether venue security executives’ education levels have a positive effect on the level of crisis readiness competencies they perceive themselves to possess. As shown in Block 1 of Table 22, despite support in the literature, no significant correlation was found between education levels and crisis readiness competencies. Further regression analysis indicates that
education level alone does not significantly impact crisis readiness competencies. Therefore, in this case the null hypothesis is not rejected.

**H₂**: The purpose of this research was to determine whether venue security executives’ experience levels have a positive effect on the level of crisis readiness competencies they perceive themselves to possess. A significant relationship was found between experience levels and crisis readiness competencies. As shown in Table 22 in Block 2, with a Beta of 0.457, the experience variable is positively statistically significant at the p < .001 level. Therefore, the null hypothesis in this case is rejected.

**H₃**: The purpose of this research was to determine whether venue security executives’ participation in training has a positive effect on the level of crisis readiness competencies they perceive themselves to possess. A significant relationship was found between participation in training and crisis readiness competencies. As shown in Block 3 of Table 22, with a Beta of 0.472, the training variable is positively statistically significant at the p < .001 level. Therefore, the null hypothesis in this case is rejected.

**H₄**: The purpose of this research was to determine whether venue security executives’ education levels coupled with participation in training has a positive effect on the level of crisis readiness competencies they perceive themselves to possess. No significant relationship was found between education levels coupled with participation in training and crisis readiness competencies. As shown in Block 4 of Table 22, with a Beta of 0.702, the interaction between education levels and participation in training does not significantly impact crisis readiness competencies. Therefore, the null hypothesis in this case is not rejected.
H₅: The purpose of this research was to determine whether venue security executives’ years of experience coupled with participation in training has a positive effect on the level of crisis readiness competencies they perceive themselves to possess. No significant relationship was found between years of experience coupled with participation in training and crisis readiness competencies. As shown in Block 5 of Table 22, with a Beta of -0.332, the interaction between education levels and participation in training does not significantly impact crisis readiness competencies. Therefore, the null hypothesis in this case is not rejected.

Threats to Validity

During data analysis, a few potential threats to validity emerged. A threat to internal validity known as selection occurs when differences in conditions among the characteristics of the respondents can affect survey results (Shadish, Cook, & Campbell, 2002). Selection bias is often addressed by randomization (Shadish et al., 2002). However, due to the nature of the study, the CRS instrument was not random in its selection of respondents. It also did not ask respondents for information such as professional or educational backgrounds.

Two threats to construct validity became apparent. Firstly, the instrument may have presented an inadequate explication of constructs that could have affected the self-reported scores. According to Shadish et al. (2002), these situations can lead to incorrect inferences about operation and construct. Future use of the CRS instrument should contain a clear definition of a crisis in order to place the proper context for the survey questions.
Secondly, the self-reported scores from the survey could have possibly been inflated to make the respondents’ competency levels appear to be higher than they actually are. This phenomenon, according to Rosenzweig (1933), occurs when research participants attempt to provide results that the researcher wants to see rather than results that accurately answer the questions. Although the researcher cannot prove this to be the case, the mean scores across all constructs were high versus the previous research of Cunningham (2007). See Table 23 below for a comparison of Cunningham’s (2007) CASM mean scores to the CRS mean scores. It is important to note that the CASM measured only collegiate level participants while the CRS measured only professional level participants. Also, the CRS contains all eight of the constructs of the CASM plus the additional Crisis Leadership construct. The Crisis Leadership construct, therefore, is not included in the CASM.

Table 23

Comparison of CASM and CRS Scores

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean CASM</th>
<th>Mean CRS</th>
<th>Std. Dev. CASM</th>
<th>Std. Dev. CRS</th>
<th>N CASM</th>
<th>N CRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emer. Evac. Plan</td>
<td>3.60</td>
<td>3.81</td>
<td>0.96</td>
<td>0.70</td>
<td>81</td>
<td>71</td>
</tr>
<tr>
<td>Agency Collab.</td>
<td>3.90</td>
<td>4.20</td>
<td>0.79</td>
<td>0.69</td>
<td>81</td>
<td>71</td>
</tr>
<tr>
<td>Spectator Control</td>
<td>3.91</td>
<td>4.20</td>
<td>0.79</td>
<td>0.76</td>
<td>81</td>
<td>71</td>
</tr>
<tr>
<td>Policies and Proced.</td>
<td>3.86</td>
<td>4.11</td>
<td>0.80</td>
<td>0.76</td>
<td>81</td>
<td>71</td>
</tr>
<tr>
<td>Liability</td>
<td>3.67</td>
<td>4.00</td>
<td>0.88</td>
<td>0.84</td>
<td>81</td>
<td>71</td>
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Table 23 (continued).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean CASM</th>
<th>Mean CRS</th>
<th>Std. Dev. CASM</th>
<th>Std. Dev. CRS</th>
<th>N CASM</th>
<th>N CRS</th>
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<td>Emer./Crisis Mgt.</td>
<td>3.82</td>
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<td>0.76</td>
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<td>71</td>
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<td>Credential Control</td>
<td>4.20</td>
<td>4.11</td>
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<td>0.83</td>
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<td>Perimeter Control</td>
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<td>4.13</td>
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<td>0.82</td>
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<td>Crisis Leadership</td>
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<td></td>
<td>0.68</td>
<td>69</td>
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<td>Overall CASM</td>
<td>3.80</td>
<td>0.72</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Overall CRS</td>
<td></td>
<td>4.07</td>
<td>0.64</td>
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</table>

Summary

This chapter summarized the statistical results of this research. Surveys were administered via the Internet with the SurveyMonkey product. The survey period took place in May and June of 2012. The survey population consisted of the security executives responsible for the six professional sport venues of the MLB, MLS, NASCAR, NBA, NHL, and NFL. The study established a baseline level of crisis readiness competencies for these professionals. It also examined the relationship between personal characteristics and the level of crisis readiness competencies perceived to be possessed by these professionals. In this study, personal characteristics comprised the independent variables of education level, years of experience, and participation in training. The dependent variables were the crisis readiness competencies that formed the CRS. The data indicated a positive, statistically significant relationship between experience levels and crisis readiness competencies. The data also indicated a positive, statistically
significant relationship between participation in training and crisis readiness competencies. Education levels did not show a statistically significant relationship among the crisis readiness competencies. Furthermore, neither of the interactions variables, education and training nor experience and training, proved to be statistically significant on the CRS. Chapter V will discuss the implications of the study results and provide recommendations for future research.
Summary

Professional sports in the United States have grown to become an important part of American culture and to play a significant role in the national economy. The security professionals tasked with ensuring the public’s safety at sporting events have an ever increasingly difficult mission. The importance of well trained and prepared sport security professionals cannot be underestimated. Although sport security, generally speaking, is a relatively new field of study, research has to identify the core competencies required of these professionals. Research has been conducted to measure and baseline the competencies of security managers of Division I Collegiate athletic programs (Cunningham, 2007). However, prior to this study, no research had been conducted to address and document the competency levels of the security directors of professional sports organizations.

The Review of Literature revealed the security management competencies researched, developed, and used to survey security professionals at the collegiate level. The literature review also indicated several crisis leadership competencies identified by researchers who studied organizational leadership. The combination of security management and crisis leadership competencies was used to develop the instrument for this study, the Crisis Readiness Score (CRS). The survey population for the study was comprised of the security directors from the professional sports leagues in the United States and Canada that have an average spectator attendance of at least 10,000. These leagues are the MLB, MLS, NASCAR, NBA, NHL, and NFL.
Using descriptive statistics, the mean scores for each competency in the CRS were calculated. This measure formed the baseline of CRS competencies for the survey population. Multiple regression was used to test the Hypotheses of the study. The Hypotheses tested in this study are listed below.

H₁: There is a positive relationship between venue security executives’ education levels and the level of crisis readiness competencies they perceive themselves to possess.

H₂: There is a positive relationship between venue security executives’ years of experience and the level of crisis readiness competencies they perceive themselves to possess.

H₃: There is a positive relationship between participation in training by venue security executives and the level of crisis readiness competencies they perceive themselves to possess.

H₄: There is a positive relationship between venue security executives’ education levels coupled with participation in training and the level of crisis readiness competencies they perceive themselves to possess.

H₅: There is a positive relationship between venue security executives’ years of experience coupled with participation in training and the level of crisis readiness competencies they perceive themselves to possess.

Findings

Only two of the nine CRS construct mean scores, Emergency/Crisis Management and Emergency Evacuation Planning, were below four. They came in at 3.80 and 3.81 respectively. This measure is partially consistent with Cunningham’s (2007) CASM where the lowest measured constructs were Emergency Evacuation Planning and
Liability at 3.60 and 3.67 respectively. See Table 23 for a comparison of the CASM and CRS mean scores. The highest scoring construct in the CRS was Crisis Leadership at 4.25. This construct was not part of the CASM, and therefore, cannot be compared. The highest scoring CRS construct also included in the CASM was a tie between Agency Collaboration and Spectator Control with both scoring 4.20. The highest scoring CASM construct was Credential Control at 4.20. This was the only CASM construct to score as high as four. All other constructs in that study were below four. The largest difference in scores between two constructs in the CASM and CRS was found in the Liability construct. The overall CASM score was 3.80 compared to an overall CRS score of 4.07.

The hypothesis testing was conducted to see what factors, if any, had a positive impact on the competencies of the survey population. The factors tested were education levels, years of experience and participation in training.

Concerning Hypothesis 1, education level was not found to have a significant impact on crisis readiness competencies. This result is in contrast to the research in the literature regarding education and competency development. Education, with an emphasis on higher education, is considered an important factor in the development of workforce competencies (Carnevale & Desrochers, 2004; Gray & Herr, 1998). Coincidentally, when compared to previous sport security research, education level was also not found to significantly impact competencies in the CASM (Cunningham, 2007).

Considering Hypothesis 2, years of experience did have a significant positive impact on crisis readiness competencies. This finding is consistent with the literature. Researchers argue that competency development is linked to a person’s life and work experience (Brookfield, 1991; Dewey, 1997; Knowles, 1984). Some researchers even
posit that learning is primarily grounded in experience (Maslow, 1970; Rogers, 1983). Respondents’ experience levels in this study’s survey population back up this claim. Over 72% of the respondents had at least 13 or more years of experience, and over 47% had over 20 years of experience. In contrast, experience did not have a significant impact on competencies in the CASM (Cunningham, 2007).

Concerning Hypothesis 3, training participation also had a positive significant impact on crisis readiness competencies. Rejection of the null hypothesis in this case is also supported by the literature. Several researchers emphasize the importance of training’s positive impact on competency development and workforce performance (Mathieu et al., 1992; Chiaburu & Marinova, 2005; Van Buren & Erskine, 2002; Holton & Baldwin, 2003). Training, regardless of the type of organization, must be continually leveraged to help employees develop new competencies (Brinkerhoff, 2005). Training participation was not a variable tested in Cunningham’s (2007) study.

Concerning Hypotheses 4 and 5, neither of the interactions, education and training nor experience and training, proved to have a statistically significant impact on the crisis readiness competencies. Interestingly, the literature reveals some debate among researchers as to the most important factor contributing to competency development. Some researchers argue that experience is the most important component of competency development (Maslow, 1970; Rogers, 1983). However, Dean et al. (1996) considers training to be the primary source for competency development. In this study, each of these two factors independently positively impacted competency development with respect to the sport security profession.
Conclusions and Discussion

The results of this study indicate the continued need to address competency development of sport security professionals. The mean CRS scores indicate a specific need to close the preparedness gaps with respect to emergency evacuation planning and emergency/crisis management. For several years now, emergency evacuation planning has been identified as a major area of concern for sport venue safety and security (Beckman, 2006; Cunningham, 2007; Pantera et al., 2003).

Incidentally, the new construct developed in this study, Crisis Leadership, received the highest mean score among the survey respondents. This high score leaves the researcher to wonder if the security directors at the professional venue level are as competent as their scores reflect or if the scores reflected a bias for high marks as identified by Rosenzweig (1933). The high overall CRS score is also suspect to Rosenzweig’s phenomenon. The lower scores from the CASM respondents could be a function of the collegiate community’s sincere effort to accurately and honestly report their self-perceived scores. The high scores of the CRS respondents could reflect the increased knowledge and skills obtained from operating year-round facilities and being held accountable by for-profit organizations. Another possibility for the difference in mean scores could be the post 9/11 timeline. The more recently surveyed CRS respondents could have a degree of false preparedness due to a lack of crisis activity (Miller et al., 2008). This could possibly have attributed to their higher self-reported scores.

The studied factors that could possibly impact competency development were tested in the Hypotheses. An analysis of Hypothesis 1 revealed that education level has
no impact on crisis readiness competencies. Hypotheses 2 and 3 indicated that experience and participation in training both have a positive significant impact on these competencies. These results indicate that, while formal education is an important ingredient for workforce success, in the sport security field experience and training are more important for competency development. Hypotheses 4 tested for the interaction of education and training on the crisis readiness competencies. An interaction effect would have been present if the impact of either education or training depended on the level of the other variable (Aiken & West, 1991). However, in this case, there was no statistically significant interaction. Hypothesis 5 tested for the interaction of experience and training on the crisis readiness competencies. This test also indicated no statistically significant impact as well.

The analyses of the Hypotheses emphasize the importance of work experience and workforce training. Of the three independent variables, experience and training were both found to have a positive impact on the crisis readiness competencies. Interestingly, education levels were not found to significantly impact these competencies. Work experience, being a function of time and effort, cannot be addressed through education or training and development programs. With education level not being a factor in competency development, participation in training becomes critical in the quest to enhance competency development for professionals in this field. Therefore, relevant, timely training serves as an important implication of this research.

The CRS questionnaire results also revealed that while sport security professionals still prefer conference style training environments, they are open to the use of online learning methods. Training delivery methods such as these allow for timely,
cost effective delivery of new and improved training solutions (Anderson, 2004; Gladstein, 2008).

Implications

There are several conclusions that can be drawn from this study. The mean scores within the crisis leadership construct were high relative to the eight constructs that make up the security management constructs. While these scores could be high due to Rozenweig’s (1933) previously mentioned theory, a likely reason for them could also be a lack of recent crisis occurrences. The literature revealed that crises, by nature, occur rarely thus limiting the opportunities to study, reflect, and develop information from them (Wooten & James, 2008). This leaves the researcher to wonder how accurately the respondents decided upon their self-reported scores. For instance, the highest reported mean score in the crisis leadership construct was given for the question regarding the capability to make decisions under the pressure of a crisis. Without knowing when the last crisis was experienced or how many crises have been experienced by the respondent, it is difficult to assess the basis for the score.

The literature also encourages crisis leaders to develop the capabilities to detect crises prior to their occurrences (Mitroff, 2002). CRS respondents were questioned on their capabilities to identify safety and security vulnerabilities and to assess and address safety and security situations before they become crises. Both of these survey questions were scored very highly. This leads the researcher to believe the respondents are very capable in curtailing issues before they become crises. However, the questions are generalized and don’t require the respondents to cite examples or give details of the accounts that lead them to their scores. This study did not have the ability to look deep
into the situations and conditions that prompted the responses. Future research should take this into account and design methods for more detailed responses.

The importance of post-crisis learning and subsequent organizational improvement was evident in the crisis leadership literature (Brockner & James, 2008; Carmeli & Sheaffer, 2008; Pauchant & Mitroff, 1992). An examination of the CRS results revealed somewhat of a contradiction in the way learning and improvement was viewed by the respondents. The lowest scoring crisis leadership survey question was regarding the capability to frame a crisis as an opportunity rather than a threat. However, the two questions regarding the capabilities to learn from crises to prevent recurrences and to learn and affect improvement scored relatively highly. This conflict among scoring suggests that the respondents may not understand that the crisis presents the basis for the opportunity to learn and improve the organization.

In addition to task competencies, the importance of people management competencies is also highlighted throughout the literature (Boin & Lagadec, 2000; Borodzicz & Van Haperen, 2002; Hutchins & Wang, 2008). This is evident throughout every construct of the CRS instrument. Each construct contained the elements of managing, coordinating, directing, and/or collaborating with many and often varied types of people. The results of the research imply that overall the respondents are capable and aware of their need for management and task competencies. The results revealed that the respondents were actually more capable with respect to people management competencies versus task competencies. This is evident from the difference in scores among the constructs. The two highest scoring constructs, agency collaboration and crisis leadership, were also the two with the most people management competencies.
Proficiency in these areas implies that the respondents are just as capable, if not more capable, with people management as they are with task management. This observation bodes well for the professional sport security industry, as this segment of the workforce is composed of high-level organizational directors and vice-presidents. The roles of these people are heavily focused on people management opposed to task management.

A final conclusion drawn from this research is the need to enhance competency development through training. With demanding schedules and limited time and travel budgets, sport security professionals are faced with few options to participate in new training and development courses. According to Lewis (2011), online courses will continue to become more prevalent throughout education and industry. Survey responses indicate that the industry is open to training through online courses. Acceptance of this type of delivery warrants the investigation of creating online training for these professionals. Access to relevant training for this industry should be addressed not only through traditional means, but also through the growing online methods.

Recommendations for Future Research

In order to more fully understand professional sport security competency levels, qualitative research should be performed in addition to the quantitative studies. Interviews and focus groups could capture more details in learning about issues and problems that affect the safety and security of sport venues. New or additional competencies could possibly be identified that would address any discovered issues resulting from qualitative research. Also, qualitative methods, such as those used by Hall (2006a, 2006b), could identify issues specific to certain sports and/or types of venues.
This information could lead to the development of new training programs targeted to specific leagues and/or venues.

In order to increase the accuracy and depth of self-reported survey responses, future questionnaires need to ask respondents questions about the crises they’ve encountered that affect the question responses. Specifically, researchers need to know how many and what types of crises have been experienced by the respondents. Another useful methodology would be to include only a sample population that has experienced crises during their applicable work history.

This study could also be replicated to lower level professional leagues and even amateur leagues. Even though leagues such as MLB’s farm leagues and the Arena Football League don’t have large numbers, the attendance across all of these leagues in total is still considerable.

The results of this study also provide the basis for additional research to consider how to best develop training programs that target the needs of these professionals. The sport security industry’s need for cost effective and time efficient training programs should be a factor in this consideration. Specifically, the creation of quality online programs should be studied and piloted with the survey respondents from this study.

Finally, consideration should be given to the development and implementation of a certification program for sport security professionals. A program such as this could lead to consistent standardized practices across all sport venues.
APPENDIX A

CAPABILITIES IN ATHLETIC SECURITY MANAGEMENT (CASM)

QUESTIONNAIRE

Capabilities Section: Please rate on a scale of 1 to 5 the following components of “game day” security management operations based on capabilities that you have acquired through education, training, certifications, or experience. (Please do not respond based on need for current practices).

My level of capabilities to…

Construct 1– Emergency Evacuation Planning

11. prepare a written disaster evacuation plan.

12. coordinate an evacuation using an all-hazards approach.

13. coordinate an effective evacuation using your disaster evacuation plan.

Construct 2- Agency Collaboration

14. collaborate with public safety agencies to establish policies and procedures for game day activities.

15. coordinate with public agencies to set up command center operations.

16. determine which agency has the authority regarding cancellations of sporting events due to security measures.

17. develop and carry out a training session with public safety agencies.

18. determine with local law enforcement agencies whether it is necessary to conduct a bomb sweep.

19. conduct disaster scenario exercises with public safety agencies.


**Construct 3- Spectator Control**

20. determine the security measures for spectators gathering early or socializing (tailgating).

21. determine the security measures for spectators who have intense rivalries with the opposing team.

22. develop crowd screening and control policies.

**Construct 4- Policies and Procedures**

23. provide procedures to the public announcer (e.g. written emergency script) appropriate for emergency situations.

24. properly establish policies and procedures dealing with a bomb threat.

25. develop a pre- and post-event security checklist.

26. conduct game day audits.

**Construct 5- Liability**

27. be aware of legal issues that may arise during a crisis or emergency.

28. request copies of reports completed by agencies such as police, paramedics, or fire departments for liability record keeping.

29. work with university attorney and/or risk manager to ensure proper documentation is properly gathered for legal and insurance purposes.

30. be aware of the liability repercussions that could come from poor training, poor maintenance, carelessness, misconduct, or fatigue of staff.

**Construct 6- Emergency/Crisis Management**

31. conduct an immediate meeting with emergency management team in a crisis or emergency.
32. coordinate a media press release as soon as possible from the result of a crisis or emergency.

33. assure training of all athletic personnel as to response procedures in the event of a crisis or emergency.

34. have a reliable interoperable communication system during a crisis or emergency.

**Construct 7- Credential Control**

35. coordinate proper credential dissemination.

36. establish guidelines for vendor credentials.

37. establish guidelines and policies for media and public official credentials.

**Construct 8- Perimeter Control**

38. designate perimeter areas for inspection of spectators for prohibited items.

39. establish an outer perimeter for keeping unticketed and unauthorized individuals away from the venue.

40. designate an entrance perimeter checkpoint for only concessionaires, gatekeepers and ushers.

41. have policies for vehicles pausing or stopping within the perimeter control (drop-off areas).

42. coordinate all traffic flow evacuations.
APPENDIX B

SECTION 1 OF THE CRISIS READINESS SCORE (CRS) QUESTIONNAIRE

Section 1: Demographics, Formal Education, Work Experience, Training, Certifications

1. Sex: Male Female

2. What is your age as of your last birthday?
   Under 25
   26-35
   36-45
   46-55
   Older than 55

3. Ethnicity/race:
   African American
   Asian/Pacific Islander
   Native American
   Hispanic
   Caucasian

4. What is the highest level of formal education you have completed?
   Less than high school
   High school graduate
   Community college (2 year degree)
   Bachelor’s degree: Major_____________________
   Master’s degree: Major_____________________
   Doctoral degree: Major_____________________

5. How many years of experience in general do you have in the security management field?
   0 to 3
   4 to 7
   6 to 10
   8 to 12
   13 to 20
   +20

6. How many years of experience do you have in your current position?
7. How often do you participate in crisis management, security management, or crisis leadership training programs?
   Never
   Rarely
   Sometimes
   Often

8. List any professional organizations related to venue security management of which you are a member.

9. Which areas of venue security management would you like to learn more about? (Select all that apply)
   Crowd Management
   Evacuation Planning
   Agency Collaboration
   Liability
   Emergency/Crisis Management
   Credential Control
   Perimeter Control
   Policies and Procedures
   Crisis Leadership

10. What type of delivery method is most desirable to you when considering participating in training and development courses? (Select all that apply)
    On-campus course
    Online course
    Conference
    Onsite training (at your place of work)
    Other (Please specify)
Construct 9– Crisis Leadership

My level of capabilities to…

43. identify venue safety and security vulnerabilities
44. frame a crisis as an opportunity rather than a threat
45. learn from a crisis and seek measures to prevent similar crises from re-emerging
46. learn from a crisis and affect change toward organizational improvement
47. make decisions under the pressure of a crisis
48. assess situations with respect to safety and security and address them before they become crises
49. implement tasks that will resolve a crisis
50. demonstrate interpersonal sensitivity with respect to those affected by a crisis
APPENDIX D

CRISIS READINESS SCORE (CRS) QUESTIONNAIRE

Thank you for participating in this research. Please be assured that confidentiality will be held at the highest regard and no identifiable information about you or your organization will be recorded. Only summary results will be reported.

Section 1: Demographics, Formal Education, Work Experience, Training, Certifications

1. Sex: Male Female

2. What is your age as of your last birthday?
   - Under 25
   - 26-35
   - 36-45
   - 46-55
   - Older than 55

3. Ethnicity/race:
   - African American
   - Asian/Pacific Islander
   - Native American
   - Hispanic
   - Caucasian

4. What is the highest level of formal education you have completed?
   - Less than high school
   - High school graduate
   - Community college (2 year degree)
   - Bachelor’s degree: Major
   - Master’s degree: Major
   - Doctoral degree: Major
5. How many years of experience in general do you have in the security management field?
   - 0 to 3
   - 4 to 7
   - 6 to 10
   - 8 to 12
   - 13 to 20
   - Over 20

6. How many years of experience do you have in your current position?
   - 0 to 3
   - 4 to 7
   - 6 to 10
   - 8 to 12
   - 13 to 20
   - Over 20

7. How often do you participate in crisis management, security management, or crisis leadership training programs?
   - Never
   - Rarely
   - Sometimes
   - Often

8. List any professional organizations related to venue security management of which you are a member.

9. Which areas of venue security management would you like to learn more about? (Select all that apply)
   - Crowd management
   - Evacuation planning
   - Agency collaboration
   - Liability
   - Emergency management
   - Credential control
   - Perimeter control
10. What type of delivery method is most desirable to you when considering participating in training and development courses? (Select all that apply)

   On-campus course
   Online course
   Conference
   Onsite training (at your place of work)
   Other (Please specify)

Section 2: Capabilities

Instructions: Please rate on a scale of 1 to 5 your perceived levels of the following components of “crisis readiness” based on capabilities that you have acquired through education, training, certifications, or experience. (Please do not respond based on need for current practices).

Scale:
1 = Very low capability
2 = Somewhat low capability
3 = Moderate capability
4 = Somewhat high capability
5 = Very high capability

My level of capabilities to…

11. prepare a written disaster evacuation plan.

12. coordinate an evacuation using an all-hazards approach.

13. coordinate an effective evacuation using your disaster evacuation plan.

14. collaborate with public safety agencies to establish policies and procedures for game day activities.

15. coordinate with public agencies to set up command center operations.

16. determine which agency has the authority regarding cancellations of sporting events due to security measures.

17. develop and carry out a training session with public safety agencies.
18. determine with local law enforcement agencies whether it is necessary to conduct a bomb sweep.

19. conduct disaster scenario exercises with public safety agencies.

20. determine the security measures for spectators gathering early or socializing (tailgating).

21. determine the security measures for spectators who have intense rivalries with the opposing team.

22. develop crowd screening and control policies.

23. provide procedures to the public announcer (e.g. written emergency script) appropriate for emergency situations.

24. properly establish policies and procedures dealing with a bomb threat.

25. develop a pre- and post-event security checklist.

26. conduct game day audits.

27. be aware of legal issues that may arise during a crisis or emergency.

28. request copies of reports completed by agencies such as police, paramedics, or fire departments for liability record keeping.

29. work with organization’s attorney and/or risk manager to ensure proper documentation is properly gathered for legal and insurance purposes.

30. be aware of the liability repercussions that could come from poor training, poor maintenance, carelessness, misconduct, or fatigue of staff.

31. conduct an immediate meeting with emergency management team in a crisis or emergency.
32. coordinate a media press release as soon as possible from the result of a crisis or emergency.

33. assure training of all athletic personnel as to response procedures in the event of a crisis or emergency.

34. have a reliable interoperable communication system during a crisis or emergency.

35. coordinate proper credential dissemination.

36. establish guidelines for vendor credentials.

37. establish guidelines and policies for media and public official credentials.

38. designate perimeter areas for inspection of spectators for prohibited items.

39. establish an outer perimeter for keeping unticketed and unauthorized individuals away from the venue.

40. designate an entrance perimeter checkpoint for only concessionaires, gatekeepers and ushers.

41. have policies for vehicles pausing or stopping within the perimeter control (drop-off areas).

42. coordinate all traffic flow evacuations.

43. identify venue safety and security vulnerabilities.

44. frame a crisis as an opportunity rather than a threat.

45. learn from a crisis and seek measures to prevent similar crises from re-emerging.

46. learn from a crisis and affect change toward organizational improvement.

47. make decisions under the pressure of a crisis.

48. assess situations with respect to safety and security and address them before they become crises.
49. implement tasks that will resolve a crisis.

50. demonstrate interpersonal sensitivity with respect to those affected by a crisis.
APPENDIX E

PARTICIPANT EMAIL #1

Dear Sport Security Professional,

I am contacting you about completing the survey regarding crisis preparedness at professional sport venues. I am conducting this research as a doctoral student and to gather valuable information that will allow my center, the National Center for Spectator Sports Safety and Security (NCS4), to gain insight on needed topic areas for training and development programs.

The survey consists of 50 questions and takes approximately 7 to 8 minutes to complete. The survey is strictly confidential with no identifying information anywhere in the survey. Only aggregate results will be displayed.

As a token of my appreciation, I would like to offer you a $10 discount to attend the 2012 National Sports Safety and Security Conference and Exhibition held in New Orleans July 31-August 2. Program details and registration can be found at [www.ncs4.com/conference](http://www.ncs4.com/conference). When registering, enter the code **EVAC*12001** on the final payment page and click “Apply” to receive the discount.

Please click the link below to complete the survey:

[https://www.surveymonkey.com/s/2RJXH6Q](https://www.surveymonkey.com/s/2RJXH6Q)

Thank you for your participation in this survey!

Steve Miller
Director, Systems Integration
National Center for Spectator Sports Safety and Security
The University of Southern Mississippi
601.266.6186

About the project:

A research project is being conducted to examine the level of crisis preparedness regarding professional sporting events. **This project is in collaboration with the National Center for Spectator Sports Safety and Security (NCS4).** NCS4 is a worldwide interdisciplinary Center specifically focused on research, education, and outreach efforts in sport event security. NSC4’s mission is “to conduct innovative research, provide internationally recognized academic programs, enhance training capabilities and develop integrated security solutions” (National Center for Spectator Sports Safety and Security, n.d.).
Participation in the study is strictly voluntary. Participants will not be identified in the results produced by this study. All records will be kept electronically by a password protected Internet website and hard copies will be locked in filing cabinets on the campus of The University of Southern Mississippi.

This project has been reviewed by the Human Subjects Protection Review Committee at the University of Southern Mississippi. Please direct any and all questions about the research project to Steve Miller at 601.266.6186. All questions regarding individual rights as a research subject should be directed to the Chair of the Institutional Review Board at the University of Southern Mississippi at 601.266.6820.

Completion of this survey indicates the participant’s consent to participate in this study.
APPENDIX F

PARTICIPANT EMAIL #2

Dear Sport Security Professional,

This is a reminder to please complete the survey regarding crisis preparedness at professional sport venues. If you have done so, please disregard this email. This is extremely important information that will allow my center, the National Center for Spectator Sports Safety and Security (NCS4), to gain insight on needed topic areas for training and development programs.

The survey consists of 50 questions and takes approximately 7 to 8 minutes to complete. The survey is strictly confidential with no identifying information anywhere in the survey. Only aggregate results will be displayed. If you have any questions or concerns, please do not hesitate to contact me any time.

Please click the link below to complete the survey:

https://www.surveymonkey.com/s/2RJXH6Q

As a token of my appreciation, I would like to offer you a $10 discount to attend the 2012 National Sports Safety and Security Conference and Exhibition held in New Orleans July 31-August 2. Program details and registration can be found at www.ncs4.com/conference. When registering, enter the code EVAC*12001 on the final payment page and click “Apply” to receive the discount.

I sincerely Thank You for your participation in this survey!

Steve Miller
Director, Systems Integration
National Center for Spectator Sports Safety and Security
The University of Southern Mississippi
601.266.6186

About the project:

A research project is being conducted to examine the level of crisis preparedness regarding professional sporting events. This project is in collaboration with the National Center for Spectator Sports Safety and Security (NCS4). NCS4 is a world-wide interdisciplinary Center specifically focused on research, education, and outreach.
efforts in sport event security. NSC4’s mission is “to conduct innovative research, provide internationally recognized academic programs, enhance training capabilities and develop integrated security solutions” (National Center for Spectator Sports Safety and Security, n.d.).

Participation in the study is strictly voluntary. Participants will not be identified in the results produced by this study. All records will be kept electronically by a password protected Internet website and hard copies will be locked in filing cabinets on the campus of The University of Southern Mississippi.

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Completion of this survey indicates the participant’s consent to participate in this study.
## APPENDIX G

### MEAN SCORES OF EACH CRS COMPETENCY

Number of Responses Per Question for Each Measure on the Scale

<table>
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APPENDIX H

UNIVERSITY OF SOUTHERN MISSISSIPPI INSTITUTIONAL REVIEW BOARD

LETTER OF APPROVAL

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 12042605
PROJECT TITLE: Leading Through Crisis: Competencies for Effective Sport Security Professionals
PROJECT TYPE: Dissertation
RESEARCHER/S: Steven G. Miller
COLLEGE/DIVISION: College Science & Technology
DEPARTMENT: Economic & Workforce Development
FUNDING AGENCY: N/A
IRB COMMITTEE ACTION: Expedited Review
PERIOD OF PROJECT APPROVAL: 05/02/2012 to 05/01/2013

Lawrence A. Hosman, Ph.D.
Institutional Review Board Chair
REFERENCES


Beach, K., & Vyas, S. (1998, June). *Light pickles and heavy mustard: Horizontal development among students negotiating how to learn in a production activity*. 
Paper presented at the Fourth Conference of the International Society for Cultural Research and Activity Theory, University of Aarhus, Denmark.


doi:10.1177/0021886307313824


World Series Earthquake. (1989, October). Retrieved from
http://www.classzone.com/books/earth_science/terc/content/investigations/es1003/es1003page01.cfm

