

The University of Southern Mississippi
The Aquila Digital Community

Dissertations

Summer 2018

Mitigating Risk: A Delphi Study Identifying Competencies in Sport and Event Security Management

Elizabeth Voorhees
University of Southern Mississippi

Follow this and additional works at: <https://aquila.usm.edu/dissertations>



Part of the [Organization Development Commons](#), [Performance Management Commons](#), [Sports Management Commons](#), and the [Training and Development Commons](#)

Recommended Citation

Voorhees, Elizabeth, "Mitigating Risk: A Delphi Study Identifying Competencies in Sport and Event Security Management" (2018). *Dissertations*. 1546.
<https://aquila.usm.edu/dissertations/1546>

This Dissertation is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in Dissertations by an authorized administrator of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.

Mitigating Risk: A Delphi Study Identifying Competencies in Sport and
Event Security Management

by

Elizabeth Burke Voorhees

A Dissertation
Submitted to the Graduate School,
the College of Science and Technology
and the Department of Human Capital Development
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

Approved by:

Dr. H. Quincy Brown, Committee Chair
Dr. Cyndi H. Gaudet, Committee Member
Dr. Heather M. Annulis, Committee Member
Dr. Dale L. Lunsford, Committee Member
Dr. Stacey A. Hall, Committee Member

Dr. H. Quincy Brown
Committee Chair

Dr. Cyndi H. Gaudet
Department Chair

Dr. Karen S. Coats
Dean of the Graduate School

August 2018

COPYRIGHT BY

Elizabeth Burke Voorhees

2018

Published by the Graduate School



ABSTRACT

The purpose of this study was to identify core competencies for supervisory-level security management professionals working in the sports and entertainment industry. Qualified and trained sport and event security-management professionals are essential to support the U.S. homeland security objectives outlined in Presidential Policy Directive-21. Providing effective safety and security for sports and entertainment events requires specialized knowledge and skill on the behalf of security-management practitioners who detect, deter, prevent, and respond to potential risks and threats. This qualitative research study employed a Delphi research design to elicit expertise from a purposefully selected panel of experts ($N = 36$). The expert panel suggested a list of competencies in Delphi round one and rated each competency statement based on level of importance and frequency using a 5-point Likert scale.

The expert panel produced 136 core competencies in seven clusters: Risk Management, Emergency Planning, Problem Solving and Decision Making, Leadership, Communication, Building Collaborative Relationships, and Human Resource Management. Twenty-nine panelists successfully completed all three rounds of the Delphi study yielding a 93.5% response rate. Sport and event security management professionals and industry stakeholders can use the validated list of competencies to develop human capital and improve performance through the strategic application of human resource management.

ACKNOWLEDGMENTS

I would like to give thanks to the Chair of my committee, Dr. H. Quincy Brown, for his unwavering commitment and support throughout this research process. A special acknowledgement to Dr. Cyndi Gaudet for her guidance throughout this process and during my graduate studies at Southern Miss. Special thanks to the members of my committee, Dr. Heather Annulis, Dr. Dale Lunsford, and Dr. Stacey Hall, for providing valuable and thought provoking feedback to further the completion of this study.

I express my sincere appreciation to Dr. Lou Marciani who has encouraged and supported me throughout this journey. The insight and knowledge you have shared with me cannot be measured. I will always be grateful for the opportunities you have given me to learn and challenge myself professionally.

I would be remiss in not thanking my professional colleagues in the sports and entertainment industry who have contributed to my research. First and foremost, a special thanks to Bill Squires for providing ongoing advice and guidance in bridging the gap between research and practice. You have been a valuable source of information throughout this process and I am sincerely appreciative of your continued support. Thank you to Daniel DeLorenzi for providing valuable insight about the sport and event security-management profession and allowing me to observe security operations first hand from his Command Center. I also want to thank all the participating members of the expert panel without whom this study would not be possible. Thank you for your dedication to the profession and commitment to advancing safety and security in both practice and research.

DEDICATION

This publication is dedicated my grandfather Robert W. Kreutz, a World War II veteran who passed away before this project was complete. One of his proudest accomplishments was seeing his grandchildren attain their college education. As the first of his grandchildren to earn a doctoral degree, I would like to dedicate this study to his life and legacy.

To my loving parents who have supported me in every aspect of my life and encouraged me without fail throughout this process. Thank you for instilling in me the qualities needed to accomplish this feat: confidence, determination, and perseverance. Your daily example of hard work and integrity has lead me here and will continue to guide me in my future endeavors. I hope your proudest moments are still yet to come.

Lastly, to anyone who reads this paper in the pursuit of knowledge and higher education. Trust in your ability to accomplish any goal you set for yourself and in the lyrics of Guy Clark, “[Be] one of those who knows that life is just a leap of faith. Spread your arms and hold your breath. Always trust your *cape*.”

TABLE OF CONTENTS

ABSTRACT ii

ACKNOWLEDGMENTS iii

DEDICATION iv

LIST OF TABLES x

LIST OF ILLUSTRATIONS xii

LIST OF ABBREVIATIONS xiii

CHAPTER I – INTRODUCTION 1

 Background of the Study 5

 Statement of Problem..... 10

 Purpose Statement..... 11

 Significance of the Study 12

 Research Objectives 13

 Conceptual Framework..... 14

 Limitations 15

 Delimitations..... 16

 Assumptions..... 17

 Definition of Terms..... 17

 Summary 19

CHAPTER II – REVIEW OF LITERATURE 22

The Resurgence of Risk Management Practices.....	22
Understanding Liability and Duty of Care.....	25
Implications for Securing Sports and Entertainment Events	29
Terrorism and Sport Events	29
Crowd Management.....	34
Natural Disasters and Inclement Weather.....	37
Civil Disturbances.....	39
Competencies in Risk Management and Emergency Planning	41
Defining the Sport and Event Security Management Workforce	47
Training in Sport and Event Security Management.....	49
Theoretical Framework.....	51
Foundations of Human Capital Development.....	52
Human Resource Development	54
Performance Improvement Theory	56
Organizational Theory	58
Understanding Competencies and Competency Modeling.....	59
Applications of Competency Modeling	61
Competency-Based Studies in Sport Event Security Management	64
Differences in Competency Modeling and Job Analysis.....	66
Competencies for the Current Security Management Workforce.....	69

Summary	71
CHAPTER III – RESEARCH DESIGN AND METHODOLOGY	73
Research Design.....	73
The Delphi Technique.....	74
Benefits of the Delphi Technique	78
Population and Sample	80
Instrumentation	82
Pre-Delphi Recruitment Form.....	84
Delphi Questionnaires.....	84
Data Collection Procedures.....	86
Data Analysis Procedures	89
Reliability and Validity.....	91
Summary.....	93
CHAPTER IV – RESULTS	94
Characteristics of Expert Panelists.....	95
Delphi Study	98
Delphi Round One Findings	99
Delphi Round Two Findings.....	102
Delphi Round Three Findings.....	114
Core Competencies	119

CHAPTER V – FINDINGS, DISCUSSION, AND RECOMENDATIONS.....	134
Summary of Findings.....	134
Finding One	134
Conclusion.	135
Recommendation.	135
Finding Two.....	136
Conclusion.	136
Recommendation	137
Finding Three.....	138
Conclusion	138
Recommendation	139
Finding Four.....	139
Conclusion	140
Recommendation	140
Finding Five	141
Conclusion	141
Recommendation	142
Discussion.....	142
Limitations	144
Recommendations for Future Research.....	144

Conclusions.....	145
APPENDIX A – DHS/FEMA TRAINING RESOURCES	149
APPENDIX B – PERMISSIONS FOR FIGURE 3	150
APPENDIX C – PERMISSIONS FOR TABLE 1.....	151
APPENDIX D – PERMISSIONS FOR TABLE 2	152
APPENDIX E – PARTICIPANT RECRUITMENT EMAIL	153
APPENDIX F – PRELIMINAY SET OF COMPETNCIES	157
APPENDIX G – DELPHI ROUND ONE QUESTIONNAIRE	163
APPENDIX H – IRB APPROVAL LETTER	177
APPENDIX I – EXPLANATION OF RESEARCH PROCEDURES AND CONSENT	178
APPENDIX J – EMAIL REMINDER TO COMPLETE QUESTIONNAIRE	180
APPENDIX K – PROFESSIONAL PROFILES OF EXPERT PANELISTS.....	181
APPENDIX L – COMPETENCIES IDENTIFIED IN DELPHI ROUND ONE	190
APPENDIX M – DELPHI ROUND TWO QUESTIONNAIRE TWO EMAIL.....	199
APPENDIX N – DELPHI ROUND TWO QUESTIONNAIRE TWO (SAMPLE).....	200
APPENDIX O – DELPHI ROUND THREE QUESTIONNAIRE THREE EMAIL....	201
APPENDIX P – DELPHI ROUND THREE QUESTIONNAIRE THREE (SAMPLE).....	202
APPENDIX Q – STATISTICAL SUMMARY FOR DELPHI ROUND THREE	203
REFERENCES	209

LIST OF TABLES

Table 1 Job Content Domains for Sport Security Professionals.....	66
Table 2 A comparison of traditional job analysis and competency modeling.....	67
Table 3 Instruments.....	83
Table 4 Timeline of Procedures.....	88
Table 5 Demographic Characteristics of the Expert Panelists (N = 36).....	96
Table 6 Experience Profiles of Expert Panelists (N = 36).....	98
Table 7 Participation Rates for the Delphi Study.....	99
Table 8 List of Competency Clusters and Categories.....	101
Table 9 Risk Management – Round Two Delphi Responses.....	105
Table 10 Emergency Planning – Round Two Delphi Responses.....	107
Table 11 Problem Solving and Decision Making – Round Two Delphi Responses.....	109
Table 12 Leadership – Round Two Delphi Responses.....	110
Table 13 Communication – Round Two Delphi Responses.....	112
Table 14 Building Collaborative Relationships – Round Two Delphi Responses.....	113
Table 15 Human Resource Management – Round Two Delphi Responses.....	114
Table 16 Core Risk Management Competencies.....	120
Table 17 Core Emergency Planning Competencies.....	122
Table 18 Core Problem Solving and Decision Making Competencies.....	124
Table 19 Core Leadership Competencies.....	126
Table 20 Core Communication Competencies.....	128
Table 21 Core Building Collaborative Relationships Competencies.....	130
Table 22 Core Human Resource Management Competencies.....	131

Table A1. <i>FEMA Training Courses</i>	149
Table A2. <i>Risk Management – Round Three Delphi Responses</i>	203
Table A3. <i>Emergency Planning – Round Three Delphi Responses</i>	204
Table A4. <i>Problem Solving and Decision Making – Round Three Delphi Responses</i> ..	205
Table A5. <i>Leadership – Round Three Delphi Responses</i>	206
Table A6. <i>Communication – Round Three Delphi Responses</i>	207
Table A7. <i>Building Collaborative Relationships – Round Three Delphi Responses</i>	207
Table A8. <i>Human Resource Management – Round Three Delphi Responses</i>	208

LIST OF ILLUSTRATIONS

Figure 1. Conceptual Framework 15

Figure 2. The ICS Unified Command Organization 48

LIST OF ABBREVIATIONS

<i>DHS</i>	Department of Homeland Security
<i>FEMA</i>	Federal Emergency Management Agency
<i>HRD</i>	Human Resource Development
<i>ICS</i>	Incident Command System
<i>KSA</i>	Knowledge, Skill, and Ability
<i>MLB</i>	Major League Baseball
<i>MLS</i>	Major League Soccer
<i>NASCAR</i>	National Association for Stock Car Automotive Racing
<i>NBA</i>	National Basketball Association
<i>NCAA</i>	National Collegiate Athletics Association
<i>NHL</i>	National Hockey League
<i>NFL</i>	National Football League
<i>NFPA</i>	National Fire Protection Association
<i>PPD-21</i>	Presidential Policy Directive, 21
<i>SHRD</i>	Strategic Human Resource Development
<i>SOPs</i>	Standard Operating Procedures
<i>T&D</i>	Training and Development

CHAPTER I – INTRODUCTION

Equipping the security management workforce with the skills required to carry out key risk management functions at sport and entertainment events and venues is a strategic concern for the U.S. government (Hall, Ward, Cunningham, & Marciani, 2008; Lipton, 2005). The Presidential Policy Directive (PPD-21) for Critical Infrastructure Security and Resilience (2013) advances a national policy to strengthen the security and resilience of critical infrastructure. PPD-21 identifies 16 critical infrastructure sectors that provide essential services that underpin American society, including the commercial facilities sector. Sports venues and areas for public assembly, such as stadiums and arenas, are two of the designated subsectors of the commercial facilities sector, which means their secure operations are essential to national security, public health, and safety (U.S. Department of Homeland Security [DHS], 2017a). The PPD-21 (2013) states, “Critical infrastructure owners and operators are uniquely positioned to manage risks to their individual operations and assets, and to determine effective strategies to make them more secure and resilient” (Introduction, para. 2). To support the essential functions of risk assessment, threat identification and mitigation, and developing effective countermeasures to protect sport event venues from potential threats, the security management workforce must be prepared to respond and rapidly recover from all-hazard incidents. Building resilience and achieving the objectives of PPD-21 requires certain cognitive capabilities to assist in the process of managing risks through prevention, protection, mitigation, response, and recovery (PPD-21, 2013).

Spectator sporting events in the United States represent a growing segment of the national economy generating roughly USD 60.5 billion in 2014, and is expected to

generate USD 73.5 billion by 2019 (Forbes, 2015). Due to the large numbers of attendees, as well as the public nature of spectator sports, a host of potential risks and threats are associated with sport stadiums and entertainment venues. Traditionally, sport and event management mainly concentrated on crowd control issues and traffic management (U.S. Department of Justice [DOJ], 2007). After the terrorist attacks on the World Trade Center in 2001 (known as 9/11), national security issues came to the foreground of the sport and entertainment industry requiring new protection measures to enhance domestic preparedness (U.S. DOJ, 2007). Risk management for sports and events is now a central business aspect for venue and event owners and operators (Hall, Fos, Marciani, & Zhang, 2011). The breadth of the security management discipline in the post-9/11 era has expanded from general life safety measures to include defined risk reduction strategies, all-hazard emergency planning, and incident response (Baker, Connaughton, Zhang, & Spengler, 2007). The potential consequences of an emergency incident at a sports event could result in mass casualties and destruction of property, buildings, and infrastructure (Hall, Marciani, & Cooper, 2008). These types of crisis can displace public trust, which can negatively affect future attendance at events, subsequently decreasing ticket sales and other revenue streams in tourism and hospitality services (Sauter & Carafano, 2005). The financial costs would be devastating not only to the sports organization, but could also have long-term consequences for the multi-billion dollar sports and entertainment industry (Sauter & Carafano, 2005).

Assessing, managing, and reducing risk by developing effective countermeasures for venue and event protection requires specialized knowledge and skill on behalf of supervisory-level security management professionals (Abbott & Geddie, 2001). The

National Center for Spectator Sports Safety and Security (NCS4; 2016), describes current sport and event security professionals as those who (a) serve in a command capacity, (b) create security plans and procedures, (c) perform risk and threat assessments, (d) direct event operations and supervise middle management and general staff, as well as vendors and third-party contractors, (e) coordinate with public safety agencies, (f) design security systems and processes, and (g) oversee security-related executive services within their organization. Supervisory-level security-management professionals in the sports and entertainment industry, therefore, exercise authority over all-aspects of event security planning and operations. As posited by Hall, Cooper, Marciani, and McGee (2012), security planning requires an all-hazards approach to identifying risks and threats, assessing vulnerabilities, and analyzing potential impacts. The discipline created by the planning process emphasizes a myriad of safety and security related fields including, Emergency Management, Risk Management, Facilities Management, Law Enforcement, Public Safety (i.e. Fire, Hazardous Materials [HAZMAT]), and Emergency Medical Services (Hall et al., 2012). With an increased need for risk management and security planning at sports and entertainment events comes an increased need for competent supervisory-level security management professionals. Identifying core competencies for the security management workforce supporting the commercial facilities sector can contribute to the development of flexible learning programs designed to prepare individuals for work in a rapidly evolving, multidisciplinary profession.

Traditionally, the practice and scholarship associated with human resource development (HRD) was not part of the strategic functioning of an organization (Wooten & James, 2008). Although scholars define HRD in the literature as the integrated use of

employee training, education, and development to improve individual, team, and organizational performance (Torraco, 2005), the notion of human resources as a strategic asset, with the potential to produce value, is a novel concept where performance is traditionally viewed and measured at a micro level (Becker & Huselid, 2006). Viewing knowledge as a key resource of an organization represents a change in perspective, which is cause to consider the strategic value of investments in human capital. Currently, no baseline competency standards exist for security management professionals working in the commercial facilities sector though training is an essential part of employee development (D. DeLorenzi, personal communication, September 2017). Considering the importance of training (Hall, 2010), it is advantageous for individuals and employers (organizations) to increase their human capital by making informed decisions about education, training, and career development (Wei, Lee, & Groves, 2015). Even more critical, as claimed by Wooten and James (2008), is to “include activities associated with HRD into the strategic objectives of the organization” (p. 21). Previous research postulates an expectation that sport and event security management professionals possess the requisite knowledge and skill to develop and coordinate security plans, operations, and risk mitigation strategies (Hall, 2010; Hall, Cieslack, Marciani, Cooper, & McGee, 2010). Limited research addresses competency requirements for the security management workforce in the sports and entertainment industry (Becton, 2013a; Cunningham, 2007; Miller, 2012) creating a gap in addressing the challenges of homeland security for the commercial facilities sector. Therefore, exploring the competencies of supervisory-level security management professionals to establish

baseline-performance standards for developing training, education, and self-regulation within the profession is necessary (Case & Branch, 2003).

This study identified a set of core competencies for supervisory-level sport and event security-management professionals. For the purpose of this study, the terms *security management professionals* and *security management workforce* describe supervisory-level positions in the multi-disciplinary field of sport and event security management. Additionally, the researcher uses the *sports and entertainment industry* and the *commercial facilities sector* interchangeably to refer to arenas, stadiums, outdoor events, and sport leagues and federations. Providing a set of research-based competencies for the security management workforce may help organizations improve employee performance and increase organizational capabilities through HRD in order to achieve safety and security goals. In doing so, sport organizations fulfill a legal obligation to protect spectators, officials and competitors, performers, employees, the community, and the environment at the highest degree possible, which may reduce exposure to civil or criminal liability. Chapter I of this study begins with the challenge that facility operators must consider to mitigate risk and increase organizational preparedness through competency and skill development in the form of the problem statement. Chapter I includes the purpose of the study, the significance of the study, and the conceptual framework, which serves as the research guide for this qualitative study.

Background of the Study

Mitigating risk and accomplishing safety and security goals depends largely on skilled leadership. The ASIS Foundation (formally known as the American Society for Industrial Security [ASIS]; 2014), an international organization for security professionals,

finds the following information gap continues to persist in the security and facility management profession:

despite the critical and expanding role of today's security professionals, to date there exists no agreed-upon, complete set of competencies utilized across all roles and levels of the security workforce; nor are there uniform educational guidelines for individuals to develop those competencies. (p. 2)

The Enterprise Security Risks and Workforce Competencies report published by ASIS (ASIS Foundation, 2013) considers 22 critical competencies for security professionals. The competencies rated most important for the security workforce at-large include (a) decision making, (b) oral communication, (c) anticipatory thinking, (d) maximizing performance of others, (e) collaboration, (f) self-regulation, and (g) persuasive influencing (ASIS Foundation, 2013). Although these competencies provide general guidance for the security workforce, the report does not consider the unique risks and challenges sport event security management professionals face in securing critical infrastructure and large mass gatherings of people. Research by Gao, Sung, and Zhang (2011) suggests that one overriding factor that contributes to developing effective risk management is human capital and the subsequent capability to develop strategies, techniques, and systems to share and transfer risk management practices. Given the lack of knowledge and skill requirements in the field of sport event security management (Wei et al., 2015) identified competencies can help organizations and individuals achieve desirable outcomes amidst adversity, strain, disruptions, and crises while managing ongoing risks (Vogus & Sutcliffe, 2007).

A press release issued by Secretary of the Department of Homeland Security, Jeh C. Johnson, in December 2015 claims that violent extremism continues to pose a global threat to high-profile sports and special events (U.S. DHS, 2015b). Commercial facilities are particularly attractive to violent extremists because they are “soft targets” (U.S. DHS, 2008). The term *soft targets* refer to venues vulnerable to adversarial attacks with a potential for high casualties and a delayed or limited security response (U.S. DHS, 2011). Sports and entertainment events are demonstrably soft targets for acts of terrorism as evidenced by recent attacks, including the following:

- In 2017, a single active shooter opens fire on crowds gathered at a country music festival from his hotel room on the Las Vegas strip killing 59 and contributing to the injuries of nearly 500 (Bui, Zapotosky, Barrett, & Berman, 2017).
- In 2017, a suicide bomber targets crowds exiting Manchester Arena after an Ariana Grande concert killing 22 people and injuring dozens more (BBC News, 2017).
- A total of 130 people are killed in a series of coordinated terrorist attacks across Paris in November 2015, including an assault on the Stade de France during an international soccer match where suicide bombers detonated explosive vests outside the stadium killing three people (BBC News, 2015).
- At the 2013 Boston Marathon, two homemade bombs explode near the course finish line killing three people and injuring more than 250 participants and spectators (USA Today, 2013).

These horrific attacks on sport and entertainment events, in addition to other terrorist-inspired violent incidents across the world, indicate that terrorist activity continues to pose a real threat to public spaces where people gather. The foreseeable threat of terrorism has legal implications and risk management challenges for stadium owners and operators (Baker et al., 2007). These incidents serve as a terrible reminder that violent extremists are constantly seeking targets that capture public attention, exhaust resources, and overwhelm emergency response teams (G4S Risk Consulting, 2016).

The issue of security at high-profile sport and entertainment events is more significant than in previous decades. As such, securing major sports events has become a more challenging and long-term issue. Researchers Hall, Cieslak, et al. (2010), identified a list of minimum standards essentially needed to begin the process of securing sport and entertainment venues. Minimum standards include 33 baseline protective security measures in six categories: (a) *Physical Security*, (b) *Technical Security*, (c) *Access Control*, (d) *Emergency Management*, (e) *Training and Exercise*, and (f) *Weapons of Mass Destruction*. To implement protective measures and maximize efficiency, the security management workforce needs specialized education and training (Hall, 2010; Hall et al., 2008). Based on prior research, training curriculum objectives for security management professionals should include the following components:

1. Risk, threat, and vulnerability assessment methodologies, including terrorism and weapons of mass destruction, natural disasters, and crowd management issues (Hall, 2006);
2. Emergency planning, preparedness, response and recovery via operational planning procedures consistent with the National Response

Framework, National Incident Management System and applicable laws and regulations set forth by the Department of Homeland Security (Hall et al., 2010);

3. Crisis management capabilities to prevent harmful occurrences, reduce injuries or loss of life, and mitigate significant property damage and facility assets; (Cunningham, 2007) and,
4. Multiagency coordination and communication, including common terminology, span of control, chain of command, and information and intelligence management (U.S. DOJ, 2007).

The aforementioned curriculum objectives provide general guidance on the knowledge and skills sport event security management professionals should acquire to carry out certain protective security measures. However, these recommendations for training do not include core competency requirements for the individuals responsible for performing key security and risk management functions. As posited by Hutchins and Wang (2008), a main goal for the security management workforce is to manage crises effectively by protecting and supporting critical infrastructure, key organizational stakeholders, and resources. The goal of HRD is to develop the intellectual, emotional, and skill-based capabilities of people to perform various types of work within the greater context of organizational systems (Torraco, 2005). Thus, there appears to be a connection between the disciplines of security management and HRD; a nexus receiving little attention by HRD researchers and practitioners (Hutchins & Wang, 2008). As a result, “the role of HRD in supporting learning, change, and performance improvement in the process of managing crises” has yet to be explored, therefore “limiting opportunities for researchers

to understand how HRD-based interventions might be used to support organizational crisis management efforts” (Hutchins & Wang, 2008, p. 331).

To develop core competencies among current and future security management professionals, training and education programs are both necessary and important to achieve a level of performance acceptable to overall security efforts (Hall, 2010; Hall, Ward, et al., 2008). In 2015, the U.S. DHS Interagency Security Committee published a white paper on PPD-21 implementation, which called for recommendations on training programs that “capture the processes and requirements articulated in PPD-21” (U.S. DHS, 2015a, p. 5). Without information on the competencies that contribute to successful job performance, the government and sport organizations responsible for securing critical infrastructure in the commercial facilities sector are ill equipped to make decisions on effective security training programs. Understanding the competencies that support successful job performance can help to create a strategic framework for workforce development that enables sport event security management professionals to accomplish the objectives of PPD-21.

Statement of Problem

Given the environment of constant change in today’s globalized economy, notwithstanding the shifting safety and security landscape, sport organizations must recognize the risk of complacency and develop new approaches to manage risk and minimize uncertainty stemming from different sources (Grote, 2007). To effectively mitigate risk and increase organizational preparedness, commercial facility owners and operators must continuously analyze, assess, and advance a human capital development strategy to enhance the capabilities of their security workforce (U.S. DHS, 2015a). Some

researchers propose that human resource practices significantly influence organizational effectiveness in sport facility operations and risk management (Schwarz, Hall, & Shibli, 2015). Currently, no set of research-based competencies exists for supervisory-level professionals responsible for safety and security planning and operations at sport and entertainment venues (ASIS, 2014). Without a framework to develop core competencies among key leaders, sport and event security management professionals and their hiring organizations may face devastating financial losses (Schwarz et al., 2015) resulting from the potential that sports and events possess for personal harm such as injury, legal liability from negligence cases, and other costs (including goodwill) associated with safety and security shortcomings (Abbott & Geddie, 2001). Providing a set of research-based competencies for effective sport and event security management is critical in assisting sport leagues, teams, and venue and event management organizations (i.e. American Capital [SMG], Anschutz Entertainment Group [AEG], and Global Spectrum), in developing human resource capabilities and making reasonable efforts to protect people, property, and information.

Purpose Statement

The purpose of this study is to identify core competencies for supervisory-level security management professionals working in the commercial facilities sector who are tasked with helping to detect, deter, prevent, and respond to potential risks and threats at sport and entertainment venues. In most organizations, decisions require pooled talent as the greater amount of knowledge helps reach the best solution (Schwarz et al., 2015). This study develops a set of research-based core competencies for sport and event security professionals considering the interdependence of law enforcement, security

operations, and emergency services (fire, EMS, and public works) personnel in group decision-making. This study does not assume or suggest a specific use for the resulting competency model, although it considers training and development (T&D) as a potential means of applying this research in the security management discipline.

Significance of the Study

The benefit of establishing core competencies for security management professionals is consistency among sport organizations (professional, collegiate, high school, amateur, etc.). Other benefits may include the development of specialized training curriculums in sport event security management, formalized learning systems, and operations-based exercises to validate plans and policies, clarify roles, and identify resource gaps in security operations. The combination of these benefits provides a foundation for HRD to improve performance and mitigate risk by means of knowledge and skill acquisition and its strategic application. The results of this study may provide guidance on HRD strategies in performance management, training design, talent development, and career planning. These findings should provide organizations and academics with information to create T&D programs in security management, and help integrate the strategic application of HRD in other risk mitigation efforts.

Organizations that intend to take a serious approach to risk management must provide a significant investment in human capital (Lalonde & Boiral, 2012). Some sport associations, such as the National Collegiate Athletic Association (NCAA), have developed *Host Operations Manuals* for Division I and II football championships and *Best Practices in Venue Safety and Security* for other high-profile intercollegiate athletic events. Professional sports leagues have made strides in standardizing risk management

policies and procedures through the development of resource guides, such as the NBA's *Arena Security Standards* and MLB's *Best Stadium Operating Practices*. Still, neither the NCAA nor professional sport leagues have developed uniform educational guidelines for *any* level of security management practitioners, including top-tier professionals who ultimately hold responsibility for the safety and security operations of their venues and events.

Research Objectives

Research objectives outline the goals of the study. The primary research question is what are the core competencies of supervisory-level security management professionals who work in the commercial facilities sector? In support of the primary research question, this study has the following research objectives (RO):

RO1 — Describe the professional profile of participants (i.e. position title, years of experience, education, age, gender, current sector of employment, and industry segment).

RO2 — Identify the competency requirements for supervisory-level security management professionals in the commercial facilities sector.

RO3 — Identify core themes in participant response data and create competency clusters comprised of key knowledge, skills, and abilities.

RO4 — Rank the knowledge, skills, and abilities within each competency cluster based on importance and frequency.

Conceptual Framework

A conceptual framework is a logical structure that illustrates the relationship between key theoretical principles and concepts that support and guide the research plan (Grant & Osanloo, 2014). The conceptual framework of this study illustrates the process of developing expertise through the identification of competencies and the application of strategic HRD in order to leverage human capital and mitigate risk. The conceptual framework shows the theoretical foundations that support the process of improving human performance within the field of security management and the drivers that influence the trajectory of the organization's HRD strategy. Other disciplines that contribute to the practical application of strategic human resource development in the workplace include risk management (Hutchins & Wang, 2008) and performance management (Van Tiem, Moseley, & Dessinger, 2012). The conceptual framework (Figure 1) further illustrates the intent of this study to identify competencies that align with HRD strategies for the purpose of mitigating risk and improving human performance thereby enhancing the security posture of sport organizations through a competency-based HRD strategy.

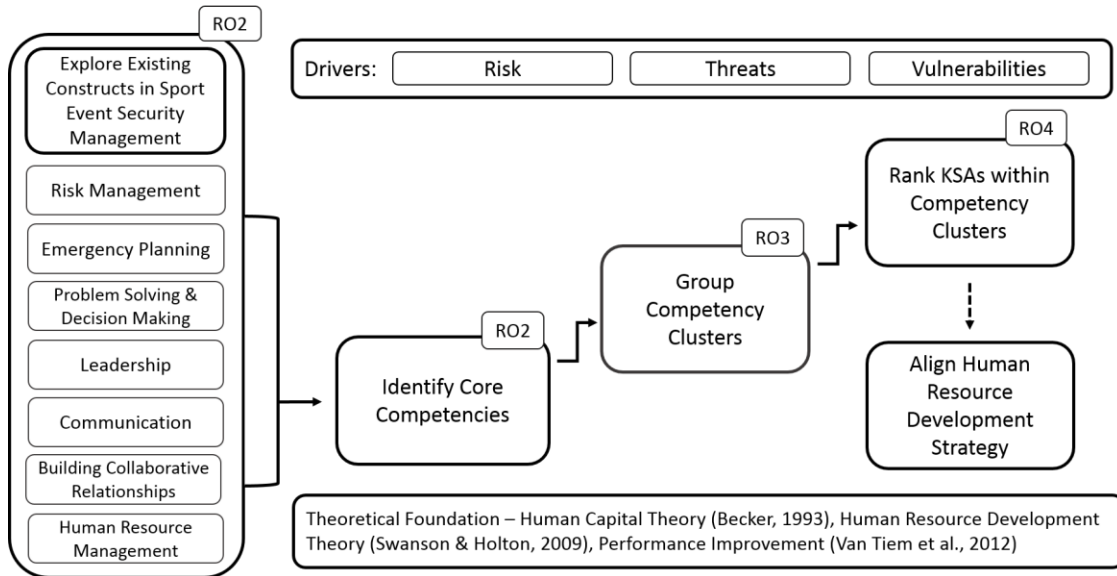


Figure 1. Conceptual Framework.

This study will identify core competency requirements for security management professionals working in the commercial facilities sector. These competencies derive from the risks, threats, and vulnerabilities that may expose sport and entertainment venues to potential crisis or to legal liability. Through the strategic application of HRD, core competencies for the security management workforce should enhance individual and organizational performance (Van Tiem et al., 2012). By embedding HRD in organizational systems designed to develop competencies and improve work-related abilities, the security management workforce can improve organizational effectiveness in risk management (Swanson & Holton, 2009). The resulting competency model may provide general guidance for the development of T&D and other learning programs that focus on improving performance.

Limitations

The purpose of discussing study limitations is to address potential gaps in the study's design, instrumentation, research bias, and study population (Creswell, 2009).

This study explores competencies for effective supervisory-level security professionals in the commercial facilities sector, which limits the generalizability to other populations. Research findings are generalizable when data gathered from one study is “useable and communicable” to other, future research in terms of “iterative conceptualization and analysis” (Huberman & Miles, 2002, p. xii). This study has the potential to establish baseline competency requirements for the security management workforce by identifying core competencies for the strategic application of HRD, including T&D.

Delimitations

Delimitations are boundaries set for the study based on choices made by the researcher (Roberts, 2010). The researcher utilizes the Delphi technique to elicit information from a panel of 36 security management professionals working within the commercial facilities sector, which is comprised of law enforcement, emergency management, security operations, and venue management officials. Participants of the current study must meet specific criteria. To qualify for participation in this study, security management professionals must possess at least five years of experience in their domain of expertise (Benner, 1982). The researcher uses a relatively small, non-random sample of participants who have experience and expertise in the sport and event security management discipline, and who apply their knowledge to address the research problem based on specific criteria (Hasson et al., 2000). These boundaries are established to increase the credibility of results, as the participants are representative of their profession and are not likely to be challenged as experts in the field (Fink, Chassin, & Brook, 1984). This study limits the population to a defined constituency of current supervisory-level security management professionals in the United States.

Assumptions

In qualitative research, assumptions are set out to explicate particular assumptions about the phenomenon being studied (Shadish, Cook, & Campbell, 2002). As posited by Leedy and Ormrod (2014), assumptions are basic beliefs about the study that enable the researcher to answer the research questions. This study holds the following assumptions:

1. The sample is representative of the current security management workforce.
2. The participants were truthful in their responses.
3. The participants possess the necessary knowledge to comprehend all the statements in the Delphi questionnaire.
4. The security management competencies are similar among all groups that made up the research sample.

Definition of Terms

Defining relevant terms used in this study provides clarity for the reader. Several key terms in this study have numerous definitions in the literature. For the purposes of this research, the following definitions are used.

1. *Human Capital* — The collection of one's knowledge, skills, and abilities in order to produce economic value (Becker, 1993).
2. *Human Resource Development* — “The process of developing and unleashing human expertise through organization development and personnel training and development for the purpose of improving performance” (Swanson, 1995, p. 208).
3. *Competencies* — The knowledge, skills, and abilities that allow one to perform a task (Boyatzis, 1982).

4. *Organizational Development* — Organizational development unleashes human expertise for the purpose of improving performance (Swanson & Holton, 2009).
5. *Performance Improvement* — Performance improvement integrates economic, psychology, and systems theories into unified thinking and action that intersects with development efforts at organizational, process and individual levels of performance (Swanson, 1999).
6. *Sport and Event Security Management* — An all-hazards risk management approach for sport and event organizations protecting physical and human assets against potential threats and vulnerabilities (Hall et al., 2012).
7. *Training* — “An educational, informative, skill-development process that brings about anticipated performance through a change in comprehension and behavior” (Sennewald, 2003, p. 97).
8. *Training and Development* — Training and development focuses on educational practices designed to generate the human expertise needed to improve performance (Swanson & Holton, 2009).
9. *Risk* — “The potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences” (U.S. DHS Risk Lexicon, 2010, p. 27).
10. *Risk Assessment* — “A process which collects information and assigns values to risks for the purpose of informing priorities, developing or

comparing courses of action, and informing decision making” (U.S. DHS Risk Lexicon, 2010, p. 28).

11. *Risk Mitigation* — “The application of measures to reduce the likelihood of an unwanted occurrence and/or its consequences” (U.S. DHS Risk Lexicon, 2010, p. 31).

12. *Risk Management* — “A process for identifying, analyzing and communicating risk and mitigating, accepting, transferring or controlling it to an acceptable level considering associated costs and benefits of any actions taken” (U.S. DHS Risk Lexicon, 2010, p. 30).

13. *Threat* — “A product of intention and capability of an adversary to take action which would be detrimental to an asset” (Schwarz et al., 2015, p. 184).

14. *Vulnerability* — “An exploitable security weakness or deficiency that may expose a facility to a threat and eventual loss” (Schwarz et al., 2015, p. 186).

15. *Workforce Development* — A field of study and practice that includes— but is not limited to—training, professional development, economic development, and organizational development (Becker, 1993).

Summary

Sports and special events are part of American culture and represent a growing segment of the national economy (Lipton, 2005). The large number of people in attendance, as well as the public nature of these events, consequently draws a myriad of risks and threats that have the potential to negatively impact attendees, venues, and the

economy associated with spectator sports and entertainment events. Existing research in the field has addressed a lack of competency standards (ASIS, 2014) and training and education for safety and security practitioners with respect to prevention, preparation, response and recovery (Hall, 2010; Hall et al., 2010). These key elements, outlined in PPD-21 remain vital to national security in the commercial facilities sector, which includes sport stadiums and entertainment venues.

Investments in human capital offer organizations an alternative approach to mitigating risk through strategic HRD (Gao et al., 2011). Identifying competency requirements for supervisory-level security professionals who are charged with assessing and managing risk, as well as developing and implementing security policies and procedures at sports and entertainment venues, provides practitioners and organizations with information that can support learning, change, and performance improvement. Human capital investments aimed at developing core competencies among security management professionals may provide legal defensibility in potential litigation resulting from vicarious liability and negligence in employment. Even though HRD-related activities support individual, process, and organizational performance improvement (Van Tien et al., 2012), scant literature explores the role of HRD in effectively managing risk. Nevertheless, an organization's ability to align and strategically apply HRD systems to its strategic objectives contributes to organizational success (James & Wooten, 2008). Therefore, to keep abreast of current trends in emergency preparedness, risk management, and incident response, organizational leaders must find ways to improve workforce capabilities through knowledge and skill development.

Chapter II continues with a review of the literature to discuss the foundations of risk management and threat and vulnerability assessments. The concepts of liability and duty of care as they relate to sport and entertainment venue operations are reviewed. Chapter II defines the security management workforce and assesses current approaches to T&D. The next chapter presents a theoretical framework for the study, which explores the relationship between human capital theory, HRD, performance improvement, and organizational theory. Lastly, Chapter II reviews literature on the development of competency models and discusses previous competency-based research in security management. Chapter III describes the research methods used in obtaining data for the study.

CHAPTER II – REVIEW OF LITERATURE

The purpose of this study is to identify core competencies for the security management workforce working in the commercial facilities sector. This chapter provides a review of relevant literature supporting the conceptual framework of the study. First, this chapter discusses the functional concepts of risk assessment, management, and threat identification and explores the importance of liability and duty of care in sport and entertainment event operations. Next, the chapter examines the threat of terrorism and other implications for securing sport and entertainment events. This chapter defines the security management workforce and discusses current approaches to workforce T&D. Human capital theory, HRD theory, and performance improvement theory are the foundation of this study. Chapter II investigates how these concepts contribute to the development of a core competency model in the multi-disciplinary field of security management.

The Resurgence of Risk Management Practices

In the decade following the coordinated September 11, 2001 terrorist attacks on the World Trade Center in New York City and the Pentagon in Washington, DC, the U.S. government issued a series of Homeland Security Presidential Directives (HSPD) that focused on strengthening the security and resilience of the nation through systematic preparation. Within HSPD-5, the six-part National Preparedness System outlines preparedness activities, which include the foundational components of identifying and assessing risk (U.S. DHS, 2003a). Since 2001, DHS has spent millions of dollars investing in risk assessments and management practices to inform response capabilities to various types of all-hazards incidents (U.S. Government Accountability Office [GAO],

2012). Prior to the 2001 attacks on the World Trade Center, known as 9/11, the assessment and management of risk mostly focused on weather, crowd, and traffic related issues (U.S. DOJ, 2007). *Risk* is defined as “the potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences” (U.S. DHS Risk Lexicon, 2010). The process of identifying and assessing risk involves collecting and analyzing data on existing threats, potential threats, and vulnerabilities to make determinations about capabilities and requirements related to protection, prevention, mitigation, response, and recovery (FEMA, 2017). Commonly referred to as a *risk assessment*, sport event security managers are responsible for identifying potential threats at their venue and in the surrounding community (U.S. DHS, 2008).

The assessment and management of risk underlies the unified approach to homeland security. A sport event venue, whether it is a stadium or arena, open area, or course is considered a high value terrorist target because of the potential for mass casualties, economic damage, and psychological impact (U.S. DHS, 2008). Sport and event security management professionals must be aware of risk management methodologies to continually assess threats, identify vulnerabilities, and minimize consequences through the implementation of risk reduction strategies. It is a common and accepted precept that conducting risk assessments is an essential part of a security practitioner’s responsibilities (ASIS, 2003). According to the ASIS General Security Risk Assessment Guideline (2003), the key elements of a risk assessment are as follows:

1. Understand your organization and identify the people and assets at risk.
2. Specify loss risk events/vulnerabilities.

3. Establish the probability of loss risk and frequency of events.
4. Determine the impact of the events.
5. Develop options to mitigate risks.
6. Study the feasibility of implementation of options.
7. Perform a cost-benefit analysis.

Management cannot eliminate risk from the environment, but through careful planning and preparation, they can minimize its impact. *Risk management* is defined as “the process of identifying, analyzing, assessing, and communicating risk and mitigating, accepting, transferring, or controlling risk to an acceptable level considering associated costs and benefits of any actions taken” (U.S. DHS Risk Lexicon, 2010, p. 42). Stated differently, risk management is the deliberate process of understanding *risk* and thereby improving the quality of decision-making (U.S. DHS, 2011a). The risk management process is an integral system of operational planning which should take place prior to any major event (U.S. DHS, 2011b). Expertise in developing, reviewing, testing, and updating risk management strategies, security procedures, and emergency response plans is necessary to ensure risk management processes are completed appropriately (U.S. DHS, 2011a). The DHS and FEMA developed training curriculums (Appendix A) and published numerous guidebooks and checklists to support the practice of risk management and security planning, albeit these resources do not establish any formal requirements or standards for sports and entertainment venues within the commercial facilities sector.

Potential threats drive the level of risk posed to a sport and entertainment event. According to Schwarz, Hall, and Shibli (2015), “A threat is the product of intension and

capability of an adversary to take action which would be detrimental to an asset” (p. 184). The most relevant threats to sport facilities and events include terrorism, spectator-related violence or hooliganism, crowd control, crime (such as vandalism, theft, and fraud), logistical failure, and inclement weather (Schwarz et al., 2015). The level of risk associated with a potential threat may depend on uncertainty, catastrophic potential, and controllability (Slovic, 2001); however, risk is also dependent upon other factors including, but not limited to geography, venue use, event type, and tolerance (U.S. DHS 2011b). Conducting a threat assessment helps to classify threats and identify vulnerabilities at the venue and in the surrounding community that could result in eventual loss (Schwarz et al., 2015). Evaluating the potential for loss from a threat determines the course of action to reduce, reassign, transfer, or accept the risk. Security management professionals in the commercial facilities sector understand the value of risk management practices, but need training in risk evaluation and management practices to reduce legal expose, prevent loss and minimize damages, protect facility assets, and ensure business continuity (Schwarz et al., 2015). Effective risk management not only includes implementing plans and policies to reduce risk and prevent financial loss, but must also adhere to government regulatory compliance processes to avoid liability exposure (Mitchell, Ray, & Van Ark, 2016). The next section discusses common legal and regulatory issues that influence sport and entertainment venue operators’ decisions about risk management practices.

Understanding Liability and Duty of Care

In the United States, the standard of care that facility operators must exert when providing security at their venues is increasing, leading to the possibility of liability

following an emergency incident (Marciani, Hall, & Finch, 2009). Multiple deaths and injuries at large public events have occurred consistently and over a wide spectrum of countries and types of events (FEMA, 2015). Venue management personnel can significantly reduce liability exposure by effectively managing risks and assessing vulnerabilities that may cause harm or lead to injuries (Schwarz et al., 2015). Legal issues related to event security management include inadequate security staffing, training, negligent employment practices, and other procedural issues such as handling disturbances, ejections, and arrests. According to Katzenberg (1996), monitoring crowd behavior is one of the most critical aspects of event management because people represent the costliest potential liability among the various spectator sports. Currently, little legislation exists to mandate that sport and event venue owners and operators enforce minimum safety and security standards (Chen, 2009). However, trade organizations such as the National Fire Protection Association (NFPA) have established consensus-based standards and codes for voluntary usage by facilities, which many local and state governments adopt. For example, NFPA 101 codes (20.1.5.6.1 and 20.1.5.6.2) require a minimum of one trained crowd manager or supervisor be provided for every 250 occupants, and that the crowd manager(s) receive approved training in crowd management techniques (NFPA, 2015). Notwithstanding government use of voluntary consensus standards developed by independent public service organizations like the NFPA, standardization in safety and security policies and procedures, such as conducting mass searches of people and their belongings, are traditionally driven by common law precedent (Claussen, 2007).

Creating safety and security policies and procedures to reduce risk and mitigate potential liability at sport and entertainment events is the responsibility of venue management, namely security and public safety department leaders (Marciani et al., 2009; Schwarz et al., 2015). All major sport leagues (MLB, MLS, NBA, NHL, NFL, and NASCAR) mandate certain safety and security rules and procedures accepted as ‘best practices,’ although these protective measures still vary from league to league and from venue to venue (Hall, et al., 2011). Ultimately, sport and entertainment venue owners are responsible for providing a safe event environment and for making reasonable efforts to protect spectators from injury or harm (Katzenburg, 1996). According to Ammon, Southall, and Blair (2004), facility managers can reduce risk through staff training, preventative maintenance, and development of a risk management plan or standard operating procedures (SOPs). Establishing SOPs for all-hazards provides specific instructions on the appropriate course of action for a variety of different situations which, when implemented accurately and routinely, can be helpful in cases of litigation (Farmer, Mulroonery, & Ammon, 1996).

Tavella (2010) contends that while most spectators are aware of the risk of injury in attending these events, it is less likely that spectators consider and analyze all the potential risks associated with attending a live sporting event. Claims brought by injured sports spectators most often fall under traditional negligence principles (Tavella, 2010). However, courts have differed with respect to what *duty of care* (level of protection) the venue owner or operator owes to spectators (Tavella, 2010). According to research by Katzenburg (1996), the duty of care principle is the responsibility of a person or organization to provide reasonable care to protect spectators from foreseeable injuries.

Stadium owners and operators often cite the assumption of risk doctrine as a plausible defense in negligence cases brought about by injured spectators (Katzenburg, 1996). With assumption of risk, a person assumes common risks that are inherent to the nature of the sport and generally arise from the activity, such as a foul ball hitting an attendee during a baseball game (Katzenburg, 1996). However, reasonable efforts to protect spectators, including proper fencing or netting to prevent foul balls from crowd seating areas, are important in liability claims cases. Generally, spectators will not win cases where injuries result from ordinary and foreseeable risks inherent to the sport (Austill, 2013); however, security management professionals must understand the principle of duty of care to ensure adequate protection in locations where the risk of injury is most likely.

The public policy associated with the assumption of the risk doctrine is to encourage spectators to attend sporting events with the understanding that security management professionals make reasonable efforts to ensure fan safety. As stated by Tavella (2010),

Most fans would not want to go to sporting events where the fields are completely surrounded by protective netting obstructing the view of the field. Even without consideration of the cost of such protection, it would certainly take away from the enjoyment of the game. (p. 188)

Optimizing the fan experience is one facet of spectators' perceptions about security and its impact on their enjoyment. Thus, event organizers must take appropriate actions to satisfy spectators' enjoyment, and to encourage repeat attendance, while not downgrading

security measures to the extent that they are risking safety and exposing themselves to liability (Taylor & Toohey, 2006).

Implications for Securing Sports and Entertainment Events

Compounding issues and problems surround the question of securing sport and entertainment events. The most dangerous threat facing the sports and entertainment industry is terrorism and the acts of violence associated with terrorist activities (Taylor & Toohey, 2006). Although the risk of terrorism at any one particular sport or event venue is particularly low, it has high impact in terms of the potential to cause mass casualties, damage to critical infrastructure, and significant financial loss (U.S. DHS, 2011). Aside from terrorism, the security management workforce must plan and prepare for a myriad of possible emergency incidents including crowd management and crowd control, natural disasters or inclement weather, and civil disturbances. Other implications that stem from these incidents include logistical or structural failure, communications failure, resource scarcity, or a lack of command and control. Developing emergency response plans for each potential incident, or a combination thereof, is crucial to ensure that sport event security management professionals perform due diligence in risk prevention and mitigation.

Terrorism and Sport Events

Many service industries suffered because of terrorist attacks both in the United States and abroad (Goodrich, 2002), causing significant adverse consequences for event organizers (Lee & Taylor, 2005). Specifically, sport events experienced immediate and long-term financial impacts. Following 9/11, numerous athletes made public decisions not to travel to events and some national teams withdrew from international competitions,

which resulted in the cancellation or postponement of several major sport events (Taylor & Toohey, 2006). These immediate effects dissipated over time; however, similar reactionary cycles persist in the aftermath of contemporary terrorist incidents (Pizam & Fleischer, 2002). The concept of spectatorship and research into the motivations of event sport tourists started to gain more attention among scholars in the post-9/11 era (Taylor & Toohey, 2006). Though not the focus of this study, previous sport tourism research considers the relationship between terrorism and the psychological motivations that influence the decision to travel and participate in or attend a sporting event in the aftermath of 9/11 (Goodrich, 2002; Hall, 2002; Oriol, 2004). These studies reveal that terrorist actions or the perceived threat of terrorist activities may have an impact on the behavior of sport and event tourists (Taylor & Toohey, 2006).

Major sport venues and high profile events, such as the Super Bowl, Olympic Games, or World Cups are obvious potential targets for terrorism because of the magnitude of these events and the accompanying worldwide media coverage (Taylor & Toohey, 2006). Recently, acting Secretary of Homeland Security, Elaine Duke, spoke to a group of venue managers about public event security and perceived dangers of terrorism, stating,

The places where we gather—our stadiums and concert halls, our fairgrounds and convention centers—are living symbols of our free society. Freedom of expression. Freedom of assembly. And freedom to cheer for whichever team we choose. But recently, the world has watched in horror as these symbols of free society have come under attack.... As ISIS loses ground in Syria, terrorists

affiliated with—or inspired by—the group are bringing the battleground to our city streets. (U.S. DHS Press Release, 2017, para. 2)

U.S. government officials acknowledge that large public gatherings that celebrate popular American culture are potential targets of terrorism (U.S DHS, 2003b). The size of the audience and the symbolic representation of values associated with the sport factor in to determining an events “terrorism capital” (Toohey & Taylor, 2006, p. 201). Sport and event managers’ focus on security became a primary concern after the terrorist attacks on September 11, 2001. According to Baklouti and Namsi (2013), “Other aspects, such as, organizational theory, sport marketing, sport facility management, sport law and policy, economics and finance, gender and diversity, have been classified less important, because they cannot stand in the absence of security” (para. 3). Many researchers are now focusing on the link between sport and entertainment events and terrorism. Atkinson and Young (2002) discern that sport and entertainment events are symbolic cultural representations of the philosophies of freedom, liberty, and economic expansion upheld by Western nations including countries like the United States. Individual terrorists or terrorist organizations find these events suitable targets because they can be political weapons to not only threaten the physical safety of people, but to challenge the core ideologies that underpin democratic societies (Atkinson & Young, 2002).

Giulianotti and Klauser (2010) posit that acts of terrorism have a direct impact on tourism and international standing which poses a heavy financial risk. Prior to 9/11, security budgets for the Olympic Games typically fell below USD 200 million (Giulianotti & Klauser, 2010). Post 9/11, security spending drastically increased in comparison with previous games: Salt Lake City Winter Games in 2002 (USD 310

million), Athens in 2004 (USD 1.5 billion), Turin Winter Games in 2006 (USD 1.4 billion), Beijing 2008 (USD 6.5 billion), London 2012 (USD 2.2 billion), and Sochi Winter Games in 2014 (USD 3 billion; Atkinson & Young, 2002; Giulianotti & Klauser, 2010; G4S, 2016). Security budgets were cut by 30% for the Rio de Janeiro Olympics, expected to hover around USD 200 million (Connors, 2016), until 30 private Israeli security companies stepped in with a USD 2.2 billion budget to help keep athletes and visitors safe from terrorism and other crime (Yizhar, 2016). Additional emergency funding was allocated by the Brazilian government (USD 849 million) to pay for infrastructure and additional security personnel to deal with ongoing social unrest and community health risks from widespread outbreaks of the Zika virus (Soto, 2016).

High-profile sporting events, including the Olympics, football tournaments, cricket matches, and road races, were targeted with varying degrees of impact and success since the 1972 Munich Olympic Games, when eleven Israeli athletes and officials were killed by "Black September" terrorists (Baklouti & Namsi, 2013). Security at major sport events has significantly increased since the 1972 incident preventing a number of planned attacks at high-profile sporting events due to successful counter-terrorism operations (Hall, et al., 2011). While any terrorist attack on a high-profile sporting event is sure to generate enormous publicity, terrorists realize that their objective for causing mass casualties and destruction can happen at any place with large gatherings of people. Over the years, terrorists have shot at the Sri Lankan cricket team, detonated a car bomb outside the Bernabau stadium during a football match, bombed the Boston Marathon, and machine-gunned the Togo football team bus (Galily, Yarchi, Tamir, & Samuel-Azran, 2016). In 2015, three suicide bombers struck outside the Stade de France, France's

national stadium, killing three people during a coordinated attack in Paris, which ultimately left 130 dead and almost 400 injured (Galily et al., 2016). More recently, a suicide bomber in the United Kingdom targeted spectators leaving Manchester Arena after a concert killing 22 spectators and injuring 120 (BBC News, 2017). The most recent attack in the United States occurred in October 2017 when an active shooter targeted crowds gathered for an outdoor concert on the Las Vegas strip killing 59 people and contributing to the injuries of nearly 400.

The interplay between sport and entertainment events and terrorism throughout modern history has contributed to heightened security becoming standard procedure at high-profile sport and entertainment events. Today, an asymmetric conflict exists, where simple and minimal resources on the part of terrorists are inflicting major damages (G4S, 2016). For example, vehicle-ramming attacks, a trending terrorist tactic requiring minimal training, skill, or preparation time are on the rise (U.S. DHS, 2016). Vehicle ramming attacks have occurred in Berlin, Germany in 2016; Columbus, Ohio at The Ohio State University in 2016; Nice, France in 2016; Charlottesville, Virginia in 2017; and Barcelona and Cambrils, Spain in 2017, which reflect a change in terrorist tactics, in both chosen target and method (U.S. DHS, 2017b). Thus, it is no longer necessary for violent extremists to gain access inside of venues when they can cause equal or greater destruction by targeting crowded public spaces, such as tailgating areas. Tactics may include single active shooters, improvised explosive device (IED) attacks in various forms, or a coordinated attack as seen in Paris involving multiple gunmen and suicide bombers (U.S. DHS, 2017b). Attention is turning to sophisticated methods of attack such as cyber-terrorism and weaponized drones (G4S, 2016).

Crowd Management

Crowd management and crowd control are two distinct but interrelated concepts. The term *crowd management* is the process of organizing the movement of crowds—a crowd is a large number of persons gathered in a compact environment without order (Crowd, 2016). Crowd control has more to do with the actions taken once a crowd becomes unruly or behaves in a dangerous manner. The issue of crowd safety as it related to crowd management and its dynamics has significant importance in the sport and entertainment industry due to the large number of people who attend these events. Therefore, sport event security management professionals are responsible for designing effective evacuation (egress) strategies as part of their greater responsibilities in security management (Hall, et al., 2012). Abbott and Geddie (2001) stress that security personnel should be knowledgeable and experienced in handling disputes among spectators, protecting from theft, and implementing emergency services. According to Berlonghi (1994), a crowd management plan should involve consideration of several key factors: (a) crowd dynamics (mobility and human behavior), (b) crowd size (occupancy), (c) event type, (d) seating assignments, (e) transportation, (f) time, and (g) weather conditions. Berlonghi (1994) suggests performing a thorough risk analysis of crowd management plans and adequately training staff on procedures for effective crowd management and control.

Crowd management procedures include developing plans, training employees, conducting scenario-based exercises, and collecting and analyzing data on crowd movement (Abbott & Geddie, 2001). According to Still (2000), “the challenge exists in anticipating the problems that may occur during an emergency” (p. 9) and developing

plans to avert potential disasters such as overcrowding, panic stampedes, and crushing incidents. Security managers must be aware of this unpredictability to diminish the possibility for control problems. As described by Alghamdi (1992), crowd control involves decision-making processes, based information management systems that apply to the strategic allocation of human resources, technology, and equipment. Crowd management plans, specifically evacuation plans, are often successful; as was the case in 2015 when more than 60,000 concert goers were evacuated from Chicago's largest music festival, Lollapalooza, due to impending severe weather (Swartz, 2015). Historically however, crowd control issues, in many cases, resulted in mass injuries and fatalities (Still, 2000). The most notorious example is the Hillsborough disaster in 1989.

The Hillsborough disaster was one of the worst crowd management disasters in British football history, which resulted in the deaths of 96 people and over 400 injuries (Schwarz et al., 2010). In April 1989, Hillsborough stadium hosted the FA Cup semifinal match between Liverpool FC and Nottingham Forest. As 24,000 spectators approached the stadium gates from the west entrance, 10,000 of them then headed for the terrace entrances where seven turnstiles were stationed (Still, 2000). The late arrival of fans contributed to crowd density issues (overcrowding) around the perimeter gates and turnstiles, and hence, crowd safety became unmanageable (Still, 2000). To prevent crushing outside the stadium, police opened a series of gates (intended as exits) to expedite pedestrian flow into the stadium. This action allowed an additional 2,000 spectators into the terrace stands, situated behind the goal, which were already full. The influx of people created a crushing incident, pinning fans against the fence that separated the stands from the playing field (Schwarz et al., 2010).

According to Still (2000), “the crowd (movement) was fluid in nature exploiting the weakness of the management system. As a result the crowd exploited the space and routes which were not appropriately managed” (pp. 29-30). Hall et al. (2012), support this claim noting that police and stewards (ushers) were not present at the gate entrances to direct spectators away from areas filled to capacity, which contributed to the development of a bottleneck outside the stands. Within the first six minutes of the match, police advised the referees to stop the match as people tried to climb the fence to escape the crushing (Hall, et al., 2012). Many died from compressive asphyxia from the weight of the crowd pressure while standing against the fence before a crowd surge forced the fence to collapse causing a human stampede onto the playing field (Hall, Cooper et al., 2012). This emergency incident overwhelmed police, venue staff, and emergency medical services who were unable to transport injured fans to hospitals, partly due to police blockades that prevented responding ambulances from entering the stadium (Sawer, 2016).

The deaths that occurred at Hillsborough Stadium because of improper crowd management and crowd control procedures were ruled accidental at the end of the original 1991 inquest (Sawer, 2016). In 2012, an independent reviewed the incident and determine what factors contributed to the deaths at the 1989 Football Association (FA) Challenge Cup semi-final. Following the 2012 Hillsborough Independent Panel report, a new jury found that the commander chief superintendent of police, who was newly-promoted and inexperienced at overseeing events of this scale, was in breach of the duty of care owed to spectators which caused the deaths, and amounted to gross negligence (Sawer, 2016). The jury ruled that negligent policing practices contributed to the

development of a dangerous situation; that the actions and decision made by commanding officers and senior security officials in control caused crowd crushing in the terrace seating area; and, both the police and the ambulance service caused or contributed to the loss of lives in the disaster by an error or omission after the crowd crushing had begun to develop (Hillsborough Report, 2012).

Natural Disasters and Inclement Weather

The issue of natural disasters and inclement weather at sports and entertainment events is a common concern, especially for venues held in open areas such as music festivals or running and endurance events (U.S. DHS, 2011b). Natural disasters are sudden events in nature, such as a flood, tornado, or hurricane that may result in serious damage or loss of life (Natural disasters, 2016). Natural disasters or inclement weather can cause severe disruption to sporting organizations and their events (Schwarz, Hall, et al., 2010). For example, in fall of 2005 Hurricane Katrina caused many professional and collegiate sports program in New Orleans and the Gulf Coast region of the United States to suspend operations after suffering from major destruction to their facilities and community (Schwarz et al., 2010). The financial consequences of these events are also burdensome. It cost an estimated USD 300 million to repair and renovate the Superdome football stadium (home to the NFL's New Orleans Saints) after its use as an emergency evacuation shelter during Katrina (The Guardian, 2015).

The sudden onset of storms or inclement weather can pose a real threat to sport and entertainment venues resulting in mass evacuations. Sport event security management professionals must be able to identify risks associated with the venue and develop plans to address the possibility of inclement weather (Schwarz et al., 2015). In

2015, more than 60,000 concertgoers evacuated from Lollapalooza, Chicago's largest downtown music festival, ahead of inclement weather (Swartz, 2015). After experiencing a similar temporary evacuation in 2012, festival organizers recognized the need to improve their emergency weather plan by training employees on evacuation procedures, designating safe shelter areas, using on-site weather monitoring tools, and collaborating with local public safety departments to determine the appropriate course of action under the threat of severe weather (Swartz 2015). Developing evacuation and shelter-in-place plans to deal with natural disasters and inclement weather can reduce the risk that environmental hazards pose to sport and entertainment venues (Schwarz et al., 2010), however, it is impossible to eliminate environmental hazards.

In August 2011, five people died and dozens injured after the collapse of a concert stage at the Indiana State Fair. The incident occurred when strong winds, estimated by the National Weather Service to be at 60 to 70 mph, tore through metal scaffolding and caused structural failure (Botelho, 2014). According to CNN, authorities had warned the crowd to seek shelter; however, a mandatory evacuation was not issued (Panzar, 2014). Investigations concluded that the stage structure did not meet industry safety standards, nor did the Indiana State Fair Commission have a fully developed emergency plan (Panzar, 2014). In December of 2014, entertainment events company Live Nation and several other defendants, including the state of Indiana, agreed to pay out nearly USD 50 million to settle claims from the tragedy (Botelho, 2014). Emergency incidents resulting from both anticipated and unanticipated severe weather have the potential to cause mass casualties and result in significant structural damage. As such,

natural disasters and inclement weather are a key consideration in developing emergency plans for sports and entertainment events.

Civil Disturbances

According to the FEMA, *civil disturbance* is “a civil unrest activity such as a demonstration, riot, or strike that disrupts a community and requires intervention to maintain public safety” (U.S. DHS, 2016). As stated by Narr, Toliver, Murphy, McFarland, and Ederheimer (2006), civil disturbances and mass demonstrations can cause a variety of subsequent issues such as violence and assault, disorderly conduct, and vandalism. Between 2015 and 2017, several incidents occurred in and around sports venues that required public safety agencies, facility management personnel, and event security teams to work together to anticipate and manage civil disturbances and organized protests. In most cases, civil unrest in the community created a spillover effect that impacted safety and security operations at the event venue. The following civil disturbances made national headlines for disrupting sporting events.

- March 2017, NCAA Tournament — Kentucky fans rioted in the streets after losing to North Carolina in the Elite Eight of the NCAA men’s basketball tournament. College students and fans torched shirts, couches, and televisions causing police and first responders to shut down traffic and extinguish fires (Boone, 2017).
- January 2017, Minnesota Vikings — two protestors scaled up a metal guardrail and continued to climb up a large truss connected to the roof of the stadium to hang a banner that said "Divest #NoDAPL," a reference to the movement against the Dakota Access Pipeline (Stelloh & Medina,

2017). According to William Langenstein, Director of Security and Event Services for U.S. Bank Stadium, the incident prompted an investigation in to how the protesters were able to conceal climbing gear upon entering the stadium and initiated facility design changes that would prevent accessibility to the roof support beams (W. Langenstein, personal communication, June 7, 2017).

- September 2016, Carolina Panthers Game — amid two years of tense protests over United States police killings, demonstrators gathered outside the Carolina Panther’s stadium an hour before kickoff at the second home game of the season, in protest over a fatal shooting by police in Charlotte (Peralta, Douglas, & Harrison, 2016). City officials designated the game as an “extraordinary event” (Peralta et al., 2016), which requires the mobilization of additional police and security forces to control rioting crowds and enforce stricter security codes, including conducting searches of persons around the venue and in nearby parking lots or tailgating areas (Wootson, 2015).
- April 2015, Baltimore Orioles — due to civil unrest and occasional violent protests in the city of Baltimore following the death of an African-American man while in police custody, the Orioles made an unprecedented decision to deny the admittance of spectators to the the final game of their series against the White Sox (Li, 2015).

Sport and special event venues are attractive to protesters who seek media attention for their respective cause (McCarthy & McPhail, 2006). Planning and training

for civil unrest and protesting incidents is necessary considering citizens' First Amendment rights to free speech and peaceful assembly (Narr et al., 2006). Developing response plans that focus on non-aggressive crowd control tactics is important not only to protect civil rights, but also to encourage open communication between the public safety officials and the public (U.S. DOJ, 2007). When protests and demonstrations become violent or threatening, however, law enforcement and aiding security forces must plan and prepare for disruptive activities that present a serious risk to event security and spectator safety (Narr et al., 2006). Developing strategies for managing human resources and equipment is critical to ensure proper crowd control. Establishing command and control requires delineating areas of responsibility and authority, and underscores the need for cooperation and communication among safety and security support teams (U.S. DOJ, 2007). Contingency plans for evacuation procedures are one of the most important components of planning because of the potential for blocked roads, traffic impediment, and barricades on streets and pedestrian walkways (U.S. DOJ, 2007).

Competencies in Risk Management and Emergency Planning

The literature demonstrates that sport event security management professionals must understand the fundamentals of risk management and emergency planning to prepare, prevent, mitigate, and respond to all-hazards incidents. One of the primary responsibilities of supervisory-level positions in this discipline is developing plans and procedures, known as SOPs. These guidelines direct day-to-day operations, as well as coordinated emergency responses (DHS, 2011a). The process of developing SOPs is best accomplished through multi-agency collaboration with local public safety agencies, including law enforcement, fire departments, and emergency medical services and other

parties responsible for incident response (Ammon et al., 2004). Building and maintaining positive relationships with these agencies is an important aspect of the type of teambuilding required to facilitate effective coordinated response efforts (Hall, 2010). According to Daniel DeLorenzi, Vice President of Safety and Security Services for MetLife Stadium, a central aspect of developing SOPs is familiarization with facility operations in order to understand the feasibility and impact of certain actions (personal communication, September 22, 2017). DeLorenzi explained that,

If a fight occurs between two fans in the stadium and an injury occurs, multiple departments would respond to the incident. It is likely that law enforcement officers would deploy first to restore safety, making arrests if necessary.

Followed by emergency medical personnel who would tend to the injuries of the fans involved or other guests effected by the altercation. Custodial services would then be sent to clean up any spills that could lead to other safety issues, and then guest serves representatives, who are responsible for providing quality customer services, would follow-up to offer incentives such as a free t-shirt or meal ticket to compensate for the inconvenience other guests may have experienced as a result of the fighting. (personal communication, September 22, 2017)

Customer service or the concept of the “fan experience” distinguishes sport event security management from traditional safety and security practices. Unlike community policing or industrial security, security management professionals working in the commercial facilities sector represent a company or brand, influenced by traditional business drivers. To create and sustain competitive advantage, policies and procedures

must be constructed and implemented in ways that contribute to a positive guest experience or, at the very least, in ways that do not negatively influence fan enjoyment (Lucas, 2012). Ensuring guests have a safe and enjoyable experience requires training at every staffing level (Hall, 2010). Sennewald (2003) defines training as “An educational, informative, skill-development process that brings about anticipated performance through a change in comprehension and behavior” (p. 97). Supervisory-level security management professionals are responsible for developing or selecting appropriate staff training (NCS4, 2016). Notwithstanding quality guest services, each staff member must understand their role as part of the event safety and security team. It is imperative that staff receive training on emergency response procedures such as evacuation protocols (Hall, 2010).

In addition to staff development, sport and event security-management professionals must make determinations about human resource and equipment requirements needed to accomplish business objectives in safety and security (D. DeLorenzi, personal communication, September 22, 2017). This type of decision-making involves considerations of the organizational roles, structures, and processes in place and entails critical analysis of various complex and dynamic tasks in order to understand the implications of different situations (Stern, 2014). For instance, determining the number of staff members needed to conduct patron screening for guests entering the venue depends on event size, type, and attendance. Consideration is given to the amount of time it takes to screen each patron, the consequences of technical failure or human error (attrition), and average rates of absenteeism (D. DeLorenzi, personal communication, September 22, 2017). This process requires coordination between third-party event

staffing companies and local agencies who may play a role in reducing risk by bringing in additional resources on event days, such as K9 units for bomb detection (DHS, 2011b). Human resource management is inseparable from security management, a discipline that relies predominantly on people to carry out key functions in safety and security (Noe, Hollenbeck, Gerhart, & Wright, 2014). Human resource management is critical to organizational success because human capital (training, experience, judgment, and intelligence) are inseparable from executing business strategies in quality, profitability, and customer service (Noe et al., 2014). Developing a high-performance work system where technology, organizational structures, people, and processes work together for the benefit of organizational advantage in a competitive market (Noe et al., 2014) is essential for sport and entertainment venues. Integrating emerging technologies, such as CCTV surveillance cameras and magnetometers, with security processes and systems enhances detection capabilities and requires trained human resources to monitor and manage these tools in order for the equipment to be effectively utilized (DHS, 2011b).

Leaders in sports security must ensure team members, key subordinates, and key partners are educated and trained in both day-to-day operations and in preparation for crisis situations (Stern, 2014). Although the majority of work performed by security professionals does not involve catastrophic incidents, a significant amount of time and resources go directly toward planning and preparing for emergency scenarios. The method for determining risk focuses on the perceived threat, likelihood of occurrence, and the potential impact or consequence (FEMA, 2013). Therefore, security management professionals prioritize low frequency events with high impact, such as acts of terrorism, which have the potential to cause massive damage and destruction, in emergency

planning (Miller, Veltri, & Gillentine, 2008). By assessing threats, vulnerabilities, and consequences, sport event security management professionals develop emergency action plans for all-hazards incident response (U.S. DHS, 2011b). Once these plans are developed, it is the responsibility of security management professionals to communicate plans and conduct training for event staff, supervisory leaders, and the command group or multi-agency leadership team (Hall, 2010). Hall (2010) recommends sport organizations conduct functional exercises to evaluate and assess plans, and to promote learning and awareness of staff roles and responsibilities.

Effective leadership and communication skills facilitate the risk management process (DHS, 2011a). According to John Kotter (2012), a renowned Professor of Leadership at the Harvard Business School, successful change efforts hinge upon good leadership. To stay at the forefront of an ever-changing security landscape, sport event security management professionals must continuously evaluate their current SOPs and find ways to improve protective measures based on changes in the threat environment. Introducing changes in safety and security policies and procedures can be challenging. Take for instance the NFL's "clear bag" policy, which all NFL venues implemented in 2015. According to the NFL (2015), the policy intends to "provide a safer environment for the public and significantly expedite fan entry into stadiums" (para. 1). Prior to implementing the clear bag policy, the NFL launched a marketing campaign to promote awareness among fans and ticket holders. In 2017, the Southeastern Conference started requiring clear bags at all football games and is the first NCAA affiliated collegiate division to do so (SEC, 2017). Although some backlash to the policy change was reported in the media (Steele, 2013), sport organizations have been relatively successful

in creating a sense of urgency for policy change, communicating with the public for buy-in, and institutionalizing the new approach (Kotter, 2012). Strong leadership is instrumental in implementing new initiatives of any kind, whether internal or external to an organization. Understanding the dynamics of change, finding ways to remove barriers, and motivating employees to buy-in to the change vision clearly (Kotter, 2012) is facilitated by sport event security management professionals who recognize the inherent risks posed against sport and entertainment events.

Communication is the unifying thread woven throughout the entire risk management process. According to DHS (2010), risk communication is understood as “the exchange of information with the goal of improving risk understanding, affecting risk perception, and/or equipping people or groups to take appropriate actions in response to an identified risk” (p. 29). The method and mode for communicating risk depends on the circumstances. As stated by DHS (2011a), “Incident, or crisis communications take place under different conditions than standard communications” (p. 27). Developing a Communications Plan is key element for establishing a command structure and maintaining a common operating procedure during emergency incidents in both the National Response Framework (NRF) and the National Incident Management System (NIMS; DHS, 2011a). Scholarly literature in the field of crisis communication indicates that, in terms of interpersonal dynamics, crisis communication is a visible demonstration of leadership within command operation centers (Garnett & Kouzmin, 2007). A typical scenario illustrating the interpersonal perspective would involve the security manager or director interacting with a myriad of advisors, including law enforcement and fire chiefs, emergency medical services, media consultants, technical specialists (HVAC, chemical

specialists, etc.) and others depending on the type of incident at hand. The communication goals during a crisis incident are to direct and coordinate actions through clear and concise instructions, inform decision makers, and set the tone for handling the crisis (Garnett & Kouzmin, 2007).

Defining the Sport and Event Security Management Workforce

The security management discipline for the commercial facilities sector rapidly evolved and expanded due to substantial changes in the threat environment. Since the terrorist attacks of September 11, 2001, the U.S. government has invested considerable resources in counterterrorism efforts, including developing emergency plans for catastrophic man-made and natural disasters, accidents, and other hazards (National Strategy for Homeland Security, 2007). The renewed focus on disaster planning and emergency preparedness has effectively required the development of new training and academic programs in Homeland Security. According to Stuart and Vocino (2013), the field of Homeland Security is broad and varied, which “can be challenging for academic institutions when it comes to curriculum development” (p. 15). Homeland Security is comprised of multiple career fields including, but not limited to Information Security, Law Enforcement, Emergency Management, Infrastructure Protection, Business Continuity, Intelligence Analysis, and Physical Security (Stuart & Vocino, 2013).

Similar to Homeland Security, sport event security management is a multi-disciplinary field comprised of members of the command group (Hall, Cooper, Marciani, & Cieslak, 2014). The framework for the command group derives from FEMA’s Incident Command System (ICS), which is “a core organizational structure in emergency management that reflects the complexity and demands of incident response and

coordination across multiple jurisdictions” (ICS Glossary, 2008, p. 6). Senior-level command staff members, who report directly to the Incident Commander, consist of the Information Officer, Safety Officer, and Liaison Officer. Figure 2 illustrates the ICS staffing structure. The Section level involves other key personnel responsible for safety and security operations, including facility management, law enforcement, emergency management, HAZMAT, and emergency medical services (Hall et al., 2014).

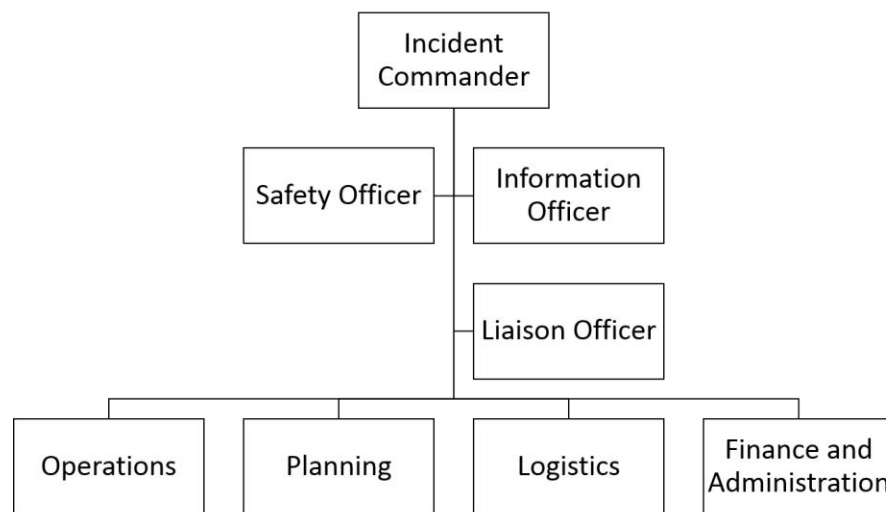


Figure 2. The ICS Unified Command Organization. Adapted from FEMA IS-100.b – Intro to Incident Command System (ICS 100) published by FEMA, 2013, Department of Homeland Security. This illustration is in the public domain.

The ICS command group and their external partners, local fire departments or law enforcement agencies for instance, are responsible for incident management, security planning and operations, training initiatives, risk assessments, and conducting exercises (Hall et al., 2012). The ICS command group provides direction for future actions pertaining to venue and event safety and security. It is crucial that each member of the command group is qualified to hold their respective position. Although each position

involves different competences germane to specific job responsibilities, each member of the command group must understand key concepts and processes to facilitate a cohesive operation. These common or “base” competencies include risk, threat, and vulnerability assessment methodologies (Hall, 2010); crisis management and crisis leadership competencies (Cunningham, 2007; Miller, 2012), life safety measures to prevent harmful occurrences, reduce injuries or loss of life and mitigate damage to property (Hall, 2006), and effective emergency management and incident response techniques (Hall, 2010).

Training in Sport and Event Security Management

The principles of security management require an all-hazards approach and effective collaboration of many individuals, government agencies, and private enterprises (Hall et al., 2008). Although, little is mentioned about the role of human capital in ensuring that safety and security measures are implemented by qualified personnel; notwithstanding DHS recommendations to conduct security training and exercises with fulltime and part time employees, law enforcement, contractors, and volunteers (U.S. DHS, 2011b). Literature suggests that to achieve effective security, long-term safety and security training programs must be developed for the diverse levels of venue leadership (Hall et al., 2008; Hall, 2010; Wei, Lee, & Groves, 2015). Many times, individuals hired into sport event security management have had training from the military, law enforcement agencies, fire departments, etc. (Wei et al., 2015). Having received extensive training in their professions, these individuals are adequately prepared to deal with many types of emergencies. However, skills and implementation procedures are unique and essential to the security management discipline (Pantera et al., 2003).

The lack of academic research addressing core competencies in the field of security management in the commercial facilities sector is surprising, if not unsettling, considering the popularity and scope of the sports and entertainment industry, as well as the amount of risk sport organizations and venues assume in hosting major spectator events. Despite a gap in literature, the U.S. government has made substantial investments in DHS and FEMA training curriculums aimed at enhancing emergency preparedness, crisis readiness, incident management, and risk and threat assessment capabilities (Appendix A). These training courses are task-oriented and focus on establishing SOPs through a common language (vocabulary) with shared or transferable concepts, principles, and systems. Several major U.S. sport organizations (NFL, NBA, MLB, NHL, MLS, and NCAA) have taken steps toward self-regulation by developing standard security requirements, guidelines, and best practices to assist venue operators and emergency managers in all-hazard planning efforts (Hall et al., 2010). Planning options established by the aforementioned sport associations (sanctioning bodies) include mostly physical protections such as perimeter control, prohibited items, and screening procedures (people and property), although guidelines for event personnel training, public safety coordination, and public relations were mentioned (Hall et al., 2010). Notwithstanding, these guidelines primarily focus on actionable practices to help avert disasters. Hence, contemporary literature does not specifically address or mention the competencies required to effectively carryout such actions.

The rapid growth and professionalization of the security management discipline led to some discussion about the ability of learning programs to address the needs of the field. Traditionally, the majority of current training in security management is agency-

specific and delivered to individuals (Hall et al., 2012). Much debate has occurred over whether agency-based programs actually develop worker knowledge, skill, and ability—or if the programs merely facilitate job placement. Despite the vast differences in curricula, employer training may provide some opportunities for individuals to acquire training at little or no cost. In a trend analysis of on the job-the-job training, authors Black, Noel, and Wang (1999) find that large establishments tend to provide more formal training (course curricula) for their skilled workers. Small firms, on the other hand, typically use informal methods of training using coworkers (coaching/shadowing/on-the-job training) to develop their human capital (Black et al., 1999). The most significant factor in determining the training delivery style was firm size and firm earnings (Black et al., 1999). This research supports the assumption that significant variation exists in human capital development strategies in employer-based training initiatives for the security management workforce.

Theoretical Framework

This study will identify core competencies for security management professionals in the commercial facilities sector. The study draws upon the theoretical foundations of human capital development (Becker, 1962, 1993) and human resource development (Chalofsky, 1992; Swanson, 1995) as they relate to performance improvement in the security management workforce. Organizational theory supports a wide array of human capital development concepts that lend to performance improvement. This study focuses on performance improvement methods in individual-level competency building for the purpose of reducing risk and enhancing preparedness.

Foundations of Human Capital Development

Understanding the role of human capital development (HCD) in achieving the strategic goals of PPD-21 requires knowledge of the theoretical foundations of HRD and performance improvement. According to Becker (1962, 1993), the most important investment in human capital is education. Human capital theory contends that the knowledge, skill, and ability an individual acquires through education improve workforce productivity (Becker, 1993). Human capital, therefore, is a form of investment with the potential to enhance organizational efficiency when strategically applied through different levels of training and education (Becker, 1962, 1993). Becker (1993) specifies, “Investment in education and training are the most important human capital investments” (p. 17). In Becker’s (1993) view, training and education provide the means for improving the future performance of the workforce by effectively transcending the boundaries of the “personal” to advance the goals and objectives of the organization. There is a strong connection between human capital theory and workforce development as improvements that yield individual benefit with the potential to increase organizational efficiency and produce economic value (Becker, 1993).

Human capital theory forecasts that security management professionals who possess higher levels of knowledge and skill will increase organizational effectiveness by performing at higher levels than those who possess lower performance levels. The current operating environment in sports safety and security demands a more integrated approach to human capital investment. In an ever-changing threat environment, it is no longer sufficient to rely on minimum education and experience requirements; training and development should be ongoing (Hall et al., 2012). Since organizational

effectiveness is largely contingent on individual performance levels, it becomes advantageous for organizations to develop human expertise (Swanson & Holton, 2008). Examining sport event security management professionals as a homogeneous workforce, this study utilizes Becker's (1993) framework for training and education which provides the means for sport organizations to successfully carry out organizational goals in safety and security, and mitigate inherent risks posed to spectator sport venues and events.

Building upon human capital theory (Becker, 1962, 1993), HRD (Swanson, 2001) as a discipline facilitates the process of creating and using expert knowledge to improve workforce performance. Swanson (2001) contends that organizational development (OD) and T&D are the two foundational elements that contribute to the practical application of HRD. Explained by Swanson and Holton (2009), HRD is a theoretic framework for OD based on human performance models and learning systems. HRD involves organizational designs that specifically offer training and development for human resources (Swanson & Holton, 2009). According to Kraiger (2003), T&D refers to systematic processes of an organization directed towards changes in the knowledge, skill, and ability of individuals. Swanson (2009) posits that within the two elements of HRD, T&D *develops* human expertise, and organization development *unleashes* human expertise. According to the Association for Talent Development (ATD), organizational investment in human capital is on the rise. In a report released by ATD, U.S. organizations spent USD 167 billion on employee learning and development in 2014 (ATD, 2015). This data suggests that organizations value human capital and view it as a means to increase productivity in the workforce.

Human Resource Development

The theoretical foundations of human capital theory (Becker, 1993) and the realms of practice that define HCD (Swanson, 2001) contribute to the facilitation of HRD. Richard Swanson (1995) popularized the concept of HRD as a three-legged stool, grounded in ethics and supported by economic theory, systems theory and psychological theory. The security management profession relies on human resources to carry out organizational objectives. Therefore, human resources must be effectively developed and strategically utilized in order to achieve organizational goals (Swanson, 2001). Swanson (2008) describes how organizations can optimize workforce performance by unleashing the expertise of their leaders. Utilizing expertise developed through investments in human capital improve the cognitive abilities of individuals, creates value by enabling individuals to meet or exceed performance standards to improve organizational outcomes (Becker, 1993). Thus, sport organizations should have a stake in effectively developing expertise to optimize human performance and accomplish safety and security goals (Hall et al., 2009).

Traditionally, the HRD profession involves training and learning systems (Swanson & Torracco, 1995). Gagne (1962) was first to popularize the principles of learning appropriate for improving skill acquisition and knowledge retention (Swanson, 1995; Kraiger, 2003). The quintessential component in Gagne's (1962) model is the needs assessment, which aligns training to strategic HRD (SHRD) objectives. According to Tharenou, Saks, and Moore (2007), for SHRD to be effective, training should impart new knowledge and skills based upon individual and organizational needs, and effectively managed and delivered. As stated differently by Swanson and Arnold (1996),

SHRD functions as a subsystem within the context of a larger organizational system. Neglecting to align organizational systems and processes with strategic organizational goals has long-term implications for training effectiveness (Kozlowski & Salas, 1997). Therefore, individual change occurs within the context of a greater organizational system (Swanson, 1999). Developing competencies for supervisory-level security management professionals will provide the sports and entertainment events industry with both cognitive and behavioral performance standards to assist organizations in developing effective education and training that is congruent with organizational strategies in safety and security.

Aligning HRD to organizational goals and strategies is critical in developing human expertise (Kozlowski & Salas, 1997). Sport and entertainment venue management, like most disciplines, is responsive to traditional business drivers such as organizational values, profit margins, and resource scarcity. However, the security workforce supporting venue operations is sensitive to changes in the threat environment sometimes brought about by exogenous factors. For instance, in 2015 the Baltimore Orioles cancelled a home game against the Boston Red Sox when civil unrest, spawning from a nationwide political protest, caused a mass disturbance at Oriole Park (Chicago Tribune, 2015). Despite cancelling the game, the security workforce remained on duty managing rioting crowds outside the venue and protecting the building from vandalism and destruction. These types of periodic incidents require the deployment of trained human resources. These events serve as a learning tool to evaluate and refocus HRD to meet (unexpected) organizational needs (Hutchins & Wang, 2008). The amendable nature of HRD allows organizations to assess learning and performance results and

determine if the cognitive and behavioral abilities of their workforce are functioning congruently with organizational strategies (Swanson, 2009).

Performance Improvement Theory

The appropriate goal of HRD as a core business function is to improve performance (Swanson, 1995). Literature offers many definitions and interpretations of the concept of performance improvement. To perform is “to do an action or activity that usually requires training or skill” (Perform, 2016). This definition is appropriate for the study as T&D is a core component of applying HRD in the field of security management (Swanson, 1995; Hall, 2010). Training is “an educational, informative, skill-development process that brings about anticipated performance through a change in comprehension and behavior” (Sennewald, 2003, p. 97). Improving cognitive ability through training helps develop self-efficacy and promotes skill acquisition, which enhances learning outcomes and performance (Salas & Canon-Bowers, 2001). Performance improvement is a strategic HRD activity to which competency frameworks can be applied (Van Tiem et al., 2012). Identifying deficiencies in performance by assessing and evaluating individual performance against performance standards allows HRD practitioners to design and implement development activities to ameliorate gaps in performance (Dainty, Cheng, & Moore, 2003).

Presently, no universal agreement on the theory of performance improvement is present in the literature though many experts in the field of performance improvement and performance technology contribute different definitions in attempt to conceptualize the discipline (Van Tiem et al., 2012). Von Bertalanffy’s *General Systems Theory* (1968) provides a foundational view of the practice and discipline of improving human and

organizational performance (Watkins & Leigh, 2010). General systems theory provides a basic logic model of inputs, processes, outputs, and evaluation (Swanson, 1999). It emphasizes achieving desired outcomes by different means or trajectories, and that systems are open entities that are constantly changing (Swanson, 1999; Watkins & Leigh, 2010). Each organization operates in a dynamic context. Therefore, it is essential to give attention to the critical factors that influence organizational structure and strategy (Swanson, 1999).

The concept of performance can be viewed or measured at three levels—organizational, process, and individual (Rummler & Brache, 1995; Swanson, 1994). This three-tiered perspective connects individual performance drivers, such as training, to work processes and organizational goals and strategies (Swanson, 1999). Considering the dynamics of performance positions HRD to work systematically as a major business process within the environment in which it functions (Swanson, 1995). The expectation is that performance improvement efforts (inputs) will logically culminate in positive gains (outputs) in performance for the host organization (Swanson & Holton, 2009). The systems model of HRD (Figure 3) illustrates the phases of performance improvement. The model illustrates the integration of HRD within an organizational system and provides a logical framework for the concept of performance improvement to be understood (Swanson & Holton, 2009). Although there is no universal agreement on the unifying theory or multiple theories that underpin performance improvement as a discipline (Swanson, 1999), literature consistently refers to general systems theory as a core component of performance improvement in HRD (Rummler & Brache, 1995; Watkins & Leigh, 2010; Van Tiem et al., 2012).

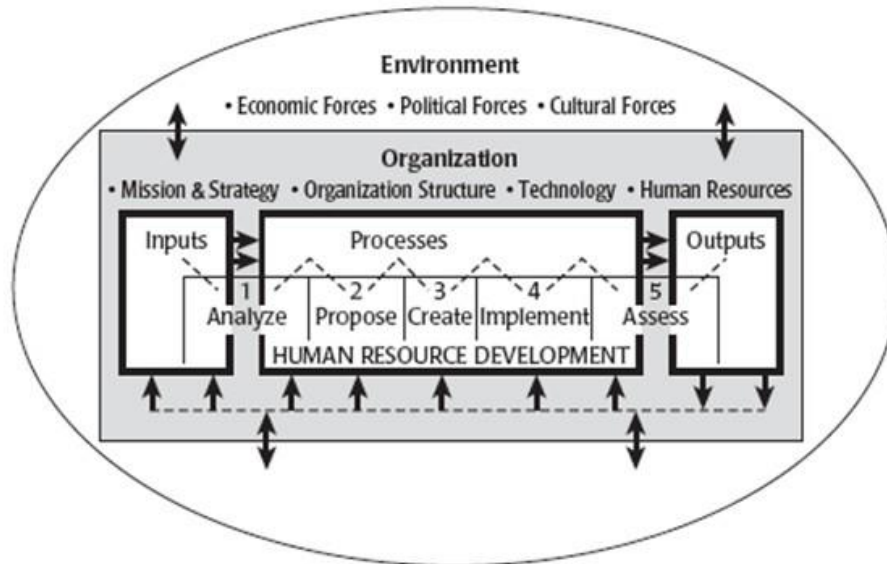


Figure 3. HRD in the Context of Organization and Environment. Adapted from “The Foundations of Human Resource Development,” by Swanson & Holton, 2009, p. 20. Copyright© Berrett-Koehler Publishers, Inc., San Francisco, CA. All rights reserved. Reprinted with permission (Appendix B).

Organizational Theory

Organizational scholars tend to emphasize either a micro or macro perspective of organizational systems (Kozlowski & Klein, 2000). The macro perspective is rooted in sociology and assumes there is limited variation in the behavior of an aggregate group of individuals given a particular set of situational constraints and demographics (Kozlowski & Klein, 2000). Whereas, the micro perspective assumes that meaningful differences exist in individual behavior that affect organizational behavior (Kozlowski & Klein, 2000). The Society for Human Resources Management (SHRM; 2008) suggest that the foundations of HRD and performance improvement theory provide a linkage between the processes that lead to knowledge acquisition and the transfer of skill to organizational development (OD). While there are variations regarding the definition of OD, the basic principle of organization development is to enhance organizational effectiveness through

planned interventions designed to promote and sustain organizational success (SHRM, 2008).

Organizational theory research emphasizes the linkage between individual learning and organizational systems (Kozlowski & Salas, 1997). The body of literature generated over the past few decades suggests that competency-based training is an effective method for achieving improved organizational performance (Gangani, McLean, & Braden, 2006). According to Poell, Chivers, Van der Krogt, and Wildemeersch (2000), employees must continuously adapt to new work requirements by gaining necessary qualifications through training throughout their careers. Tharenou, Saks, and Moore (2007) explain that the ability to develop adaptive expertise through training has become increasingly important to organizational performance. From a human resources perspective, many opportunities can improve individual performance by linking HRD to the goals and strategies of the organization; although training may only be part of a broader subset of HRD interventions implemented to foster organizational growth and development (Swanson & Arnold, 1996). According to Kraiger (2003), successful organizations perceive the role of training and development as a valuable asset that improves their capacity to change. Moreover, “essential for the advancement of OD is a workplace environment that promotes learning” (SHRM, 2008, p. 5). Thus, delivering training and promoting individual learning by investing in human capital contributes to organizational performance goals (Poell et al., 2000).

Understanding Competencies and Competency Modeling

David McClelland (1973) was the first to recognize and explore the human trait that he called *competence*. In his paper, *Testing for Competence Rather than*

Intelligence, McClelland questioned the reliability of traditional aptitude tests as a predictor of job success (McClelland, 1973). McClelland argued that underlying personnel characteristics or competencies were a more accurate predictor of a successful job performance. McClelland's findings provided a logical argument against assuming that traditional intelligence tests alone are sufficient in measuring individual performance (Chouhan & Srivastava, 2014). Since his study, both academic institutions (primary, secondary, and higher education) and organizations use competency-based methods to identify high-performing people or employees (Boyatzis, 1982; Lawler 1994; Spencer & Spencer, 1993; Ulrich, 1997). Richard Boyatzis, in his book *The Competent Manager*, defines competency broadly as “an underlying characteristic of an individual that is casually related to superior performance in a job” (Boyatzis, 1982, p. 21). Spencer and Spencer (1993), who furthered Boyatzis' original work define competency as “an underlying characteristic of an individual that is causally related to criterion referenced effective and/or superior performance in a job or situation” (Spencer, 1993, p. 9).

A competency-based approach offers many advantages over traditional systems for establishing qualification standards and identifying individuals or applicants who meet those standards (Rodriguez, Patel, Bright, Gregory, & Gowing, 2002). Using competencies as the basis for recruitment, selection, and development strategies provides the flexibility needed to assign individuals to roles where they can best serve the organization (Rodriguez et al., 2002). Unlike traditional, function-based qualification systems, which measure performance against predetermined minimum occupational standards, competency-based systems focus on key behavioral competencies that support superior levels of performance (Dainty et al., 2003). According to ASIS (2013), “A

competency-based approach to training program selection or development can be highly effective because competency-based training programs are designed to yield specific behavioral outcomes that support successful job performance” (p. 12). Therefore, displaying competency is less about complying with minimum functional standards and, instead, relates more to generic underlying behavioral characteristics that support effective job performance (Mansfield, 1999). Identifying and defining those essential personal traits, skills, knowledge, and behaviors varies depending upon the context of the competency model and the actions required for superior performance (Dainty et al., 2003).

Applications of Competency Modeling

Sport and entertainment organizations are tasked with the challenges of ensuring that their security workforce has the requisite competencies to perform their jobs proficiently and equipping workers with new knowledge and skills that reflect changes in the industry or setting (due to heightened levels of national security for instance). Different industries take different approaches to delivering this type of education. According to Huselid, Becker, and Beatty (2005), workforce management provides upward mobility for organizational growth because SHRD encompasses the most important aspects of improved organizational performance. In their book *The Workforce Score Card*, the authors describe the following four dimensions of an effective business strategy: workforce success, leadership behaviors, competencies, and culture. In developing a workforce development strategy based upon human agency, an organization must define its important characteristics and leverage their "strategic value" or competitive advantage to the whole organization (Huselid et al., 2005). The organization must identify what

characteristics the organization should have and determine specific measures for success in what the authors' term, a "workforce score card" (Huselid et al., 2005). The scorecard measures organizational perceptions of the characteristics that differentiate it strategically from competitors and identifies areas of success, as well as, opportunities for improvement (Huselid et al., 2005).

Competencies are one important part of the workforce scorecard. As stated by Ruyle and Orr (2011), "Competencies provide a clear and consistent vocabulary for HRD programs and the messages that inform and engage key stakeholders" (p. 22). Many organizations use competency models to map out the primary knowledge, skills, and abilities (KSAs) required to perform a job successfully by either using commonly available models or by generating models for a specific role. To date, there has been little research surrounding competency standards in security management despite increased focus on and funding for emergency preparedness training programs for the commercial facilities sector. Notwithstanding basic training concepts proposed by Hall et al. (2012) which broadly include effective communication, risk assessment, planning and response, and recovery principles.

Competency modeling is useful in the training development process because it involves a continual process of balancing current conditions with future needs (Mansfield, 1996). Competency models are developed and applied in many ways within multi-disciplinary professions like sport event security management. However, the way in which each organization utilizes competency modeling depends upon the intended purpose and scope. Mansfield (1996) identified some of the most common uses of competency models: (a) change management; (b) succession planning; (c) recruitment

and selection; (d) learning and development; (e) performance management; (f) individual development planning, and; (g) creating a competitive advantage. Using each application in conjunction with another reinforces new skills and behaviors (Mansfield, 1996). However, there should be a strategic approach to implementation based upon organizational needs, individual capabilities, and bottom-line results (Huselid et al., 2005).

In the book, *Transforming the U.S. Workforce Development System*, authors Finegold, Gatta, Salzman, and Schurman (2010) present numerous case studies on the past, present, and future needs of the U.S. workforce development system. Their analysis considers a myriad of 21st century worker competencies that are in high demand in the globalized U.S. economy. New competencies, along with a growing demand for specialized expertise, require quality education and training to meet the needs of today's knowledge-based economy (Finegold et al., 2010). In other words, a workforce development policy aligning individual competencies with current and future business needs to support organizational productivity and efficiently is essential for the United States to compete in the 21st century. The authors determine that critical thinking; analytic skills; communication; capacity for change; financial literacy; cross-cultural fluency; and emotional intelligence, among others are the most highly valued competencies of the new millennia (Finegold et al., 2010).

Kaye, Cohen, and Crowell (2011) similarly assert that to remain competitive in business and retain top talent, organizations must provide the systems and structures that support career development needs across all levels. Designating pathways for career development and performance improvement through personal development plans,

training and education, certification programming and other performance based initiatives creates a ripe environment for success by challenging employees to reach their full potential (Kaye et al., 2011). To be effective, security management professionals must manage their own careers by pursuing available learning opportunities, creating partnerships, changing old habits, and planning for their future (Kaye et al., 2011). However, this requires that supporting organizations design strategies and make use of flexible learning tools that allow employees to pursue educational opportunities while still earning a living wage (Finegold et al., 2010).

Competency-Based Studies in Sport Event Security Management

Security management is an emerging profession in which little is known about the capabilities possessed by the professionals charged with providing safety and security at sports and special events (Miller, 2012). Cunningham (2007) was first to investigate security management and crisis management competencies for intercollegiate athletics sports safety and security. Cunningham's (2007) research focused on the concept of crisis management for security managers of Division I collegiate athletic programs. Specifically, his study focused on competencies related to crisis prevention, preparation, response, recovery, and learning and improvement. Cunningham (2007) created the Capabilities in Athletic Security Management (CASM) to measure perceived competency levels in the following topical areas: (a) Emergency Evacuation Planning, (b) Agency Collaboration, (c) Spectator Control, (d) Policies and Procedures, (e) Liability, (f) Emergency/Crisis Management, (g) Credential Control, and (h) Perimeter Control. Prior to this study, no research specifically addressed competencies for security managers working at sports stadiums and arenas.

Miller (2012) built upon previous research in crisis leadership and examined competencies among security executives working at commercial sport and entertainment venues, which host professional sports teams (NBA, NFL, NHL, MLB, MLS, and NASCAR) and other high-profile events such as concerts, music festivals, championship bowl games (NCAA), WWE entertainment, X-games, and other special events. Miller's (2012) study expanded the CASM model developed by Cunningham (2007) with the addition of dependent variables that represent *crisis leadership* competencies. The combination of crisis management and crisis leadership competencies resulted in the development of a new instrument called the Crisis Readiness Score (CRS). The work of Cunningham (2007) and Miller (2012) established a foundation for competency development in the field of security management; however, their focus on crisis management and crisis leadership omits other critical aspects of the jobs performed by current security management professionals in the commercial facilities sector.

Another relevant study towards the development of competencies in security management is a job analysis commissioned by the National Center for Spectator Sport Safety and Security (NCS4) at the University of Southern Mississippi. The Job Analysis Report authored by Becton (2013a), identified a comprehensive list of work behaviors performed by security management professionals and established linkages to identify the level of KSAs required of job incumbents. The outcome of the Job Analysis methodology in the study of the security professionals working in the sports and entertainment industry produced six job content domains (Table 1). Two of the content domains identified by Becton (2013a), Emergency Management and Crowd Management, correspond with the aforementioned competency studies, although

differences exist in the dependent variables or sub-components of the constructs. The job analysis is useful in conceptualizing competency domains omitted in earlier research on competencies in security management. However, Becton’s (2013b) study does not treat the security management professional as a multi-faceted role. Identifying core competencies for the security management workforce in the commercial facilities sector requires a multi-disciplinary approach.

Table 1

Job Content Domains for Sport Security Professionals

Resulting KSA Dimensions	Dimension Weight
Business and Facility Management	13%
Emergency Planning	13%
Emergency Management	21%
Legal and Regulatory	18%
Crowd Management	19%
Security Practices and Principles	16%

Note. KSA = Knowledge, skills, and abilities. Dimension weights for each content domain reflect the percentage of test items on the certification examination that support the specified knowledge area, which was calculated based on level of importance and frequency ratings. Adapted from “Technical Report: Sport Security Professional Certification Exam,” by B. Becton, 2013b, p. 57. Reprinted with permission. (Appendix C).

Differences in Competency Modeling and Job Analysis

Many researchers have argued subtle differences in competency modeling and job analyses. According to Sanchez and Levine (2009), one of main points of difference is the purpose which is either to *describe* or to *influence behavior*. The purpose of a competency model is to influence performance in alignment with organizational goals and strategies, whereas a job analysis is concerned primarily with defining the nature of work assignments (Sanchez & Levine, 2009). In this regard, competency modeling acts

as a strategic performance driver (Becker, Huselid, & Ulrich, 2001). Table 2 illustrates the differences between traditional job analysis and competency modeling.

Table 2

A comparison of traditional job analysis and competency modeling

Dimension	Traditional job analysis	Competency Modeling
Purpose	Describe behavior	Influence behavior
View of job	An external object to be described	A role to be enacted
Focus	Job	Organization
Time orientation	Past	Future
Performance level	Typical	Maximum
Measurement approach	Latent trait	Critical judgment

Note. Adapted from “What is (or should be) the difference between competency modeling and traditional job analysis?,” by J. Sanchez & E. Levine, 2008, *Human Resource Management Review*, 19(2), p. 54. Copyright 2008 by Elsevier. Reprinted with permission (Appendix D).

According to Rodriguez et al. (2002), one of the main benefits of competency modeling is the ability to differentiate exemplary performance to meet existing and future needs. Rather than describing job duties and performance requirements, competency modeling focuses on dynamic capabilities that facilitate growth and change. As stated differently in a research report published by Workitect Inc. (2011), job competency models identify personal characteristics, in terms of KSAs and job behaviors that cause or predict superior job performance. Competency models also distinguish between various levels and types of competencies to establish target performance standards (Workitect, 2011). Instead of focusing on a set of narrowly defined tasks based on job requirements, competency models provide insight into core competencies that are common to multiple jobs within an organization (Rodriguez et al., 2002). Additionally, tasked-based job

analyses are unable to capture the changing nature of work, whereas competency models are better able to address this issue (Sackett & Laczko, 2003).

In addition to conveying the idea of superior job performance, competency models integrate with a myriad of human resource development strategies aimed at improving performance. According to Gangani et al. (2006), competency-based practices articulate a framework by which organizations align strategic objectives with key HR business processes. Additionally, competency models provide insight into core competencies that are common to multiple jobs within an organization (Rodriguez et al., 2002). One of the benefits of a competence-based performance management system is that competency models align with organizational goals and strategies in a way that a traditional job analysis does not. Developing competency models at an organizational level takes into account organizational objectives, as well as vision, mission, and strategies, and attempts to identify core competencies that apply to multiple jobs within an organization (Lawler, 1994). This “one size fits all” approach can be applied within a broader industry setting to carry out the strategic objectives of a governing body (Workitect, 2011), such as those directives outlined in PPD-21 for Critical Infrastructure Security and Resilience.

Competencies provide the foundation through which HRD and applied HR systems can contribute to the success of an organization (Rodriguez et al., 2002). By applying competency methods systematically through SHRD, organizations may be able to improve human resource performance, developmental planning processes, and deploy its human capital more effectively (Gangani et al., 2004). Competencies provide a basis to identify performance gaps. Unlike a traditional job analysis, competency models focus

less job descriptions and work tasks that do not correspond with employee performance (Campion et al., 2011). Instead, job competency models are future-oriented and aligned with organizational performance goals, which drives organizational change by distinguishing high and low performers (Lucia & Lesinger, 2002).

Competencies for the Current Security Management Workforce

Competence studies are one of the most important research areas used in determining the KSAs associated with superior or effective job performance (Boyatzis, 1982). The main purpose of identifying competencies through research is to propose qualifications within a profession and develop training for job incumbents to increase performance (Gangani et al., 2006). Competency frameworks align with the strategic objectives of an organization and with other key HR business processes (Mansfield, 1996). This study proposes seven competency groups based on the review of literature using a “one size fits all” model for the research population of current sport and event security management professionals. The “one size fits all” approach to competency modeling defines one set of competencies for a broad range of jobs by gathering data from available individual models and relevant literature (Chouhan & Srivastava, 2014). Since the supervisory-level security management workforce in the commercial facilities sector is comprised of professionals with various experience and special expertise, a “one size fits all” may provide consistent competency terminology for the profession. The following competency categories are identified in the literature:

1. Risk Management (ASIS, 2003; U.S. DHS, 2011b)
2. Emergency Planning (U.S. DOJ, 2007; U.S. DHS, 2011a)

3. Problem Solving and Decision Making (ASIS Foundation, 2013; U.S. DHS, 2011a)
4. Leadership (U.S. DHS, 2011a; U.S. DOJ, 2007)
5. Communication (ASIS Foundation, 2013; Garnett & Kouzmin, 2007; U.S. DHS, 2010)
6. Building Collaborative Relationships (Hall, 2010)
7. Human Resources Management (Noe et al., 2014; Stern, 2014)

The literature demonstrates that sport and event security management professionals must understand the fundamentals of risk management and emergency planning to prepare, prevent, mitigate, and respond to all-hazards incidents. Managing risk involves the use and expansion of individual competencies to handle uncertainties (Grote, 2007). Developing emergency plans and procedures to minimize risk and address all-hazards preparedness is one of the most important aspects of security management for sports and special events (Hall, Cooper et al., 2012). Problem solving and decision making are inherently part of the risk assessment process (U.S. DHS, 2011), as security-management professionals must evaluate vulnerabilities and make determinations about risk reduction, avoidance, acceptance, and transfer (Schwarz et al., 2015).

Effective leadership and communication skills facilitate the risk management process (DHS, 2011a). The research findings by Cunningham (2007) and Miller (2012) each identify leadership, communication, and crisis leadership as important competency areas for effective sport security professionals. Huchins and Wang (2008) further explore the competencies for crisis management and crisis communications in organizational disaster preparedness. Hall (2010) emphasizes the importance of building collaborative

relationships for the purpose of multi-agency collaboration and coordination in emergency planning and response for sports and special events. In addition, multiagency coordination and communication are proposed core curriculum objectives for security management professionals (U.S. DOJ, 2007). Human resource management competencies are inseparable from executing key business functions in safety and security (Noe et al., 2014). Sport and event security management professionals must make determinations about staffing, training, and development (D. DeLorenzi, personal communication, September 22, 2017). Ensuring team members, key subordinates, and key partners are educated and trained in both day-to-day operations and in preparation for crisis situations is of critical importance (Stern, 2014).

Summary

As the security management discipline matures and formalizes, it is critical for supervisory-level professionals in the commercial facilities sector to have the requisite competencies to effectively manage and mitigate risks to ensure the ongoing protection of sport and entertainment venues and events. The U.S. DHS has invested millions of dollars in the development of training programs designed to address emergency planning and risk assessment, management, and response procedures to enhance domestic preparedness. The potential for civil liability litigation against an organization and its key security management personnel reinforces the moral and ethical obligations sport and entertainment event operators and key stakeholders have to protect people, property, and critical infrastructure to the greatest extent possible. By identifying core competencies specifically for supervisory-level security management professionals, the U.S.

government, sport leagues, and organizations will be better equipped to make decisions about HRD strategies to improve individual and organizational performance.

Human resource development processes facilitate performance improvement by developing human expertise (Swanson, 1995). Through the development of expertise, organizations can leverage human capital to achieve their goals (Swanson & Holton, 2009). Supervisory-level security management professionals play a vital role in homeland security and, therefore, must be competent in managing risks and developing effective strategies to secure their venues and events (PPD-21, 2013). Identifying and validating the appropriate competencies for individuals charged with the responsibility of safeguarding spectator sports and events reinforces the strategic objectives of PPD-21 and supports organizations in achieving goals in safety and security. The next chapter discusses the research methodology used to accomplish the study objectives.

CHAPTER III – RESEARCH DESIGN AND METHODOLOGY

The purpose of this study is to identify core competencies for supervisory-level security management professionals working in the commercial facilities sector who are tasked with helping to detect, deter, prevent, and respond to potential risks and threats at sport and entertainment venues. Identifying core competencies for the security management workforce provides organizations in the sports and entertainment industry, as well as the government agencies that support the commercial facilities sector (including U.S. DHS), with information about the requisite competencies needed to perform key risk management and emergency preparedness functions successfully (Hall et al., 2010). Utilizing a set of research-based core competencies through SHRD can increase individual and organizational capabilities and minimize consequences resulting from actual and perceived risks and threats (Hutchens & Wang, 2008). Identifying the requisite knowledge, skill, and ability to execute key risk management functions is a critical component in qualifying, training, and developing the security management workforce. Chapter III describes the research methodology for this study. Included in this chapter are the introduction, research design, participant population, instrumentation, data collection, and data analyses procedures.

Research Design

The present study is exploratory and non-experimental. In exploratory designs, the researcher solicits input from participants to build understanding about a subject (Creswell, 2009). The current study uses a qualitative research design employing the Delphi technique. The qualitative research process seeks to discover, explore, and describe a phenomenon (Creswell, 2009). The researcher explores new concepts and

emerging themes through a series of structured questionnaires eliciting information from key security management professionals representing the commercial facilities sector who possess the necessary expertise to address the research problem. The Delphi process allows experts to propose or recommend related competencies and evaluate the validity of competencies (Sandrey & Bulger, 2008). Through a multi-stage, iterative process, the researcher gathers qualitative and quantitative data to identify essential competencies supervisory-level security management professionals must possess to perform their jobs effectively.

The Delphi Technique

The Delphi technique is a group facilitation process that seeks to obtain consensus through the elicitation of opinions from respondents within their domain of expertise (Hasson, Keeney, & McKenna, 2000). Originally developed by the RAND Corporation for technological forecasting, *Delphi* refers to the Oracle of Delphi in ancient Greece who was able to predict the future (Hasson et al., 2000). Businesses and government agencies use the appropriately named Delphi to predict or forecast future events (Ludwig, 1997). The Delphi is a widely used and accepted method for gathering data from experts and achieving convergence of opinion within certain topic areas (Hsu & Sandford, 2007). In the literature, various fields of study use the Delphi technique to explore or expose underlying assumptions, as well as correlate judgments on a multi-disciplinary topic (Turoff, 1970). This method is appropriate for the current study because the Delphi enhances effective decision-making “in situations where there is contradictory or insufficient information” (Hasson et al., 2000, p. 1008), such is the case in the emerging field of security management in the commercial facilities sector.

The Delphi technique is an iterative multi-stage process of controlled feedback where participants, through a series of questionnaires or rounds, provide qualitative comments to build group consensus (Hasson et al., 2000). This group communication process encourages participants to offer as much feedback as possible to cover the most important issues and opinions about the research topic. After each successive round, the researcher summarizes responses and returns the developing list of competencies to participants for re-evaluation (Hsu & Sandford, 2007). Statistical summaries, including central tendencies and levels of dispersion, are presented to participants indicating items that have gained collective opinion (Hassan et al., 2000). This process of controlled feedback allows respondents to reassess their initial judgments about the information provided in previous iterations (Hsu & Sandford, 2007).

Gordon (1994) claims that, “The key to a successful Delphi study lies in the selection of participants” (p. 6). The purposeful selection of participants is critical because it directly relates to the quality of the results generated (Jacobs, 1996). The Delphi method uses a relatively small, non-random sample of experts who have a background regarding their experiences or expertise in a specific area or discipline (Linstone & Turoff, 1975), and who “apply their knowledge to a certain problem on the basis of criteria” (Hasson et al., 2000, p. 1010). According to Fink et al. (1984), the number of participants in a Delphi study is limited “because they are representative of their profession, have the power to implement the findings, or because they are not likely to be challenged as experts in the field” (p. 981). Employing the use of an expert panel increases understanding of broad views from experts and achieves consensus via accumulated intelligence (Hsu & Sandford, 2007).

The number and representativeness of participants is variable (Delbecq, Van de Ven, & Gustafson, 1975) and depends on the amount of data to be analyzed (Hasson et al., 2000). Considerable debate persists over the appropriate size of a Delphi panel. Delbecq et al. (1975) suggest that 10 to 15 participants are sufficient if the background of the participant group is homogenous or similar in nature. Whereas, other studies suggest that 15-35 participants is an appropriate size as one should anticipate an response rate between 35% and 75% (Gordon, 1994). Ludwig (1997) observes that, “the majority of Delphi studies have used between 15 and 20 respondents” (p. 2). Researchers should use the minimally sufficient number of participants and then verify the results through follow-up explorations (Delbecq et al., 1975).

In the first round of the Delphi, the researcher distributes an initial list of competencies most closely associated with the discipline based on the review of relevant literature (Fink et al., 1984) and obtains qualitative data through questionnaire-based interviews. Expert panelists provide feedback by adding to and modifying the initial list of competencies. Using the preliminary list of competencies, participants’ views, opinions, and judgments guide the development of the next iteration of data collection (Fink et al., 1984). The second round of the Delphi involves a structured questionnaire. The researcher sends the questionnaire to expert panelists who review the list of competencies and rate each item based on level of importance and frequency. Data is analyzed using descriptive statistics (Von der Gracht, 2012), summarized, and redistributed to experts to complete and return in round three (Stines, 2003). In Delphi round three, expert panelists review aggregate data and re-rate competencies considering group opinion ratings from round two (Stines, 2003). The researcher analyzes the data

from round three and generates results, verifying reasons for individual opinions diverging from the group majority opinion if such differences exist in the response data.

In the Delphi process, data analysis involves both qualitative and quantitative data (Hsu & Sandford, 2007). The major statistics used in Delphi studies are measures of central tendency (mean, median, mode) and level of dispersion (standard deviation and interquartile range) in order to present information concerning the collective judgements of respondents (Hasson et al., 2000; Latif, Mohamed, Dahlan, & Mat Nor, 2016). Generally, the use of median score is strongly favored based on Likert-type scale data (Jacobs, 1996). The group response median value and the interquartile range distribution are usually referred as the reference for the degree of importance and consensus in the past research (Latif et al., 2016). The researcher uses the median score from five point Likert-type scale results.

Theoretically, the Delphi technique repeats until a desirable level of consensus is achieved (Hsu & Sandford, 2007); considerable debate appears in the literature about what value equates to an acceptable level of agreement among respondents (Hassan et al., 2000). Dajani, Sincoff, and Talley (1979), claim that group stability, defined as “the consistency of responses between successive rounds of the study,” (p. 84) is the necessary criterion for determining the number of survey rounds. Traditionally, researchers measure stability by comparing the averages or percentages of responses for each question from any two consecutive rounds of the Delphi survey administrations based on mean scores (Kalaian & Kasim, 2012). A small change in responses of the experts between two consecutive rounds determines the stopping criteria for further rounds of survey administration and data collection (Hsu & Sandford, 2007; Kalaian &

Kasim, 2012; Yousuf, 2007). In most Delphi survey applications, three iterations of the Delphi rounds are sufficient to reach a reliable consensus among the panel of experts (Beech, 1997; Kalaian & Kasim, 2012; Ludwig, 1997) because panelists who are in the majority on the first iteration are less likely to change their opinions over subsequent rounds (Rowe & Wright, 1999). According to Stines (2003), the purpose of the iterative process is not to induce group solidarity, but rather to identify areas where consensus exists and pinpoint diverging group perspectives. Therefore, the minimum number of rounds necessary to identify similar and diverging judgments within a stable group and reach majority consensus is preferred (Dajani et al., 1979; Kalaian & Kasim, 2012). The current study employs three rounds of the Delphi to establish a valid and reliable set of core competencies for security management professionals in the commercial facilities sector. Delbecq, Van de Ven, and Koenig (1976) suggest a minimum of 45 days to administer a Delphi study, giving participants two weeks to respond to each round.

Benefits of the Delphi Technique

One of the primary characteristics and advantages of the Delphi process is the ability to provide anonymity to respondents through a process of controlled feedback, which reduces the effects of dominant individuals in group communication (Hsu & Sandford, 2007). According to Dalkey (1972), the effects of dominant individuals in group-based data collection processes, such as focus groups, is often a concern as group or individual interests can sometimes divert the participants' attention away from the research problem and distort the data collection process. The participant anonymity feature (Clayton, 1997) minimizes the negative impacts associated with group dynamics such as specious persuasion to conform or adopt a certain viewpoint (Von der Gracht,

2012). As stated by Fink et al. (1984), “The Delphi technique enables each participant to express views impersonally, while ultimately providing information generated by an entire group” (p. 2).

The researcher coordinates electronic communications, which facilitates confidentiality through the process of controlled feedback. Additionally, participants complete the Delphi questionnaires through the online survey software SurveyMonkey, to minimize geographical constraints on the selection of experts (Fink et al., 1984). Most recent applications of the Delphi method rely on a web-based implementation procedure, which contributes to anonymity among participants. According to Von der Gracht (2012), anonymity in surveys typically leads to higher response rates because participants likely feel comfortable providing input on uncertain issues in an anonymous form. Strauss and Zeigler (1975) support the notion that anonymity is a key factor contributing to the success of qualitative research.

The researcher selected the Delphi technique for this study because it is a widely accepted method for exploring or exposing various judgments in multi-disciplinary fields of research and its value has been scientifically and practically proven in many settings. The Delphi technique offers a flexible, iterative process for generating consensus to answer a specific research question (Issac & Michael, 1981). The current study employs the Delphi to identify core competencies in security management from expert, supervisory-level security management professionals representing the commercial facilities sector.

Population and Sample

This section describes participants included in the study. The sample population is comprised of current supervisory-level security management professionals who serve in leadership positions in the ICS unified command structure. The appropriate size of the expert panel is widely debated (Keeney, Hasson, & McKenna, 2001), though “the majority of Delphi studies have used between 15 and 20 respondents” (Ludwig, 1997, p. 2). According to Delbecq et al. (1975), the size of the Delphi panel is flexible. However, Dalkey (1972) finds that the reliability of group responses increases and group error diminishes if the panel is comprised of at least 10 participants. This study includes 36 expert panelists ($N = 36$) who possess specialized knowledge about the work performed by security management professionals in the commercial facilities sector. A slightly larger sample size ensures that data collected from the participant population represents the various disciplines underpinning the security management workforce. Since the Delphi requires a continued commitment by participants (Hasson et al., 2000), a larger sample size helps ascertain sufficient data is collected throughout the process.

The distribution of participants in the study represents facilities and event security management, law enforcement, emergency management, fire protection services, and public safety officials with more than five years of experience in their discipline, and with extensive knowledge of safety and security operations for sport and entertainment events. The researcher determined the representativeness of the population sample by discipline based on the ICS unified command structure, which identifies law enforcement, security operations, and emergency services (fire, EMS, and public works) as the individuals with primary responsibility positions within the command group (Hall,

Cooper et al., 2014). The researcher selects 12 qualified individuals to represent each of the primary unified command groups to participate in the study ($N = 36$).

The selection of the experts is critical to the success of a Delphic study (Jacobs, 1996). The current study depends on several disciplinary areas of expertise to address the research objectives. Therefore, the sample population includes professional sport and entertainment venue operators, NCAA Division I athletic program administrators and campus safety officials, participatory sport event managers (marathons and running events), and public safety officials in emergency management, law enforcement, and fire services. The researcher established pre-determined criteria for the selection of qualified participants based on Benner's (1982) assertion that expertise should ground in experience. All participants must have five or more years of experience practicing within their domain of expertise, currently hold a supervisory-level position, and have a comprehensive understanding about security and risk management operations in the commercial facilities sector. The researcher recruited participants using the NCS4 event database ($N = 460$), which includes individuals associated with safety and security operations in the commercial facilities sector who attended NCS4 training workshops, conferences, and summits within the past five years. Individuals recruited for this study were asked to upload a current resume or biography for the researcher to use to qualify individuals for the study and to describe the expertise of selected participants. The researcher selected the most qualified participants as determined based on years of experience, areas of responsibility, and special knowledge (i.e. certified emergency manager or risk specialist). Appendix E presents the explanation of the study and qualification questions sent to individuals recruited for participation in the current study.

The researcher developed several original survey instruments throughout the course of the study to collect data from participants.

Instrumentation

The researcher used self-administered questionnaires disseminated through email to collect data in the current study. Table 3 illustrates how the instruments are used in each phase of the Delphi. In round one, the expert panel completed an open-ended questionnaire and provided comments on the initial list of competencies created by the researcher using a literature review. The preliminary set of competencies proposed in Delphi round one questionnaire one (Appendix F) provided a basic framework for participants to follow as they considered the knowledge, skills, and abilities that support effective security management and distinguish high and low performers in the security management discipline. The goal of Delphi round one questionnaire one was two-fold. First, expert panelist reviewed and modified the initial list of security management competencies articulated in the literature review. Second, the expert panelists recommended additional competencies for current and future supervisory-level security management professionals. Expert panelists reviewed the initial list of competencies and provided feedback on current terminology and relevance. The panelists' feedback informed the survey instrument for the next iteration of the Delphi (round two).

In round two, the expert panel reviewed the list of competencies established in round one and rated the competencies by level of importance using a 5-point Likert scale and by frequency using a 5-point Likert scale to establish preliminary priorities among the competency statements within each grouping (Hsu & Sanford, 2007). In the third round, the expert panelists received a modified questionnaire with the group's median

score based on the Likert scale ratings from the previous iteration (Hsu & Sandford, 2007). The panelists were asked to rate the list of competencies once more taking into consideration majority opinion. Two qualified researchers with experience in Delphi methodologies and knowledge of sport event security management scholarship and practice, reviewed each questionnaire to ensure accuracy. The researchers reviewed Delphi round two questionnaire two, and each successive questionnaire in this study, for face validity provided feedback on the interpretation and summation of data, presentation of results from the previous iteration, and survey instructions.

Table 3

Instruments

Research Objective	Delphi Round	Instrument	Participants	Data Output
RO1	Pre-Delphi	Recruitment Email, Explanation of Research Procedures and Consent	Recruits	Participant Profile
RO2	1	Questionnaire 1: Identifying Competencies	Expert Panel	Validated List of Competencies With Additional Feedback
RO2, RO3, RO4	2	Questionnaire 2: Rating Competencies Questionnaire	Expert Panel	Competencies Rated by Level of Importance and Frequency
RO2, RO3, RO4	3	Questionnaire 3: Validating Final List of Competencies	Expert Panel	Competencies Re-rated by Level of Importance and Frequency

Questionnaires for data collection are (a) Recruitment email, (b) Explanation of research procedures and consent, (c) Delphi round 1 questionnaire 1, (d) Delphi round 2 questionnaire 2, and (e) Delphi round 3 questionnaire 3. Each Delphi round uses a revised questionnaire to accomplish the research objectives.

Pre-Delphi Recruitment Form

The purpose of the participant recruitment email (Appendix E) was to solicit participation from current security professionals working in the sports and entertainment industry. Individuals who were interested in participating in the study submitted a contact form, which captured demographic information and relevant work experience. The demographic data were used to verify expertise in the security management discipline and to identify qualified individuals. Delphi methodologists debate the definition of the term *expert*; however, participants should be selected for the purpose of applying their knowledge to the problem studied on the basis of criteria (Hassan et al., 2000). To define the professional profile of the participants, the contact form within the recruitment email collected the individuals' age, gender (Clayton, 1997), education attainment (Ludwig, 1997), and experience level (Benner, 1982). Education and experience-related data were collected from each participant to confirm both role diversity and expertise.

Delphi Questionnaires

In Delphi round one, the researcher emailed the expert panelists an explanation of the research procedures and informed consent information. Once participants consented to participate in the study they were directed to a SurveyMonkey web link that provided instructions on how to complete Delphi round one questionnaire one. Participants

reviewed the preliminary list of competencies and determined if the competency statements relate to the work performed by supervisory-level security management professionals, providing recommendations to edit and add to the preliminary list of competency statements. While reviewing the Delphi round one questionnaire (available in Appendix G), the panelists were asked to envision an outstandingly competent and exceptionally talented security management professional; and the knowledge, skills, and abilities such an individual would exhibit. Panelists answered open-ended questions about each pre-established competency cluster and provided feedback on requisite knowledge, skills, and abilities not included within the initial list of competencies. Specifically, the panelists were asked to perform the following tasks:

1. To suggest any other knowledge, skills, and abilities current and future supervisory-level security management professionals should have,
2. To indicate if any of the competencies are improperly stated or improperly grouped,
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically,
4. To specify if certain competencies should be combined into one, and
5. To indicate if any of the competencies should be eliminated and provide a brief explanation of their reasoning.

The researcher used Qualtrics Survey software to create the questionnaires for rounds two and three, which included rating scales. Delphi round two questionnaire two incorporated the opinions gathered in questionnaire one and contained the new list of competency statements established by the previous round. In Delphi round two, the

expert panel was asked to review the list of competencies from round one and rate each statement using a 5-point Likert scale (1 = *Not at all important* and 5 = *Absolutely essential*). The panelists were also asked to rate each competency statement based on frequency using a 5-point Likert scale (1 = *Never* and 5 = *A great deal*). Delphi round three questionnaire three contained the median and interquartile range for group rating from Delphi round two. In round three, participants reassessed their initial judgments based on the group majority opinion and re-rated the competencies based on level of importance and frequency. In each Delphi round, participants provided comments and feedback regarding the questionnaire and the study. The responses were treated as ordinal level data and analyzed using thematic interpretation.

Data Collection Procedures

Before beginning the data collection process, the researcher obtained approval from the International Review Board (IRB) for research involving human subjects in accordance with University of Southern Mississippi requirements (Appendix H). The researcher provided the IRB with all the necessary materials to conduct their review including a full description of the proposed research project, the survey instruments sent to participants, a description the method used to recruit participants and obtain their consent to participate in the study, how the participants' confidentiality was to be maintained, and how data was to be stored and protected. The IRB reviewed, approved, and monitored this study to ensure all research activities involving human subjects were conducted in accordance with federal, institutional, and ethical requirements. Participation in this study was voluntary and posed no known risks or hazards to the researcher or participants. The researcher verified informed consent (Appendix I) from

each participant. Table 4 presents a timeline of procedures which explains how the study was conducted denoting the actions taken and assigning responsibility to either the researcher or designated participant group.

Data was collected using web-based survey questionnaires, a form of interviewing for gathering information without face-to-face interaction. Qualified participants completed self-administered questionnaires, which captured participant feedback to identify core competencies for supervisory-level security management professionals. Each questionnaire was disseminated to participants via email. All responses remained confidential and securely stored on a password-protected computer or in a locked file cabinet in the researcher's office.

The researcher sent an email to the expert panel ($N = 36$) explaining the nature of the current study and communicating expectations. Each participant was informed that participation in the current research study is voluntary and confidentiality through the Delphi process is guaranteed. Once the expert panelist gave consent to participate they were automatically directed to begin Delphi round one questionnaire one via SurveyMonkey. Each questionnaire included a return date, and reminders were sent to participants after seven days to increase the response rate (Appendix I), based on the suggestions of Dillman, Smyth, and Christian (2009). Participants reviewed the competencies identified in round one and rated each statement based on level of importance using a 5-point Likert scale in the following two rounds. The responses from Delphi round two questionnaire two were summarized, giving a measure of central tendency (median). The group ratings were used to formulate Delphi round three questionnaire three. In the third round, participants considered the majority group

opinion and re-rated the competency statements. Where individual options differed from the group consensus, participants were asked to provide a brief reason or explanation (Issac & Michael, 1981). After Delphi round three, the researcher analyzed the data and constructed a final list of core competencies.

Table 4

Timeline of Procedures

Source	Timeframe	Action
<i>Pre-Study</i> Researcher	Week 0	<i>Submit IRB Approval Form</i> Gain approval for the methodology and instrument from the University's Institutional Review Board Test instrument for face validity by two researchers Send participation recruitment email Finalize Delphi round 1 questionnaire 1
<i>Round One</i> Researcher	Week 1	<i>Establish List of Competencies</i> Send explanation of research procedures and consent to selected participants Participants provide consent and begin round 1
Expert Panel	Weeks 2-3	Participants complete questionnaire one
Researcher	Week 4	Summarize Delphi questionnaire 1 data and group common competency clusters Revise and finalize Delphi round 2 questionnaire 2
<i>Round Two</i> Researcher	Week 5	<i>Competency Ratings</i> Email instructions for questionnaire 2 to expert panelists
Expert Panel	Weeks 5-6	Complete and return questionnaire 2
Researcher	Week 7	Summarize questionnaire 2 data Revise and finalize Delphi round 3 questionnaire 3

Table 4 (Continued)

Source	Timeframe	Action
<i>Round Three</i>		<i>Competency Ratings Validation</i>
Researcher	Week 8	Email Delphi round 3 questionnaire 3
Expert Panel	Weeks 8-9	Complete and return questionnaire 3
Researcher	Week 10	Summarize questionnaire 3 data Review previous round responses for inaccuracies and miscalculations

Data Analysis Procedures

The Delphi method is an iterative multi-stage process of “controlled feedback” (Strauss & Zeigler, 1975, p. 254). The controlled feedback aspect of the Delphi process requires that data be collected, analyzed, and summarized during designated intervals (rounds) to develop each new iteration of the survey instrument (Hsu & Sandford, 2007). As stated by Patton (2002), in qualitative studies data is often collected and analyzed concurrently as the researcher discovers emerging themes and concepts. Additionally, the Delphi method involves both qualitative and quantitative data analysis techniques (Hasson et al., 2000).

The researcher used multiple forms of data analysis to identify core competencies and achieve the research objectives of this study. The researcher performed qualitative analysis of validated competencies in round one, identifying new themes and concepts and integrating participant feedback with the original competency clusters. The researcher synthesized competencies of a similar nature, with minor editing, and then grouped common competencies together. In Delphi rounds two and three, the researcher employs both qualitative and quantitative data analysis techniques. Using Qualtrics Survey software, participants will rate competencies on a 5-point Likert scale based on level of importance and frequency. The researcher calculates the median and

interquartile range for each competency statement and provides summary data to participants in the next iteration. The group response median value and the interquartile range are used as reference for the degree of consensus in the previous round's importance and frequency ratings.

Ambiguity exists in past literature on how to combine ratings to obtain criticality index (Keeney et al., 2001). According to Bernthal et al. (2004), when the average importance ratings on a 5-point Likert scale reaches a minimum rating criteria of 3.0, the competency is considered to be valid and important. Whereas, McLagen and Suhadolnik (1989) discern that competencies rated 4 or 5 (on a six-point scale) by 50% or more of the expert panelists qualify as high importance. There is also disagreement in existing literature on the appropriate technique for prioritizing KSAs based on importance, frequency, relevancy, and expertise ratings (Van de Ven & Delbecq, 1976). Although research by the American Society for Training and Development suggests that individual competency ratings rely on absolute importance ratings, rather than rating the frequency or relevancy of each competency statement, in determining the final output (Bernthal et al., 2004).

Consensus on a topic can be determined if a certain percentage of votes fall within a prescribed range (Latif et al., 2016). There is general consensus in the literature preferring the median as the measure of central tendency for Likert-scale data (Hasson et al., 2000; Hsu & Sanford, 2007; Stines, 2003). For this study, the analysis of consensus data of the experts was based on the median and interquartile range on rounds two and three data. After identifying the median value and interquartile range, the subsequent analysis technique was utilized to classify items according to the group consensus on the

importance and frequency of each competency. For this study, the competencies were divided into two levels (core and supplemental). Competencies were considered *core* if the median importance rating was 4 and above and *supplemental* if rated 3 or less by 75% of the panel (Stines, 2003). The frequency ratings were used to prioritize *core* competencies in terms of occurrence (McLagan & Suhadolnik, 1989). This analysis technique assumed a hierarchical relationship between ratings, giving importance ratings greater weight in the final analysis (Bernthal et al., 2004). The level of consensus among the expert panel was divided into three levels (high, moderate, and low consensus). Following Stines (2003) approach, the consensus level was considered “high” if the interquartile range is less than or equal to 1, “moderate” if quartile deviation is between 1 and 2, and “low” consensus if the interquartile range is more than 1. Chapter IV provides further detail about data analyses.

Reliability and Validity

It is essential in any study for the researcher to consider the issues of reliability and validity (Shadish et al., 2002). Reliability describes the extent to which a procedure produces similar results consistently over time and populations (Shadish et al., 2002). Validity measures determine the quality of the results obtained dependent upon the intended purpose of the research study (Shadish et al., 2002). According to Keeney et al. (2001), many scholars criticize the Delphi method in relation to both reliability and validity. Concerning reliability, minimal evidence demonstrates the Delphi’s ability to produce the same results providing the same information to different groups (Hasson et al., 2000). However, a strong argument challenges this assertion based on population selection. The Delphi is based on the assumption that groups of informed or *expert*

participants produce stable results, and that reliability increases with the size of the group and the number of rounds (Fink et al., 1984). The researcher established qualifications for inclusion in the current study and obtained a current resume from all prospective participants. The researcher purposively selected the most qualified individuals based on experience and education.

Threats to validity arise principally in the development stages of each iteration because the researcher has influence over construction of the survey instrument (Keeney et al., 2001), which undermines the Delphi's forecasting ability (Hassan et al., 2000). As suggested by Hasson and Keeney (2011), the researcher made a conscious effort to avoid thoughts, opinions, and bias that may affect the data interpretation and output. The researcher made every attempt to exclude any bias that may influence the research process. According to Hasson et al. (2000), the selection of participants with knowledge of the research problem contributes to content validity, while successive rounds of data collection helps to increase concurrent validity. However, due to multiple feedback processes inherent to the iterative Delphi process potential for low response rates can ultimately affect validity (Hsu & Sandford, 2007). Therefore, the researcher took an active role in garnering commitment from participants through initial recruitment email and throughout the entire Delphi process by contacting participants via email to remind them to complete the survey on time, providing accurate and clear instructions for participants to follow, and thanking participants for their feedback after each successive round.

Summary

This study identifies core competencies for supervisory-level security management professionals working in the commercial facilities sector of PPD-21 using the Delphi technique. The researcher administers three rounds of the Delphi to identify, validate, and rate essential competencies. The methodology used in the current study is appropriate for addressing the research objectives listed in Chapter I. The researcher analyzes data using both qualitative and quantitative techniques. Inter-rater reliability ensures that group ratings are stable for establishing reliable consensus within the group. The results of the current study can serve as a workforce development tool helping to guide HRD initiatives, such as T&D, within the field of security management. The next chapter presents the research findings.

CHAPTER IV – RESULTS

This qualitative research study explored the core competencies of supervisory-level security management professionals working in the sport and entertainment industry. The investigation employed a Delphi research design to elicit the expertise from current sport and event security professionals representing the commercial facilities sector of PPD-21. This chapter establishes a framework for the results of this study beginning with an overview of the procedures and methodology used to produce new knowledge in the field of sport and event security management. The results from the study are organized into four parts in accordance with the research objectives.

The purpose of this study was to identify core competencies for the sport and event security management workforce. To assist in the process of managing risks through prevention, protection, mitigation, repose, and recovery, critical infrastructure owners and operators need to determine effective strategies to enhance the capabilities of their workforce and make their venues and events more secure (PPD-21, 2013). Identifying core competencies for security management professionals provides valuable information about the knowledge, skills, and abilities needed for an exceptional job performance and may help to establish consistency throughout the profession. The remainder of this chapter presents findings from the Delphi study conducted to answer the research objectives stated in Chapter I.

A qualitative method was chosen to present a holistic view of the context of the study (Creswell, 2009). The study utilized a series of questionnaires to address the research objectives of the study, which is the most common instrument used in Delphi studies (Dalkey & Helmer, 1963). Panelists were asked to provide input on the requisite

competencies a high-performing security management professional must possess to perform their job effectively. A copy of this questionnaire can be found in Appendix G. All responses were anonymous. The researcher developed the first questionnaire (Appendix G), which included a total of 53 competency statements based on a review of current literature. Competency clusters determined and defined by the researcher through the review of literature were provided, and included: Risk Management, Emergency Planning, Problem Solving and Decision Making, Leadership, Communication, Building Collaborative Relationships, and Human Resource Management.

Characteristics of Expert Panelists

Research Objective One — Describe the professional profile of participants.

This section presents data about the study's participants, the expert panelists. All panelists were drawn from the population of professionals experienced in sport and event security management. Demographic characteristics of each participant were collected to qualify individuals for participation in the current study. Demographics of expert panelists were captured using a research participant contact form included in the recruitment email (Appendix E) during the pre-Delphi phase. Each potential participant was required to upload a current biography, resume or curriculum vitae (CV). The experience and education of the expert panelists provided data from which the professional profile of each selected expert was created (Appendix K).

Expert panelists were recruited using the NCS4 event database ($N = 460$), which includes individuals associated with safety and security operations in the commercial facilities sector who attended NCS4 training workshops, conferences,

and summits within the past five years. A total of 63 individuals submitted the research participant contact form (Appendix E) and 36 individuals were selected based on education, experience, role diversity, and expertise. Study criteria for the expert panelists included having at least five years of experience working in sport and event security management; currently holding a supervisory-level position within their organization (responsible for the oversight of entry-level and mid-level venue and event staff or hold a command position); and working within the commercial facilities sector of PPD-21. The researcher selected twelve qualified individuals to represent each of the primary ICS unified command groups (law enforcement, security operations, and emergency services) to participate in the study. Individuals who possessed the most experience in their respective discipline were favored in the selection process. In addition, the completion of specialized training, education, and professional achievements (i.e. certifications or designations) were considered by the researcher during the selection process to determine the most qualified participants.

Table 5

Demographic Characteristics of the Expert Panelists (N = 36)

Attribute	Frequency	Percentage
Gender		
Male	31	86.1
Female	5	13.8
Highest Degree Earned		
Associate's Degree	4	11.1
Bachelor's Degree	10	27.7
Master's Degree	20	55.5
Juris Doctorate	1	2.7
PhD	1	2.7

Table 5 (Continued)

Attribute	Frequency	Percentage
Age Range		
25-34	4	11.1
35-44	7	19.4
45-54	12	33.3
55-64	12	33.3
65+	1	2.7

Table 5 reports the demographic characteristics of the expert panel. Of the 36 panelists, 31 (86.1%) identified themselves as male (86.1%) and 5 (13.8%) identified as female. Four expert panelists hold associate’s degrees, ten hold bachelor’s degrees, 20 hold master’s degrees, one holds a juris doctorate, and one holds a doctoral degree. Panelist ages ranged from 25 to 66, with the median ages ranging 45-54 (33.3%; $N = 12$).

Data regarding the experience of study panelists is presented in Table 6. Fifteen of the 36 panelists possessed between 5-10 years of experience in sport and event security management. Panelists reported diverse backgrounds in demography, tenure, and experience. The breadth of the panel’s combined experience provided insight to the thought processes of current security management professionals representing various industry segments within the commercial facilities sector. Some panelists possessed special expertise relative to sport and event security management, including legal arbitration and compliance, computer forensics, homeland security, and business administration. Some panelists worked in roles that required an understanding of macro-views on security operations and commercial facility management for sport and entertainment venues across the globe.

Table 6

Experience Profiles of Expert Panelists (N = 36)

Attribute	Frequency	Percentage
Years of Experience		
5-10 years	15	41.6
11-15 years	5	13.8
16-20 years	4	11.1
21-25 years	5	13.8
More than 25 years	7	19.4
Current Sector of Employment		
Law Enforcement	12	33.3
Security Operations	12	33.3
Emergency Services	6	16.6
Special Expertise	6	16.6
Industry Segment		
Commercial Sport and Entertainment Facilities	11	30.5
Intercollegiate Athletics	18	50.0
Marathons and Running Events	2	5.5
Community Public Safety Agencies	5	13.8

Delphi Study

The three-round Delphi study was conducted over a ten week period and involved 36 participants comprising the expert panel. Twenty-nine (29) of the 36 participants successfully completed all three rounds of the Delphi (80.5%). The overall participation rates for the Delphi study by round are presented in Table 7. A total of seven participants failed to complete all three rounds of the Delphi study resulting in an overall attrition rate of 19.4%.

Table 7

Participation Rates for the Delphi Study

Delphi Round	Purpose	Number of Experts Asked to Participate	Number of Complete Returns	Percent (%) Completed
1	Identifying Competencies	36	34	94.4
2	Rating Competencies	34	31	91.1
3	Re-Confirm Ratings	31	29	93.5

Delphi Round One Findings

Research Objective Two - Identify the competency requirements for supervisory-level security management professionals in the commercial facilities sector.

The researcher developed the first questionnaire (Appendix G), to include a total of 53 competency statements. Competencies derived from a review of current literature and were divided into seven categories and 15 categories. The first Delphi round was sent to a 36-member expert panel by email (Appendix I). Panelists were asked to review the initial list of competencies and suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their job exceptionally well. Panelists were asked to provide feedback (edit, combine, regroup) on the existing competency statements. Thirty-four (34) panelists completed the first questionnaire with a return rate of 94.4%.

A total of 111 competencies were suggested by the expert panel in Delphi round one. Including the original 53 competencies, a total of 164 competencies were sorted under each of the original seven competency clusters with the development of three new categories. Although not every panelist provided feedback on each competency cluster, all panelists provided at least one or more suggestions to the original list of competencies. For example, in the Risk Management competency cluster several panelists suggested that risk assessments “utilize an all-hazards approach.” In the Communications competency cluster, understanding the basic concepts of public and media relations was suggested by panelists. Some competency statements were moved from one cluster to another as they more closely related to another area. For example, ensuring staff receive comprehensive training germane to their responsibilities was moved from the Emergency Planning category to Human Resource Management competency cluster under the Staff Training and Development category. Several panelists commented on the importance of the defined competency cluster and categories therein. As one panel member wrote,

“This is an important competency cluster in order to have an overall understanding of the potential impacts to a venue or event and to appropriately analyze the threats and vulnerabilities, assess their potential impacts, and develop strategies to avoid, reduce, share, or retain the risk. Thorough knowledge of this important area is a basic requirement for organizational leaders.”

Research Objective Three (3) — Identify core themes in participant response data and create competency clusters comprised of key knowledge, skills, and abilities.

Table 8 presents the original and new competencies within each competency cluster and its associated categories. A complete list of competency statements generated in Delphi round one and included in Delphi rounds two and three is available in Appendix L. The researcher identified core themes in the response data based on common terminology and word repetition. After conducting quantitative analysis, the researcher drafted 111 new competency statements retaining as much of the panelists' original wording as possible. Competency statements were sorted into the appropriate competency clusters and categories as suggested by the panel. Three additional categories were added after Delphi round one, including Exercise and Evaluation, Performance Management, and Employee and Labor Relations. These categories were created to sort and categorize new competency statements proposed by the expert panel where the researcher had not formerly established an appropriate category. Some competency statements were suggested by more than one panelist, but were listed only once to avoid duplication. A peer examination was conducted by two scholars in the field of sport and event security management, and who are proficient in Delphi methodologies. The peer review enhanced the researchers' analysis technique by evaluating the interpretation of data and providing alternative interpretations to enhance clarity and credibility.

Table 8

List of Competency Clusters and Categories

Competency Cluster/Category	Original	New	Total
Risk Management			
Risk Identification and Assessment	4	11	15
Loss Prevention	4	8	12
Business Continuity	4	9	13

Table 8 (Continued)

Competency Cluster/Category	Original	New	Total
Emergency Planning			
Emergency Planning	5	8	13
Exercise and Evaluation*	0	8	8
Problem Solving and Decision Making			
Problem Solving	2	8	10
Decision Making	3	5	8
Adaptability and Flexibility	2	5	7
Leadership			
Initiative	3	6	9
Interpersonal Awareness	4	5	9
Crisis Leadership	5	6	11
Communication			
Communication Skills	4	6	10
Crisis Communications	3	3	6
Building Collaborative Relationships			
Relationship Building	3	5	8
Teamwork	3	6	9
Human Resource Management			
Staff Training and Development	4	4	8
Performance Management*	0	7	7
Employee and Labor Relations*	0	1	1

Note. Asterisk (*) denotes new categories added for Delphi rounds two and three.

Delphi Round Two Findings

The 34 panelists responding in round one received the Delphi round two questionnaire via email (Appendix M). A total of 164 competency statements were included in round two of the Delphi study. Panelists were asked to rate each competency statement on a 5-point Likert scale for importance (1 = *Not at all important* and 5 = *Absolutely essential*) and frequency (1 = *Never* and 5 = *A great deal*). Appendix N

contains a sample copy of the Delphi round two questionnaire. Thirty-one of the 34 (91.1%) panelists completed the Delphi round two questionnaire.

For this study, expert panel data analysis is based on median scores and interquartile ranges on Delphi rounds two and three data. In round two, the median score for *importance* and *frequency* was calculated for each competency statement. The median response score for *importance* and *frequency* ratings produced in Delphi round two was presented to the panelists in Delphi round three. All competencies rated by the panelists in round two were re-rated in round three. In Delphi round three, competency ratings were sorted by the researcher into two levels (*core* and *supplemental*). Competencies were considered *core* if the median importance rating was 4 and above and *supplemental* if rated 3.99 or less by 75% of the panel (Stines, 2003). Competencies not rated of high importance (4 or 5) by 75% were eliminated from the final list of competencies. The frequency ratings were used to prioritize *core* competencies within each category.

To analyze the level of consensus among the panel, the researcher opted to use the interquartile range (IQR). Using the IQR instead of a single measure of central tendency (median) is preferable because it takes into account the middle 50% of all the ratings (Stines, 2003). The IQR is an ordinal-level measure of variability that indicates the spread among the middle 50 percent of the scores (Huck, 2000), based on dividing the data set into quartiles. A quartile is a measure of statistical dispersion that divides rank-ordered data into four equal parts (Huck, 2000). The IQR is measured as the difference between 75th and 25th percentiles ($IQR = Q3 - Q1$) and is calculated using the median of the third (Q3) and first (Q1) quartiles (Huck, 2000). Since the data is treated at the

ordinal level, the majority of the values in this analysis tend to be integers. The IQR was calculated for each competency statement in Delphi rounds two and three. Consistent with Stines' (2003) approach, competencies with an $IQR < 1$ are labeled as "high" consensus, $1 \geq IQR < 2$ as "moderate" consensus, and $IQR \geq 2$ as "low" consensus based on the *importance* ratings.

Table 9 presents a statistical summary for each competency statement listed under the Risk Management competency cluster in Delphi round two. The importance ratings of the 31 expert panelists responding in Delphi round two reveals 26 *core* competency statements ($Q1 \geq 4$) and 14 *supplemental* competency statements ($Q1 \leq 3.99$). The highest rated ($Q1 = 5$) competency statements in the Risk Identification and Assessment category include #2 – identifying vulnerabilities and #15 – engaging with law enforcement officers. These statements have a high level of consensus demonstrating strong agreement among the expert panel. Competency statements #11 – monitoring world trends and analyzing past incidents to identify a variety of risks, #12 – using technology programs to monitor, aggregate and push destination-specific, open source intelligence to both corporate security centers and employees' smart devices, and #13 – educating employees on international travel security practices received the lowest ratings ($Q1 = 3$) in the Risk Identification and Assessment category.

In the Loss Prevention category, competency statement #17 – evaluating methods to improve security loss prevention, and information loss prevention systems on a continuous basis had the highest level of consensus and #23 – utilizing CCTV, access control measures, and security patrols in loss control mitigation received the highest ratings ($Q1 = 5$). Whereas, competency statements #18 – conducting cost-benefit

analyses, #19 – developing consequence reduction proposals, #21 – identifying emerging technologies to enhance loss prevention, #22 – determining an acceptable loss level, #24 – understanding Deterrence Theory and the Crime Triangle, #25 – analyzing historical trends to determine or predict when losses will likely occur, #26 – Planning for loss control after a critical incident, and #27 – evaluating applicability of insurance policies received the lowest ratings (Q1 = 3).

In the Business Continuity category, competency statements #29 – developing and updating SOPs, #36 - drafting after action reports, and #39 – gaining “buy-in” from senior leadership were among the highest rated (Q1 = 4). Competency statements #30 – understands the business strategy, operations, infrastructure, technological systems, culture, and financial position of a specific organization, #32 – knowing the key concepts and variables that define an industry, #38 – understanding insurance and alternative product delivery strategies, and #40 – understanding the planning and implementation phases of project received low importance ratings (Q1 = 3). Competency statements #30 and #40 also had low levels of consensus indicating a lack of agreement among the expert panel.

Table 9

Risk Management – Round Two Delphi Responses

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Risk Identification and Assessment</i>									
#1	5	5	4	1	4	5	4	1	Moderate
#2	5	5	5	0	5	5	5	0	High
#3	4	5	4	1	4	4	4	0	Moderate
#4	4	5	4	1	4	4	3	1	Moderate
#5	4	5	4	1	4	5	4	1	Moderate

Table 9 (Continued)

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
#6	4	5	4	1	4	5	4	1	Moderate
#7	5	5	4	1	5	5	4	1	Moderate
#8	5	5	4	1	4	5	4	1	Moderate
#9	4	5	4	1	4	4	3	1	Moderate
#10	4	4	4	0	4	4	3	1	High
#11	4	5	3	2	4	4	3	1	Low
#12	3	4	3	1	4	4	3	1	Moderate
#13	4	4	3	1	3	4	3	1	Moderate
#14	4	5	4	1	4	4	3	1	Moderate
#15	5	5	5	0	5	5	4	1	High
<i>Loss Prevention</i>									
#16	4	5	4	1	4	5	4	1	Moderate
#17	4	4	4	0	4	4	3	1	High
#18	4	4	3	1	3	4	3	1	Moderate
#19	4	4	3	1	3	4	3	1	Moderate
#20	4	5	4	1	4	5	3	2	Moderate
#21	4	4	3	1	3	4	3	1	Moderate
#22	4	4	3	1	3	4	3	1	Moderate
#23	5	5	4	1	5	5	4	1	Moderate
#24	4	4	3	1	3	4	3	1	Moderate
#25	4	5	3	2	4	4	3	1	Low
#26	4	5	3	2	3	4	3	1	Low
#27	4	4	3	1	3	4	2	2	Moderate
<i>Business Continuity</i>									
#28	4	5	4	1	4	4	3	1	Moderate
#29	5	5	4	1	4	5	3	2	Moderate
#30	4	5	3	2	3	4	3	1	Low
#31	4	5	4	1	4	4	3	1	Moderate
#32	4	4	3	1	4	4	3	1	Moderate
#33	4	5	4	1	4	4	3	1	Moderate
#34	4	5	4	1	3	4	3	1	Moderate
#35	4	5	4	1	3	4	3	1	Moderate
#36	5	5	4	1	4	5	3	2	Moderate
#37	4	5	4	1	4	4	3	1	Moderate
#38	4	4	3	1	3	4	2	2	Moderate
#39	5	5	4	1	4	5	3	2	Moderate
#40	4	5	3	2	3	4	3	1	Low

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table 10 presents a statistical summary for each competency statement listed under the Emergency Planning competency cluster in Delphi round two. The importance ratings of the 34 expert panelist indicate 20 *core* competency statements ($Q1 \geq 4$) and one *supplemental* competency statement ($Q1 \leq 3.99$). Most of the competency statements in the Emergency Planning competency cluster received importance ratings above 4 suggesting that the proposed list of knowledge, skills, and abilities are essential to the work performed by sport and event security management professionals. Within the Emergency Planning category, competency statements #47 – engaging internal and external partners in developing emergency plans and #50 – implementing a clear organizational structure or chain of command received the highest ratings ($Q1 = 5$) and had high levels of consensus. In the Exercise and Evaluation category created after Delphi round one, seven of the eight proposed competency statements received a high importance rating ($Q1 = 4$). Competency statement #57 – utilizes a third-party to review risk assessment received the lowest rating ($Q1 = 3$) in the Exercise and Evaluation category.

Table 10

Emergency Planning – Round Two Delphi Responses

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Emergency Planning</i>									
#41	5	5	4	1	4	5	3	2	Moderate
#42	5	5	4	1	4	5	3	2	Moderate
#43	5	5	4	1	4	5	3	2	Moderate
#44	5	5	4	1	4	5	3	2	Moderate
#45	5	5	4	1	4	5	3	2	Moderate
#46	5	5	4	1	4	5	3	2	Moderate
#47	5	5	5	0	4	5	3	2	High

Table 10 (Continued)

Competency Category (#)	Importance				Frequency				Consensus Level
	Median	Dispersion			Median	Dispersion			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
#48	5	5	4	1	4	5	3	2	Moderate
#49	5	5	4	1	3	5	3	2	Moderate
#50	5	5	5	0	4	5	3	2	High
#51	5	5	4	1	4	5	3	2	Moderate
#52	5	5	4	1	4	5	3	2	Moderate
#53	5	5	4	1	4	5	3	2	Moderate
<i>Exercise and Evaluation</i>									
#54	4	5	4	1	3	4	3	1	Moderate
#55	4	5	4	1	4	4	3	1	Moderate
#56	4	5	4	1	3	4	3	1	Moderate
#57	4	4	3	1	3	3	2	1	Moderate
#58	4	5	4	1	4	4	3	1	Moderate
#59	4	5	4	1	4	4	3	1	Moderate
#60	4	5	4	1	3	4	3	1	Moderate
#61	4	5	4	1	3	4	3	1	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table 11 presents a statistical summary for each competency statement listed under the Problem Solving and Decision Making competency cluster in Delphi round two. The importance ratings of the expert panel indicate 22 *core* competency statements ($Q1 \geq 4$) and three *supplemental* competency statements ($Q1 \leq 3.99$). Competency statements #66 – analyzing and identifying potential solutions and alternatives to assess impacts and develop a plan and #68 – using Root Cause Analysis to determine underlying causes of problems received the lowest ratings ($Q1 = 3$) in the Problem Solving category. All competency statements in the Decision Making category received high ratings ($Q1 \geq 4$) by the panelists. In the Adaptability and Flexibility category, competency statement #81– developing innovative methods of obtaining or using information or resources had a

low importance rating (Q1 = 3) and a low level of consensus indicating disagreement in the majority opinion of the group of expert panelists.

Table 11

Problem Solving and Decision Making – Round Two Delphi Responses

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Problem Solving</i>									
#62	4	5	4	1	4	5	3	2	Moderate
#63	4	4	4	0	4	4	3	1	High
#64	4	5	4	1	4	5	3	2	Moderate
#65	4	5	4	1	4	5	3	2	Moderate
#66	4	5	3	2	3	5	3	2	Low
#67	4	5	4	1	4	5	3	2	Moderate
#68	4	4	3	1	4	4	3	1	Moderate
#69	5	5	4	1	4	5	3	2	Moderate
#70	4	5	4	1	4	4	3	1	Moderate
#71	4	5	4	1	4	4	3	1	Moderate
<i>Decision Making</i>									
#72	5	5	4	1	4	5	4	1	Moderate
#73	5	5	4	1	4	5	3	2	Moderate
#74	4	5	4	1	4	4	3	1	Moderate
#75	5	5	4	1	4	5	4	1	Moderate
#76	5	5	4	1	4	5	3	2	Moderate
#77	5	5	4	1	5	5	4	1	Moderate
#78	4	5	4	1	4	5	3	2	Moderate
#79	5	5	4	1	4	5	4	1	Moderate
<i>Adaptability and Flexibility</i>									
#80	5	5	4	1	4	5	3	2	Moderate
#81	4	5	3	2	4	4	3	1	Low
#82	4	5	4	1	4	4	3	1	Moderate
#83	4	5	4	1	4	4	3	1	Moderate
#84	4	5	4	1	4	4	3	1	Moderate
#85	4	5	4	1	4	5	3	2	Moderate
#86	4	5	4	1	4	4	3	1	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table 12 presents a statistical summary for each competency statement listed under the Leadership competency cluster in Delphi round two. All 29 competency

statements meet the threshold of $Q1 \geq 4$ for inclusion as *core* competencies. In the Initiative category, competency statement #95 – leads by example and sets standards for professional behavior had the highest importance rating ($Q1 = 5$) suggesting the skill is essential for security management professionals supporting the commercial facilities sector. Within the Crisis Leadership category, competency statement #105 – remaining calm under stress received the highest rating ($Q1 = 5$) indicating the skill is indicative of a high-performing individual in the field of sport and event security management. Competency statements #87, #95, and #105 each had a high level of consensus.

Table 12

Leadership – Round Two Delphi Responses

Competency Category (#)	Importance				Frequency				Consensus Level
	Median	Dispersion			Median	Dispersion			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Initiative</i>									
#87	4	4	4	0	4	4	3	1	High
#88	5	5	4	1	4	5	3	2	Moderate
#89	4	5	4	1	4	5	4	1	Moderate
#90	5	5	4	1	4	5	3	2	Moderate
#91	4	5	4	1	5	5	4	1	Moderate
#92	5	5	4	1	4	5	4	1	Moderate
#93	4	5	4	1	4	5	3	2	Moderate
#94	4	5	4	1	4	4	3	1	Moderate
#95	5	5	5	0	5	5	5	0	High
<i>Interpersonal Awareness</i>									
#96	4	5	4	1	4	5	3	2	Moderate
#97	4	5	4	1	4	5	3	2	Moderate
#98	4	5	4	1	4	5	3	2	Moderate
#99	4	5	4	1	4	5	4	1	Moderate
#100	5	5	4	1	5	5	5	0	Moderate
#101	5	5	4	1	5	5	4	1	Moderate
#102	5	5	4	1	5	5	4	1	Moderate
#103	5	5	4	1	4	5	4	1	Moderate
#104	4	5	4	1	4	5	3	2	Moderate

Table 12 (Continued)

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Crisis Leadership</i>									
#105	5	5	5	0	5	5	4	1	High
#106	5	5	4	1	4	5	3	2	Moderate
#107	5	5	4	1	4	5	3	2	Moderate
#108	5	5	4	1	4	5	3	2	Moderate
#109	5	5	4	1	4	5	3	2	Moderate
#110	5	5	4	1	5	5	3	2	Moderate
#111	5	5	4	1	5	5	4	1	Moderate
#112	4	5	4	1	4	5	4	1	Moderate
#113	4	5	4	1	4	5	3	2	Moderate
#114	5	5	4	1	5	5	3	2	Moderate
#115	5	5	4	1	5	5	3	2	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table 13 presents a statistical summary for each competency statement listed under the Communication competency cluster in Delphi round two. All 16 competency statements meet the threshold for inclusion as *core* competencies ($Q1 \geq 4$). All competency statements in the Communication Skills and Crisis Communications categories received high ratings ($Q1 = 4$) suggesting that Communication competencies are indispensable to the work performed by sport and event security management professionals. All 29 competencies in the Communication competency cluster have moderate levels of census signifying general agreement among the expert panelists. Several panelists provided additional feedback. As an example, responses were: (a) social media cannot be overstated, (b) ability to handle large volume of information and communicate to staff is important, and (c) communication with all parties is vital.

Table 13

Communication – Round Two Delphi Responses

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Communication Skills</i>									
#116	4	5	4	1	4	5	4	1	Moderate
#117	5	5	4	1	4	5	3	2	Moderate
#118	4	5	4	1	4	5	4	1	Moderate
#119	5	5	4	1	5	5	4	1	Moderate
#120	4	5	4	1	4	5	3	2	Moderate
#121	5	5	4	1	4	5	4	1	Moderate
#122	4	5	4	1	4	5	3	2	Moderate
#123	5	5	4	1	4	5	3	2	Moderate
#124	4	5	4	1	3	4	3	1	Moderate
#125	4	5	4	1	4	4	3	1	Moderate
<i>Crisis Communications</i>									
#126	5	5	4	1	4	5	3	2	Moderate
#127	4	5	4	1	4	5	3	2	Moderate
#128	4	5	4	1	4	5	3	2	Moderate
#129	5	5	4	1	4	5	3	2	Moderate
#130	4	5	4	1	4	5	3	2	Moderate
#131	5	5	4	1	4	5	3	2	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table 14 presents a statistical summary for each competency statement listed under the Building Collaborative Relationships competency cluster in Delphi round two. The importance ratings of the expert panel indicate all 17 competency statements meet the threshold for inclusion as *core* competencies ($Q1 \geq 4$). All competency statements in the Relationship Building and Teamwork categories received a high ratings ($Q1 = 4$) and have moderate levels of consensus suggesting general agreement among the expert panelists.

Table 14

Building Collaborative Relationships – Round Two Delphi Responses

Competency Category (#)	Importance				Frequency				Consensus Level
	Median		Dispersion		Median		Dispersion		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Relationship Building</i>									
#132	5	5	4	1	5	5	4	1	Moderate
#133	4	5	4	1	4	5	4	1	Moderate
#134	4	5	4	1	4	5	3	2	Moderate
#135	4	5	4	1	4	5	3	2	Moderate
#136	5	5	4	1	4	5	4	1	Moderate
#137	5	5	4	1	4	5	4	1	Moderate
#138	5	5	4	1	4	5	4	1	Moderate
#139	5	5	4	1	4	5	4	1	Moderate
<i>Teamwork</i>									
#140	4	5	4	1	4	5	4	1	Moderate
#141	5	5	4	1	4	5	4	1	Moderate
#142	4	5	4	1	4	4	3	1	Moderate
#143	4	5	4	1	4	4	3	1	Moderate
#144	4	5	4	1	4	5	4	1	Moderate
#145	4	5	4	1	4	5	3	2	Moderate
#146	5	5	4	1	4	5	4	1	Moderate
#147	4	5	4	1	4	5	3	2	Moderate
#148	4	5	4	1	4	5	4	1	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table 15 presents a statistical summary for each competency statement listed under the Human Resource Management competency cluster in Delphi round two. The importance ratings of the expert panel indicate 15 *core* competency statements ($Q1 \geq 4$) and one *supplemental* competency statement ($Q1 \leq 3.99$). In the Staff Training and Development category, competency statement #152 – Coordinating or conducting exercises with key stakeholders received the lowest importance rating ($Q1 = 3$) and has a low level of consensus indicating a lack of agreement in the group’s majority opinion. One participant noted a redundancy between competency statement #152 and the

competency statements in the Exercise and Evaluation category in the Emergency Planning competency cluster.

Table 15

Human Resource Management – Round Two Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Staff Training and Development</i>									
#149	4	5	4	1	4	5	3	2	Moderate
#150	4	4	4	0	4	4	3	1	High
#151	4	5	4	1	4	4	3	1	Moderate
#152	4	5	3	2	3	4	3	1	Low
#153	4	5	4	1	4	4	3	1	Moderate
#154	4	5	4	1	4	4	3	1	Moderate
#155	4	5	4	1	4	4	3	1	Moderate
#156	5	5	4	1	4	4	3	1	Moderate
<i>Performance Management</i>									
#157	4	5	4	1	4	5	3	2	Moderate
#158	4	5	4	1	3	4	3	1	Moderate
#159	4	5	4	1	3	4	3	1	Moderate
#160	4	5	4	1	4	5	3	2	Moderate
#161	4	5	4	1	4	5	3	2	Moderate
#162	4	5	4	1	3	4	3	1	Moderate
#163	4	5	4	1	3	4	3	1	Moderate
<i>Employee And Labor Relations</i>									
#164	4	5	4	1	3	4	3	1	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Delphi Round Three Findings

The 31 panelists who responded in Delphi round two received the Delphi round three questionnaire via email (Appendix O). In round three, panelists were provided with the median rating for competency importance and frequency generated in Delphi round two. All competencies rated in Delphi round two were included in Delphi round three. Panelists were asked to re-rate each of the 164 competency statements on a 5-point Likert

scale to the degree of importance (1 = *Not at all important* and 5 = *Absolutely essential*) and frequency (1 = *Never* and 5 = *A great deal*) taking into consideration the group majority opinion. Appendix P contains a sample copy of the Delphi round three questionnaire. Twenty-nine of the 31 (93.5%) panelists completed Delphi round three.

After Delphi round three, the median scores and IQR for *importance* and *frequency* ratings were calculated for each competency statement. The researcher analyzed and compared the data from Delphi rounds two and three to identify meaningful changes in the median importance ratings of 75% of the expert panelists (Stines, 2003). A meaningful change, denoted by an asterisk (*), indicates that the median importance rating in Delphi round three either promoted the competency statement from *supplemental to core* ($Q1 \geq 4$) or demoted the competency statement from *core to supplemental* ($Q1 \leq 3.99$). Competencies not rated of high importance (4 or 5) by 75% of the expert panelists were eliminated from the final list of competencies. The researcher determined the level of consensus by measuring the degree of change (IQR) between Delphi rounds two and three. Plus and minus signs (+ and –) indicate positive and negative changes in the level of consensus based on the IQR for *importance* ratings. Appendix Q includes the statistical summary of data produced in round three.

In the Risk Management competency cluster (Table A2), the importance ratings of the expert panel identify 22 *core* competency statements ($Q1 \geq 4$) and 18 *supplemental* competency statements ($Q1 \leq 3.99$). Since ratings of less than 3.99 identified a competency as *supplemental*, competency statements #17 – evaluating methods to improve security loss prevention ($Q1 = 3.5$), and information loss and #20 – developing communications plans, including public messaging, in the event of loss ($Q1 = 3$) in the

Loss Prevention category were demoted. In the Business Continuity category, competency statements #31 – knowing the key concepts and variables needed to implement backup processes (Q1 = 3.5), #34 – developing, maintaining, and updating checklists for business continuity operations (Q1 = 3.5), and #35 – identifying alternate locations and required operational equipment (Q1 = 3.5) received median importance ratings below 3.99 and were demoted to *supplemental* competencies. Competency statement #32 – knowing the key concepts and variables that define an industry received a higher score (Q1 = 4) than in round two and was promoted to a *core* competency. The level of consensus within the expert panel increased on twelve competency statements with five statements shifting from low to moderate consensus, and seven statements shifting from moderate to high consensus. The level of consensus decreased for three competency statements in the Risk Management competency cluster with one competency statement decreasing from high to moderate consensus and two competency statements decreasing from moderate to low consensus.

In the Emergency Planning competency cluster (Table A3), the importance ratings of the expert panel indicate 20 *core* competency statements ($Q1 \geq 4$) and one *supplemental* competency statement ($Q1 \leq 3.99$). No meaningful change was observed in the competency importance ratings data. The level of consensus increased from moderate to high consensus on three competency statements and decreased from high to moderate consensus on two competency statements in the Communications Planning competency cluster.

In the Problem Solving and Decision Making competency cluster (Table A4), the importance ratings of the expert panel indicate 22 *core* competency statements ($Q1 \geq 4$)

and three *supplemental* competency statements ($Q1 \leq 3.99$). In the Problem Solving category, competency statement #66 – analyzing and identifying potential solutions and alternatives to assess impacts received a higher rating ($Q1 = 4$) and was promoted to a *core* competency. Competency statements #67 – networking with industry professionals to gather information or “lessons learned” and #71 – understands the concepts and processes of strategic planning, SWOT analysis, goals, and objectives each received lower ratings ($Q1 = 3.5$) than in Delphi round two resulting in demotion from *core* to *supplemental* competencies. In the Adaptability and Flexibility category, competency statement #81 – developing innovative methods of obtaining or using information ($Q1 = 4$) was promoted to a *core* competency. No meaningful change observed in the Decision Making category. The level of consensus increased on eight competency statements with two competency statements significantly shifting from low to high consensus and six competency statements shifting from moderate to high consensus. One competency statement decreased from high to moderate consensus in the Problem Solving and Decision Making competency cluster.

In the Leadership competency cluster (Table A5), the importance ratings of the expert panel indicate all 29 competency statements meet the threshold ($Q1 \geq 4$) for inclusion as *core* competencies. No meaningful change was observed in the importance ratings data. The level of consensus increased from moderate to high for seven competency statements in the Leadership competency cluster.

In the Communication competency cluster (Table A6), the importance ratings of the expert panel indicate all 16 competency statements meet the threshold ($Q1 \geq 4$) for inclusion as *core* competencies. No meaningful change was observed in the importance

ratings data. The level of consensus increased from moderate to high for four competency statements in the Communication competency cluster.

In the Building Collaborative Relationships competency cluster (Table A7), the importance ratings of the expert panel reveal 15 *core* competency statements ($Q1 \geq 4$) and two *supplemental* competency statements ($Q1 \leq 3.99$). In the Teamwork category, competency statements #145 – contributes to a priority or goal of another team member when appropriate ($Q1 = 3$) and #147 – provides training in scenario/situational problem solving to demonstrate the flow of information within groups ($Q1 = 3.5$) received lower ratings than in Delphi round two resulting in demotion from *core* to *supplemental* competencies. No meaningful change was observed in the Relationship Building category. The level of consensus increased from moderate to high on seven competency statements in the Building Collaborative Relationships competency cluster.

In the Human Resource Management competency cluster (Table A8), the importance ratings of the expert panel indicate 12 *core* competency statements ($Q1 \geq 4$) and 4 supplemental competency statements ($Q1 \leq 3.99$). In the Staff Training and Development category, competency statement #152 – Coordinating or conducting exercises with key stakeholders ($Q1 = 4$) received a higher rating and was promoted to a *core* competency. In the Performance Management category, competency statements #158 – prepares development plans for full time staff members aligning individual performance goals ($Q1 = 3.5$), #160 – uses performance evaluation systems to assess core competencies and manage performance ($Q1 = 3.5$), and #163 – provides leadership in the development of performance metrics measuring training effectiveness ($Q1 = 3.5$) received lower ratings than in Delphi round two and were demoted to *supplemental*

competencies. The only competency statement within the Employee and Labor Relations category, #164 – understands legal and regulatory principles related to labor and employment (Q1 = 3.5) received a lower rating than in Delphi round two and was demoted to a *supplemental* competency. The Employee and Labor Relations category was thereby eliminated from the final list of core competencies in the Human Resource Management competency cluster. The level of consensus increased on four competency statements with one competency statement shifting from low to moderate consensus, and three statements shifting from moderate to high consensus. One competency statement decreased from moderate to low consensus in the Human Resource Management competency cluster.

Core Competencies

Research Objective Four (4) — Rank the knowledge, skills, and abilities within each competency cluster based on importance and frequency ratings.

The statistical analysis of Delphi round three questionnaire three data resulted in a final list of 136 *core* competencies. A total of twenty-eight competencies were not rated of high importance (4 or 5) by 75% of the expert panelists and were subsequently eliminated from the final list of competencies. The median ratings for frequency were used to prioritize *core* competencies in each category within the seven competency clusters. Table 16 presents the research-based *core* competencies in Risk Management for sport and event security management professionals supporting the commercial facilities sector of PPD-21. Competencies in risk management demonstrate an ability to identify risks, threats and vulnerabilities taking into account the frequency, probability, severity and impact of risk across an organization and community (ASIS, 2015). The

core competencies presented in Table 16 reflect the KSAs utilized by supervisory-level security management professionals to address risk in the context of the sports and entertainment industry.

Table 16

Core Risk Management Competencies

Competency Category (#)	Competency Statement
<i>Risk Identification and Assessment</i>	
7.	Identifying protective measures to mitigate threat/risk/vulnerability
15.	Engaging with law enforcement partners
1.	Understanding risk assessment procedures and methods
2.	Identifying safety, security, and reputational vulnerabilities to the venue and event
3.	Developing, managing, or conducting threat/vulnerability assessments to determine the probable frequency and severity of risk categories
4.	Maintains contemporary knowledge of ethics, laws, standards, legislation, and emerging trends that may affect the risk liability environment. Understanding legal and regulatory principles related to civil liability, negligence, foreseeability, and duty of care
5.	Identifying assets (human, physical, intellectual) and determining their criticality
6.	Evaluating and mitigating risk through avoidance, reduction, transfer, and acceptance strategies
8.	Utilizing an all-hazards approach when conducting risk assessments
9.	Networking to establish an information or intelligence stream that impacts your property and area
10.	Networking to learn about new technology and mitigation strategies that are being developed and used by other properties
<i>Loss Prevention</i>	
23.	Utilizing CCTV, access control measures, and security patrols in loss control mitigation
16.	Selecting, implementing, and managing security processes to reduce the risk of loss

Table 16 (Continued)

Competency Category (#)	Competency Statement
<i>Business Continuity</i>	
39.	Gains “buy-in” from senior leadership for security related infrastructure, products, and services
28.	Knowing how the functions of a business work and relate to each other; knowing the economic impact of business decisions
29.	Developing standard operating procedures (SOPs) to mitigate threats/vulnerabilities and reduce risk to maintain business continuity
32.	Knowing the key concepts and variables that define an industry including current issues, economic vulnerabilities, distribution channels, inputs, outputs, and information sources
33.	Identifying gaps in current capabilities and establishing minimum operating needs and time objectives
36.	Drafting after action reports (AARs) and taking actions based on lessons learned
37.	Identifying and coordinating with external departments that support business operations

Table 17 identifies twenty *core* competencies supporting Emergency Planning in the sports and entertainment industry. These key work dimensions address the ability of sport and event security management professionals in the commercial facilities sector “to develop documents describing the emergency operations plans for responding to a wide variety of potential hazards” (FEMA, 2016). In addition to emergency planning capabilities, the *core* competencies identified in Table 17 emphasize the importance of conducting exercises and evaluations to assess the effectiveness of emergency plans, processes, and procedures.

Table 17

Core Emergency Planning Competencies

Competency Category (#)	Competency Statements
<i>Emergency Planning</i>	
41.	Preparing, reviewing, and approving plans to address all-hazard incidents based on the risk assessment
42.	Understanding the prevention, protection, mitigation, response, and recovery strategies for the jurisdiction
48.	Ability to communicate and educate all stakeholders involved in emergency response and operational plans
53.	Understanding of the National Incident Management System (NIMS)
43.	Understanding the interaction of the tactical, operational, and strategic response levels
46.	Ability to lead, coordinate, and initiate planning process
47.	Engaging internal and external partners in developing emergency plans and ensuring appropriate jurisdictional stakeholders are part of the planning process
44.	Critically reviewing, analyzing, assessing, and exercising emergency plans and procedures to identify vulnerabilities and areas for improvement
45.	Understanding the complexities of emergency response plans to determine resource requirements (i.e. equipment and personnel) and leveraging community/public assets to enhance your response plans
50.	Implementing a clear organizational structure or chain of command to be used in an emergency
51.	Identifying current and emerging trends to create additional plans and/or update existing plans to be more in line with best practices
52.	Understanding of the Incident Command/Unified Command System
49.	Establishing mutual aid agreements with public and private partners addressing resource needs and limitations
<i>Exercise and Evaluation</i>	
55.	Using exercises and other means to test the appropriateness and efficiency of emergency plans, processes, and procedures, including stakeholder relationships and infrastructure interdependencies
58.	Performing quality assurance to measure the implementation of protective measures
56.	Leads exercises with all public and private partners to help identify areas of improvement or previously undisclosed gaps

Table 17 (Continued)

Competency Category (#)	Competency Statement
59.	Conducts training and exercises with staff on critical incident response and the situational implementation of emergency plans
54.	Conducts exercises to validate plans through training and exercise
60.	Correcting failures through leadership table top exercise (TTX)
61.	Assessing the capabilities of partnerships (i.e. public safety agencies) and communicating expectations

Table 18 presents the research-based *core* competencies in Problem Solving and Decision Making for sport and event security management professionals supporting the commercial sector. The twenty-two KSAs identified by the expert panelists in this competency cluster include the most important aspects of applying critical-thinking skills to solve problems using logic and analysis to identify, evaluate, and implement viable solutions. The variety of *core* competencies in the Problem Solving, Decision Making, and Adaptability categories illustrates the dynamic role security management professionals play in managing uncertainty and making timely, informed decisions about complex problems. These competencies are used to guide judgement and translate information into action for improved performance by leveraging available information and resources to address relevant issues and adapt to changing circumstances.

Table 18

Core Problem Solving and Decision Making Competencies

Competency Categories (#)	Competency Statements
<i>Problem Solving</i>	
62.	Effectively using both internal resources (i.e. internal computer networks, manuals, policy, or procedure guidelines) and external resources (i.e. internet search engines) to locate and gather information relevant to the problem
63.	Using logic and analysis to identify the strengths and weaknesses, the costs and benefits, and the short- and long-term consequences of different approaches
64.	Developing mechanisms to receive accurate, real time intelligence to inform relevant decision-makers
65.	Eliciting input from subject matter experts on specific topics/areas of expertise
69.	Understanding and applying industry best practices to problem solve
70.	Facilitates groups or teams through the problem-solving processes leading to the development and implementation of new approaches, systems, structures, and methods
66.	Analyzing and identifying potential solutions and alternatives to assess impacts and develop a plan of action leveraging all available resources
<i>Decision Making</i>	
75.	Prioritizing decisions in emergency situations to protect life, property, and brand
77.	Takes personal responsibility for decision outcomes and does not make excuses for errors or problems; acknowledges and corrects mistakes
72.	Presenting logic, reasoning, and analysis to others for specific decisions and actions in a manner that is both efficient and effective
73.	Making difficult and timely decisions in highly ambiguous or uncertain situations when information is limited, incomplete or evolving
74.	Observing and evaluating the outcomes of implementing the solution to assess the need for alternative approaches and to identify lessons learned

Table 18 (Continued)

Competency Category (#)	Competency Statement
76.	Delegates to others who are directly associated with the venue or event to expedite decision making on time sensitive issues
78.	Breaks down complex information into component parts. Identifies underlying principles, patterns, or themes in an array of related information and applies causal relationships
79.	Involves others in the decision making process. Considers the perspective and expertise of others to find solutions that are acceptable to diverse groups with conflicting interests or needs
<i>Adaptability</i>	
80.	Changing plans, goals, actions, or priorities in response to changing, unpredictable, or unexpected events, pressures, and situations
81.	Developing innovative methods of obtaining or using information or resources when needed
82.	Ability and willingness to assess plans and priorities and to adapt, change or eliminate existing plans upon learning new information
83.	Develops written plans for normal or planned operational needs, but develop alternate plans for response to worst case scenarios
84.	Manages change in a way that reduces the concern experienced by others. Clarifies priorities when leading change.
85.	Asks for advice and uses feedback to improve performance
86.	Providing cross-training to develop employee skillsets and enhance their ability to adapt to situational problems that may arise

Table 19 presents the twenty-nine *core* Leadership competencies relative to the work performed by supervisory-level sport and event security management professionals supporting the commercial facilities sector. These competencies focus on the interpersonal and intrapersonal dynamics of leadership skills and behaviors, such as leading people toward meeting the organization’s mission vision, and goals; providing an inclusive workplace that fosters the development of others; facilitating cooperation and teamwork; and demonstrating self-confidence and decisiveness. The list of *core*

competencies identified by the expert panelists in the Leadership competency cluster is not exhaustive, but does include the most critical KSAs that enable sport and event security management professionals to effectively direct operations and lead teams in fulfillment of organizational objectives in safety and security.

Table 19

Core Leadership Competencies

Competency Categories (#)	Competency Statements
<i>Initiative</i>	
95.	Leads by example and sets standards for professional behavior
91.	Links mission, vision, values, goals, and strategies to everyday work
87.	Projecting trends in the industry and forecasting possible and probable futures and their implications
88.	Anticipating possible problems and developing contingency plans in advance
89.	Identifying what needs to be done and taking action before being asked to or required by the situation
90.	Acting with a sense of urgency to ensure that initiatives are executed in a timely manner before risks are realized
92.	Displays an ongoing commitment to learning and self-improvement
93.	Finds and maximizes opportunities for growth and development from multiple sources
94.	Visualizes potential problems and solutions without needing tangible, “real-life” examples. Can discuss and project the aspects and impacts of issues and decisions
<i>Interpersonal Awareness</i>	
100.	Establishing a high degree of trust and credibility with others
101.	Builds rapport by listening to, discussing and negotiating with, and rewarding, encouraging, and motivating others
102.	Works effectively with people from all backgrounds. Helps create a work environment that embraces and appreciates diversity
96.	Influencing others so that tasks, relationships, and individual needs are addressed
97.	Understands the interests and important concerns of others

Table 19 (Continued)

Competency Category (#)	Competency Statement
98.	Building consensus and securing “win-win” agreements while successfully representing a special interest in a decision
99.	Encouraging others to express their ideas and opinions
103.	Expresses confidence in ability of others to be successful
104.	Gives people latitude to make decisions in their own sphere of work
<i>Crisis Leadership</i>	
105.	Remaining calm under stress
112.	Demonstrates the ability to direct and influence people
115.	Having a thorough understanding of the command structure authority
107.	Making difficult decisions even in highly ambiguous or uncertain situations
106.	Prioritizing various competing tasks and performing them quickly and efficiently according to their urgency
111.	Demonstrates self-confidence and decisiveness
108.	Demonstrating interpersonal sensitivity with respect to those affected by a crisis
109.	Learning from a crisis and affect change toward organizational improvement
110.	Communicates publicly effectively and implements a strategy to keep all stakeholders informed of evolving situations
113.	Follows emergency procedures diverging only when required by emergent facts
114.	Documents crisis issues and scenario facts for reconstructive post-crisis evaluation

Table 20 presents the research-based *core* competencies in Communication for supervisory-level sport and event security management professionals. Communication competencies demonstrate the ability to plan and deliver information in an effective and timely manner to ensure all key stakeholders are kept informed (Workitect, 2005). The *core* competencies identified by the expert panelists involve writing, conveying verbal and non-verbal messages, presentation, listening, and group-process skills. During crisis

situations, providing guidance on the relevant information to communicate to stakeholders and selecting the appropriate communication channels to deliver messages are among the key knowledge and skill requirements of supervisory-level security management professionals.

Table 20

Core Communication Competencies

Competency Categories (#)	Competency Statements
<i>Communication Skills</i>	
118.	Preparing written material which follows generally accepted rules of style and form, is appropriate for the audience, and accomplishes its intended purposes
119.	Possesses active listening skills
116.	Communicating opinions, observations, and conclusions such that they are understood
117.	Verbally presenting information such that the intended purpose is achieved
120.	Uses non-verbal communication skills to convey messages. Interprets non-verbal behavioral signals or displays of emotion
121.	Ability to communicate complex information in layman's terms. Selects language and examples tailored to the level and experience of the audience
122.	Uses persuasive communication to gain support for operational plans, initiatives, and work processes
123.	Develops and distributes clear, concise, and accurate information to all key stakeholders
125.	Understands the capabilities and effective use of different communications technologies to achieve messaging goals
124.	Understands the basic concepts of public relations and media relations
<i>Crisis Communications</i>	
129.	Maintaining poise and posture to deliver critical messages to stakeholders under pressure
126.	Expressing relevant information appropriately to individuals or groups taking into account the audience and the nature of the information (i.e. under normal conditions or during an emergency)

Table 20 (Continued)

Competency Category (#)	Competency Statement
127.	Designing a crisis communications plan that addresses the need for effective and timely communication between the organization and all the stakeholders impacted by an event or involved during response and recovery efforts
128.	Providing guidance within the plan to determine frequency of communications needed to each stakeholder before an event, during the event itself, and following an event
130.	Selecting appropriate communications channels for the intended purpose and delivery of messages
131.	Effectively uses social media to disseminate accurate information during crisis situations

Table 21 presents the fifteen *core* competencies identified by the expert panelists in the Building Collaborative Relationships competency cluster. These competencies enable sport and event security management professionals to develop and maintain relationships across a broad range of people, groups, and networks. These *core* competencies emphasize the importance of multi-agency coordination and collaboration, as well as teamwork between the internal and external partners supporting security operations as sport and entertainment venues in the commercial facilities sector.

Table 21

Core Building Collaborative Relationships Competencies

Competency Categories (#)	Competency Statements
<i>Relationship Building</i>	
132.	Developing constructive and cooperative working partnerships with others
133.	Adjusting behavior in order to establish relationships across a broad range of people and groups
134.	Reaching formal or informal agreements that promote mutual goals and interests, and obtaining commitment to those agreements from individuals or groups
135.	Understanding goals of partners and stakeholders to help achieve shared success
136.	Proactively builds relationships with others in the field who can provide information, intelligence, support, and assistance
137.	Develops strategies to develop, build, or strengthen relationships
138.	Establishes trust and cohesion through regular interaction to achieve mutual goals within organizations
139.	Establishes positive and collaborative relationships with venue personnel; customers; local, state, and federal public safety authorities; and international authorities
<i>Teamwork</i>	
140.	Influencing groups to accomplish a goal and fulfill a need through joint association
141.	Determining when to be a leader and when to be a follower depending on what is needed to achieve the team's goals and objectives
142.	Using a group approach to identify problems and develop solutions based on group consensus
143.	Developing a shared vision and group identity
144.	Designs a strong team structure with defined tasks and processes that orients and engages all team members
146.	Works cooperatively with others to identify and develop solutions
148.	Provides effective coaching to develop or enhance the skills of other team members

Table 22 presents the research-based *core* competencies in Human Resource Management relative to the area of sport and event security management. Human

Resource Management competencies demonstrate the ability to manage employee capabilities strategically through training, development, commitment, motivation, and participation for the purpose of creating and maintaining a skillful and committed workforce (Becker & Huselid, 2006). The expert panelists identified twelve *core* competencies in the Staff Training and Development and Performance Management categories contributing to a successful job performance. These functional competencies involve specific workforce management activities focusing on employee development, engagement, performance, and continuing education.

Table 22

Core Human Resource Management Competencies

Competency Category (#)	Competency Statements
<i>Staff Training and Development</i>	
149.	Identifying the knowledge and skill requirements of a specific job, task, or role
150.	Knowing the techniques and methods used in training and reinforcement; understanding their appropriate use
151.	Designing or selecting employee training and development programs that align with organizational goals and objectives
152.	Coordinating or conducting exercises (table-top, full-scale, drills) with key stake holders (i.e. law enforcement, fire department, EMS) as needed to establish required capabilities
153.	Identifying training needs and establishing procedures to ensure staff receive comprehensive training germane to their responsibilities
154.	Regularly reviews and updates training and development strategies to address current and evolving issues
155.	Promotes continuous learning through individual and organizational training and education
156.	Documents employee, vendor and contractor training records; and documents compliance with necessary safety and security training requirements and other regulatory mandates

Table 22 (Continued)

Competency Category (#)	Competency Statement
<i>Performance Management</i>	
157.	Develops job descriptions and ensures staff have a clear understanding of their role(s) and responsibilities
161.	Provides specific performance feedback, both positive and corrective, to address performance gaps or problems. Develops improvement plans with specific goals to improve effectiveness in current or future job
162.	Understands the psychological needs of people and provides rewards, recognition, and incentives to motivate employees
159.	Establishes succession plans

Summary

This chapter discussed the researcher’s process for achieving the research objectives: professional profile of participants, competency requirements, core themes, and ranking KSAs. The researcher verified the data was accurately displayed and reported findings. Thirty-six expert panelists, qualified by their education, experience, and role diversity in security management in the commercial facilities sector (PPD-21), used their knowledge and expertise to identify, validate, and rate competencies essential to the work performed by current and future sport and event security management professionals. A total of 136 *core* competencies were identified and agreed upon through an open-ended Delphi round one questionnaire, and importance and frequency ratings gathered in Delphi rounds two and three. The median importance ratings for 75% of the 36 expert panelists indicated which competencies are most critical in the areas of Risk Management, Emergency Planning, Problem Solving and Decision Making, Leadership, Communication, Building Collaborative Relationships, and Human Resource Management. Chapter V further discusses findings and conclusions from the results of

the study, and offers recommendations for the practical application of *core* competencies and future research in sport and event security management.

CHAPTER V – FINDINGS, DISCUSSION, AND RECOMENDATIONS

The safe and secure operations of sports venues and areas for public assembly, designated as the commercial facilities sector under PPD-21, is essential to national security, public health, and safety (U.S. DHS, 2017a). The national security agenda of the United States government calls for security management professionals to develop expertise to support the essential functions of risk management, threat identification and mitigation, and to develop effective countermeasures to protect sport event venues from potential threats (U.S. DHS, 2015a). Research-based competencies for security management professionals supporting the commercial facilities sector have been minimally addressed in prior research (Becton, 2013a; Cunningham, 2007; Miller, 2012). The purpose of this study was to identify core competencies for supervisory-level security management professionals working in the commercial facilities sector who are tasked with helping to detect, deter, prevent, and respond to potential risks and threats at sport and entertainment venues. This chapter presents a summary of findings, discussion, limitations, recommendations for future research, and conclusions.

Summary of Findings

The objectives of this study were accomplished using qualitative and statistical analysis techniques. This section discusses the study's four empirical findings, conclusions, and presents recommendations by the researcher.

Finding One

The sport and event security management profession is comprised of members of various demographic segments. The participant profile in the current study demonstrates differences in age, gender, education, and experience among the expert panelists. The

majority (24 of 36) of expert panelists' ages are reported between 45 – 64 and a total of 15 respondents report having only five to ten years of experience. This finding indicates that a substantial number of participants qualified for inclusion in this study gained experience in other fields of work before transitioning into the sport and events security management area, specifically in the commercial facilities sector. The description of the professional profiles of the expert panelists (Appendix K) provides additional information about each panelists' career experience and elucidates how previous work history in the fields of law enforcement, emergency management, fire safety, criminal investigations, homeland security, athletics administration and business contribute to career progression into supervisory-level security management positions in the sports and entertainment industry.

Conclusion. The current supervisory-level security management workforce supporting the commercial facilities sector possess a wide array of special expertise in related fields. Although these individuals possess many of the desired skills organizations seek when making hiring decisions for supervisory-level security management positions, there is a need for continuing education and learning programs to promote and ensure exceptional standards of performance.

Recommendation. To ensure the incumbent supervisory-level sport and event security management workforce possess the requisite competencies to successfully perform key risk management functions as dictated in PPD-21, the validated list of core competencies should be used to develop HRD strategies in performance management, training design, talent development, and career planning. These findings can be used by the U.S. government, industry stakeholders, and academics to create T&D programs in

security management, and help integrate the strategic application of HRD in other risk mitigation efforts.

Finding Two

The Risk Management competency cluster consisted of the greatest number of core competencies identified through the three-round Delphi study. A total of 20 competencies statements were deemed of high importance (4 = *very important* or 5 = *absolutely essential*) and are included in the final list of core competencies. The categories Risk Identification and Assessment, Loss Prevention, and Business Continuity within the Risk Management competency cluster indicate the areas that are most important to the work performed by security professionals in the commercial facilities sector. The confirmed list of core competencies within each category provides focus on the most important KSAs related to the discipline of Risk Management in sport and event safety and security operations. A total of 11 core competencies were identified in the Risk Identification and Assessment category and a total of seven core competencies were identified in the Business Continuity category. Only two core competencies were identified in the Loss Prevention category. The core competencies identified in the Loss Prevention category are: (#23) utilizing CCTV, access control measures, and security protocols in loss control mitigation and (#16) selecting, implementing, and managing security processes to reduce the risk of loss. The data demonstrates that current security management professionals place higher priority on risk identification and assessment and business continuity strategies than on loss prevention.

Conclusion. The validated list of core competencies of the current study reveals practitioners' view towards risk management as a systematic process of addressing risks,

threats, and vulnerabilities. Although loss prevention is considered a byproduct of risk management practices (U.S. DHS, 2011; Schwarz et al., 2015), practitioners only view technology systems and security processes to control and reduce the risk of loss as essential competencies in the Loss Prevention category. Security management professionals in the commercial facilities sector place greater emphasis on the specialized KSAs for identifying protective measures to mitigate threats and vulnerabilities, understanding and implementing risk assessment procedures, evaluating risks, and leveraging partnerships and resources to address potential risks and threats in accordance with current laws and regulations. New competencies incorporate intellectual, procedural, and technological strategies in utilizing an all-hazards approach towards risk management, but do not consider the potential impact these practices may have on reducing the risk of loss.

Recommendation. To address the gap between theory and practice, the security management workforce might benefit from education on risk evaluation and management practices to reduce legal exposure, prevent loss, and minimize damages. There is a direct link between effective risk management and the processes used to avoid loss or liability litigation (Mitchell, Ray, & Van Ark, 2016). Increasing practitioners' understanding of how risk management principles and practices pertain to loss prevention could provide quantifiable measurements for success. Providing the current security management workforce with a set of metrics for loss prevention could help professionals communicate the extent to which risk management practices (detection, deterrence, reduction, and mitigation) bring value to their organization. Such quantifiable data would provide valuable information to stakeholders about financial losses and gains, which could

ultimately be used to procure additional funding for resources that demonstrably enhance safety and security. Sport and event security management professionals should leverage the core competencies in the Loss Prevention category to evaluate the effectiveness of current security products and processes and improve existing loss prevention systems on a continuous basis.

Finding Three

The Emergency Planning competency cluster was expanded after Delphi round one to include an additional category: Exercise and Evaluation. Although the DHS provides general recommendations on conducting training and exercises (U.S. DHS, 2011b), foundational concepts in exercise design, timing, scope, and implementation are not specifically mentioned. Six panelists specifically mentioned the use of exercises to test emergency plans and procedures to prepare staff, identify gaps or vulnerabilities, recognize infrastructure interdependencies, test plan effectiveness, improve communication, and engage with stakeholders.

Conclusion. This finding is consistent with the literature regarding the appropriate use of exercise and evaluation to validate plans and policies, clarify roles, and identify gaps in operations (Hall, 2010). The core competencies in the Exercises and Evaluation category identified in the current study indicate the utilization of exercises and other means to test the appropriateness and efficiency of emergency plans, processes, and procedures. In describing the requisite KSAs pertaining to exercise and evaluation, the expert panelists identified competencies they believe will enhance emergency preparedness by developing the capabilities of staff and key stakeholders (i.e. public and private partners). Without formal guidelines from the government, sports leagues, venue

and event management groups, or association bodies (i.e. NCAA) addressing the use of exercises to evaluate emergency response plans and to correct failures, variation will persist within the industry.

Recommendation. Several recommendations can be made to enhance emergency preparedness through the use of exercises and evaluation. Developing industry-wide standards or “best practices” for exercise and evaluation may enhance overall safety and security operations. It is recommended the validated core competencies in the Exercise and Evaluation category provide a basis for the development a curriculum framework for shared industry standards. Security management professionals should utilize the seven validated core competencies in their implementation of workforce development plans to help identify areas for improvement, communicate expectations, and strengthen partnerships with supporting agencies. Various outcomes can be explored using scenario-based and capability-based type exercises utilizing different formats such as table-top discussions, functional exercises, or full-scale exercises.

Finding Four

Leadership competencies are perceived by the expert panelists as critical to the success of current and future security management professionals supporting the commercial facilities sector. All twenty-nine competencies identified in the Leadership competency cluster were deemed of high importance (4 = very important or 5 = absolutely essential) and included in the final list of core competencies. Some of the core competencies include (#95) leads by example and sets standards for professional behavior, (#100) establishing a high degree of trust and credibility with others, (#105)

remaining calm under stress, and (#107) making difficult decisions even in highly ambiguous or uncertain situations.

Conclusion. This finding is consistent with Deloitte's (2017) report on human capital trends, which states that organizations need leaders who display agility and can thrive in rapidly changing environments. Successful change efforts depend upon skilled leadership (Kotter, 2012). Risk management efforts have traditionally focused mostly on important causes of risk such as weather, crowd, and traffic related issues (U.S. DOJ, 2007), and ways to deal with the risk. Moreover, scholarship in the discipline of organizational crisis management has paid little attention to HRD and the fact that people are fundamental to accomplishing goals in safety and security (Hutchins & Wang, 2008). Albeit, some research has addressed the importance of crisis leadership in the realm of sport and event security management (Miller, 2012).

Recommendation. Sport and event security management professionals can use the validated list of core competencies in the Leadership competency cluster as a benchmark in assessing his or her own skills. The validated list of core competencies is a master list of competencies all security professionals in the commercial facilities sector should possess. The validated list defines the baseline skillset for sport security management professionals holding leadership positions. This validated list can be used to compare to the learning objectives outlined in FEMA's IS-240.B: Leadership and Influence course (Appendix A) designed for individuals involved in crisis and emergency management decisions. Comparisons and correlations can be made to determine whether additional competencies need to be added or amended for decision makers in the commercial facilities sector.

Finding Five

According to the study's expert panelists, staff training and development and performance management are the most important subcomponents of human resource management. The analysis of findings suggests that human resource management is a process composed of specific activities: developing job descriptions, hiring, orientation, identifying training needs, conducting exercises, addressing performance gaps, and conducting performance appraisals and providing feedback. Some of the core competencies include (#149) identifying the knowledge and skill requirements of a specific job, task, or role, (#153) identifying training needs and establishing procedures to ensure staff receive comprehensive training germane to their responsibilities, and (#162) understands the psychological needs of people and provides rewards, recognition, and incentives to motivate employees.

Conclusion. A human resource-based approach to risk management is a cornerstone factor of organizational success (Flouris & Yilmaz, 2010). Human resource management activities such as staff development, education and training, motivation, and performance management, help organizations accomplish their goals by linking investments in human capital to objectives in safety, security, and risk management. By not developing their employees and leveraging talent, organizations put themselves at risk of complacency by not taking advantage of what employees could be contributing (Erven, 2009). Strategic human resource management practices link individual performance efforts to organizational needs in safety and security, thereby enhancing the overall effectiveness of safety and security operations.

Recommendation. The validated list of essential Human Resource Management competencies are guidelines for sport and event security management professionals to develop effective human resource management strategies that address organizational needs in risk management. After performing a needs assessment, security management professionals can use the defined list of competencies to create employee development plans (including applicable training), succession plans, and promote continuous learning. This can provide educational opportunities for individuals to develop their skillset and ultimately increase the organizational human capital.

Discussion

A set of research-based core competencies for security management professionals may provide consistency among sport organizations and may also lead to the development of specialized training curriculums in sport event security management, formalized learning systems, and operations-based exercises to validate plans and policies, clarify roles, and identify resource gaps in security operations. The research study provided a final product of 136 competencies developed and adapted through a series of questionnaires with a panel of expert practitioners. The panel of experts was selected based on their education, experience, and expertise in the field of sport and event security management. Therefore, the outcome of this study has been a research-based set of core competency requirements for current and future security management professionals responsible for helping to detect, deter, prevent, and respond to potential risks and threats at sport and entertainment venues.

Ideally, these core competencies will provide the foundation for the development of OD interventions and learning programs used to enhance individual and organizational

performance capabilities through HCD. These validated competencies can be used as a basis for sport and event security management professionals and their employers to refer to when deciding what training and educational programs to select, especially if their organizations have limited funding and cannot design their own comprehensive T&D programs or HCD initiatives. Additional learning tools are needed to assist in developing the defined list of core competencies for sport and event security management professionals, which are not already addressed or supported by current T&D programs offered by the FEMA, DHS, or other organizations/agencies supporting the commercial facilities sector.

Competencies in the Risk Management, Emergency Planning, and Communication were assigned some of the highest median scores. This finding was consistent with previous research discussed in the review of literature. Practitioners and researchers identified those areas as critical to effective sport and event safety and security. The study's findings also reinforced the importance of other subsidiary areas such as Problem Solving and Decision Making, Leadership, Building Collaborative Relationships, and Human Resource Management. Therefore, it is important for the sport and entertainment industry to consider each of these competency clusters in developing HRD strategies to support their supervisory-level security workforce.

Developing core competencies among supervisory-level security management professionals helps to improve organizational effectiveness and mitigate risk by linking business strategies to individual performance efforts. The set of research-based core competencies created by this study provides industry stakeholders and academics in developing a clear strategy for developing competencies for the current and future sport

and event security management workforce. These competencies can be used to create a systematic change in the way the future and incumbent security management workforce is trained as the profession continues to evolve. The true value of the identified core competencies will ultimately be measured by their use and implementation as a tool for performance management, employee recruitment and selection, talent development, career planning, and as a curriculum framework for training and education within the commercial facilities sector.

Limitations

The researcher identified some limitations during the research study. Attrition was a primary concern in the design of this study. Twenty-nine of the 36 expert panelists successfully completed all three rounds of the Delphi study (93.5%). Although this is a high return rate for a Delphi study, the size of the groups (law enforcement, security operations, and emergency services) varied in each round and prevented the researcher from performing a valid comparison of differences within groups. In addition, the Delphi questionnaires were very extensive with 164 competency statements included in rounds two and three which may have contributed to the attrition rate.

Recommendations for Future Research

The research study and findings have provided several recommendations for research future research. Although this study identified and validated core competencies for supervisor-level sport and event security management professionals, the need exists for further research to compare the perceived importance of specific competencies between groups (law enforcement, security operations, and emergency services).

Replicating this study with a larger population sample would add information on how to best support each professional discipline within the Unified Command Group.

This study is only a start to defining competencies. Further research needs to be conducted on creating tools to measure and evaluate these competencies. Another study could investigate existing T&D programs to determine if the validated competences produced in this study are supported in publicly available and federally funded educational programs. Since these programs support homeland security efforts for all sectors of PPD-21, it would be useful and advantageous to ensure education programs include competencies specific to commercial facilities.

The validated list of competencies from this study should be revisited and competencies should be identified for sport and event security management practitioners at various skill levels (novice, advance beginner, competent, proficient, expert) and with less experience (Benner, 1982). This would help guide the novice practitioner to becoming an expert and may assist in the development of performance improvement, career development, and succession plans (Mansfield, 1996). Researcher should seek more comprehensive information about how security management professionals learn to become niche experts in the commercial facilities sector. More data on the topic would be useful in adding to the body of knowledge in cross disciplinary studies in sport and event security management and HCD.

Conclusions

Research indicates that human capital plays a significant role in an organization's approach to risk management (Lalonde & Boiral, 2012). This study was initiated based on the premise from existing research that human resource practices significantly

influence organizational effectiveness in sport facility operations and risk management (Schwarz, Hall, & Shibli, 2015). While previous research addresses competency standards for security professionals working in intercollegiate athletics (Cunningham, 2007) and for professional sport leagues and venues (Miller, 2012), these studies focus on crisis management and crisis leadership competencies and neglect the essential functions of risk assessment, threat identification and mitigation supported by PPD-21. This study has identified and validated competencies to assist and support sport and event security professionals, and the organizations who employ them, by determining the specialized knowledge and skill required for effectively managing risks through prevention, protection, mitigation, response, and recovery.

The present study employed a human capital theory approach to risk management and explored the core competencies requirements for supervisory-level security management professionals working in the commercial facilities sector. The study contributes to the literature by providing a list of validated competencies for security management professionals supporting the commercial facilities sector considering the interdependence of law enforcement, security operations, and emergency services (fire, EMS, and public works) personnel in group decision-making. The experts were selected based on their experience, education, and role diversity to represent the shared decision-making process of the Unified Command Group. The review of literature and combined expertise of the panel produced an extensive list of competencies ($N = 164$), which was validated through a Delphi methodology producing 136 core competencies. These core competencies define the baseline skillset for current and future supervisory-level sport and event security management professionals supporting the commercial facilities sector.

The wide range of opportunity for the implementing the findings presented in the current study provide researchers and practitioners with a “map in hand” to expand HRD research and practice in the emerging field of sport and event security management. The sports and entertainment industry can look to reform risk management practices by focusing on HCD as a critical asset. In today’s rapidly evolving threat environment there is a critical need for a competent and progressive security workforce. Not only should individuals learn the necessary skills for a successful job performance, but they should continuously build upon the knowledge and understanding of core job functions. To avoid complacency, organizations should take a proactive stance toward employee development to increase organizational preparedness through investments in human capital.

As technology continues to advance in the digital age, it is important that organizations do not become overly dependent on products and systems that provide support to security operations. Rather, human resources should be educated and trained to manage the implementation and application of feasible security solutions in order to withstand any kind of system disruption or failure. Technology advancements may never adequately replace the human element in creative thinking, problem-solving, and critical decision making. By viewing expertise as a key resource, organizations should continue to develop and leverage the capabilities of knowledgeable and trained human resources.

The ever-changing nature of the security discipline requires industry stakeholders to engage in systematic and strategic planning that includes a focus on current and future workforce development initiatives. By applying the core competencies identified in the current study through the implementation of strategic HRD initiatives, the U.S.

government and other industry stakeholders may find new, innovative approaches to venue and event protection. Sports and entertainment events underpinning American culture will continue to grow and influence the way events are managed and secured on a global scale. In setting the standard for effective security management, researchers and practitioners should continue to investigate the ways in which we can effectively manage risk and uncertainty through knowledge and skill development.

APPENDIX A – DHS/FEMA TRAINING RESOURCES

The courses listed below represent recommended training courses for individuals working in risk management, emergency management, and sport and special event safety and security. These courses provide a well-rounded set of fundamentals for those in the security management profession. Many students build on this foundation to further develop their careers.

Table A1.

FEMA Training Courses

FEMA Training Courses	
Online	
<u><i>Course Code</i></u>	<u><i>Course Title</i></u>
<i>IS-15.b</i>	Special Events Contingency Planning for Public Safety Agencies
<i>IS-100.b</i>	Introduction to the Incident Command System
<i>IS-120.a</i>	An Introduction to Exercises
<i>IS-200.b</i>	ICS for Single Resources and Initial Action Incidents
<i>IS-200.d</i>	Fundamentals of Emergency Management
<i>IS-230.d</i>	Fundamentals of Emergency Management
<i>IS-235.c</i>	Emergency Planning
<i>IS-240.b</i>	Leadership and Influence
<i>IS-241.b</i>	Emergency Planning
<i>IS-242.b</i>	Effective Communication
<i>IS-244.b</i>	Developing and Managing Volunteers
<i>ICS 300</i>	Intermediate ICS for Expanding Incidents
<i>IS-454</i>	Fundamentals of Risk Management
<i>IS-700.a</i>	National Incident Management System (NIMS), An Introduction
<i>IS-800.b</i>	National Response Framework, An Introduction
<i>IS-860.c</i>	The National Infrastructure Protection Plan, An Introduction
<i>IS-913.a</i>	Critical Infrastructure Security and Resilience: Achieving Results through Partnership and Collaboration
<i>IS-921.a</i>	Implementing Critical Infrastructure Security and Resilience
Workshops	
<i>AWR-167</i>	Sport Event Security Management
<i>MGT-404</i>	Sports and Special Events Incident Management
<i>MGT-412</i>	Sport Event Evacuation Training and Exercise
<i>MGT-440</i>	Sports and Special Events Enhanced Incident Management

APPENDIX B — PERMISSIONS FOR FIGURE 3



Berrett-Koehler Publishers
1333 broadway suite 1000
oakland ca 94612
tel 510.817.2277
fax 510.817.2278
www.bkconnection.com

kate piersanti
copyright editor
2868 flannery road
san pablo ca 94806
tel 510.697.6333
fax 510.724.2081

12 October 2017

Elizabeth Voorhees
Director of Certifications and Compliance
National Center for Spectator Sports Safety and Security (NCS4)
The University of Southern Mississippi
118 College Drive, #5193
Hattiesburg, MS 39406

Hello Elizabeth,

You have permission to use the material that you requested, as you requested, from *The Foundations of Human Resource Development* by Swanson, Holton.

Please identify the source of material as follows:

Reprinted with permission of the publisher. From (title of book),
copyright© (year) by (author), Berrett-Koehler Publishers, Inc.,
San Francisco, CA. All rights reserved. www.bkconnection.com

Thank you for selecting one of our books and best to you with your work.

Go well,

kate piersanti
copyright editor
berrett-koehler publishers inc
2868 flannery road
san pablo ca 94806
www.bkconnection.com

"the greatness of a nation and its moral progress can be judged by the way its animals are treated." mahatma gandhi

"until one has loved an animal, a part of one's soul remains unawakened." anatole france, french author, nobel laureate

APPENDIX C – PERMISSIONS FOR TABLE 1

From: [J. Bret Becton](#)
To: [Elizabeth Voorhees](#)
Subject: RE: Permission to reprint table
Date: Tuesday, November 07, 2017 8:50:12 AM
Attachments: [image001.png](#)

Sure thing. Good luck!

Regards,

Bret

From: Elizabeth Voorhees [mailto:Elizabeth.Voorhees@usm.edu]
Sent: Monday, November 6, 2017 4:10 PM
To: J. Bret Becton <bret.becton@louisiana.edu>
Subject: Permission to reprint table

Good afternoon Dr. Becton,

I am writing to ask permission to use the *Job Content Domains for Sport Security Professionals* table, featured in the Technical Report: Sport Security Professional Certification Exam, within my dissertation research. Please see below:

Job Content Domains for Sport Security Professionals

Resulting KSA Dimensions	Dimension Weight
Business and Facility Management	13%
Emergency Planning	13%
Emergency Management	21%
Legal and Regulatory	18%
Crowd Management	19%
Security Practices and Principles	16%

The purpose of my study is to identify competencies for supervisory-level sport event security management professionals. I would like to include the table in my literature review to acknowledge previous research addressing knowledge and skill requirements for the security management professionals working in the sports and entertainment industry.

Thank you for your consideration.

All best,
Elli

APPENDIX D — PERMISSIONS FOR TABLE 2

ELSEVIER LICENSE TERMS AND CONDITIONS

Apr 23, 2018

This Agreement between Ms. Elizabeth Voorhees ("You") and Elsevier ("Elsevier") consists of your license details and the terms and conditions provided by Elsevier and Copyright Clearance Center.

License Number	4207080293636
License date	Oct 13, 2017
Licensed Content Publisher	Elsevier
Licensed Content Publication	Human Resource Management Review
Licensed Content Title	What is (or should be) the difference between competency modeling and traditional job analysis?
Licensed Content Author	Juan I. Sanchez,Edward L. Levine
Licensed Content Date	Jun 1, 2009
Licensed Content Volume	19
Licensed Content Issue	2
Licensed Content Pages	11
Start Page	53
End Page	63
Type of Use	reuse in a thesis/dissertation
Portion	figures/tables/illustrations
Number of figures/tables/illustrations	1
Format	both print and electronic
Are you the author of this Elsevier article?	No
Will you be translating?	No
Original figure numbers	Table 1. A comparison of traditional job analysis and competency modeling
Title of your thesis/dissertation	Mitigating Risk: A Delphi Study Identifying Competencies in Sport Event Security Management
Expected completion date	May 2018
Estimated size (number of pages)	160
Requestor Location	Ms. Elizabeth Voorhees 324 Legacy Blvd. HATTIESBURG, MS 39402 United States Attn: Ms. Elizabeth Voorhees
Publisher Tax ID	98-0397604
Total	0.00 USD

APPENDIX E – PARTICIPANT RECRUITMENT EMAIL

Greetings,

My name is Elizabeth (Elli) Voorhees and I am a doctoral candidate in the Human Capital Development program at the University of Southern Mississippi. As part of my dissertation research on core competencies for sport and event security management professionals, I am seeking volunteers to participate in a series of three surveys.

The success of this study depends on the knowledge of industry experts. You have been identified as a potential candidate for participation in this study because you participated in professional development activities (summits, conferences, trainings) through the National Center for Spectator Sports Safety and Security (NCS4) within the past 5 years.

The purpose of this study is to identify core competencies for supervisory-level security management professionals working in the commercial facilities sector (stadiums, arenas, and areas for public assembly) who are tasked with helping to detect, deter, prevent, and respond to potential risks and threats at sport and entertainment venues. *Competency* refers to an individual's demonstrated knowledge, skills, or abilities.

The results of this study will provide guidance on organizational strategies in performance improvement, training design, talent development, and career planning in sport security management. Participants will benefit from having ownership of the resulting core competency model. At the conclusion of the study, the researcher will provide a summary of the results for individual and/or organizational use.

QUALIFICATIONS

To qualify for participation in this study, you must meet the following criteria:

1. Have at least five years of experience working in sport and event security management
2. Currently hold a supervisory-level position within your organization (responsible for the oversight of entry-level and mid-level venue and event staff or hold a command position)
3. Work within the [Commercial Facilities Sector of PPD-21](#) which includes sports leagues, areas for public assembly (i.e. stadiums and arenas), and outdoor events (i.e. amphitheaters or road races).

TIME REQUIREMENTS

The study will require participants to complete a series of three questionnaires. The time commitment is estimated to take less than one hour (about 15-20 minutes per questionnaire). The study will span over the course of 8-10 weeks. At two-week intervals, participants will be emailed a survey and asked to identify and rate competencies that are perceived as essential to the work performed by outstanding or

exemplary security management professionals. Participation in this study is voluntary and all information is confidential.

If you meet the criteria listed above and are interested in participating in this study, please submit the [Research Participant Contact Form](#) by _____. Thank you for your consideration.

Research Participant Contact Form

Thank you for your interest in participating in this study. Your involvement is key to identifying core competencies for security management professionals. By completing this form you permit the researcher to contact you about participation in this study.

Name *

First Last

Email *

Phone *

 - -

####

Job Title *

Company / Organization *

Age *

- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65 years or older

Gender *

Number of years working in security management for sports and entertainment events in the commercial facilities sector *

- 5-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- More than 25 years of experience

Highest degree earned *

- GED
- Associate's degree
- Bachelor's degree
- Master's degree
- Juris Doctorate
- Doctoral degree

Which occupational group best describes your current role? *

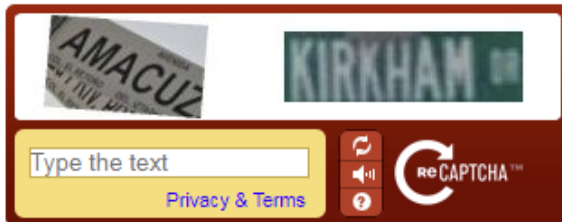
- Facility/Event Security Management
- Law Enforcement
- Emergency Management
- Fire/HAZMAT
- Emergency Medical Services
- Other

Please check the box if you meet the stated criteria. *

- I have at least five years of experience working in sport and event security management
- I currently hold a supervisory-level position with my organization (responsible for the oversight of entry-level and mid-level venue and event staff or hold a command position)
- I work within the Commercial Facilities Sector of PPD-21, which includes sports leagues, areas for public assembly (i.e. stadiums and arenas), and outdoor events (i.e. amphitheaters or road races).

Please upload your most recent bio or resume. The researcher uses work history information to select the most qualified participants for this study. A summary of each participant's qualifications is included in the final dissertation. However, identities are kept confidential. *

SELECT FILES



Continue

[AUTOMATED REPLY]

Thank you for submitting your contact information. I will send out additional information regarding participation in this study after reviewing all submissions. Only 36 panelists are required for the current study. Selected participants will receive an explanation of research procedures and consent form within one to two weeks.

APPENDIX F – PRELIMINARY SET OF COMPETENCIES

<p>Risk Management – Demonstrate ability to identify threats/risks and vulnerabilities taking into account the frequency, probability, severity and impact to achieve a holistic view of risk across the organization and community (ASIS, 2015).</p>
<p>Risk Identification and Assessment</p> <ul style="list-style-type: none"> • Understanding risk assessment procedures (ASIS, 2015) • Identifying safety and security vulnerabilities to the venue and event (U.S. DHS, 2011b) • Developing, managing, or conducting threat/vulnerability assessments to determine the probable frequency and severity of risk categories (ASIS, 2015) • Understanding legal and regulatory principles related to civil liability (ASIS, 2015)
<p>Loss Control</p> <ul style="list-style-type: none"> • Selecting, implementing, and managing security processes to reduce the risk of loss (ASIS, 2015) • Evaluating methods to improve security and loss prevention and information loss prevention systems on a continuous basis through auditing, review, and assessment (ASIS, 2015) • Conducting cost-benefit analyses and assessing alternative solutions in terms of financial, psychological, and strategic advantages and disadvantages (McLagan & Suhadolnik, 1989)
<p>Business Continuity</p> <ul style="list-style-type: none"> • Knowing how the functions of a business work and relate to each other; knowing the economic impact of business decisions (McLagan & Suhadolnik, 1989) • Developing standard operating procedures (SOPs) to reduce risk and maintain business continuity (U.S. DHS, 2011) • Knowing the strategy, structure, power networks, financial position, and systems of a specific organization (McLagan & Suhadolnik, 1989) • Knowing the key concepts and variables that define an industry including current issues, economic vulnerabilities, distribution channels, inputs, outputs, and information sources (McLagan & Suhadolnik, 1989)

Emergency Planning – Ability to develop documents describing the emergency operations plan for responding to a wide variety of potential hazards (FEMA, 2016)

- Preparing, reviewing, and approving plans to address all-hazard incidents (FEMA, 2016)
- Understanding the prevention, protection, mitigation, response, and recovery strategies for the jurisdiction (FEMA, 2016)
- Understanding the interaction of the tactical, operational, and strategic response levels (FEMA, 2016)
- Critically reviewing, analyzing, and assessing emergency plans and procedures to identify gaps and areas for improvement (ASIS, 2015)
- Understanding the complexities of emergency response plans to determine resource requirements (i.e. equipment and personnel; ASIS, 2015)

Problem Solving and Decision Making - Applying critical-thinking skills to solve problems by generating, evaluating, and implementing solutions (ASIS, 2015)
Problem Solving
<ul style="list-style-type: none"> • Effectively using both internal resources (i.e. internal computer networks, manuals, policy, or procedure guidelines) and external resources (i.e. internet search engines) to locate and gather information relevant to the problem (ASIS, 2015) • Using logic and analysis to identify the strengths and weaknesses, the costs and benefits, and the short- and long-term consequences of different approaches (ASIS, 2015)
Decision Making
<ul style="list-style-type: none"> • Effectively and efficiently present logic, reasoning, and analysis to others for specific decisions and actions (ASIS, 2015) • Making difficult decisions even in highly ambiguous or uncertain situations (Workitect, 2005) • Observing and evaluating the outcomes of implementing the solution to assess the need for alternative approaches and to identify lessons learned (ASIS, 2015)
Adaptability and Flexibility
<ul style="list-style-type: none"> • Changing plans, goals, action, or priorities in response to unpredictable or unexpected events, pressures, and situations (ASIS, 2015) • Developing innovative methods of obtaining or using information or resources when needed (ASIS, 2015)

Leadership – The ability to lead people toward meeting the organization’s mission vision, and goals; provide an inclusive workplace that fosters the development of others, facilitates cooperation and teamwork, and supports constructive resolution of conflicts (ASIS, 2015)

Initiative

- Projecting trends in the industry and visualizing possible and probable futures and their implications (McLagan & Suhadolnik, 1989)
- Anticipating possible problems and developing contingency plans in advance (ASIS, 2015)
- Identifies what needs to be done and takes action before being asked to or required by the situation (Workitect, 2005)

Interpersonal Skills

- Influencing others so that tasks, relationships, and individual needs are addressed (McLagan & Suhadolnik, 1989)
- Securing “win-win” agreements while successfully representing a special interest in a decision (McLagan & Suhadolnik, 1989)
- Encouraging others to express their ideas and opinions (ASIS, 2015)
- Establishing a high degree of trust and credibility with others (ASIS, 2015)

Crisis Leadership

- Remaining calm under stress (Miller, 2012)
- Prioritizing various competing tasks and perform them quickly and efficiently according to their urgency (ASIS, 2015)
- Making difficult decisions even in highly ambiguous or uncertain situations (ASIS, 2015)
- Demonstrating interpersonal sensitivity with respect to those affected by a crisis (Miller, 2012)
- Learning from a crisis and affect change toward organizational improvement (Miller, 2012)

Communication – The ability to plan and deliver information in an effective and timely manner to ensure all key stakeholders are kept informed (Workitect, 2005).
Communication Skills
<ul style="list-style-type: none"> • Communicating opinions, observations, and conclusions such that they are understood (McLagan & Suhadolnik, 1989) • Verbally presenting information such that the intended purpose is achieved • Preparing written material which follows generally accepted rules of style and form, is appropriate for the audience, and accomplishes its intended purposes (McLagan & Suhadolnik, 1989) • Possessing active listening skills (Workitect, 2005)
Crisis Communications
<ul style="list-style-type: none"> • Expressing relevant information appropriately to individuals or groups taking into account the audience and the nature of the information (i.e. under normal conditions or during an emergency; ASIS, 2015) • Designing a crisis communications plan that addresses the need for effective and timely communication between the organization and all the stakeholders impacted by an event or involved during the response and recovery efforts (FEMA, 2013) • Providing guidance within the plan to determine frequency of communications needed to each stakeholder before an event, during the event itself, and following an event (FEMA, 2013, ASIS, 2015)

Building Collaborative Relationships – The ability to develop and maintain relationships across a broad range of people, groups, and networks (McLagan & Suhadolnik, 1989)
Relationship Building
<ul style="list-style-type: none"> • Developing constructive and cooperative working relationships with others (ASIS, 2015) • Adjusting behavior to in order to establish relationships across a broad range of people and groups (McLagan & Suhadolnik, 1989) • Reaching formal or informal agreements that promote mutual goals and interests, and obtain commitment to those agreements from individuals or groups (ASIS, 2015)
Teamwork
<ul style="list-style-type: none"> • Influencing groups to accomplish a goal and fulfill a need through joint association (McLagan & Suhadolnik, 1989) • Determine when to be a leader and when to be a follower depending on what is needed to achieve the team’s goals and objectives (ASIS, 2015) • Use a group approach to identify problems and develop solutions based on group consensus (ASIS, 2015)

Human Resource Management – The ability to manage employee capabilities strategically through training, development, commitment, motivation, and participation; to create and maintain a skillful and committed workforce (Becker & Huselid, 2006)

Staff Training and Development

- Identifying the knowledge and skill requirements of a specific job, task, or role (McLagan & Suhadolnik, 1989)
- Knowing the techniques and methods used in training; understanding their appropriate use (McLagan & Suhadolnik, 1989)
- Designing or selecting employee training and development programs that align with organizational goals and objectives (Hall, 2010)
- Coordinating or conducting table-top exercises with key stake holders (i.e. law enforcement, fire department, EMS) as needed to establish required capabilities (ASIS, 2015)

APPENDIX G — DELPHI ROUND ONE QUESTIONNAIRE

Welcome to the Expert Panel

Thank you for participating in this study. Your extensive experience and specialized education in the field of security management for sport and entertainment facilities qualifies you as an expert in your profession. The success of this study depends on the elicitation of expert opinions, including yours, throughout the three-round survey process.

Your assistance is needed to help identify core competencies that are indicative of an outstandingly competent and exceptionally talented security management professional; and the knowledge, skills, and abilities such an individual would exhibit five years from now. The results of this study should provide guidance on education, training and development strategies to develop the current and future security management workforce.

The first questionnaire includes a preliminary set of competency clusters that the researcher developed based on current literature. This list is deliberately NOT comprehensive. Rather, the list provides general guidance on some of the core competencies supporting security management profession.

Each competency cluster includes a list of knowledge, skills, and abilities. It is your job to review the current list, add to it, recommend changes, and improve upon it. You may base your comments on trends; draw from your professional experience or your current practice. Throughout the process, your expert feedback is summarized and integrated with other participants' opinions and judgments to develop an inclusive yet concise set of competencies.

While considering each competency cluster, type your comments in the suggestion box:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Here are some operational definitions to keep in mind:

Competencies — *Knowledge, skills, and abilities that allow one to perform a task*

Core competencies — *Competencies that focus on superior individual performance*

RISK MANAGEMENT

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Risk Management – *Demonstrate ability to identify threats/risks and vulnerabilities taking into account the frequency, probability, severity and impact to achieve a holistic view of risk across the organization and community.*

Risk Identification and Assessment

- Understanding risk assessment procedures
- Identifying safety and security vulnerabilities to the venue and event
- Developing, managing, or conducting threat/vulnerability assessments to determine the probable frequency and severity of risk categories
- Understanding legal and regulatory principles related to civil liability

Please provide comments and feedback in the space provided:

Loss Control

- Selecting, implementing, and managing security processes to reduce the risk of loss
- Evaluating methods to improve security and loss prevention and information loss prevention systems on a continuous basis through auditing, review, and assessment
- Conducting cost-benefit analyses and assessing alternative solutions in terms of financial, psychological, and strategic advantages and disadvantages

Please provide comments and feedback in the space provided:

Business Continuity

- Knowing how the functions of a business work and relate to each other; knowing the economic impact of business decisions
- Developing standard operating procedures (SOPs) to reduce risk and maintain business continuity
- Knowing the strategy, structure, power networks, financial position, and systems of a specific organization
- Knowing the key concepts and variables that define an industry including current issues, economic vulnerabilities, distribution channels, inputs, outputs, and information sources

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Risk Management?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

EMERGENCY PLANNING

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Emergency Planning – *Ability to develop documents describing the emergency operations plan for responding to a wide variety of potential hazards.*

- Preparing, reviewing, and approving plans to address all-hazard incidents
- Understanding the prevention, protection, mitigation, response, and recovery strategies for the jurisdiction
- Understanding the interaction of the tactical, operational, and strategic response levels
- Critically reviewing, analyzing, and assessing emergency plans and procedures to identify gaps and areas for improvement
- Understanding the complexities of emergency response plans to determine resource requirements (i.e. equipment and personnel)

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Emergency Planning?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

PROBLEM SOLVING AND DECISION MAKING

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Problem Solving and Decision Making - *Applying critical-thinking skills to solve problems by generating, evaluating, and implementing solutions.*

Problem Solving

- Effectively using both internal resources (i.e. internal computer networks, manuals, policy, or procedure guidelines) and external resources (i.e. internet search engines) to locate and gather information relevant to the problem
- Using logic and analysis to identify the strengths and weaknesses, the costs and benefits, and the short- and long-term consequences of different approaches

Please provide comments and feedback in the space provided:

Decision Making

- Effectively and efficiently present logic, reasoning, and analysis to others for specific decisions and actions
- Making difficult decisions even in highly ambiguous or uncertain situations
- Observing and evaluating the outcomes of implementing the solution to assess the need for alternative approaches and to identify lessons learned

Please provide comments and feedback in the space provided:

Adaptability and Flexibility

- Changing plans, goals, action, or priorities in response to changing, unpredictable, or unexpected events, pressures, and situations
- Developing innovative methods of obtaining or using information or resources when needed

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Problem Solving and Decision Making?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

LEADERSHIP

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Leadership – *The ability to lead people toward meeting the organization's mission vision, and goals; provide an inclusive workplace that fosters the development of others, facilitates cooperation and teamwork, and supports constructive resolution of conflicts*

Initiative

- Projecting trends in the industry and visualizing possible and probable futures and their implications
- Anticipating possible problems and developing contingency plans in advance
- Identifying what needs to be done and taking action before being asked to or required by the situation

Please provide comments and feedback in the space provided:

Interpersonal Awareness

- Influencing others so that tasks, relationships, and individual needs are addressed Understands the interests and important concerns of others
- Securing "win-win" agreements while successfully representing a special interest in a decision
- Encouraging others to express their ideas and opinions
- Establishing a high degree of trust and credibility with others

Please provide comments and feedback in the space provided:

Crisis Leadership

- Remaining calm under stress
- Prioritizing various competing tasks and performing them quickly and efficiently according to their urgency
- Making difficult decisions even in highly ambiguous or uncertain situations
- Demonstrating interpersonal sensitivity with respect to those affected by a crisis
- Learning from a crisis and affect change toward organizational improvement

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Leadership?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

COMMUNICATION

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Communication – *The ability to plan and deliver information in an effective and timely manner to ensure all key stakeholders are kept informed.*

Communication Skills

- Communicating opinions, observations, and conclusions such that they are understood
- Verbally presenting information such that the intended purpose is achieved
- Preparing written material which follows generally accepted rules of style and form, is appropriate for the audience, and accomplishes its intended purposes
- Possessing active listening skills

Please provide comments and feedback in the space provided:

Crisis Communications

- Expressing relevant information appropriately to individuals or groups taking into account the audience and the nature of the information (i.e. under normal conditions or during an emergency)
- Designing a crisis communications plan that addresses the need for effective and timely communication between the organization and all the stakeholders impacted by an event or involved during response and recovery efforts
- Providing guidance within the plan to determine frequency of communications needed to each stakeholder before an event, during the event itself, and following an event

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Communication?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

BUILDING COLLABORATIVE RELATIONSHIPS

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Building Collaborative Relationships – *The ability to develop and maintain relationships across a broad range of people, groups, and networks*

Relationship Building

- Developing constructive and cooperative working relationships with others
- Adjusting behavior to in order to establish relationships across a broad range of people and groups
- Reaching formal or informal agreements that promote mutual goals and interests, and obtaining commitment to those agreements from individuals or groups

Please provide comments and feedback in the space provided:

Teamwork

- Influencing groups to accomplish a goal and fulfill a need through joint association
- Determining when to be a leader and when to be a follower depending on what is needed to achieve the team's goals and objectives
- Using a group approach to identify problems and develop solutions based on group consensus

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Building Collaborative Relationships?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

HUMAN RESOURCE MANAGEMENT

Please type your comments in to the suggestion box below each competency cluster:

1. To suggest additional knowledge, skills, and abilities current and future supervisory-level security management professionals should have to perform their jobs exceptionally well
2. To indicate if any of the competencies are improperly stated or improperly grouped
3. To correct terminology if the competency statement is worded incorrectly or should be defined more specifically
4. To specify if certain competencies should be combined into one.
5. To indicate if any of the competencies should be eliminated and provide a brief explanation for your reasoning.

Human Resource Management – *The ability to manage employee capabilities strategically through training, development, commitment, motivation, and participation; to create and maintain a skillful and committed workforce*

Staff Training and Development

- Identifying the knowledge and skill requirements of a specific job, task, or role
- Knowing the techniques and methods used in training; understanding their appropriate use
- Designing or selecting employee training and development programs that align with organizational goals and objectives
- Coordinating or conducting table-top exercises with key stake holders (i.e. law enforcement, fire department, EMS) as needed to establish required capabilities

Please provide comments and feedback in the space provided:

Are there other essential competency clusters that should be added to Human Resource Management?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster?
Please be clear and concise.

OPEN-ENDED QUESTIONS

The following competency clusters were included in the preliminary list of competencies:

- Risk Management
- Emergency Planning
- Problem Solving and Decision Making
- Leadership
- Communication
- Building Collaborative Relationships
- Human Resource Management

Are there other competency domains that should be added to this initial list?

If so, what knowledge, skills, and abilities support an exceptional job performance within that cluster? Please be clear and concise.

Please provide any additional comments or feedback you have about the survey (questionnaire one).

APPENDIX H – IRB APPROVAL LETTER



INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

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: 17121901

PROJECT TITLE: Mitigating Risk: A Delphi Study Identifying Competencies in Sport and Event Security Management

PROJECT TYPE: Doctoral Dissertation

RESEARCHER(S): Elizabeth Voorhees

COLLEGE/DIVISION: College of Science and Technology

DEPARTMENT: Human Capital Development

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 01/03/2018 to 01/02/2019

Lawrence A. Hosman, Ph.D.

Institutional Review Board

APPENDIX I – EXPLANATION OF RESEARCH PROCEDURES AND CONSENT

Thank you for electing to be a part of the expert panel that will help identify core competencies for the security management workforce. You have been selected as an expert panelist for this study based on your professional work experience and specialized knowledge in the safety and security operations supporting the commercial facilities sector.

Sports and entertainment events are an important part of American culture. As such, the safe and secure operations of sport venues and areas for public assembly are of national importance. Your commitment to this project will serve an important purpose in advancing the industry.

Your involvement in this study will help identify key knowledge, skills, and abilities security management professionals should have to perform their jobs effectively. Your feedback will also help determine what competencies distinguish exceptional performers from average performers.

The results of this study will help provide guidance on organizational strategies in performance improvement, training design, talent development, and career planning in security management. For participating in this study, you will receive a summary of the results to use for your own personal and professional use.

The study consists of three survey rounds. After each round, information is synthesized and distributed back to participants for further investigation. Here are the procedures for you to follow:

- I will send a link to an online questionnaire for you and other panelists to complete within a two-week timeframe.
- Please carefully consider each question and provide a thorough response.
- After each round, I will summarize responses and send the summary to you and the other expert panelists.
- When you receive the summary, please consider the judgments and reasoning of other experts in sport and event security management. After reconsideration, please follow the next set of instructions and submit the next survey within the given timeframe.

The researcher has three requests.

- Please be honest.
- Please complete all three rounds of the study. The commitment should only take about 15 minutes per survey, spread out over 8-10 weeks, but it is important you continue through the entire process.
- Please note that one more round may be necessary if agreement is not reached after the third round.

This project has been reviewed by the Institutional Review Board, which ensures research projects involving human subjects follow federal regulations. Although this study does not pose any risk to your health or safety, it is required that all participants in studies conducted at the University give consent to voluntary participation and acknowledge their right to withdraw from the study at any time without penalty. There are no alternative procedures for participants for this study.

Your participation in this research is completely confidential. Only the researcher, Elizabeth Voorhees, will have access to your identity and to information that can be associated with your identity. Results are reported in aggregate form and give no indication of individual responses. Any questions about the research project should be directed to Elizabeth Voorhees, at Elizabeth.voorhees@usm.edu or 601-266-6099. Any questions about rights as a research participant should be directed to the chair of the IRB ay 601-266-5997.

By clicking the “Continue to Survey” button, you acknowledge that you have read the information regarding the research project and agree to participate in this research.

[Continue to Survey](#)

APPENDIX J – EMAIL REMINDER TO COMPLETE QUESTIONNAIRE

Greetings [Participant's name],

This is a reminder to **please** complete the survey regarding competencies for security management professionals working in the commercial facilities sector. As an expert in the field of sport and event safety and security, your feedback is extremely valuable and will help establish performance standards for the future security management workforce. If you have already done so, please disregard this email.

This survey will take approximately 15 minutes to complete. All responses are kept strictly confidential. If you have any questions or concerns, please do not hesitate to contact me at any time.

Please click the link below to complete the survey no later than [date]:

[\[SURVEY LINK\]](#)

Once again, thank you for participation in this study. Your continued time and attention to this project will ultimately produce valuable results that will help advance the core capabilities of the security management workforce and provide a safer environment at future sports and entertainment events. The results of this study depend on your valuable insights as an expert in the field.

With gratitude,

Elli Voorhees

APPENDIX K – PROFESSIONAL PROFILES OF EXPERT PANELISTS

Panelist 1

Panelist 1 is a Director of Public Safety with 21 years of experience in Law Enforcement. The Panelist holds a Master's degree in Administration and Supervision and has completed the Federal Bureau of Investigation National Academy Program Executive Law Enforcement Training. The panelist holds multiple certifications and serves as an instructor in numerous areas of advanced training in Administration, Management, Investigations, Emergency Management, Critical Incidents, Incident Command System, and Training of Law Enforcement. Previously served as a Command Staff member for regional Emergency Operations Center.

Panelist 2

Panelist 2 serves as the Executive Director of Public Safety and Chief of Police for a University campus in a metropolitan area. He possesses over 25 years of experience in law enforcement. The Panelist holds a Master's Degree in Public Administration and a graduate certificate in Emergency Planning and Management. He has completed various FEMA independent study ICS and NIMS courses and extensive career-related training. The panelist holds certifications as a Sport Security Professional (CSSP), Protection Professional (CPP), and Prevention Specialist (CPS).

Panelist 3

Panelist 3 is the Deputy Chief of a metropolitan Police Department and is assigned as the Chief Security Officer for the largest convention center in North America. In this role, the panelist develops the overall security strategy and risk mitigation programs for the arena. The panelist holds a bachelor's degree in Law Enforcement Administration and has more than 10 years of experience in security planning and implementation at large scale sports and special events. The panelist is a Certified Protection Professional (CPP) and has completed numerous training courses in the areas of counter-terrorism, NIMS, and executive leadership.

Panelist 4

Panelist 4 served as Chief Law Enforcement Officer overseeing police operations at one of the largest Universities in the United States. Possesses 15 years of experience planning and implementing multi-agency response for major events with over 120,000 visitors in attendance. The panelist holds Master's Degrees in Business Administration and Criminal Justice. The panelist holds certifications as a Law Enforcement Executive (CLEE), Sports Security Professional (CSSP), and Institutional Protection Manager (CIPM). Currently serves as a risk management consultant and subject matter expert in public law enforcement, police administration and training, campus public safety and policing, major event planning and operations. The panelist is also an instructor for sports and special events courses, and advisor on best practices for special event safety and security, facilitator and presenter for conferences, courses and workshops, and co-author training manual and instructor guide for international sports security-training program

Panelist 5

Panelist 5 is a Police Lieutenant assigned to special events for a city police department. Duties include building emergency operation response, threat assessment, and assisting event organizers in creating event action plans. Events include large, open air festivals, major running and endurance events, as well as overseeing city game day operations for large State University in the area. The panelist currently oversees agency programming for emergency response planning, threat assessment, terrorism liaison, and incident command protocols. The panelist has 10 years of experience in sport security management, holds a Master's Degree in Educational Leadership, and serves as an adjunct instructor for the National Center for Spectator Sports Safety and Security (NCS4).

Panelist 6

Panelist 6 has 21 years of campus law enforcement experience and currently serves as the Assistant Vice President and Deputy Chief of Police for a University police department. The panelist holds a Master's Degree in Leadership Development and Finance and has completed numerous advanced trainings related to threat assessments, planning and response, and law enforcement executive development. The panelist also has demonstrated expertise in large-scale, high-profile event planning, strategic planning, and security operations. She serves as the Incident Commander for planned and unplanned large scale events including athletics and emergency/crisis situations

Panelist 7

Panelist 7 is a Patrol Sergeant with a University Public Safety Department who serves as the Special Events Coordinator/Commander. The panelist holds a Master's Degree in Public Administration with an emphasis in Criminal Justice. The panelist has received extensive specialized training in Emergency Management, Incident Response, Risk Management, Mass Evacuations, Incident Command, Tactical Leadership, Disaster Services, Social Media Investigations, and Active Shooter Response. The panelist collaborates with Emergency Management and athletics personnel to conduct risk assessments and develop response protocols. He serves as the leading commanding officer on football game days.

Panelist 8

Panelist 8 is an Assistant Chief of Police at a Division I University with over 31 years' experience as a law enforcement officer. The panelist currently serves as the supervisor of all day-to-day operations of the department and is assigned to oversee all special events on campus. This division is responsible for Communications and Central Alarm, Training, Technical Support, and the majority of Emergency Management functions. The panelist holds a Master's Degree in Organizational Management and is a graduate of the the FBI National Academy, FBI Law Enforcement Executive Development Seminar, and the IACLEA Executive Development Institute.

Panelist 9

Panelist 9 serves as the Interim Vice President and Director of Public Safety for a Division I University. In this role, the panelist provides strategic planning for large special events on campus, such as football, basketball, and other athletic events; coordinate emergency response plans with the athletic department; directs event day security operations; and collaborates with the shared governance committees at the University including the Emergency Management, Communications and Fire Safety Departments. The panelist holds a Master's in Business Administration, is certified in the National Incident Management System (NIMS), and has completed the Incident Commander and Planning Section Chief Training.

Panelist 10

Panelist 10 serves as the Chief of Police at a Division I University Police Department. In this role, the panelist oversees the operational safety and security of fans during all sports seasons. The Panelist holds a Master's degree in Criminal Justice and has proven experience in developing emergency management plans in a university setting. She has received additional training through the local Police Training Academy, as well as the FBI National Academy. Continuing education has included emergency vehicle, crisis negotiation, and multidisciplinary team concepts, as well as FEMA-required emergency management education including IS-00001, IS-00100 LE, IS 00700, ICS 300 and ICS 400.

Panelist 11

Panelist 11 is a Major at a Division I University Police Department where they serve as the Special Events Coordinator and Public Information Officer, as assigned by the Chief of Police. The panelist has 10 years' experience in sport and event security management and is currently responsible for coordinating staffing for events, consulting during the event planning process, implementing industry best practices for safety and security, as well as conduct post-event and post-incident reviews to identify items for improvement for future events. The panelist is a Certified Sport Security Professionals (CSSP) and holds certificates in Police Leadership and Venue Safety and Security.

Panelist 12

Panelist 12 is a Police Chief at a Division I public University. The panelist holds a Master's Degree in Higher Education Administration and is also a graduate from two state Law Enforcement Academies, in addition to the FBI National Academy. She has over 25 years' of law enforcement experience in large event security with University police departments. She was certified in Advanced Threat Assessment and is a graduate of the first Crisis Leadership in Higher Education course at Harvard.

Panelist 13

Panelist 13 is a Senior Director of Facilities Operations for a NASCAR affiliated raceway. The panelist holds a Master's Degree in Project Management and has completed numerous training courses in Risk Management, Incident Management, Evacuation, Crowd Management, and Incident Response, among others. The panelist

has 10 years' of experience overseeing security, operations guest services, and 24 hour security departments. He serves as a liaison with sanctioning bodies of NASCAR and IndyCar Racing as it relates to safety, medical, and security. The panelist has extensive experience coordinating with EMS, Fire/Rescue teams, EMT, Guest Services, and Security to prepare for and execute major stadium events.

Panelist 14

Panelist 14 is a Vice President for Safety and Security at a major sports complex that hosts MLB, MLS, IndyCar Racing, Live Nation concerts, and Marathons. The panelist has more than 30 years' experience in public safety and security operations having worked in law enforcement and for Homeland Security Intelligence Bureaus. The panelist is a Certified Sport Security Professional (CSSP) and Certified Homeland Protection Professional (CHPP). He is a court-recognized expert witness in sport safety and security issues, and has consulted on crowd management issues for the Sochi Winter Olympics and Brazil FIFA World Cup.

Panelist 15

Panelist 15 serves as the Assistant Director of Facilities and Operations at a Division I University. The Panelist holds a Master's Degree in Sport Administration and has completed numerous trainings in Venue Safety and Security, Emergency Management, Incident Management (NIMS), Incident Command (ICS), and Incident Management, among others. The panelist has over 10 years' experience in facility operations overseeing security and security operations and ensuring life safety rules and regulations, risk management, and emergency procedures are followed at all times.

Panelist 16

Panelist 16 is Director of Security for an MLB team and its home team ballpark. In this position, the panelist is responsible for business continuity planning, Safety Act compliance, providing safety and security for the MLB team, ballpark, and associated venues, including security planning, travel security procedures, event staff management, and managing all details for venue security for events. The panelist has over 10 years of experience in public safety and security operations and is a Certified Sport Security Professional (CSSP). The panelist has extensive expertise in critical infrastructure assessments and protections, Homeland Security protective measures, emergency evacuations, risk assessment, and major event planning having completed over 50 specialized training courses related to sport security management.

Panelist 17

Panelist 17 currently serves as a Director of Facility Operations for a Division I University. In this position, the panelist is responsible for multiple campus athletic venues and facilities. His responsibilities include developing plans and procedures from crowd management, implementing incident command and control systems for all athletic facilities, and serving as a liaison with public safety agencies for crowd and traffic control. The panelist has more than 25 years of experience in facility operations and event management providing support to various special events (i.e. fairs, concerts,

championships) and having completed various training courses in crisis management, ICS, and NIMS.

Panelist 18

Panelist 18 is Director of Security for multi-purpose arena home to both an NBA and WMBA team. The panelist is responsible for oversight of all day to day and event related security operations of the 20,000 seat arena, which hosts approximately 200 events annually. He has more than 20 years of experience in safety and security management, including personal protections and law enforcement. The panelist has completed numerous training courses focused on anti-terrorism, homeland security, incident management, NIMS, NRF, and emergency management.

Panelist 19

Panelist 19 has over 30 years of experience as a professional athletic administrator and currently serves as the Associate Athletics Director for Facilities and Operations at a Division 1 University. The panelist is responsible for the supervision and directions of eighteen athletic facilities, including event day operations safety and security. The panelist serves as an instructor for DHS/FEMA funded training courses focused on risk management, incident management, and evacuation training and exercise.

Panelist 20

Panelist 20 currently serves as the Senior Director of Event Production for one of the world's largest running and mass participatory events organizations. He is the senior executive in charge of event production, security, command center operations, medical and supply chain logistics. The panelist is a member of the DHS Sports League Subsector Council and is certified in the Incident Command System and as a Business Continuity Professional.

Panelist 21

Panelist 21 serves as the Vice president for Safety and Security Services for one of the most visited stadiums in the world. The panelist is responsible for creating, implementing, and coordinating comprehensive emergency action plans that involve state, federal, and local law enforcement agencies, fire department responsibilities, extensive emergency medical service resources, and private security personnel. The panelist is a former Deputy Chief of Police and holds a Master's Degree in Human Resources Training and Development. He has completed numerous DHS/FEMA training courses in emergency management, incident management, anti-terrorism, and emergency preparedness.

Panelist 22

Panelist 22 currently serves as the Assistant Chief of Public Safety for three major sport and event venues, home to three professional sports teams. In this role, the panelist oversees security, law enforcement, medical, fire, and emergency preparedness programs for the stadium and arena, and is responsible for developing and implementing security programs at multiple facilities. He has over 15 years of experience in the fields

of Guest Experience, Security, Event Operations, and Training. The panelist is proficient in the use and integration of multiple technological systems supporting security operations, and leads the security department's command center operations.

Panelist 23

Panelist 23 serves as the Vice President for Corporate Security, Safety, and Investigations for an organization that owns and operates multiple professional sport venues, as well as multiple leading brands in food, sports, and entertainment industries. The panelist had a 25-year career in law enforcement before spending the last 15 years in sport and event security management. He presently oversees and directs all corporate security and safety functions, venue security and safety, security systems, corporate loss prevention, investigations, and executive services across all company bands. He is a participant on a number of Department of Homeland Security "working groups" focused on developing best practice standards for various aspects of professional sport venue/facility security including screening, staff background investigations and Safety Act compliance. The panelists' educational achievements include a Master's Degree, graduate of the FBI National Academy, state School of Police Staff and Command.

Panelist 24

Panelist 24 currently serves as the Director of Event Services for a NFL Stadium. He is specifically, responsible for security, public safety and emergency preparedness, medical services, transportation, guest experience and event oversight. The panelist has over 12 years of experience in event operations and holds a Master's Degree in Sports Management. The panelist is a member of the DHS Sports League Subsector Council and holds a variety of leadership positions on industry-related committees and advisory boards. The panelist is also a Master Trainer for Team Coalition, an organization dedicated to safe and effective alcohol management practices for sport and entertainment facilities.

Panelist 25

Panelist 25 is an experience Emergency Management professional with over ten years' of demonstrated planning, preparedness, training, outreach and operations' leadership. The panelist currently serves as the Regional Manager for Mass Care for the American Red Cross and is the primary liaison for city and county events in a major metropolitan area. The panelist has published subject-matter expert research and planning experiences within government publications in the area of Mass Care. The panelist holds certifications in emergency management, crisis communications, terrorism and homeland security, and has completed numerous DHS/FEMA training courses in infrastructure protection, function assessments, and other related disaster preparedness.

Panelist 26

Panelist 26 is a Lieutenant and Emergency Preparedness lead for a metropolitan police department. In this role, the panelist oversees homeland security operations relating to event management for the city and three professional sport venues. He has 10 years of experience in the field of sport security management and holds a Master's degree in

Criminal Justice. The panelist has completed numerous training in ICS, incident management, NIMS, critical decision making, public safety, and leadership.

Panelist 27

Panelist 27 serves as the Director of Emergency Management for a Division I public University. The panelist is responsible for emergency planning, continuity planning, training and exercising for university using an all hazards approach. The panelist also manages the university emergency operations center during large emergencies and major events such as football, graduation, and presidential visits. The panelist has 10 years of experience in sport event management and holds a Bachelor's degree in Public Administration. The panelist is a Certified Sport Security Professional (CSSP), Professional Emergency Manager (PEM), and has completed numerous training courses in NIMS/ICS.

Panelist 28

Panelist 28 serves as the Director of a County Emergency Services and Homeland Security department. The panelist also currently serves as the Chief of Safety for the Fire and Rescue Department, where he has served for over 44 years. The panelist is a certified Firefighter and Instructor with the State Commission on Firefighting, the State Fire and Codes Academy, the National Fire Academy, the State Emergency Management Agency, the Federal Homeland Security Consortium, and State Peace Officers Standards and Training Commission. The panelist has over 25 years of experience in sport event security management and holds a Bachelor's degree in Fire Science.

Panelist 29

Panelist 29 serves as a Lieutenant and Emergency Manager for a Division I University. The panelist leads the University Emergency Management Team and Special Events Unit in planning and coordinating all events. The panelist holds a Master's Degree in Criminal Justice and is a certified Sport Security Professional (CSSP) and Homeland Protection Professional (CHPP). The panelist is designated as the Section Chief in the ICS and has completed numerous training courses in active shooter response, WMD tactical operations, HAZMAT, unified command, risk and threat assessments, and other related fields.

Panelist 30

Panelist 30 currently serves as the Director of Emergency Management for a Division I University. The panelist holds a Master's degree in Business Administration and has over 10 years of experience in special events and emergency management implementation at the University. The panelist has extensive training in security, counter-terrorism, NIMS/ICS, and humanitarian relief operations. The panelist is a Certified Sport Security Professional (CSSP) and has completed numerous professional development trainings focused on DHS/FEMA ICS, OSHA compliance, HAZMAT, incident management and crisis communications.

Panelist 31

Panelist 31 currently serves as the Associate Director of Game Operations for a Division I University. The panelist oversees emergency management, severe weather, medical response, game day security and accessibility plans for 12 varsity athletic competition venues. The panelist holds a PH.D in Biomedical Engineering and has seven years of experience in game operations safety and security planning and implementation. She has completed numerous training courses in the areas of crowd management, emergency management, NIMS/ICS, and National Response Framework (NRF).

Panelist 32

Panelist 32 serves as the Deputy Director for a marathon and running events organization that organizes and executes multiple mass participatory road races annually. In this role, the panelist supervises and guides event operations and security, marketing, sponsorships, and business operations. The panelist holds a bachelor's degree in Business Administration and has over 15 years of experience in sport event management. She has completed extensive training in leadership development, communication, and human resources management.

Panelist 33

Panelist 33 currently serves as the Director of Executive Services and Computer Forensics for an organization that owns and operates multiple professional sport venues, as well as multiple leading brands in food, sports, and entertainment industries. The panelist is assigned to corporate security, which includes executive protection, arena and event security, computer and digital device forensics, investigations, and command center operations. The panelist is a Certified Sport Security Professional (CSSP) and is an instructor for cybercrime investigations. The panelist has completed numerous training courses specific to digital forensics, internet crimes, social media monitoring, ID theft, iOS forensics, and access data.

Panelist 34

Panelist 34 currently serves as the Regional Vice President for a rights-holder group that operates various sport and entertainment venues across the globe. The panelist is responsible for managing nine facility General Managers (4 NFL stadiums, 1 NBA arena, 4 arena / theater / convention center complexes). In this role, the panelist creates business strategies, implementation plans, and long-range capital plans, assists with labor negotiations, and helps develop facility business opportunities. The panelist is over 25 years of experience in sport facilities operations and holds a Master's Degree in Business Administration. The panelist has developed a variety of initiatives adopted by member venues in the areas of training, fan safety, and crowd management.

Panelist 35

Panelist 35 is the Senior Director of Security Operations and Intelligence for a rights-holder group that operates various sport and entertainment venues across the globe. In this role, the panelist collaborates with chief security officer and senior vice president of

security in managing and implementing high-level security needs across all venues and throughout the wide spectrum of facilities groups' portfolio. He is responsible for performing terrorism threat and vulnerability assessments, safety evaluations, hazard assessments and property inspections for all member facilities. The panelist is a Certified Protection Professional (CPP) and a Certified Sport Security Professional (CSSP).

Panelist 36

Panelist 36 is the Executive Associate Athletic Director and CFO for a Division I University. Senior staff responsibilities over the course of his career have included financial operations and projections, sport administration, NCAA Compliance, legal issues, risk management, game operations, University governance, Conference relations, sports medicine, capital improvements, development programs, strategic planning, and special projects. The panelist holds a Juris Doctorate and has over 25 years of experience in athletics administration and operations, higher education, legal issues in intercollegiate athletics, and public administration.

APPENDIX L – COMPETENCIES IDENTIFIED IN DELPHI ROUND ONE

<p>Risk Management – Demonstrate ability to identify threats/risks and vulnerabilities taking into account the frequency, probability, severity and impact to achieve a holistic view of risk across the organization and community.</p>
<p>Risk Identification and Assessment</p> <ol style="list-style-type: none"> 1. <i>Understanding risk assessment procedures and methods</i> 2. <i>Identifying safety, security, and reputational vulnerabilities to the venue and event</i> 3. <i>Developing, managing, or conducting threat/vulnerability assessments to determine the probable frequency and severity of risk categories</i> 4. <i>Maintains contemporary knowledge of ethics, laws, standards, legislation, and emerging trends that may affect the risk liability environment. Understanding legal and regulatory principles related to civil liability, negligence, foreseeability, and duty of care</i> 5. <i>Identifying assets (human, physical, intellectual) and determining their criticality</i> 6. <i>Evaluating and mitigating risk through avoidance, reduction, transfer, and acceptance strategies</i> 7. <i>Identifying protective measures to mitigate threat/risk/vulnerability</i> 8. <i>Utilizing an all-hazards approach when conducting risk assessments</i> 9. <i>Networking to establish an information or intelligence stream that impacts your property and area</i> 10. <i>Networking to learn about new technology and mitigation strategies that are being developed and used by other properties</i> 11. <i>Monitoring world trends and analyzing past incidents to identify a variety of risks</i> 12. <i>Using technology programs to monitor, aggregate and push destination-specific, open source intelligence to both corporate security centers and employees' smart devices</i> 13. <i>Educating employees on international travel security practices, as well as on how to respond when an attack in a workplace or mass-gathering event occurs</i> 14. <i>Developing cost effective risk management plans</i> 15. <i>Engaging with law enforcement partners</i>
<p>Loss Prevention</p> <ol style="list-style-type: none"> 16. <i>Selecting, implementing, and managing security processes to reduce the risk of loss</i> 17. <i>Evaluating methods to improve security loss prevention, and information loss prevention systems on a continuous basis through auditing, review, and assessment</i> 18. <i>Conducting cost-benefit analyses and assessing alternative solutions in terms of financial, personnel, psychological, and strategic advantages, and disadvantages</i>

<ul style="list-style-type: none"> 19. <i>Developing consequence reduction proposals</i> 20. Developing communications plans, including public messaging, in the event of loss 21. Identifying emerging technologies to enhance loss prevention 22. Determining an acceptable loss level should loss occur, relating to property, assets, reputation, and resources 23. Utilizing CCTV, access control measures, and security patrols in loss control mitigation 24. Understanding Deterrence Theory and the Crime Triangle (motive, capability, opportunity) 25. Analyzing historical trends to determine or predict when losses will likely occur 26. Planning for loss control needs that may occur after a critical incident 27. Evaluating applicability of insurance policies to protect against financial loss and understand the limitations
<p>Business Continuity</p>
<ul style="list-style-type: none"> 28. <i>Knowing how the functions of a business work and relate to each other; knowing the economic impact of business decisions</i> 29. <i>Developing standard operating procedures (SOPs) to mitigate threats/vulnerabilities and reduce risk to maintain business continuity</i> 30. <i>Understands the business strategy, operations, infrastructure, technological systems, culture, and financial position of a specific organization</i> 31. <i>Knowing the key concepts and variables needed to implement backup processes and business recovery/continuity procedures</i> 32. Knowing the key concepts and variables that define an industry including current issues, economic vulnerabilities, distribution channels, inputs, outputs, and information sources 33. Identifying gaps in current capabilities and establishing minimum operating needs and time objectives 34. Developing, maintaining, and updating checklists for business continuity operations 35. Identifying alternate locations and required operational equipment for business continuity operations 36. Drafting after action reports (AARs) and taking actions based on lessons learned 37. Identifying and coordinating with external departments that support business operations 38. Understanding insurance and alternative product delivery strategies 39. Gains “buy-in” from senior leadership for security related infrastructure, products, and services 40. Understanding the planning and implementation phases of project management for new facilities, products, and services as it relates to the comprehensive and strategic assessment of risk

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two.

Emergency Planning – Ability to develop plans, policies, and procedures describing the emergency operations plan for responding to a wide variety of potential hazards.
Emergency Planning
<ul style="list-style-type: none"> 41. <i>Preparing, reviewing, and approving plans to address all-hazard incidents based on the risk assessment</i> 42. <i>Understanding the prevention, protection, mitigation, response, and recovery strategies for the jurisdiction</i> 43. <i>Understanding the interaction of the tactical, operational, and strategic response levels</i> 44. <i>Critically reviewing, analyzing, assessing, and exercising emergency plans and procedures to identify vulnerabilities and areas for improvement</i> 45. <i>Understanding the complexities of emergency response plans to determine resource requirements (i.e. equipment and personnel) and leveraging community/public assets to enhance your response plans</i> 46. Ability to lead, coordinate, and initiate planning process 47. Engaging internal and external partners in developing emergency plans and ensuring appropriate jurisdictional stakeholders are part of the planning process 48. Ability to communicate and educate all stakeholders involved in emergency response and operational plans 49. Establishing mutual aid agreements with public and private partners addressing resource needs and limitations 50. Implementing a clear organizational structure or chain of command to be used in an emergency 51. Identifying current and emerging trends to create additional plans and/or update existing plans to be more in line with best practices 52. Understanding of the Incident Command/Unified Command System 53. Understanding of the National Incident Management System (NIMS)
Exercise and Evaluation*
<ul style="list-style-type: none"> 54. Conducts exercises to validate plans through training and exercise 55. Using exercises and other means to test the appropriateness and efficiency of emergency plans, processes, and procedures, including stakeholder relationships and infrastructure interdependencies 56. Leads exercises with all public and private partners to help identify areas of improvement or previously undisclosed gaps 57. Utilizing a third party to review and update a risk assessment, in accordance with nationally recognized best practices (i.e. DHS) 58. Performing quality assurance to measure the implementation of protective measures

- 59. Conducts training and exercises with staff on critical incident response and the situational implementation of emergency plans
- 60. Correcting failures through leadership table top exercise (TTX)
- 61. Assessing the capabilities of partnerships (i.e. public safety agencies) and communicating expectations

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two. The asterisk (*) denotes a new categories added for Delphi rounds two and three.

Problem Solving and Decision Making — Applying critical-thinking skills to solve problems by generating, evaluating, and implementing solutions.
Problem Solving
<ul style="list-style-type: none"> 62. <i>Effectively using both internal resources (i.e. internal computer networks, manuals, policy, or procedure guidelines) and external resources (i.e. internet search engines) to locate and gather information relevant to the problem</i> 63. <i>Using logic and analysis to identify the strengths and weaknesses, the costs and benefits, and the short- and long-term consequences of different approaches</i> 64. Developing mechanisms to receive accurate, real time intelligence to inform relevant decision-makers 65. Eliciting input from subject matter experts on specific topics/areas of expertise 66. Analyzing and identifying potential solutions and alternatives to assess impacts and develop a plan of action leveraging all available resources 67. Networking with industry professionals to gather information or “lessons learned” to address the same or similar issues 68. Using Root Cause Analysis to determine underlying causes of problems 69. Understanding and applying industry best practices to problem solve 70. Facilitates groups or teams through the problem-solving processes leading to the development and implementation of new approaches, systems, structures, and methods 71. Understands the concepts and processes of strategic planning, SWOT analysis, goals, and objectives and development of an implementation plan
Decision Making
<ul style="list-style-type: none"> 72. <i>Presenting logic, reasoning, and analysis to others for specific decisions and actions in a manner that is both efficient and effective</i> 73. <i>Making difficult and timely decisions in highly ambiguous or uncertain situations when information is limited, incomplete or evolving</i> 74. <i>Observing and evaluating the outcomes of implementing the solution to assess the need for alternative approaches and to identify lessons learned</i> 75. Prioritizing decisions in emergency situations to protect life, property, and brand 76. Delegates to others who are directly associated with the venue or event to expedite decision making on time sensitive issues

<p>77. Takes personal responsibility for decision outcomes and does not make excuses for errors or problems; acknowledges and corrects mistakes</p> <p>78. Breaks down complex information into component parts. Identifies underlying principles, patterns, or themes in an array of related information and applies causal relationships</p> <p>79. Involves others in the decision making process. Considers the perspective and expertise of others to find solutions that are acceptable to diverse groups with conflicting interests or needs</p>
<p>Adaptability and Flexibility</p>
<p>80. <i>Changing plans, goals, actions, or priorities in response to changing, unpredictable, or unexpected events, pressures, and situations</i></p> <p>81. <i>Developing innovative methods of obtaining or using information or resources when needed</i></p> <p>82. Ability and willingness to assess plans and priorities and to adapt, change or eliminate existing plans upon learning new information</p> <p>83. Develops written plans for normal or planned operational needs, but develop alternate plans for response to worst case scenarios</p> <p>84. Manages change in a way that reduces the concern experienced by others. Clarifies priorities when leading change.</p> <p>85. Asks for advice and uses feedback to improve performance</p> <p>86. Providing cross-training to develop employee skillsets and enhance their ability to adapt to situational problems that may arise</p>

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two.

<p>Leadership — The ability to lead and direct people toward meeting the organization’s mission, vision, and goals; provide an inclusive workplace that fosters the development of others, facilitates cooperation and teamwork, and supports constructive resolution of complex issues.</p>
<p>Initiative</p>
<p>87. <i>Projecting trends in the industry and forecasting possible and probable futures and their implications</i></p> <p>88. <i>Anticipating possible problems and developing contingency plans in advance</i></p> <p>89. <i>Identifying what needs to be done and taking action before being asked to or required by the situation</i></p> <p>90. Acting with a sense of urgency to ensure that initiatives are executed in a timely manner before risks are realized</p> <p>91. Links mission, vision, values, goals, and strategies to everyday work</p> <p>92. Displays an ongoing commitment to learning and self-improvement</p> <p>93. Finds and maximizes opportunities for growth and development from multiple sources</p>

<p>94. Visualizes potential problems and solutions without needing tangible, “real-life” examples. Can discuss and project the aspects and impacts of issues and decisions.</p> <p>95. Leads by example and sets standards for professional behavior</p>
<p>Interpersonal Awareness</p>
<p>96. <i>Influencing others so that tasks, relationships, and individual needs are addressed</i></p> <p>97. <i>Understands the interests and important concerns of others</i></p> <p>98. <i>Building consensus and securing “win-win” agreements while successfully representing a special interest in a decision</i></p> <p>99. <i>Encouraging others to express their ideas and opinions</i></p> <p>100. Establishing a high degree of trust and credibility with others</p> <p>101. Builds rapport by listening to, discussing and negotiating with, and rewarding, encouraging, and motivating others</p> <p>102. Works effectively with people from all backgrounds. Helps create a work environment that embraces and appreciates diversity.</p> <p>103. Expresses confidence in ability of others to be successful</p> <p>104. Gives people latitude to make decisions in their own sphere of work</p>
<p>Crisis Leadership</p>
<p>105. <i>Remaining calm under stress</i></p> <p>106. <i>Prioritizing various competing tasks and performing them quickly and efficiently according to their urgency</i></p> <p>107. <i>Making difficult decisions even in highly ambiguous or uncertain situations</i></p> <p>108. <i>Demonstrating interpersonal sensitivity with respect to those affected by a crisis</i></p> <p>109. <i>Learning from a crisis and affect change toward organizational improvement</i></p> <p>110. Communicates publicly effectively and implements a strategy to keep all stakeholders informed of evolving situations</p> <p>111. Demonstrates self-confidence and decisiveness</p> <p>112. Demonstrates the ability to direct and influence people</p> <p>113. Follows emergency procedures diverging only when required by emergent facts</p> <p>114. Documents crisis issues and scenario facts for reconstructive post-crisis evaluation</p> <p>115. Having a thorough understanding of the command structure authority</p>

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two.

Communication – The ability to plan and deliver information in an effective and timely manner to ensure all key stakeholders are informed.

Communication Skills

- 116. Communicating opinions, observations, and conclusions such that they are understood*
- 117. Verbally presenting information such that the intended purpose is achieved*
- 118. Preparing written material which follows generally accepted rules of style and form, is appropriate for the audience, and accomplishes its intended purposes*
- 119. Possesses active listening skills*
- 120. Uses non-verbal communication skills to convey messages. Interprets non-verbal behavioral signals or displays of emotion
- 121. Ability to communicate complex information in layman’s terms. Selects language and examples tailored to the level and experience of the audience
- 122. Uses persuasive communication to gain support for operational plans, initiatives, and work processes
- 123. Develops and distributes clear, concise, and accurate information to all key stakeholders
- 124. Understands the basic concepts of public relations and media relations
- 125. Understands the capabilities and effective use of different communications technologies to achieve messaging goals

Crisis Communications

- 126. Expressing relevant information appropriately to individuals or groups taking into account the audience and the nature of the information (i.e. under normal conditions or during an emergency)*
- 127. Designing a crisis communications plan that addresses the need for effective and timely communication between the organization and all the stakeholders impacted by an event or involved during response and recovery efforts*
- 128. Providing guidance within the plan to determine frequency of communications needed to each stakeholder before an event, during the event itself, and following an event*
- 129. Maintaining poise and posture to deliver critical messages to stakeholders under pressure
- 130. Selecting appropriate communications channels for the intended purpose and delivery of messages
- 131. Effectively uses social media to disseminate accurate information during crisis situations

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two.

Building Collaborative Relationships — The ability to develop and maintain relationships across a broad range of people, groups, and networks.

Relationship Building

- 132. Developing constructive and cooperative working partnerships with others*
- 133. Adjusting behavior in order to establish relationships across a broad range of people and groups*
- 134. Reaching formal or informal agreements that promote mutual goals and interests, and obtaining commitment to those agreements from individuals or groups*
- 135. Understanding goals of partners and stakeholders to help achieve shared success
- 136. Proactively builds relationships with others in the field who can provide information, intelligence, support, and assistance
- 137. Develops strategies to develop, build, or strengthen relationships
- 138. Establishes trust and cohesion through regular interaction to achieve mutual goals within organizations
- 139. Establishes positive and collaborative relationships with venue personnel; customers; local, state, and federal public safety authorities; and international authorities

Teamwork

- 140. Influencing groups to accomplish a goal and fulfill a need through joint association*
- 141. Determining when to be a leader and when to be a follower depending on what is needed to achieve the team's goals and objectives*
- 142. Using a group approach to identify problems and develop solutions based on group consensus*
- 143. Developing a shared vision and group identity
- 144. Designs a strong team structure with defined tasks and processes that orients and engages all team members
- 145. Contributes to a priority or goal of another team member when appropriate
- 146. Works cooperatively with others to identify and develop solutions
- 147. Provides training in scenario/situational problem solving to demonstrate the flow of information within groups so that all parties understand how decisions are made and by whom
- 148. Provides effective coaching to develop or enhance the skills of other team members

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two.

<p>Human Resource Management — The ability to manage employee capabilities strategically through training, development, commitment, motivation, and participation; to create and maintain a skillful and committed workforce.</p>
<p>Staff Training and Development</p> <p><i>149. Identifying the knowledge and skill requirements of a specific job, task, or role</i> 150. Knowing the techniques and methods used in training and reinforcement; understanding their appropriate use 151. Designing or selecting employee training and development programs that align with organizational goals and objectives 152. Coordinating or conducting exercises (table-top, full-scale, drills) with key stake holders (i.e. law enforcement, fire department, EMS) as needed to establish required capabilities 153. Identifying training needs and establishing procedures to ensure staff receive comprehensive training germane to their responsibilities 154. Regularly reviews and updates training and development strategies to address current and evolving issues 155. Promotes continuous learning through individual and organizational training and education 156. Documents employee, vendor and contractor training records; and documents compliance with necessary safety and security training requirements and other regulatory mandates</p>
<p>Performance Management*</p> <p>157. Develops job descriptions and ensures staff have a clear understanding of their role(s) and responsibilities 158. Prepares development plans for full time staff members aligning individual performance goals with organizational needs and strategies 159. Establishes succession plans 160. Uses performance evaluation systems to assess core competencies and manage performance 161. Provides specific performance feedback, both positive and corrective, to address performance gaps or problems. Develops improvement plans with specific goals to improve effectiveness in current or future job 162. Understands the psychological needs of people and provides rewards, recognition, and incentives to motivate employees 163. Provides leadership in the development of performance metrics measuring training effectiveness</p>
<p>Employee and Labor Relations*</p> <p>164. Understands legal and regulatory principles related to labor and employment</p>

NOTE: Original competency statements from Delphi round one questionnaire one are italicized. Plain text competency statements were included in Delphi round two questionnaire two. The asterisk (*) denotes new categories added for Delphi rounds two and three.

APPENDIX M – DELPHI ROUND TWO QUESTIONNAIRE TWO EMAIL

Good morning,

Thank you for completing Questionnaire 1 of the research study identifying core competencies for security management professionals. Your expert input helped to identify an additional 113 competencies and three (3) new sub-competency domains with the original seven (7) competency clusters. This expanded list is included in Questionnaire 2.

In this round, you are asked to review and rate each competency statement on a 5-point scale by level of importance and frequency of use. These ratings will give measure to the criticality of each competency and help develop a comprehensive and concise competency model for high-performing security management professionals.

The purpose of rating each competency statement is to gain consensus among expert panelists. The group ratings are used to develop a condensed list of competencies for inclusion in round three. In Questionnaire 3, you will be provided with the group response score (median value) and asked to re-rate the condensed list of competencies.

After rating each statement within the competency cluster, please provide any additional comments or feedback in the textbox provided. Suggestions on combining statements that are similar in nature or changing the wording or phrasing will help create the third and final questionnaire.

Here are some terms to keep in mind:

Importance: How significant is the competency to the work performed by an outstanding and exceptionally competent security management professional.

Frequency: How often is the competency utilized by an outstanding and exceptionally competent security management professional.

Again, thank you for your participation in this study. Your expert contributions are the foundation for this research and will provide the security management profession with valuable information for future workforce development initiatives. Your continued involvement is greatly valued and appreciated.

[Click to Begin Questionnaire 2](#)

Estimated completion time: 15-20 minutes. Please submit no later than Tuesday February 27th.

APPENDIX N – DELPHI ROUND TWO QUESTIONNAIRE TWO (SAMPLE)

Please review the list of competencies within each cluster and rate each statement based on level of importance and frequency. These ratings are used to determine which competencies are the most critical for high-performing security management professionals. Only the most highly rated competencies will be included in round three.

Please enter your last name in the space below. This information is only used to reduce the number of reminders sent to participants by the researcher.

Risk Management: Demonstrate ability to identify threats/risks and vulnerabilities taking into account the frequency, probability, severity and to achieve a holistic view of risk across the organization and community.

Risk Identification and Assessment

	Importance					Frequency				
	Not important at all	Of little importance	Somewhat important	Very important	Absolutely essential	Never	Rarely	Occasionally	A moderate amount	A great deal
1. Understanding risk assessment procedures and methods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Identifying safety, security, and reputation vulnerabilities to the venue and event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Developing, managing, or conducting threat/vulnerability assessments to determine the probable frequency and severity of risk categories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Maintains contemporary knowledge of ethics, laws, standards, legislation, and emerging trends that may affect the risk liability environment. Understanding legal and regulatory principles related to civil liability, negligence, foreseeability, and duty of care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Identifying assets (human, physical, intellectual) and determining their criticality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Evaluating and mitigating risk through avoidance, reduction, transfer, and acceptance strategies. Defining level of risk tolerance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Identifying protective measures to mitigate threat/risk/vulnerability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Utilizing an all-hazards approach when conducting risk assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Networking to establish an information or intelligence stream that impacts your property and area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Networking to learn about new technology and mitigation strategies that are being developed and used by other properties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Monitoring world trends and analyzing past incidents to identify a variety of risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Using technology programs to monitor, aggregate and push destination-specific, open source intelligence to both corporate security centers and employees' smart devices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Educating employees on international travel security practices, as well as on how to respond when an attack in a workplace or mass-gathering event occurs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Developing cost effective risk management plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Engaging with law enforcement partners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Loss Prevention

	Importance					Frequency				
	Not important at all	Of little importance	Somewhat important	Very important	Absolutely essential	Never	Rarely	Occasionally	A moderate amount	A great deal
16. Selecting, implementing, and managing security processes to reduce the risk of loss	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Evaluating methods to improve security loss prevention, and information loss prevention systems on a continuous basis through auditing, review, and assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Conducting cost-benefit analyses and assessing alternative solutions in terms of financial, personnel, psychological, and strategic advantages and disadvantages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Developing consequence reduction proposals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Developing communications plans, including public messaging, in the event of loss	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Identifying emerging technologies to enhance loss prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Determining an acceptable loss level should loss occur, relating to property, assets, reputation, and resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Utilizing CCTV, access control measures, and security patrols in loss control mitigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Understanding Deterrence Theory and the Crime Triangle (motive, capability, opportunity)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX O — DELPHI ROUND THREE QUESTIONNAIRE THREE EMAIL

Welcome to the last iteration of the study and thank you for participating in the first two rounds. Our goal is to identify the competencies that high-performing security management professionals should possess over the next five years. Since some competencies will be more critical than others, your expertise is needed to refine the competencies into an inclusive, yet concise set.

In this round, you are asked to refine the list of competencies rated in Questionnaire 2. The results from the previous round were used to inform this third and final Questionnaire. Please review the full list of competencies and re-rate each item considering the group opinion.

Next to each competency statement, you will find the median response score for importance and frequency indicating the group's majority opinion. The first numeral represents the importance and the second numeral represents the frequency.

For example, the competency statement below received an *importance* rating of 5 (Absolutely essential) and a *frequency* rating of 4 (A moderate amount).

1. Understanding risk assessment procedures and methods (5, 4)

Please note that these two measures are provided as a guide and you may choose to agree or disagree with them. Should you have any questions about how to complete this questionnaire, please feel free to contact me for assistance.

Once again, thank you for your continued participation in this study. Without your time and commitment to this project my research would not be possible. At the conclusion of this study you will be provided with an infographic summarizing the research finding which can be used for your own personal and professional use.

[Click here to Begin Questionnaire 3](#)

Estimated completion time: 15-20 minutes. Please submit no later than Tuesday March 27th.

APPENDIX P – DELPHI ROUND THREE QUESTIONNAIRE THREE (SAMPLE)

Please review the list of competencies within each cluster and rate each statement based on level of importance and frequency. At the end of each competency statement is the median response score from the previous questionnaire indicating the group's majority opinion. The first numeral is the *importance* and the second numeral represents the *frequency*. Please note that these two measures are provided as a guide and you may agree or disagree with them.

Please enter your last name in the space below. This information is only used to reduce the number of reminders sent to participants by the researcher.

Risk Management: Demonstrate ability to identify threats/risks and vulnerabilities taking into account the frequency, probability, severity and to achieve a holistic view of risk across the organization and community.

Risk Identification and Assessment

	Importance					Frequency				
	Not important at all - 1	Of little importance - 2	Somewhat important - 3	Very important - 4	Absolutely essential - 5	Never - 1	Rarely - 2	Occasionally - 3	A moderate amount - 4	A great deal - 5
1. Understanding risk assessment procedures and methods (5, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Identifying safety, security, and reputation vulnerabilities to the venue and event (5, 5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Developing, managing, or conducting threat/vulnerability assessments to determine the probable frequency and severity of risk categories (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Maintains contemporary knowledge of ethics, laws, standards, legislation, and emerging trends that may affect the risk liability environment. Understanding legal and regulatory principles related to civil liability, negligence, foreseeability, and duty of care (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Identifying assets (human, physical, intellectual) and determining their criticality (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Evaluating and mitigating risk through avoidance, reduction, transfer, and acceptance strategies. Defining level of risk tolerance (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Identifying protective measures to mitigate threat/risk/vulnerability (5, 5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Utilizing an all-hazards approach when conducting risk assessments (5, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Networking to establish an information or intelligence stream that impacts your property and area (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Networking to learn about new technology and mitigation strategies that are being developed and used by other properties (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Monitoring world trends and analyzing past incidents to identify a variety of risks (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Using technology programs to monitor, aggregate and push destination-specific, open source intelligence to both corporate security centers and employees' smart devices (3, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Educating employees on international travel security practices, as well as on how to respond when an attack in a workplace or mass-gathering event occurs (4, 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Developing cost effective risk management plans (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Engaging with law enforcement partners (5, 5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Loss Prevention

	Importance					Frequency				
	Not important at all - 1	Of little importance - 2	Somewhat important - 3	Very important - 4	Absolutely essential - 5	Never - 1	Rarely - 2	Occasionally - 3	A moderate amount - 4	A great deal - 5
16. Selecting, implementing, and managing security processes to reduce the risk of loss (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Evaluating methods to improve security loss prevention, and information loss prevention systems on a continuous basis through auditing, review, and assessment (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Conducting cost-benefit analyses and assessing alternative solutions in terms of financial, personnel, psychological, and strategic advantages and disadvantages (4, 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Developing consequence reduction proposals (4, 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Developing communications plans, including public messaging, in the event of loss (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Identifying emerging technologies to enhance loss prevention (4, 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Determining an acceptable loss level should loss occur, relating to property, assets, reputation, and resources (4, 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Utilizing CCTV, access control measures, and security patrols in loss control mitigation (5, 5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Understanding Deterrence Theory and the Crime Triangle (motive, capability, opportunity) (4, 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Analyzing historical trends to determine or predict when losses will likely occur (4, 4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX Q – STATISTICAL SUMMARY FOR DELPHI ROUND THREE

Table A2.

Risk Management – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level	
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR		
<i>Risk Identification and Assessment</i>										
#1	5	5	4	1	5	4	4	0	Moderate	
#2	5	5	4	1	5	5	4	1	Moderate–	
#3	4	5	4	1	4	4	3	1	Moderate	
#4	4	5	4	1	4	4	3.5	0.5	Moderate	
#5	4	5	4	1	4	4	4	0	Moderate	
#6	4	5	4	1	4	4.5	3.5	1	Moderate	
#7	5	5	4.5	0.5	5	5	4	1	High+	
#8	5	5	4	1	4	5	4	1	Moderate	
#9	4	5	4	1	4	5	4	1	Moderate	
#10	4	4.5	4	0.5	4	4	3	1	High	
#11	4	5	3.5	1.5	4	4	3	1	Moderate+	
#12	3	4	3	1	4	4	3	1	Moderate	
#13	4	4	3	1	3	4	3	1	Moderate	
#14	4	5	3	2	4	4	3	1	Low–	
#15	5	5	4.5	0.5	5	5	4.5	0.5	High	
<i>Loss Prevention</i>										
#16	4	4.5	4	0.5	4	4	3	1	High+	
#17	4	4	3.5*	0.5	4	4	3	1	High	
#18	4	4	3	1	3	4	3	1	Moderate	
#19	4	4	3	1	3	4	3	1	Moderate	
#20	4	5	3*	2	4	4	3	1	Low–	
#21	4	4	3	1	3	4	3	1	Moderate	
#22	4	4	3	1	3	4	3	1	Moderate	
#23	5	5	4	1	5	5	4	1	Moderate	
#24	4	4	3	1	3	4	3	1	Moderate	
#25	4	4	3	1	4	4	3	1	Moderate+	
#26	4	4	3	1	3	4	3	1	Moderate+	
#27	4	4	3	1	3	4	3	1	Moderate	
<i>Business Continuity</i>										
#28	4	4.5	4	0.5	4	4	3.5	0.5	High+	
#29	5	5	4	1	4	5	4	1	Moderate	
#30	4	4	3	1	3	4	3	1	Moderate+	
#31	4	4	3.5*	0.5	4	4	3	1	High+	
#32	4	4	4*	0	4	4	3	1	High+	
#33	4	5	4	1	4	4	3	1	Moderate	

#34	4	4.5	3.5*	1	3	4	3	1	Moderate
#35	4	4	3.5*	0.5	3	3	3	0	High+
#36	5	5	4	1	4	5	4	1	Moderate
#37	4	5	4	1	4	4	3	1	Moderate
#38	4	4	3	1	3	3.5	3	0.5	Moderate
#39	5	5	4.5	0.5	4	5	3	2	High+
#40	4	4	3	1	3	4	3	1	Moderate+

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table A3.

Emergency Planning – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level
	<u>Median</u>	<u>Dispersion</u>			<u>Median</u>	<u>Dispersion</u>			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Emergency Planning</i>									
#41	5	5	4.5	0.5	4	5	4	1	High+
#42	5	5	4	1	4	5	3.5	1.5	Moderate
#43	5	5	4	1	4	4.5	4	0.5	Moderate
#44	5	5	4	1	4	4	4	0	Moderate
#45	5	5	4	1	4	4	4	0	Moderate
#46	5	5	4	1	4	4.5	4	0.5	Moderate
#47	5	5	4	1	4	4.5	3	1.5	Moderate–
#48	5	5	4	1	4	5	4	1	Moderate
#49	5	5	4	1	4	3.5	3	0.5	Moderate
#50	5	5	4	1	4	4	3.5	0.5	Moderate
#51	5	5	4	1	4	4	4	0	Moderate–
#52	5	5	4	1	4	4	4	0	Moderate
#53	5	5	4	1	4	5	4	1	Moderate
<i>Exercise and Evaluation</i>									
#54	4	5	4	1	3	4	3	1	Moderate
#55	4	5	4	1	4	4	3	1	Moderate
#56	4	4.5	4	0.5	3	4	3	1	High+
#57	4	4	3	1	3	3	2.5	0.5	Moderate
#58	4	4.5	4	0.5	4	4	3	1	High+
#59	4	5	4	1	4	4	3	1	Moderate
#60	4	5	4	1	3	4	3	1	Moderate
#61	4	5	4	1	3	4	3	1	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table A4.

Problem Solving and Decision Making – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>		
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR	
<i>Problem Solving</i>									
#62	4	5	4	1	4	4	4	0	Moderate
#63	4	5	4	1	4	4	3	1	Moderate
#64	4	5	4	1	4	4	4	0	Moderate
#65	4	5	4	1	4	4	3	1	Moderate
#66	4	4	4*	0	3	4	3	1	High++
#67	4	4	3.5*	0.5	4	4	3	1	High+
#68	4	4	3	1	3	4	3	1	Moderate
#69	5	5	4	1	4	4.5	4	0.5	Moderate
#70	4	4.5	4	0.5	4	4	3	1	High+
#71	4	4.5	3.5*	1	4	4	3	1	Moderate
<i>Decision Making</i>									
#72	5	5	4	1	4	4.5	4	0.5	Moderate
#73	5	5	4	1	4	4	4	0	Moderate
#74	5	5	4	1	4	4	3.5	0.5	Moderate
#75	5	5	5	0	4	5	3	2	High+
#76	5	5	4	1	4	5	4	1	Moderate
#77	5	5	4.5	0.5	5	5	4	1	High+
#78	4	5	4	1	4	4	3	1	Moderate
#79	5	5	4	1	4	4.5	4	0.5	Moderate
<i>Adaptability and Flexibility</i>									
#80	5	5	4	1	4	5	3.5	1.5	Moderate
#81	4	4	4*	0	4	4	3	1	High++
#82	4	5	4	1	4	4	3	1	Moderate
#83	4	5	4	1	4	4.5	3	1.5	Moderate
#84	4	4.5	4	0.5	4	4	3	1	High+
#85	4	5	4	1	4	4.5	3.5	1	Moderate
#86	4	4.5	4	0.5	4	4	3	1	High+

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table A5.

Leadership – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level	
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR		
<i>Initiative</i>										
#87	4	4	4	0	4	4	3	1	High	
#88	5	5	4	1	4	4	3	1	Moderate	
#89	4	5	4	1	4	5	4	1	Moderate	
#90	5	5	4	1	4	4	4	0	Moderate	
#91	4	5	4	1	5	5	4	1	Moderate	
#92	5	5	4	1	4	5	4	1	Moderate	
#93	4	5	4	1	4	4.5	4	0.5	Moderate	
#94	4	4.5	4	0.5	4	4.5	4	0.5	High+	
#95	5	5	4.5	0.5	5	5	5	0	High	
<i>Interpersonal Awareness</i>										
#96	4	5	4	1	4	4.5	4	0.5	Moderate	
#97	4	5	4	1	4	5	4	1	Moderate	
#98	4	5	4	1	4	4	4	0	Moderate	
#99	4	5	4	1	4	4	4	0	Moderate	
#100	5	5	5	0	5	5	5	0	High+	
#101	5	5	4.5	0.5	5	5	4	1	High+	
#102	5	5	4	1	5	5	4	1	Moderate	
#103	5	5	4	1	4	5	4	1	Moderate	
#104	5	5	4	1	4	5	4	1	Moderate	
<i>Crisis Leadership</i>										
#105	5	5	5	0	5	5	4	1	High	
#106	5	5	4.5	0.5	4	5	4	1	High+	
#107	5	5	5	0	4	5	4	1	High+	
#108	5	5	4	1	4	4.5	4	0.5	Moderate	
#109	5	5	4	1	4	4.5	3	1.5	Moderate	
#110	4	5	4	1	4	5	3.5	0.5	Moderate	
#111	5	5	4	1	5	5	4	1	Moderate	
#112	5	5	5	0	5	5	4	1	High+	
#113	4	5	4	1	4	4.5	4	0.5	Moderate	
#114	4	5	4	1	4	4	3	1	Moderate	
#115	5	5	5	0	5	5	4	1	High+	

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table A6.

Communication – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level	
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR		
<i>Communication Skills</i>										
#116	4	5	4	1	4	5	4	1	Moderate	
#117	5	5	4	1	4	5	4	1	Moderate	
#118	4	5	4	1	4	4.5	4	0.5	Moderate	
#119	5	5	4	1	5	5	4	1	Moderate	
#120	4	4.5	4	0.5	4	4	4	0	High+	
#121	5	5	4	1	4	5	4	1	Moderate	
#122	4	5	4	1	4	4.5	4	0.5	Moderate	
#123	5	5	4	1	4	5	4	1	Moderate	
#124	4	4.5	4	0.5	3	4	3	1	High+	
#125	4	5	4	1	4	4	3	1	Moderate	
<i>Crisis Communications</i>										
#126	5	5	4	1	4	5	3.5	1.5	Moderate	
#127	4	5	4	1	4	4	3	1	Moderate	
#128	4	4.5	4	0.5	4	4	3	1	High+	
#129	5	5	4.5	0.5	4	4	3	1	High+	
#130	4	5	4	1	4	4.5	3	1.5	Moderate	
#131	4	5	4	1	4	4.5	3	1.5	Moderate	

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table A7.

Building Collaborative Relationships – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level	
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR		
<i>Relationship Building</i>										
#132	5	5	4	1	5	5	4	1	Moderate	
#133	4	5	4	1	4	5	3.5	1.5	Moderate	
#134	4	4.5	4	0.5	4	4	3	1	High+	
#135	4	4	4	1	4	4	3	1	Moderate	
#136	5	5	4	1	4	5	4	1	Moderate	
#137	5	5	4	1	4	5	4	1	Moderate	
#138	5	5	4	1	4	5	4	1	Moderate	

<i>Teamwork</i>	#139	5	5	4	1	4	5	4	1	Moderate
	#140	4	4	4	0	4	4	4	0	High+
	#141	4	5	4	1	4	5	4	1	Moderate
	#142	4	4	4	0	4	4	4	0	High+
	#143	4	4	4	0	4	4	4	0	High+
	#144	4	4.5	4	0.5	4	4.5	4	0.5	High+
	#145	4	4	3*	1	4	4	3	1	Moderate
	#146	4	5	4	1	4	5	4	1	Moderate
	#147	4	4	3.5*	0.5	4	4	3.5	0.5	High+
	#148	4	4	4	0	4	4	4	0	High+

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

Table A8.

Human Resource Management – Round Three Delphi Responses

Competency Category (#)	<i>Importance</i>				<i>Frequency</i>				Consensus Level	
	<u>Median</u>		<u>Dispersion</u>		<u>Median</u>		<u>Dispersion</u>			
	<i>I</i>	Q3	Q1	IQR	<i>F</i>	Q3	Q1	IQR		
<i>Staff Training and Development</i>										
	#149	4	4.5	4	0.5	4	4	4	0	High+
	#150	4	4	4	0	4	4	4	0	High
	#151	4	5	4	1	4	4.5	4	0.5	Moderate
	#152	4	5	4*	1	4	4	3	1	Moderate+
	#153	4	5	4	1	4	4	3	1	Moderate
	#154	4	4	4	0	4	4	3	1	High+
	#155	4	4.5	4	0.5	4	4	3.5	0.5	High+
	#156	5	5	4	1	4	4	3	1	Moderate
<i>Performance Management</i>										
	#157	4	5	4	1.5	4	4.5	3.5	1	Moderate
	#158	4	5	3.5*	1.5	3	4	3	1	Moderate
	#159	4	5	4	1	3	4	3	1	Moderate
	#160	4	5	3.5*	1.5	4	4	3	1	Moderate
	#161	4	5	4	1	4	5	4	1	Moderate
	#162	4	5	4	1	4	4	3	1	Moderate
	#163	4	5	3*	2	3	4	3	1	Low–
<i>Employee And Labor Relations</i>										
	#164	4	5	3.5*	1.5	3	4	3	1	Moderate

Note. Numbers (#) correspond with competency statements listed in Appendix L. *I* = median importance rating. *F* = median frequency rating. Q3 = median score for the third (upper) quartile of data. Q1 = median score of the first (lower) quartile of data. IQR = difference between the median scores of Q3 and Q1.

REFERENCES

- Alghamdi, A. A. (1992). *Crowd control model with a management information system approach for command and control* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (UMI No. 303997546)
- Ammon, R., Southall, R., & Blair, D. (2004). *Sport facility management: Organizing events and mitigating risks*. Morgantown, WV: Fitness Information Technology.
- ASIS International Guidelines Commission. (2003). *General security risk assessment guideline*. Alexandria, VA: ASIS International.
- ASIS Foundation. (2013). *Enterprise security risks and workforce competencies: Findings from an industry roundtable on security talent development*. Tempe, AZ: The University of Phoenix.
- ASIS International and Institute of Finance and Management. (2014). *The United States security industry: Size and scope, insights, trends, and data*. Portland, ME: Institute of Finance and Management.
- Association for Talent Development [ATD]. (2015, November). *2015 State of the Industry Report*. American Society for Training and Development.
- Atkinson, M., & Young, K. (2002). Terror games: Media treatment of security issues at the 2002 winter Olympic games. *OLYMPIKA: The International Journal of Olympic Studies*, 11, 53-78. Retrieved from <http://www.uwo.ca/olympic/>
- Austill, A. D. (2013). When it hits the fan: Will there be liability for the broken bat? *Marquette Sports Law Review*, 24(1), 83-121. Retrieved from <http://scholarship.law.marquette.edu>

- Baker, T. A., Connaughton, D., Zhang J. J., & Spengler, J.O. (2007). Perceive risk of terrorism and related risk management practices of NCAA division IA football stadium managers. *Journal of Legal Aspects of Sport*, 13(2), 145-179.
doi:10.1123/jlas.17.1.27
- Baklouti, M., & Namsi, Z. (2013, August). Security models in mega sport events between safety and human rights (case of Vancouver 2010). *The Sport Journal*, 19. Retrieved from <http://thesportjournal.org>
- BBC News. (2015, November). *Paris attacks: What happened at Stade de France?* Retrieved April 10, 2016 from <http://www.bbc.com/news/world-europe-34839080>
- BBC News. (2017, June). Manchester attack: What we know so far. Retrieved from <http://www.bbc.com/news/uk-england-manchester-40008389>
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *The Journal of Political Economy*, Part 2: *Investment in Human Beings*, 70(2). 9-49.
doi:10.1086/258724
- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis with special reference to education* (3rd ed.). Chicago, IL: The University of Chicago Press.
- Becker, B., & Huselid, M. (2006). Strategic human resources management: Where do we go from here? *Journal of Management*, 32(6), 898-925.
doi:10.1177/0149206306293668
- Becker, B., Huselid, M., & Ulrich, D. (2001). *The HR scorecard: Linking people, strategy and performance*. Boston, MA: Harvard Business Press.
- Becton, B. (2013a, October). *Job analysis report: Certified sports security professional*.

Unpublished manuscript. National Center for Spectator Sports Safety and Security, The University of Southern Mississippi, Hattiesburg, MS.

Becton, B. (2013b, October). *Technical report: Sport security professional certification exam*. Unpublished manuscript. National Center for Spectator Sports Safety and Security, The University of Southern Mississippi, Hattiesburg, MS.

Beech, B. F. (1997). Studying the future: A Delphi survey of how multi-disciplinary clinical staff view the likely development of two community mental health centers over the course of the next two years. *Journal of Advanced Nursing*, 25, 331-338. doi:10.1046/j.1365-2648.1997.1997025331.x

Benner, P. (1982). From novice to expert. *The American Journal of Nursing*, 82(3), 402-407. doi:10.2307/3462928

Black, D., Noel, B., & Wang, Z. (1999). On-the-job training, establishment size, and firm size: Evidence for economies of scale in the production of human capital. *Southern Economic Journal*, 66(1), 82-100. doi:10.2307/1060836

Boone, K. (2017, March). NCAA tournament 2017: Upset Kentucky fans burn TV, couch following UNC loss. *CBS Sports*. Retrieved from <https://www.cbssports.com/college-basketball/news/ncaa-tournament-2017-upset-kentucky-fans-burn-tv-couch-following-unc-loss/>

Botelho, G. (2014, December). \$50 million settlement reached in Indiana State Fair stage collapse. *CNN*. Retrieved from <http://www.cnn.com/2014/12/19/us/indiana-state-fair-settlement/index.html>

Boyatzis, J. (1982). *The competent manager: A model for effective performance*. New York, NY: John Wiley & Sons.

- Campion, M., Fink, A., Rugeberg, B., Carr, L., Phillips, G., & Odman, R. (2011). Doing competencies well: Best practices in competency modeling. *Personnel Psychology, 64*(1), 225-262. doi:10.1111/j.1744-6570.2010.01207.x
- Case, R., & Branch, J. D. (2003). A study to examine the job competencies of sport facility managers. *International Sports Journal, 7*(2), 25-38. Retrieved from <http://www.newhaven.edu>
- Chalofsky, N. (1992). A unifying definition for the human resource development profession. *Human Resource Development Quarterly, 3*(2), 175-182. doi:10.1002/hrdq.3920030208
- Chouhan, V. S., & Srivastava, S. (2014). Understanding competencies and competency modeling — A literature survey. *Journal of Business and Management, 16*(1), 14-22. doi:10.9790/487X-16111422
- Claussen, C. (2007). Mass searches of sports spectators in the United States. *The International Sports Law Journal, 7*(3-4), 79-94. Retrieved from <https://www.questia.com/library/p165795/the-international-sports-law-journal/>
- Clayton, M. J. (1997). Delphi: A technique to harness expert opinion for critical decision-making tasks in education. *Educational Psychology, 17*(4), 373-386. doi:10.1080/0144341970170401
- Connors, W. (2016, April 1). Head of security force resigns ahead of Rio Olympics. *The Wall Street Journal*. Retrieved on September 12, 2017 from <https://www.wsj.com/>
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

- Crowd [Def. 1]. (n.d.). *Merriam-Webster Online Dictionary*. Retrieved August 19, 2017, from <https://www.merriam-webster.com/dictionary/crowd>
- Cunningham, G. (2007). *Security management capabilities in intercollegiate athletic departments* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3275010)
- Dainty, A., Cheng, M. -I., & Moore, D. (2003). Redefining performance measures for construction project managers: An empirical evaluation. *Construction Management and Economics*, 21(2), 209-218.
doi:10.1080/0144619032000049737
- Dajani, J. S., Sincoff, M. Z., & Talley, W. K. (1979). Stability and agreement criteria for the termination of Delphi studies. *Technology Forecasting and Social Change*, 13(1), 83-90. doi:10.1016/0040-1625(79)90007-6
- Dalkey, N. C. (1972). The Delphi method: An experimental study of group opinion. In N. C. Dalkey, D. L. Rourke, R. Lewis, & D. Snyder (Eds.), *Studies in the quality of life: Delphi and decision-making* (pp. 13-54). Lexington, MA: Lexington Books.
- Dalkey, N., & Helmer, O., (1963). Delphi Technique: Characteristics and sequence model to the use of experts. *Management Science*, 9(3), 458-467.
doi:10.1287/mnsc.9.3.458
- Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning*. Glenview, IL: Scott, Foresman, and Co.
- Delbecq, A. L., Van de Ven, A. H., & Koenig, R. (1976). Determinants of coordination modes within organizations. *American Sociological Review*, 41(2), 322-338.

doi:10.2307/2094477

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed mode surveys: The tailored design method*. Hoboken, NJ: Wiley and Sons.

Erven, B. L. (2009). The Role of Human Resource Management in Risk Management. Department of Agricultural, Environmental and Development Economics, Ohio State University. Retrieved from www.articles.extension.org

Farmer, P. J., Mulrooney, A. L., & Ammon, R. (1996). *Sport facility planning and management*. Morgantown, WV: Fitness Information Technology.

Federal Emergency Management Agency [FEMA]. (2013). IS-100.b – Intro to Incident Command System (ICS 100). Department of Homeland Security. Retrieved from <https://training.fema.gov/is/courseoverview.aspx?code=IS-100.b>

Federal Emergency Management Agency [FEMA]. (2015) *Special events contingency planning: Job AIDS manual*. Washington, DC: U.S. Department of Homeland Security.

Federal Emergency Management Agency [FEMA]. (2016). Emergency Management Institute. Retrieved October 13, 2016 from <https://training.fema.gov/is/>

Finegold, D., Gatta, M., Salzman, H., & Schurman S. (2010). *Transforming the U.S. Workforce Development System: Lessons from Research and Practice*. Champaign, IL: Labor and Employment Relations Association, University of Illinois at Urbana-Champaign.

Fink, A., Kosecoff, J., Chassin, M., & Brook, R. H. (1984). Consensus methods: Characteristics and guidelines for use. *American Journal of Public Health, 74*(9), 979-983. doi:10.2105/AJPH.74.9.979

- Flouris, T., & Yilmaz, A. K. (2010). The risk management framework to strategic human resource management. *International Research Journal of Finance and Economics*, 36. p. 25-45. Retrieved from www.internationalresearchjournaloffinanceandeconomics.com
- G4S Risk Consulting Limited. (2016, March). *Growing terrorism challenge for sports events*. Whitepapers. Retrieved March 2, 2016 from <http://www.g4sriskconsulting.com>
- Galily, Y., Yarchi, M., Tamir, I., & Samuel-Azran, T. (2016). Terrorism and sport: A global perspective. *American Behavioral Science*, 60(9), 1039-1042. doi:10.1177/0002764216632839
- Gangani, N., McLean, G. N., & Braden, R. A. (2006). A competency-based human resource development strategy. *Performance Improvement Quarterly*, 19(1), 127-139. doi:10.1111/j.1937-8327.2006.tb00361.x
- Gao, S., Sung, M., & Zhang, J. (2011). Risk management capability building in SMEs: A social capital perspective. *International Small Business Journal*, 31(6), 677-700. doi:10.1177/026624261
- Garnett, J., & Kouzmin, A. (2007). Communicating throughout Katrina: Competing and complementary conceptual lenses on crisis communication. *Public Administration Review*, 67, 171-188. doi:10.1111/j.1540-6210.2007.00826.x
- Giloth, R. P. (2000). Learning from the field: Economic growth and workforce development in the 1990's. *Economic Development Quarterly*, 14(4), 340-359. doi:10.1177/089124240001400402

- Giulianotti, R., & Klauser, F. (2010). Security governance and sport mega-events: toward an interdisciplinary research agenda. *Journal of Sport and Social Issues*, 34(1), 49-61. doi:10.1177/0193723509354042
- Goodrich, N. (2002). September 11, 2001 attack on America: A record of the immediate impacts and reactions in the USA travel and tourism industry. *Tourism Management*, 23, 573-580. doi:10.1016/S0261-5177(02)00029-8
- Gordon, T. J. (1994). The Delphi method. Retrieved September 12, 2017 from <http://www.gerenciamento.ufba.br/downloads.html>
- Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your “house.” *Administrative Issues Journal*, 4(2), 12-26. doi:10.5929/2014.4.2.9
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the delphi survey technique. *Journal of Advanced Nursing*, 32(4), 1008-1015. doi:10.1046/j.1365-2648.2000.t01-1-01567.x
- Hasson, F., & Keeney, S. (2011). Enhancing rigour in the Delphi technique research. *Technological Forecasting & Social Change*, 78(9), 1695-1704. doi:10.1016/j.techfore.2011.04.005
- Hall, C. M. (2002). Travel safety, terrorism and the media: The significance of the issue-attention cycle. *Current Issues in Tourism*, 5(5), 458-466. doi:10.1080/13683500208667935
- Hall, S. A. (2006). *Standards for effective security management of university sport venues* (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global. (UMI No. 3257011)

- Hall, S. A. (2010, June). Sport event safety and security: The importance of training your people. *Security Magazine*, 47(6), 66-70. Retrieved from <http://www.securitymagazine.com>
- Hall, S., Cieslak, T., Marciani, L., Cooper, W. E., & McGee, J. A. (2010). Protective security measures for major sport events: A baseline standard. *Journal of Emergency Management*, 8(1), 47-55. doi:10.5055/jem.2010.0004
- Hall, S., Cooper, W.E., Marciani, L., & McGee, J.A. (2012). *Security Management for Sports and Special Events – An Interagency Approach*. Champaign, IL: Human Kinetics.
- Hall, S., Fos, P., Marciani, L., & Zhang, L. (2011). Value Modeling in Sport Security Planning: Setting Priorities in Security Efforts at Large Spectator Events. *International Journal of Sport Management*, 12(2), 191-207. Retrieved from www.americanpresspublishers.com
- Hall, S., Marciani, L., & Cooper, W. (2008). Sport venue security: Planning and preparedness for terrorist-related incidents. *Sport Management and Related Topics Journal*, 4(2), 6-15. Retrieved from www.thesmartjournal.com
- Hall, S., Marciani, L., Cooper, W., & Rolen, R. (2008, March 14). Introducing a risk assessment model for sport venues. *The Sport Journal*. Retrieved from <http://thesportjournal.org>
- Hall, S. A., Ward, R., Cunningham, T., & Marciani, L. (2008, April 15). Developing a new curriculum in sport security management. *Journal of Homeland Security and Emergency Management*, 5(1), 1-10. doi:10.2202/1547-7335.1439
- Heitner, D. (2015, October 15). Sports industry to reach \$73.5 billion by 2019. *Forbes*.

Retrieved from <http://www.forbes.com>

Hsu, C., & Sandford, B. A. (2007). The Delphi Technique: Making Sense of Consensus.

Practical Assessment, Research & Evaluation, 12(10), 1-8. Retrieved from

<http://pareonline.net/>

Huberman, M. A., & Miles, M. B. (2002). *The qualitative researcher's companion*.

Thousand Oaks, CA: Sage.

Huck, S. W. (2000). *Reading statistics and research*. (3rd ed.). Reading, MA: Addison

Wesley.

Hutchins, H., & Wang, J. (2008). Organizational crisis management and human resource

development: A review of the literature and implications to HRD research and

practice. *Advances in Developing Human Resources, 10*(3), 310-330.

doi:10.1177/1523422308316183

Huselid, M. A., Becker, B. E., & Beatty, R. W. (2005). *The workforce scorecard:*

Managing human capital to execute strategy. Boston, MA: Harvard Business

Press.

ICS Glossary. (2008). FEMA. Retrieved on December 9, 2016 from

<https://training.fema.gov/emiweb/is/icsresource/assets/icsglossary.pdf>

Isaac, S., & Michael, W. B. (1981). *Handbook in research and evaluation: A collection*

of principles, methods, and strategies useful in the planning, design, and

evaluation of studies in education and the behavioral sciences. San Diego, CA:

EDITS.

- Jacobs, J. M. (1996). *Essential assessment criteria for physical education teacher education programs: A Delphi study* (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global. (UMI No. 9639726)
- James, E., & Wooten, L. (2005). Leadership as unusual: How to display competence in times of crisis. *Organizational Dynamics*, 34(2), 141-152.
doi:10.1016/j.orgdyn.2005.03.005
- Kalaian, S., & Kasim, R. (2012). Terminating sequential Delphi survey data collection. *Practical Assessment, Research and Evaluation*, 17(5), 1-10. Retrieved from <http://pareonline.net/>
- Kastenburg, J. (1996). A three dimensional model of stadium owner liability in spectator injury cases. *Marquette Sports Law Journal*, 7(1), 187-209. Retrieved from <http://scholarship.law.marquette.edu/>
- Kaye, B., Cohen, J., & Crowell, B. (2011). Career development: Encompassing all employees. In L. Berger & D. Berger (Eds.), *The talent management handbook: Creating sustainable competitive advantage by selecting, developing, and promoting the best people* (2nd ed.; pp. 159-168). New York, NY: McGraw-Hill.
- Keeney, S., Hasson, F., & McKenna, H. (2001). A critical review of the Delphi technique as a research methodology for nursing. *International Journal of Nursing Studies*, 38(2), 195-200. doi:10.1016/S0020-7489(00)00044-4
- Kotter, J. (2012). *Leading change*. Boston, MA: Harvard Business Review Press.
- Kraiger, K. (2003). Perspectives on training and development. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (pp. 171-192). doi:10.1002/0471264385.wei1208

- Kozlowski, S., & Salas, E. (1997). An organizational systems approach for the implementation and transfer of training. In J. K. Ford, S. W. J. Kozlowski, K. Kraiger, E. Salas, & M. Teachout (Eds.), *Improving training effectiveness in work organizations* (pp. 247-287). Mahwah, NJ: Lawrence Erlbaum.
- Lalonde, C., & Boiral, O. (2012). Managing risk through ISO 31000: A critical analysis. *Risk Management, 14*(4), 272-300. doi:10.1057/rm.2012.9
- Latif, R., Mohamed, R., Dahlan, A., & Mat Nor, MZ. (2016). Using Delphi technique: Making sense of consensus in concept mapping structure and multiple choice questions (MCQ). *Education in Medicine Journal, 8*(3), 89-98. doi:10.5959/eimj.v8i3.421
- Lawler, E. (1994). From job-based competency-based organizations. *Journal of Organizational Behavior, 15*(1), 3-15. doi:10.1002/job.4030150103
- Lee, C., & Taylor, T. (2005). Critical reflections on the economic impact assessment of a mega event: The case of the 2002 FIFA World Cup. *Tourism Management, 26*(5), 595-603. doi:10.1016/j.tourman.2004.03.002
- Leedy, P., & Ormrod, J. (2014). *Practical research: Planning and design*. London, United Kingdom: Pearson Education Limited.
- Li, D. (2015, April). Riots force Orioles to play in empty stadium. *New York Post*. Retrieved from <http://nypost.com/2015/04/28/orioles-cancel-second-straight-game-due-to-rioting/>
- Linstone, H. A., & Turoff, M. (1975). Introduction. In H. A. Linstone & M. Turoff (Eds.), *The Delphi method: Techniques and applications* (pp. 3-12). Reading, MA: Addison-Wesley.

- Lipton, E. (2005, March 16). U.S. report lists possibilities for terrorist attacks and likely toll. *New York Times*, Section A, Page 1, Column 2.
- Lucas, R. W. (2012). *Customer service: Skills for success*. New York, NY: McGraw-Hill.
- Lucia, A., & Lesinger, R. (2002). *The art and science of competency models: Pinpointing critical success factors in an organization*. San Francisco, CA: Jossey-Bass/Pfeiffer.
- Ludwig, B. (1997). Predicting the future: Have you considered using the Delphi methodology? *Journal of Extension*, 35(5), 1-4. Retrieved from <https://www.joe.org/>
- Mansfield, R. S. (1996). Building competency models: Approaches for HR professionals. *Human Resource Management*, 35(1), 7-18.
doi:10.1002/(SICI)1099-050X(199621)35:1<7::AID-HRM1>3.0.CO;2-2
- McCarthy, J., & McPhail, C. (2006, June). Places of protest: The public forum in principle and practice. *Mobilization: An International Quarterly*, 11(2), 229-247.
doi:10.17813/maiq.11.2.45054350171u704q
- McClelland, D. (1973). Testing for competence rather than 'intelligence.' *American Psychologist*, 28, 1-14. doi:10.1037/h0034092
- Miller, S. G. (2012). *Leading through crisis: Competencies for effective sport security professionals*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global. (UMI No. 3534820)

- Mitchell, C., Ray, R., & Van Ark, B. (2016). Building capability: Seeking alignment, agility, and talent to innovate and grow. *The Conference Board*. Retrieved from <https://www.conference-board.org>
- National Fire Protection Association. (2015). *NFPA 1 fire code*. NFPA. Retrieved from www.nfpa.org
- Natural disasters [Def. 2]. (n.d.). *Merriam-Webster Online Dictionary*. Retrieved August 19, 2017, from <https://www.merriam-webster.com/dictionary/natural%20disaster>
- Narr, T., Toliver, J., Murphy, J., McFarland, M., & Ederheimer, J. (2006) *Police management of mass demonstrations: Identifying issues and successful approaches*. Washington, DC: Police Executive Research Forum. Retrieved from <http://www.policeforum.org/>
- National Strategy for Homeland Security. (2007, October). Office of Homeland Security. Retrieved from <https://www.dhs.gov/national-strategy-homeland-security-october-2007>
- National Football League [NFL]. (2015, November). NFL stadium policy. Retrieved from <http://www.nfl.com/news/story/0ap3000000579441/article/nfl-stadium-bag-policy>
- Oriol, P. S. (2004). Fear and fantasy: The elsewheres of post-9/11 tourism. *e-Review of Tourism Research (eRTR)*, 2(4), 17-19. Retrieved from <http://ertr.tamu.edu>
- Pantera, M. J. III, Accorsi, R., Winter, C., Gobeille, R., Griveas, S., Queen, D., . . . Domanoski, B. (2003, March). Best practices for game day security at athletic and sport venues. *The Sport Journal*, 6(4). Retrieved from <http://thesportjournal.org>

- Panzar, J. (2014, December 19). Live Nation, Sugarland settle suit in deadly Indiana stage collapse. *Los Angeles Times*. Retrieved from <http://www.latimes.com/nation/la-na-settlement-indiana-stage-collapse-20141219-story.html>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Peralta, K., Douglas, A., and Harrison, S. (2016, September). Protesters, chants, and riot police: Not a typical Panthers game day. *The Charlotte Observer*. Retrieved from <http://www.charlotteobserver.com/news/local/article104074816.html>
- Perform [Def. 3]. (n.d.). *Merriam-Webster Online Dictionary*. Retrieved November 5, 2016, from <https://www.merriam-webster.com/dictionary/perform>.
- Pizam, A., & Fleischer, A. (2002). Severity versus frequency of acts of terrorism: Which has a larger impact on tourism demand? *Journal of Travel Research*, 40(3), 337-339. doi:10.1177/0047287502040003011
- Poell, R. F., Chivers, G. E., Van der Krogt, F. J., & Wildemeersch, D. A. (2000). Learning-network theory. *Management Learning*, 31(1), 24-49. doi:10.1177/1350507600311004.
- Presidential Policy Directive/PPD-21. (February 2013). Office of the Press Secretary. Retrieved from <https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil>

- Roberts, C. M. (2010). *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Rodriguez, D., Patel, R., Bright, A., Gregory, D., & Gowing, M. K. (2002). Developing competency models to promote integrated human resource practices. *Human Resource Management, 41*(3), 309-324. doi:10.1002/hrm.10043
- Rowe, G., & Wright, G. (1999). The Delphi technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting, 15*(4), 353-375.
doi:10.1016/S0169-2070(99)00018-7
- Rummler, G. A., & Brache, A. P. (1995). *Improving performance: How to manage the white space on the organization chart*. San Francisco, CA: Jossey-Bass.
- Ruyle, K. E., & Orr, J. E. (2011). Fundamentals of competency modeling. In L. Berger & D. Berger (Eds.), *The talent management handbook: Creating sustainable competitive advantage by selecting, developing, and promoting the best people* (2nd ed.; pp. 22-32). New York, NY: McGraw-Hill.
- Sackett, P. R., & Laczko, R. M. (2003). Job and work analysis. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Comprehensive handbook of psychology* (Vol. 12; pp. 21-37). New York, NY: John Wiley & Sons.
- Salas, E., & Cannon-Bowers, J. (2001). The science of training: A decade of progress. *Annual Review of Psychology, 52*, 471-499.
doi:10.1146/annurev.psych.52.1.471.

- Sanchez, J., & Levine, E. (2009). What is (or should be) the difference between competency modeling and traditional job analysis? *Human Resource Management Review*, 19, 53-63. doi:10.1016/j.hrmr.2008.10.002
- Sandrey, M., & Bulger, S. (2008). The Delphi method: An approach for facilitating evidence based practice in athletic training. *The Athletic Training Education Journal*, 3(4), 135-142. doi:10.4085/1947-380X-3.4.135
- Sauter, M. A., & Carafano, J. J. (2005). *Homeland Security: A complete guide to understanding, preventing, and surviving terrorism*. New York, NY: McGraw Hill.
- Sawer, P. (2017, June). What happened at Hillsborough in 1989? The Telegraph. Retrieved from <http://www.telegraph.co.uk/news/0/happened-hillsborough-1989/>
- Schuler, R., & Walker, J. (1990, June). Human resource strategy: Focusing on issues and actions. *Organizational Dynamics*, 19(1), 4-19. doi:10.1016/0090-2616(90)90045-Q
- Schwarz, E., Hall, S., & Shibli, S. (2015). *Sport facility operations management: A global perspective* (2nd ed.). doi:10.1016/B978-1-85617-836-5.10011-7
- SEC Sports. (2017, March). SEC implements clear bag policy for all football games. Retrieved from <http://www.secsports.com/article/18969673/sec-implements-clear-bag-policy-all-football-games>
- Sennewald, C. (2003). *Effective security management* (4th ed.). Waltham, MA: Butterworth-Heinemann.

- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Belmont, CA: Wadsworth Cengage Learning.
- Slovic, P. (2001). The risk game. *Journal of Hazardous Materials*, 86(1), 17-24.
doi:10.1016/S0304-3894(01)00248-5
- Spencer, S., & Spencer, L. (1993). *Competence at work: models for superior performance*. New York, NY: John Wiley & Sons.
- Steele, D. (2013, June). NFL's new bag policy angers fans—especially women. *Sporting News*. Retrieved from <http://www.sportingnews.com/nfl/news/4505320-nfl-bag-policy-complaints-purse-fanny-bag-restrictions-2013-season-security-bost>
- Stelloh, T., & Medina, D. (2017, January). Pipeline protesters deliver high-flying stunt during Vikings game. *NBC News*. Retrieved from <http://www.nbcnews.com/storyline/dakota-pipeline-protests/pipeline-protesters-deliver-high-flying-stunt-during-vikings-game-n702116>
- Stern, E. (2014). Preparing: The sixth task of crisis leadership. *Journal of Leadership Studies*, 7(3), 51-56. doi:10.1002/jls.21298
- Still, G. K. (2000). *Crowd dynamics* (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global. (UMI No. 301612321)
- Stines, A. (2003). *Forecasting the competencies that will define “best-in-class” business-to-business market managers: An emergent Delphi-hybrid competency forecasting model* (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global. (UMI No. 3119072)

- Strauss H., & Zeigler H. (1975). The Delphi technique and its uses in social science research. *Journal of Creative Behavior*, 9(4), 253-259. doi:10.1002/j.2162-6057.1975.tb00574.x
- Society for Human Resource Management [SHRM]. (2008, September). *Organizational development: A strategic HR tool*. Alexandria, VA: Society for Human Resource Management.
- Soto, A. (2016, June 18). Brazil plans emergency funds for Rio ahead of Olympics source. *Reuters*. Retrieved on September 12, 2017 from <http://www.reuters.com/article/us-olympics-rio-funding/brazil-plans-emergency-funds-for-rio-ahead-of-olympics-source-idUSKCN0Z40IA>
- Swanson, R. A. (1994). *Analysis for improving performance: Tools for diagnosing organizations and documenting workplace expertise*. San Francisco, CA: Berrett-Koehler.
- Swanson, R. A. (1995). Human resource development: Performance is the key. *Human Resource Development Quarterly*, 6(2), 207-213. doi:10.1002/hrdq.3920060208
- Swanson, R. A. (1999). The foundations of performance improvement and implications for practice. In R. Torraco (Ed.), *The theory and practice of performance improvement* (pp. 1- 25). San Francisco, CA: Berrett-Koehler.
- Swanson, R. A., & Holton, E. F. (2009). *Foundations of human resource development* (2nd ed.). San Francisco, CA: Berrett-Koehler.
- Swanson, R., & Torraco, R. (1995). The history of training. In L. Kelly (Ed.), *Technical and skills training handbook of the American Society for Training and Development* (pp. 1-48). New York, NY: McGraw-Hill.

- Swartz, T. (July, 2015). City details Lollapalooza emergency plans ahead of festival. *Chicago Tribune*. Retrieved from <http://www.chicagotribune.com/entertainment/music/ct-lollapalooza-emergency-weather-plans-20150728-story.html>
- Taylor, T., & Toohey, K. (2006). Impacts of terrorism related safety and security measures at a major sport event. *Event Management*, 9(4), 199-209. doi:10.3727/152599506776771544
- Thayer, P. W., & Teachout, M. S. (1995). A climate for transfer model (Report AL/HR-TP-1995-0035). Brooks Air Force Base, TX: Air Force Materiel Command.
- Tharenou, P., Saks, A., & Moore, C. (2007, September). A review and critique of research on training and organizational-level outcomes. *Human Resource Management Review*, 17(3), 251-271. doi:10.1016/j.hrmr.2007.07.004
- The Guardian. (2015, August). *The New Orleans Superdome: A great American comeback story*. Retrieved from <https://www.theguardian.com/sport/2015/aug/21/new-orleans-superdome-stadium-hurricane-katrina>
- The House of Commons. (2012, September). *The Report of the Hillsborough Independent Panel*. London, United Kingdom: The Stationary Office. Retrieved from <http://hillsborough.independent.gov.uk/>
- The National Center for Spectator Sports Safety and Security [NCS4]. (2016). Retrieved from <https://www.ncs4.com/about/overview>
- The National Center for Spectator Sport Safety and Security. (2017). *Best Practices Guide for Intercollegiate Athletics Safety and Security*. Unpublished manuscript.

National Center for Spectator Sports Safety and Security, University of Southern Mississippi, Hattiesburg, MS.

Toohy, K., & Taylor, T. (2008). Mega events, fear, and risk: Terrorism at the Olympic games. *Journal of Sport Management*, 22(4), 451-469. doi:10.1123/jsm.22.4.451

Torraco, R. J. (2005). Human resource development transcends disciplinary boundaries. *Human Resource Development Review*, 4(3), 251-253.

doi:10.1177/1534484305278894

Turoff, M. (1970). The design of a policy Delphi. *Technological Forecasting and Social Change*, 2(2), 149-171. doi:10.1016/0040-1625(70)90161-7

Ulrich, D. (1997). *Human resource champions: The next agenda for adding value and delivering results*. Boston, MA: Harvard Business School Press.

USA Today (2013, April). '72 Olympics, '96 Olympics, now Boston Marathon.

Retrieved April 26, 2017 from

<https://www.usatoday.com/story/sports/columnist/brennan/2013/04/15/brennan-column-boston-marathon-tragedy-first-person-from-atlanta-olympics/2086067/>

U.S. Department of Homeland Security [DHS]. (2003a, February). *Homeland Security Presidential Directive-5*. Official website of the U.S. Department of Homeland

Security. Retrieved September 11, 2017 from

<https://www.dhs.gov/publication/homeland-security-presidential-directive-5>

U.S. Department of Homeland Security [DHS]. (2003b, December). *Homeland Security Presidential Directive-7*. Official website of the U.S. Department of Homeland

Security. Retrieved May 2, 2018 from

<https://www.dhs.gov/publication/homeland-security-presidential-directive-7>

- U.S. Department of Homeland Security [DHS]. (2008). *Protective Measures for U.S. Sports Leagues*. Washington, DC: Author.
- U.S. Department of Homeland Security [DHS]. (2010, September). *DHS risk lexicon: 2010 edition*. Retrieved May 6, 2016 from <https://www.dhs.gov>
- U.S. Department of Homeland Security [DHS]. (2011a, April). Risk management fundamentals. Retrieved July 21, 2017 from <https://www.dhs.gov>
- U.S. Department of Homeland Security [DHS], Office of Infrastructure Protection. (2011b, June). *Protective measures guide for the U.S. outdoor venues industry*. Retrieved April 12, 2016 from <http://www.dhs.gov/criticalinfrastructure>
- U.S. Department of Homeland Security [DHS]. (2015a, February). Presidential policy directive 21 implementation: An interagency security committee white paper. Interagency Security Committee. Retrieved from <https://www.dhs.gov/publications>
- U.S. Department of Homeland Security [DHS]. (2015b, December). *Remarks by secretary of homeland security Jeh. C. Johnson on an update to the national terrorism advisory board*. Official website of the U.S. Department of Homeland Security. Retrieved March 5, 2016 from <https://www.dhs.gov/news/2015/12/16/remarks-secretary-homeland-security-jeh-c-johnson-update-national-terrorism-advisory>
- U.S. Department of Homeland Security [DHS]. (2016, September). *Vehicle rammings: Simple, effective tactic*. Prepared by DHS Office of Intelligence and Analysis; FBI; Directorate of Intelligence; and National Counterterrorism Center. Retrieved from <https://www.dhs.gov/national-terrorism-advisory-system>

- U.S. Department of Homeland Security [DHS]. (2017a). Critical infrastructure sectors. Retrieved from <https://www.dhs.gov/critical-infrastructure-sectors>
- U.S. Department of Homeland Security [DHS]. (2017b, February). *Vehicle attacks: Ramming increasing, VIBEDS rare*. Joint Regional Intelligence Center. Retrieved from <https://info.publicintelligence.net>
- U.S. Department of Justice [DOJ], Office of Community Oriented Policing Services. (2007, March). *Planning and managing security for major special events: Guidelines for law enforcement*. Alexandria, VA: Institute for Law and Justice.
- U.S. Department of Labor. (2014). *What works in job training: A synthesis of the evidence*. Official website of the U.S. Department of Labor. Retrieved June 27, 2016 from <https://www.dol.gov/asp/evaluation/jdt/>
- U.S. Government Accountability Office [GAO]. (2012). Chemical, biological, radiological, and nuclear risk assessments: DHS should establish more specific guidance for their use. Report to Committee on Homeland Security and Governmental Affairs, U.S. Senate.
- Van de Ven, A. H., & Delbecq, A. L. (1976). Determinants of coordination modes within organizations. *American Sociological Review*, *41*(2), 322-338. doi:10.2307/2094477
- Von Bertalanffy, L. (1968). *General systems theory: Foundations, development, applications*. New York, NY: George Braziller.
- Von der Gracht, H. A. (2012). Consensus measurement in Delphi studies: Review and implications for future quality assurance. *Technological Forecasting and Social Change*, *79*, 1525-1536. doi:10.1016/j.techfore.2012.04.013

- Wei, S, Lee, B., & Groves, D. (2015, September). Security and safety of special events: A perspective. *International Journal of Humanities and Social Science*, 5(9-1), 1-8. Retrieved from <http://www.ijhssnet.com>
- Wooten, L. & James, E. (2008). Linking crisis management and leadership competencies: The role of human resource development. *Advances in Developing Human Resources*, 10(3), 352-379. doi:10.1177/1523422308316450
- Wootson, C. (2015). Expanded police powers for events may be the new normal. The Charlotte Observer. Retrieved from <http://www.charlotteobserver.com/news/local/crime/article46988800.html>
- Workitect, Inc. (2005). Building competency models workshop. Retrieved from www.workitect.com
- Workitect, Inc. (2011). Integrating HR and talent management processes. Retrieved from <http://www.workitect.com>
- Yizhar, E. (2016, July). Israeli security co ready for Rio Olympics. *Globes*. Retrieved on September 12, 2017 from <http://www.globes.co.il/en/article-israeli-security-co-ready-for-rio-olympics-100114296>
- Yousuf, M. I. (2007). Using Experts' Opinions Through Delphi Technique. *Practical Assessment, Research & Evaluation*, 12(4), 1-8. Retrieved from <http://pareonline.net>