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Robyn Lubisco

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Robyn A. Lubisco  
*Candidate*

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Physical Education, Sports, and Exercise Science  
*Department*

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This dissertation is approved, and it is acceptable in quality and form for publication:

*Approved by the Dissertation Committee:*

Dr. Annie Clement \_\_\_\_\_, Chairperson

Dr. John Barnes \_\_\_\_\_

Dr. Todd Seidler \_\_\_\_\_

Gil Fried, Esq \_\_\_\_\_

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NCAA DIVISION I BASKETBALL FACILITY MANAGERS' PERCEPTIONS OF  
TERRORISM

by

ROBYN A. LUBISCO

B.S., Sports Management, Rutgers, The State University of New Jersey, 2004

M.S., Management of Sports Industries, University of New Haven, 2006

P.H.D., Physical Education, Sports, and Exercise Science, University of New Mexico,  
2011

DISSERTATION

Submitted in Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Philosophy

Physical Education, Sports, and Exercise Science

The University of New Mexico  
Albuquerque, New Mexico

July, 2011

## DEDICATION

*To my family, especially my mom,*

*Thank you for your love, support, and sacrifice throughout my life and studies.*

*Without you, this dissertation or my doctorate would not have been completed.*

*To all those who said you cannot, YOU CAN!*

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Finally, but certainly not least, to my family and friends, especially my mom, for constant support and love.

“You have all done very well. . . and I am unanimous in that!”

# **NCAA Division I Basketball Facility Managers' Perceptions of Terrorism**

**by**

**Robyn A. Lubisco**

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**PH.D., Physical Education, Sports, and Exercise Science University of New Mexico, 2011**

## **ABSTRACT**

The aftermath of September 11, 2001 left our country fighting a battle against terrorism. While our government has taken steps in protecting our country with the formation of the Department of Homeland Security, researchers in the field of Sports Management have begun to examine security preparation and risk management plans at sporting events. However, little research has examined risk assessment and risk communication. Securing sport venues starts with an individual analyzing all the potential risks with hosting an event. How risk is communicated and how risk is perceived can affect security preparation and risk management plans.

The purpose of this study was (1) To discover whether information presented on a frequency or probability scale affects a basketball facility manager's perception of the likelihood of a possible terrorist attack. (2) To detect whether information presented on a frequency or probability scale affects a basketball facility manager's security preparation. (3) To identify if the media's (television, radio, internet, conferences, magazine,

newspaper, and word of mouth) portrayal of terrorism influences a facility manager's perception that an attack is likely to occur.

Three hundred and fifty facility managers at NCAA Division I universities and colleges in the United States, who were in charge of basketball arena safety, were chosen as subjects for this study. Questions pertaining to risk communications were presented on frequency and probability scales to see if managers' perceptions of risk differed. The research also studied whether or not mass media influenced managers' perceptions of the likelihood of a terrorist attack and security preparation plans. Data analysis included descriptive statistics and a one-way analysis of variance (ANOVA). When a significant difference was found for a research question whose independent variable had three or more groups, post hoc analysis using the Tukey Honest Significant Difference (HSD) was performed to determine a mean difference between groups.

The results indicated that there was a difference in how facility managers interpreted risk when information was provided on two different scales, i.e., frequency versus probability. When facility managers were placed in New York, they perceived greater risk to their facility when risk was presented on a frequency scale versus a probability scale. Furthermore, facility managers were more likely to monitor Homeland Security when risk is presented on a frequency scale than on a probability scale, when placed at a facility in New York. Additionally, when determining at what point, i.e., threshold, facility managers would re-evaluate their security preparation plans, facility managers indicated re-evaluating security plans sooner when risk was communicated on a frequency scale as opposed to a probability scale.

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## CHAPTER I - INTRODUCTION

On September 11, 2011, Americans awoke with no thought of a terrorist attack, or a feeling of being targeted, or that they would never return home; and then at 8:46AM nineteen terrorists crashed four planes, hitting World Trade Tower One and Two, the Pentagon, and a field in Pennsylvania. It is believed that the plane that crashed in Pennsylvania was heading towards Washington, D.C. and the White House. According to CNN (2006), the attacks left 2,973 Americans and foreign nationals (excluding the terrorists) dead. This catastrophe, and its aftermath, acutely transformed our perceptions into ones of vulnerability, fear, and alarm. Security increased at major landmarks, government facilities, airports, water ports, and entertainment venues amid fears that another attack was imminent.

In 2002 and 2006, the FBI issued warnings that individuals with suspected ties to terrorist groups had used the internet to access information on stadiums and arenas in the U.S. and made an online posting discussing an attack against sport venues (Associated Press, 2002; 2006). In 2009, the Department of Homeland Security and the FBI issued security bulletins to raise awareness regarding terrorist interest in attacking sports and entertainment venues in the U.S., stating “terrorist groups such as Al-Qaeda view crowded stadiums and arenas as potential targets” (CNN, 2009).

Several professional sport leagues have taken a pro-active stance in securing their venues. Major League Baseball (MLB) established minimum security standards for all ballparks that included guidelines on alcohol sales, bag inspections, and barricades. The National Football League (NFL) established security restrictions for fans attending Super Bowl XLIV which included prohibiting camera and binocular cases, subjecting small

bags to searches, and subjecting all patrons to metal detectors and pat-down searches (USA Today, 2010).

Professional sport venues are not the only potential target for terrorist attacks. Collegiate sports stadiums host thousands of fans each weekend providing a perfect target for mass casualties and extensive media coverage (Hall, 2006). According to NCAA attendance records, approximately 32,835,863 people attended collegiate basketball games during the 2007 season (Official NCAA Basketball Records Book, 2007). With over 32 million people attending collegiate basketball games each year, it is important that universities have written risk management plans that include terrorism.

Pantera, Accorsi, Winter, Gobeille, Griveas, Queen, Insalaco, and Domanski (2003) surveyed Division I athletic directors and university directors of public safety to find out their security preparations before a football and basketball game. Using a 38-item security check list, the researchers concluded that preparation for basketball games did not score as high as football games; one area in particular that scored low on the security preparation list was using bomb sniffing dogs around and inside the area. This gap in security could indicate that basketball arena managers perceive their facility as a terrorist target to a lesser extent than football stadium managers, leaving basketball arenas possibly more vulnerable in the event such an attack takes place. Other areas that scored low included undercover surveillance and 90 minute minimum pre-event concession deliveries (Pantera et al., 2003).

Finances may play a role in the discrepancies in scores between football stadiums and basketball arenas. Hiring undercover surveillance personnel for every home basketball game would be costly, considering there are between 16-18 home games per

year which is nearly double the amount a football stadium will host. However, low scores on 90 minute minimum pre-event delivery can pose a threat to securing the venue.

Securing the inner perimeter 90 minutes prior to the start of a sporting event ensures that all vehicles are swept for bombs or other weapons of mass destruction before the talent and fans arrive. In March 2005, the Department of Homeland Security stated a truck bombing at a sports arena by terrorists would lead to a disastrous outcome if the event should occur (Lipton, 2005; Hall, Marciani, Cooper, & Rolen, 2007). Consequently, delivery trucks, vans, or even cars parked in the arena or outside side entrances prior to the start of the event, could conceivably carry a weapon of mass destruction.

According to the Baker, Connaughton, Zhang, & Spengler (2007) study on the perceived risk of terrorism and related risk management practices of NCAA Division 1A football stadium managers, the latter perceive terrorism as a foreseeable threat to their stadiums. Although stadium managers perceived their facility as a potential terrorist target, Baker et al. found staff at both the management level and non-management level lacked proper training. Additionally, Dunn (2010) study on Division I basketball facility managers' perceptions of terrorism revealed similar findings, "forty-six percent of basketball arena managers considered themselves at risk for a terrorist attack and that there were entities within their community capable of performing such acts" (p. 48). Furthermore, only forty-two percent of basketball arenas required some type of training for their staff; however, the majority (29%) only trained their staff once a year (Dunn, 2010). Previous research (Beckerman 2006; Hall, 2006, Cunningham, 2007; Hall, Marciani, Cooper, & Phillip, n.d.) also identified an industry gap in training and education of intercollegiate facility managers in event security.

In addition, football facility managers did not include the Department of Homeland Security threat level when preparing their security or risk measures (Baker et al., 2007). The Department of Homeland Security (DHS) “oversees and coordinates a national strategy to safeguard the country against terrorism, and respond to any future attacks” (Brief Documentary History of the Department of Homeland Security, 2001-2008, p. 4). Ed Worthington, former director of the Mississippi Office of Homeland Security, was quoted as saying, “Sporting events are perfect targets because of the number of people amassed in a relatively small space, and in any nation where sports are held in such high regard, an attack on any scale would likely grab national or even international attention,” (Doyle, 2005; Hall et al., 2007).

The exact timing, location, and targeted victims play a key role when a terrorist attack is carried out. The masterminds behind the 9/11 attacks chose specific targets that symbolized cultural and economic importance (Dunn, 2010). The attacks were orchestrated like a theater production portrayed all over the country and the world by the media, which left the audience shocked, distressed, stunned, and angered, that such an attack could happen in the U.S (Shoshani & Slone, 2008). What would happen if a similar attack took place at a collegiate sporting event or multiple sporting events? News would quickly spread through the media outlets, current sports broadcasting channels (ESPN, ESPN2, Fox Sports, etc.), traditional news channels (MSNBC, CNN, Fox News, etc) and local media (Dunn, 2010). The University of Texas at Austin men’s basketball team plays in the Frank Erwin Center which holds 16,755 spectators, the University of North Carolina at Chapel Hill men’s and women’s basketball teams play at the Dean Smith Center which has seating capacity of 21,750, and Syracuse University's Carrier

Dome holds 34,616 spectators. If a bomb or a weapon of mass destruction did detonate in one or all three of the arenas mentioned above during a scheduled home game, within seconds, images of the aftermath would be broadcast throughout the world via television, the internet, and cell phones. The names responsible for the attacks and their ideologies would flash across your television or computer screen, which is the goal of terrorist groups.

Sports facility managers are called upon to make crucial decisions concerning the safety of their arenas. Oftentimes, facility managers will pilot likelihood scenarios as a tool to conduct a risk analysis of their facility. These decision-makers are “thought to rely on both numerical and narrative information to the extent they perceive the information to be diagnostic, accurate, and trustworthy” (Dieckmann, Slovic, & Peters, 2009, p. 1). For example, a facility manager may be alerted by the Department of Homeland Security that the threat level for a potential attack on U.S. soil has been raised from yellow (elevated) to orange (high), signaling a higher risk of a possible terrorist attack. Depending on how risk information is communicated to an individual, risk assessment can greatly increase or decrease one's perception of risk and, consequently, a facility's preparedness. According to Heilbrun, Dvoskin, Hart, and McNiel (1999), “improvements in the accuracy of predictions. . . will not yield a comparable improvement in risk related decision-making unless communication is effective” (p. 94). Improper risk communications can render a risk assessment useless if it gives individuals the wrong impression (Slovic, Monahan, & MacGregor, 2000).

In 2000, Slovic et al., studied people's judgments of probability, relative frequency, and risk, with regard to the likelihood of a hospitalized mental patient

committing an act of violence within six months of being discharged from the facility. The findings indicated that when clinicians were shown risk expressed on a frequency scale, (i.e. “20 out of 100”) risk assessment scores tended to be higher, which led to a higher percentage of refusal for discharge. However, when clinicians were shown scores of risk on a probability scale, (i.e. “20%”) risk assessment scores tended to be lower, which led to a lower percentage of refusal for discharge.

How a facility manager interprets risk information and how risk information is communicated can be vital when constructing risk management plans, security preparation, and evacuation plans. Furthermore, how the media presents such information could affect a facility manager’s perception of risk, which could potentially affect risk management plans, security preparation, and evacuation plans. This research will first examine the Slovic et al., (2000) study on judgments of probability, relative frequency, and risk, to discover whether information presented on a frequency or probability scale affects a basketball facility manager’s perception of the likelihood of a possible terrorist attack. Second, the study will detect if security preparation differs when risk is expressed in the form of a frequency scale verses a probability scale. Finally, the study will identify if the media’s portrayal of terrorism influences a facility manager’s perception that an attack is likely to occur.

#### Statement of the Problem

The heads of major U.S. intelligence agencies told a senate committee that “not only does Al-Qaeda remain a threat to the United States but that the likelihood of another attempted terror attack in the United States in the next three to six months is almost certain” (CNN, 2010). Research in the area of terrorism and sport management currently



focuses on effective security measures of protecting a venue; however, little research has addressed a facility manager's judgement of risk assessment and risk communication, specifically, how much danger is enough danger to trigger a reaction. If training for risk assessment and analysis is nonexistent for facility managers and/or other personnel, current risk management plans might be deficient for that facility. Furthermore, studies that have been completed (Pantera et al, 2003; Beckerman, 2006; Hall, 2006; Cunningham, 2007; Hall, Marciani, Cooper, & Phillip, n.d.; Baker et al., 2007; Doyle, 2005; Hall et al., 2007; & Dunn 2010) indicated a decrease in readiness of intercollegiate facility managers with regard to a possible terrorist attack at their facility. This decrease in readiness could be disastrous if an event should occur.

#### Purpose of the Study

The purpose of this study was (1) To discover whether information presented on a frequency or probability scale affects a basketball facility manager's perception of the likelihood of a possible terrorist attack; (2) To detect whether information presented on a frequency or probability scale affects a basketball facility manager's security preparation; and (3) To identify if the media's (television, radio, internet, conferences, magazine, newspaper, & word of mouth) portrayal of terrorism influences a facility manager's perception that an attack is likely to occur.

#### Significance of the Study

By surveying facility managers at Division I basketball arenas, we can discover if facility managers' perceptions of risk change based on how information is expressed to them. Sport facility managers must make crucial decisions regarding patron and athlete safety. The way in which a sport facility manager perceives a risk or threat can

potentially leave a facility more vulnerable. Information gathered in this study will inform policy makers and practitioners about factors influencing risk assessment and risk communication. Such information can lead professionals (in sport management) to conclude if more training is needed, if weaknesses in security are present, if changes need to be made regarding risk communications, and if the media has a role in a facility manager's thought process in game day security and risk assessment.

### Research Questions

1. Does the way in which risk communication is presented (i.e., frequency v. probability) influence a facility manager's perception of the likelihood of a terrorist attack?
2. Does the way in which risk communication is presented (i.e., frequency v. probability) influence security preparation plans?
3. Does the way in which risk communication is presented (i.e., frequency v. probability) influence how closely facility managers monitor Homeland Security and/or mass media?
4. Does mass media influence a facility manager's perception of the likelihood of a terrorist attack?
5. Does mass media influence security preparation plans?

### Limitations

The potential limitations of this study may have been:

1. The population used represented only Division I facility managers in charge of safety at the basketball arena.
2. The results are dependent on the participants' ability to comprehend the questions being asked.

## Delimitation

The participants were limited to Division I college basketball facility managers, whose responsibility was to ensure a safe environment during all basketball home games as well as any other activities that take place in the facility. In some instances, universities use private security firms to safeguard their facilities instead of in-house employees. The experience of the individuals and organizational culture could possibly affect the overall findings from this study. However, facility managers at Division II and III, as well as other professionals that work in indoor facilities could learn from the outcomes of this study.

## Assumptions

1. The participants of this study understood the questions on the survey instrument.
2. The participants of this study responded to the survey questions truthfully.
3. It is assumed that the facility manager in charge of arena safety completed the survey.

## *Definition of Terms*

*Dirty Bomb*: “A mix of explosives, such as dynamite, with radioactive powder or pellets. When the dynamite or other explosives are set off, the blast carries radioactive material into the surrounding area” (Center for Disease Control, 2006).

*Hard Target*: A place that has significant security presence in order to deter a terrorist attack (FBI, 2007).

*Facility Manager*: One who manages an area, structures, and fixtures essential to accommodate the program. One who may carry out the following duties: (1) inspects the premises to discover obvious and hidden hazards; (2) removes the hazards or warns of

their presence; (3) anticipates foreseeable uses and activities by invitees and takes reasonable precautions to protect the invitee from foreseeable dangers; and (4) conducts operations on the premises with reasonable care for the safety of the invitee (Seidler, 2009).

*Manager*: One who manages; a person who conducts business or household affairs; a person whose work or profession is management (Merriam-Webster, 2010).

*Risk*: The chance of injury, damage, or loss; dangerous chance; hazard (Webster's, 2007).

*Risk Management Plan*: Identifies risk management as controlling the financial and personal injury losses from sudden, unforeseen, unusual accidents and intentional torts (Ammon, 1993).

*Safety*: The condition of being safe from undergoing or causing hurt, injury, or loss (Webster, 2010).

*Security*: The quality or state of being secure; freedom from danger; freedom from fear or anxiety (Merriam-Webster, 2010).

*Soft Targets*: Large public gatherings and symbolic targets, such as monuments and government buildings (FBI, 2007).

*Weapons of Mass Destruction (WMD)*: “ Weapons capable of inflicting massive destruction to property and/or population, using chemical, biological or radioactive material” (Army-technology, 2010).

## **Chapter II – REVIEW OF LITERATURE**

The purpose of this chapter is to review the current literature associated with terrorism and NCAA Division I facility managers' perceptions of it. Chapter II is subdivided into the following areas: (1) Terrorism and Sport; (2) Perception and Risk; (3) Risk and Communications; (4) Media, Perception, and Terrorism; and (5) Risk Management Plans.

### **Terrorism and Sport**

The Federal Bureau of Investigation (FBI) defines terrorism as "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in the furtherance of political or social objectives" (FBI, 2010). Terrorists use threats to create fear among the public, convince individuals that their government is helpless to prevent such actions, and get immediate publicity for their causes (FEMA, 2004). Richardson (2006) believes terrorists "want to exact revenge, acquire glory, and want to force their adversary into a reaction" (Richardson, 2006, p. 14). There are several types of weapons terrorists use, including explosives, hijacking, arson, shooting, kidnapping, and NBC's – nuclear, biological agents, and chemical (NESEC, 2005). Responses to weapons of mass destruction (WMD) are vastly different from natural disasters (hurricanes, floods, winter storms, etc). Unlike natural disasters, there may be little or no forewarning, obvious indicators, or lead time to officials and citizens (IAAM, 2002).

The events of September 11th caught most Americans by surprise as it was the first time a terrorist organization carried out an attack on U.S. soil with such mass destruction; however, terrorist organizations have existed for quite some time. On July

22, 1968 an El Al Boeing 707 from Rome to Tel Aviv was hijacked and flown to Algiers by three members of 'Popular Front for the Liberation of Palestine' (PFLP). After five days, foreigners, women and children were freed, while twelve Israeli men were held for 39 days until exchanged for 15 Palestinians in an Israeli jail. Later that year, in December, two PFLP gunmen fired on an Israeli plane parked at Athens airport, killing an Israeli mechanic. The PFLP incidents gave the organization an international stage in which the world witnessed a terrorist's group abduction of civilians in an attempt to achieve various demands from the Israeli government. At the time of the hijacking, PFLP leader George Habash stated, "When we hijack a plane it has more effect than if we killed a hundred Israelis in battle. For decades world public opinion has been neither for nor against the Palestinians. It simply ignored us. At least the world is talking about us now" (Halsell, 1998).

Terrorist-based risk and attacks associated at sporting events is not so far-fetched; the Taliban had used Ghazi Stadium in Kabul, Afghanistan as a place to carry out public executions, paintball facilities are used as areas for training, and there has been a total of 168 terrorist related attacks in sport between 1972 and 2004 (Clark, 2004; Kennelly, 2005; Toohey & Taylor, 2008). During the 1972 Olympic Games, members of a Palestinian group called 'Black September' stormed the Olympic Village and took several Israeli athletes and officials hostage. After a long standoff, a rescue attempt was made, but in the end all the Israeli athletes died. Egypt, Israel, Algeria, and the Philippines all withdrew from the Games. After suspending the Games for 24 hours, the International Olympic Committee resumed competition. In 1996, the Atlanta Games suffered a different form of terrorism. A bomb exploded in Olympic Centennial Park,

killing one spectator and a journalist, while hundreds were injured from debris. To date, the terrorists and/or group have not been brought to justice.

Chemical attacks at basketball arenas are of great concern due to the enclosed nature of the facility (Piccarello, 2005) and their proximity to transportation hubs, hotels, and restaurants which increases the amount of mass destruction an attack can have (Hadfield, Toohey, Taylor, & Mason, 2004). Ten months after the 9/11 attacks, the FBI alerted stadium officials that people with suspected ties to terrorist groups had used the internet to access information on stadiums in the U.S. and Europe (Grace, 2002). Sporting events are classified as 'soft targets,' those less guarded than high risk targets. Soft targets are prone to attacks for several reasons: (1) symbolic; (2) represents capitalism; (3) difficult to secure because of the number of patrons coming and going; (4) high number of casualties; (5) patrons highly focused on the game, not their surroundings; (6) inadequate staff training; and (7) financial losses can be devastating (Piccarello, 2005; McCann, 2006; Marciani & Hall, 2007).

A facility's security, or its degree of softness, is a key component as terrorists have determined that striking a soft target means a lower risk in the operation and ultimately enables a better probability of success (Matthew, 2004; Dunn, 2010). The Defense Intelligence Agency also stated that terrorist groups, like Al Qaeda, have altered their focus towards soft targets (Jacoby, 2004). Hall et al., (2007) addressed soft targets and collegiate facilities, stating collegiate venues are more susceptible than professional venues because they are less recognizable than professional stadiums, which facilitates a mindset to minimize the potential threat.

## Perception and Risk

Perception is defined as a process of sensing, holding, recognizing, and making meaning of sensory information (Brunning, Schraw, Norby, Ronning, 2004). Safety managers and/or professionals who are in charge of sporting events and/or activities need the aptitude to perceive and avoid hurtful conditions to survive. One of the driving forces behind risk perception research is to provide policy makers with the information that they need to assess risks and develop new risk management strategies (Slovic, 1987; Baker et al., 2007).

Understanding what we see and how to look depends on the knowledge we have at our disposal (Brunning, et. al, 2004; McCann, Besner, & Davelaar, 1988). Experts in the field of facility safety can perceive certain actions of patrons and unaccompanied objects differently from a person who is not an expert in the field. The expert can immediately recognize a suspicious person or certain devices that can cause harm to others. Our existing knowledge allows perception to occur but it also guides new ways of thinking (Brunning, et. al., 2004).

According to Slovic, Peters, and Finucane (2005), risk is perceived and acted on in two ways: risk as feelings, which refers to a person's fast, instinctive, and intuitive reactions to danger, and risk as analysis, referring to logic, reason, and scientific deliberation (p. 35). It should be noted that 'affect' plays a key role in risk of feeling. Individuals comprehend risk in two foundational ways, rational and experiential (Slovic, Peters, Finucane, & MacGregor, 2005; Slovic, Finucane, Peters, & MacGregor, 2004; Esptein, 1994). Slovic et al., (2005) explain the rational system as a "deliberative, analytical system that follows rules of logic, while experiential system encodes reality in



images, metaphors, and narratives to which affective feelings have become attached” (p. S37). Although using a rational system is important in the decision making process, reliance on affect and emotion is quicker and a more efficient way to navigate in a complex and uncertain world (Slovic et al., 2005).

Evidence of risk as feelings has been present in psychometric studies of risk perception for many years (Fischhoff et al., 1978; Slovic, 1987; Slovic et al., 2004). Such studies have shown that dread was a factor when determining risk (Slovic et al., 2004). If you think about it, if one has a favorable feeling towards an activity, the perceived risk is low and the benefits are high; however, if feelings are unfavorable, perceived risk is high and the benefits are low (Finucane, Alhakami, Slovic, and Johnson, 2000).

Facility managers need to reach a point at which they feel confident in hosting an event. They accomplish this through well written risk management plans. By having such plans, they are reducing the likelihood of a negative incident occurring and if it does occur, they are reducing the damages that will result from it. A study conducted by Baker, Connaughton, Zhang, and Spengler (2007) examined Division I football stadium managers’ perceptions of terrorism. The study revealed that not only did football stadium managers perceive terrorism as a foreseeable threat ( $M = 4.26$  on a Likert 5 point scale), but that it was only a matter of time before terrorists attacked a sport facility in the U.S. ( $M = 3.70$  on a Likert 5 point scale). This perception could be a main reason why the majority also stated that, after witnessing the events of 9/11, they perceived that their risk management plans needed to be reevaluated (Baker et al., 2007). Football stadium managers clearly perceive themselves as targets for terrorism and that they have a feeling of dread that something bad is likely to occur. Although not directly stated in the study,

one can assume that their risk of feeling was a precursor to reevaluating their risk management plans.

Dunn's (2010) examination of Division I basketball facility managers' perceptions of terrorism revealed 46% considered their arena a potential target for terrorism. The nearer arenas were to governmental entities and economic centers, the more vulnerable facility managers felt their facility was for potential terrorist attacks. Basketball facility managers as well as football managers perceive themselves as targets for terrorism. Facility managers' risk feelings increased the nearer in proximity their facility was to governmental organizations and economic centers. However, the Baker et al. (2007) and Dunn (2010) studies did not reveal at what point facility managers' risk feelings were triggered. This study will examine at what point (threshold) this reaction (risk feeling) is triggered, affecting facility managers' risk perceptions, security preparation, and monitoring of Homeland Security and/or mass media.

#### Risk and Communications

On September 11th, the government was slow to communicate information to U.S. citizens about the safety of our country. President Bush made his first remarks four hours after the South Tower of the World Trade Center was hit. Since terrorist acts are designed to spread fear and panic among the public, it is very important to take steps to reduce fear and avoid panic through sound communications (Deisler, 2002). Like government officials, facility managers of sport venues need to have an understanding of good risk communications. The National Research Council Committee on Risk Perception and Communication (1989) stated that a message should:

- (1) “ Emphasize information relevant to any practical actions that individuals can take;
- (2) Be couched in clear and plain language;
- (3) Respect the audience and its concerns; and
- (4) Seek strictly to inform the recipient, unless conditions clearly warrant the use of influencing techniques. Good risk communication practices applied early and continually, are essential to inform the public accurately of what is happening, what is being done, and what they can do themselves” (Deisler, 2002, p. 408).

Having good risk communications allows individuals, like sport venue managers to make solid decision regarding risk analysis. The Federal Aviation Administration made the decision to halt all flights in the U.S. fifty-five minutes after American Airlines flight 11 crashed into the World Trade Center. Given the time delay between the crash and the announcement, government officials probably did not have adequate time to fully analyze the situation. Instead, it might have been a ‘gut’ or a ‘risk of feeling’ decision made at the time aimed at ensuring the safety of travelers and flight crews (Deisler, 2002). Sporting events were also canceled on 9/11, the National Football League postponed its scheduled games on Sunday and Monday of that week, while Major League Baseball postponed their games until September 16th.

The U.S. Government faces a daunting task of obtaining and interpreting different types of signals of impending terrorist attacks and reacting effectively to such information; however, one of the main challenges is the fusion of different types of information from different sources (i.e., human intelligence, electronic signal, etc.)

(Cornell, 2002). According to Cornell (2002) fusion requires internal communications - creating databases and ensuring different intelligence agencies communicate effectively and provide accurate information in a timely manner - and merging the content information into useful information. Experts who are in charge of gathering such content, thus generating a risk assessment or a vulnerability analysis, often use statistical methods of probability (Whitworth, 2006; Kalt, 2003; Cornell, 2002; General Services Administration, 2000).

Each potential threat is identified and analyzed in terms of probability and impact; probability is assigned based on past history for the foreseeable future (Whitworth, 2006; Kalt, 2003; Cornell, 2002). It is felt as time goes on, the probability of something occurring increases. Dunn (2010) and Baker et al., (2007) studies revealed over time, NCAA Division I facility managers felt their football stadiums and basketball arenas were still targets for a potential terrorist attack.

The Federal Emergency Management Agency (n.d.) provides a risk analysis chart that identifies possible hazards and emergencies. Each possible hazard and emergency is assessed using a risk rate scale of none, low, moderate, or high. Kalt (2003) analyzed potential risk threats through a mapping grid. The grid is divided into four quadrants: low probability-low impact, high probability-low impact, low probability-high impact, and high probability-high impact. The Business Impact Analysis (BIA) is also used to identify and assess risk and effects on a business (Berman, 2004; Cerullo & Cerullo, 2004; Kalt, 2003). The BIA process includes: (1) identifying critical business functions, (2) identifying risks to critical functions, (3) rating and prioritizing risk by probability of occurrence and impact, (4) identifying ways to avoid or mitigate identified risks, and (5)

prioritizing avoidance and mitigating options (Cerullo & Cerullo, 2004; Kalt, 2003; Glenn, 2002).

The Department of Homeland Security issues an advisory system regarding the risk of a potential terrorist attack in the form of probability of an attack occurring and its potential gravity. The system consists of a five color indicator: (1) Green - low risk, (2) Blue - guarded risk, (3) Yellow - elevated, (4) Orange - high, and (5) Red - severe.

None of the methods mentioned above communicate risk in the form of frequency. Dunn (2010) and Baker et al., (2007) studies revealed the majority of facility managers do not change their security methods based on the Department of Homeland Security threat indicator; however, if the risk of a potential threat was expressed in the form of frequency, instead of probability, would facility managers' perceptions of a possible terrorist attack change?

As you recall, in experiential systems, individuals encode reality in images, metaphors, and narratives. Denes-Raj and Esptein (1994) studied experiential system encoding, showing that when offered a chance to win one dollar by drawing a red jelly bean from a bowl, individuals often chose from a bowl that contained a greater absolute number (of beans) but a smaller proportion of red beans; than from a bowl with fewer red beans, but a better probability of winning (Slovic et al., 2000; Slovic et al., 2004; Slovic et al., 2005). Individuals felt they had a better chance of winning when there were more red beans, even though they knew the probability was against them. Subjects in the Denes-Raj and Esptein (1994) study followed what is known as mental strategy of imaging the numerator (the red beans) and not thinking about the denominator (number of beans in the bowl) (Slovic et al., 2000; Slovic et al., 2004; Slovic et al., 2005).

Slovic et al. (2000) further examined an experiential study at a clinical level, when psychologists and psychiatrists were asked to judge the likelihood that a mental patient would commit an act of violence within six months after being discharged. The results indicated that clinicians who were given another expert's assessment of a patient's risk of violence framed in terms of relative frequency (i.e. "of every 100 patients similar to Mr. Jones, 10 are estimated to commit an act of violence to others") labeled Mr. Jones as more dangerous than did clinicians who were shown a statistically equivalent risk expression as a probability (i.e. "Patients similar to Mr. Jones are estimated to have a 10% chance of committing an act of violence (Slovic et al., 2000). Furthermore, when clinicians were told that "20 out of 100 patients similar to Mr. Jones are estimated to commit an act of violence," 41% would refuse to discharge the patients (Slovic et al., 2000). Slovic et al., (2000) attributed the different reactions to probability and frequency to frightening images evoked by the frequency format. Yamagishi (1997) found similar results when individuals rated a disease that kills 1,286 people out of every 10,000 as more dangerous than one that kills 24.14% of the population.

Although research in the area of a facility manager's perception of terrorism is starting to be published in journals, nothing has been done concerning probability and frequency with regard to risk in the field of sports management. This research will examine if NCAA Division I basketball facility managers' perceptions of a likely terrorist attack differ based on information given on a frequency scale compared to a probability scale and whether security preparation differs when risk is expressed in the form of frequency verses probability.

## Media, Perception, and Terrorism

As mentioned earlier, sport facility managers evaluate risk at their facilities daily. Decisions need to be made on a variety of items, including, routine and preventive maintenance, staffing, security, deliveries, etc; how a manager analyzes and feels about the risk could have an affect on the facility and those inside. Tversky and Kahneman (1973) have argued that people judge the probability or frequency of an event by the ease with which relevant instances can be retrieved from memory or imagined (Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978). This concept seems to suggest that one's judgments will be influenced not only by direct experience but also indirect exposure through television, internet, newspaper, magazines, movies, and books. Therefore, it is plausible to think that if a sport facility manager had experienced, witnessed or heard of a negative incident (fire, crowd control issues, gun shots, etc.), he or she would rate the probability or frequency of a possible terrorist attack higher than others.

It was also mentioned earlier that terrorists chose their targets and timing of attacks wisely so the aftermath leaves a burning impression not only on their victims but the world. The invention of television and the internet has changed the way people view the world. Images of events can be broadcasted in real-time (as it happens) or within seconds to audiences around the world. This 'world stage' is exactly what terrorist groups want, to be able to project their cause for all to see in hopes of either gaining support or instilling fear. This is what Shoshani and Slone (2008) call 'psychological warfare'. According to Schleifer (2009), "psychological warfare seeks to promote specific military and political goals during wartime. . . by targeting three key audiences—domestic, enemy, and neutral—exposing them to a variety of crafted messages" (p. 222). "The

nature and intensity of psychological warfare has been facilitated by the rapid developments occurring in media technology” (p. 628). In 2001, during the height of the Palestinian Intifada, 30,000 Israelis were referred to public and private mental health clinics throughout the country after becoming a victim or secondary victim (indirectly) to the exposure of terrorism (Shoshani & Slone, 2008).

Psychological warfare can leave individuals with both long-term and short-term symptoms including anxiety, fear, phobias and post-traumatic stress disorders (Shoshani & Slone, 2008). Ofman, Mastria, and Steinberg (1995) conducted a study after the 1993 bombing of the World Trade Center. Findings indicted an increase in psychological post-traumatic stress disorder (PTSD) in individuals remotely viewing the event on television. Studies conducted after 1995 Oklahoma City Bombing and the September 11 attacks have indicted a link between viewing television coverage of disasters and PTSD as well as short term effects like anxiety, shock, fear, and phobias (Shoshani & Slone, 2008; Gurwitsch, Sitterle, Young, & Pfefferbaum, 2002; Ahern, Galea, Resnick, Kilpatrick, Bucuvalas, Gold, & Vlahov, 2002; Schuster, Stein, Jaycox, Collins, Marshall, Elliott, Zhou, Kanouse, Morrison, & Berry, 2001).

#### Risk Management Plans

Every facility should have written risk management plans that are unique to its surrounding environment, activity, staff, size of facility, facility policies and procedures, government agencies, government regulations, and community expectations (IAAM, 2002). Furthermore, such facility plans should be examined by the local law enforcement authority (i.e. police, fire, and FBI, etc.). Ammon (1993) identifies risk management as controlling the financial and personal injury losses from sudden, unforeseen, unusual



accidents and intentional torts. Although, the NCAA has issued a ‘Security Planning Options’ document to assist institutions in their planning for sport events, to date, no sport event security standards exist for U.S. colleges (Hall et al., n.d.). According to Clement (2004) a risk management plan consists of three main parts: (1) identification, (2) evaluation, and (3) control of risks.

Identifying all areas of potential risk is the first step in establishing a risk management plan. Basketball facility managers have multiple areas which can pose a risk to them including: the facility, staff, current facility policies and procedures, local, state, and federal regulations, equipment, supervision, instruction, and outside contractors (Clement, 2004). Dunn (2010) studied Division I basketball facility managers’ perceptions of a possible terrorist attack at their facility. Results showed 46% felt that their arenas were a potential target for a terrorist attack and that individuals within their community could carry out such plans. Today, especially after the events of 9/11, sport facility managers should consider themselves as vulnerable a target as professional sport facilities, transportation hubs, federal buildings, public utilities, and iconic buildings.

Once the risk is identified, the second step in a risk management plan is to evaluate it. Risk should be evaluated based on the probability, severity, and magnitude to determine the amount of risk that exists (Clement, 2004). Several scenarios can run through a facility manager’s mind: (1) the probability of something occurring could be high; however, if something did occur, few people could be injured; (2) the probability of something occurring could be low; however, if something did occur few people could be injured; and (3) the probability of something occurring could be low; however, if something did occur, many people could be injured (Clement, 2004). Keep in mind, one

death at a facility could lead to financial hardship or bad public relations for the organization (Clement, 2004). Based on hypothetical situations, this research attempts to discover how facility managers analyze (evaluate) risk assessment and risk communication.

The third and final step in a risk management plan is control of the risk. There are four components to controlling risk: (1) accepting the risk and assuming the responsibility, (2) retaining the activity and transferring the risk through contracts or insurance, (3) altering the activity to reduce the risk, and (4) eliminating the activity (Clement, 2004). Each time an event takes place, facility managers are accepting the risk that comes with hosting the event. However, certain measures and/or precautions are taken to not only make the event as safe as possible for patrons and athletes, but for the facility itself. Such measures include security management, emergency action plans, and continuing personnel education. Furthermore, facilities often protect themselves through outsourcing personnel and obtaining insurance. Hall, Marciani, Cooper, and Philips, (n.d.) studied the needs, concerns, and future challenges in security management of NCAA Division I football events. The facility managers surveyed in the study were key personnel responsible for security management at the football events. One interesting finding of the study revealed that 61% of game day staff (security, fire, and medical personnel) were outsourced.

Currently, there are several avenues where facility managers in charge of security preparation can obtain information regarding risk management. The Federal Emergency Management Agency (FEMA) offers free certificate programs in emergency management and incident response through an online educational program (<http://training.fema.gov/>).

Threat assessment training is available through Texas Engineering Extension Service (<http://www.teex.com/>). The international Association of Assembly managers (IAAM) provides a guide for emergency planning in their 'Best Practices Planning Guide Emergency Preparedness' manual to help facility managers establish plans (<http://www.iaam.org>). Finally, managers can receive security training through a program developed by the Department of Homeland Security called 'Lessons Learned' (<http://www.llis.gov>).

### New Developments

January, 2011, the Obama administration decided to eliminate the Homeland Security Advisory System that has been in place since 2002. According to the Department of Homeland Security's website, "the National Terrorism Advisory System, or NTAS, will include information specific to the particular credible threat, and will not use a color-coded scale. . . the advisory will clearly indicate whether the threat is Elevated, if we have no specific information about the timing or location, or Imminent, if we believe the threat is impending or very soon" (DHS, 2011). Furthermore, "the Personal Localized Alerting Network or "PLAN," is scheduled to be available in New York by the end of this year and throughout the United States by April 2012" (AFP, 2011).

## CHAPTER III - METHODS

In order to obtain the data for this study, the use of human subjects was necessary. This required the review and approval of the University of New Mexico (UNM) human subjects Institutional Review Board (IRB). The research protocol, instrument, informed consent, and departmental approval were submitted to the UNM IRB. That approval was granted.

### Formulation of Survey

The survey was developed based on studies by Slovic et al., (2000) '*Violence Risk Assessment and Risk Communication: The Effects of Using Actual Cases, Providing Instruction, and Employing Probability Verses Frequency Formats*', Baker et al., (2007) '*Perceived Risk and Related Risk management Practices of NCAA Division I Football Stadium Managers*', and information garnered by the researcher, after conducting a literature review and discussing risk assessment and risk communication with professionals in the field of Sport Management.

The survey (see Appendix B) was divided into three parts: (I) directions for the survey, demographics, and six questions related to media and risk; (II) contained ten risk conditions; and (III) definitions of risk, weapons of mass destruction, frequency, probability, and mass media and four hypothetical cases that involved risk/frequency and risk/probability.

Section (I) of the survey contained six questions that dealt with mass media and risk management. Respondents were provided a five point Likert-type scale; answers included *strongly disagree, disagree, no opinion, agree, and strongly agree*. Demographic information on each respondent was collected in the following areas: (1)

highest level of education, (2) years worked in facility management, (3) years in current position, and (4) area of the country they currently worked. A map (see appendix B) was provided to all respondents to help determine the area in which they worked.

Section (II) contained ten risk conditions. Respondents were given five risk conditions expressed as frequency and five risk conditions expressed as probability. Based on the risk communicated, respondents were asked to determine the following: (1) how high the risk was for a potential terrorist attack, (2) how closely would they monitor Homeland Security and/or mass media, and (3) how likely they were to re-evaluate their security preparation.

Section (III) contained two hypothetical cases expressed twice, first in the form of frequency and then in the form of probability. Cases were constructed from the following polychotomous cues: (a) area location, (b) size of arena, (c) size of city, (d) Homeland Security threat level, and (d) terrorist-like activity. Each cue was broken down into the following areas:

- a. Arena location - divided into six sections based on a United States map:  
northeast, southeast, northwest, southwest, midwest, and west.
- b. Size of Arena - arena size was calculated by going to the 32 Division I basketball conference websites and finding the average attendance during the 2009 season. The arena break down: small size (5,000), medium (10,000), large (15,000 plus).
- c. Size of City - 2010 census reports were used.
- d. Homeland Security - based on the homeland security table - severe (red), high (orange) & elevated (yellow). Guarded (blue) and low (green) were eliminated

based on the fact that the Department of Homeland Security has never used them.

- e. Terrorist-Like Activity - included bomb threats, explosions, and distance from airports and federal buildings.

These cues are believed to be related to how facility managers perceive a threat based on the current research being conducted elsewhere as well as the pilot study. After each case, respondents were asked to make four judgments:

- What is the probability (or relative frequency) that a terrorist attack is likely to occur at the facility within the next three months?
- A judgment about whether the threat presented a high risk, medium risk, or low risk to the facility?
- A judgment about the need to monitor the Department of Homeland Security Threat Level and/or mass media?
- An assessment of the likely need to re-evaluate the facility's security preparation.

In order to establish content validity and construct validity for this instrument, three pilot studies were completed. Content validity is, "the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose" (Haynes, Richard, & Kubany, p. 238, 1995).

A pilot study was conducted with doctoral students with a specialty in risk management in the Sports Administration program at the University of New Mexico, facility managers in charge of security at the basketball arena at the University of New Mexico, and scholars in the field of sports management, who specialize in risk

management. All groups reviewed the survey and judged the essentialness of each particular item. Using Lawshe's (1975) study of content validity, experts were asked to rate the items based on three categories, "essential," "useful, but not essential," or "not necessary." Lawshe (1975) content validity ratio ( $CVR = (n_e - N/2)/(N/2)$ ) was used to calculate the minimum value needed to establish validity. Based on a panel of ten experts, .62 was needed.

To affirm construct validity, "the degree to which an assessment instrument measures the targeted content," (Haynes, Richard, & Kubany, 1995, p. 239) three professors in the Sports Management Program at the University of New Mexico reviewed the questions. The panel was asked to judge the survey questions based on the following criteria:

- a. Are the questions in the survey easy to understand?
- b. Do the questions in the survey use appropriate terminology?
- c. Do you feel there are any questions that need to be asked that are not included in the survey?
- d. Do you feel there are any questions that are inappropriate?
- e. Do you feel any questions contain material that is too sensitive?

The data was analyzed utilizing descriptive statistics. The following adjustments to the instrument were made:

- (1) Homeland Security threat level was eliminated.
- (2) Two locations were chosen, New York and California, other arena locations were eliminated.

(3) Two specific university arenas were chosen and their exact seating capacity were used.

(4) Miscellaneous section was added - included tailgating activities at the arena, whether the game was going to be televised, if a rivalry existed between the two opponents, tickets sold, and campus police assessment.

Reliability is the degree to which a test consistently measures whatever it measures (Gay, Mills, & Airasian, 2009). To ensure survey reliability, Cronbach's alpha was used to estimate internal consistency on how many items on the survey relate to all other items and to the total test (Gay, Mills & Airasian, 2009).

#### Participants

The survey was sent to 350 facility managers at NCAA Division I universities and colleges in the United States, who were in charge of the safety at the basketball arena. Universities and college names were taken from the NCAA website. Contact information was collected by going to each institution's athletic department website, clicking on the staff directory, and searching for an individual to contact regarding the facility management of the basketball arena. If a facility manager was not listed, an event manager or operations manager was used. Emails were sent to each institution to determine if the individual contact was the person in charge of safety at the basketball arena.

#### Procedures

After obtaining IRB approval, the final version of the survey (see Appendix B), along with a cover letter (see Appendix A) were uploaded to Opinio, an internet based company that assists individuals with an on-line survey. The internet was used instead of



traditional mail in/back forms because research has shown that on-line surveys yield a significantly higher response rate (Cobanoglu, Warde, & Moreo, 2001) and it allowed participants to remain anonymous to the researcher. Opinio sent out an initial email to all facility managers with a direct link to the survey. Since follow-up emails have the potential to increase response rates in web-based surveys by half (Kittleson, 1997), Opinio was instructed to send out emails once a week for four weeks to all contacts who had not yet completed the survey.

### Data Analysis

Data were collected during April 13 - May 10, 2011 and then transferred from Opinio to SPSS version 17.0 for analysis. All analyses were made with a pre-set alpha level of .05. Data analysis included descriptive statistics and a one-way analysis of variance (ANOVA). When a significant difference was found for a research question whose independent variable had three or more groups, post hoc analysis using the Tukey Honesty Significant Difference (HSD) was performed to determine a mean difference between groups.

For the analysis of research questions one, two, and three, a one-way ANOVA was conducted for testing the significant difference between means. A one-way ANOVA was used to see how the variables of frequency and probability, used as independent variables, influenced perception of the likelihood of a terrorist attack, risk perception, monitoring Homeland Security and/or mass media, and security preparation plans, used as the dependent variables.

For the analysis of research question four (“Does mass media influence a facility manager’s perception of the likelihood of a terrorist attack?”), descriptive statistics were utilized from questions one, three, and five in section (I) of the survey.

For the analysis of research question five (“Does mass media influence security preparation plans?”), descriptive statistics were utilized from questions two, four, and six in section (I) of the survey.

## Chapter IV - Results

An attempt was made to include the entire population (350) of active facility managers in charge of security at NCAA Division I basketball arenas. However, six emails were returned and three individuals wished to be excluded from the survey. A total of 341 survey invitations went out to facility managers; 76 were returned completed. This resulted in a response rate of 22.3%.

### Demographics

The first part of the survey gathered demographic information about the subjects. Of the 76 facility managers that completed the survey, 53 (69.74%) possess a master's degree, 18 (23.68%) possess a bachelor's degree, three (3.95%) possess a doctoral degree, one (1.32%) possesses a high school diploma, and one (1.32%) did not respond. In terms of experience, 41 (53.95%) have worked nine or more years in the field. Additionally, sixteen (21.05%) have worked between six to eight years, fifteen (19.74%) three to five years, three (3.95%) did not answer, and one (1.32%) zero to two years. When looking at how long subjects have been working in their current position, 25 (32.89%) have worked between three to five years, 22 (28.95%) have worked nine or more years, 18 (23.68%) six to eight years, nine (11.84%) zero to two years, and two (2.63%) did not respond. Finally, with regard to which region respondents work in, 20 (26.32%) worked in the northeast, 19 (25%) southeast, 13 (17.11%) midwest, 13 (17.11%) in the southwest, ten (13.16%) in the west, and one (1.32%) chose not to respond.

### Risk Communication Results - Research Questions one, two and three

Section two and three of the survey instrument dealt with how risk communication was presented, i.e., frequency versus probability. The study examined if a facility manager's perception of the likelihood of a potential terrorist attack influenced their judgments on the level of risk for the facility, how closely one monitors Homeland Security and/or mass media, and security preparation plans, by the way risk communication was presented (e.g. frequency vs. probability scale). Each respondent was provided with two hypothetical cases, in which risk was first communicated in frequency and then in probability.

Research question one ("Does the way in which risk communication is presented (i.e., frequency versus probability) influence a facility manager's perception of the likelihood of a terrorist attack?"), utilized an ANOVA. Case one placed the facility manager in charge of security at a Rutgers University versus Saint John's Men's basketball game located in Queens, New York. When asked the frequency (e.g., 10 out of 100) of a potential terrorist attack occurring at this facility within the next three months, the majority, 15 (19.74%) felt there was a 50 out of 100 chance. Additionally, 57 ( $M = 40.88$ ) of the respondents felt the arena was at high risk for a potential terrorist attack, while 13 ( $M = 12.31$ ) felt the arena was at medium risk and six ( $M = 5.83$ ) felt it was at low risk. A one way ANOVA indicated a significant difference between the means. Table 1 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between high risk and low ( $\Delta = 35.044$ ) and high risk and medium ( $\Delta = 28.570$ ) at the 0.05 level.

Table 4-1  
*Potential Terrorist Attack - Case one Frequency*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	13527.454	2	6763.727	14.780	.000
Within Groups	33407.743	73	457.640	-----	-----

Note.  $p < .05$

Given the same case, but with risk communicated in the form of probability, when asked the probability of a potential terrorist attack occurring at this facility within the next three months, the majority, 17 (22.37%) felt there was a 50% chance. Additionally, 58 ( $M = 38.45$ ) felt the arena was at high risk for a potential terrorist attack, 13 ( $M = 22.69$ ) felt it was at medium risk, and five ( $M = 26.00$ ) felt it was at low risk. A one way ANOVA did not indicate significant difference between the means [ $F(2,73) = 2.819, p < .05$ ].

Overall, results indicated that facility managers perceived risk differently when risk was communicated on a frequency scale as opposed to a probability scale.

Case two placed the facility manager in charge of security at a Stanford versus UCLA basketball game located in Los Angeles, California. When asked the frequency (e.g., 10 out of 100) of a potential terrorist attack occurring at this facility within the next three months, the majority, 20 (15.79%) felt there was a 20 out of 100 chance. Additionally, 52 ( $M = 40.48$ ) felt the arena was at high risk for a potential terrorist attack, while 18 ( $M = 18.61$ ) said it was at medium risk and six ( $M = 11.67$ ) felt it was at low risk. A one way ANOVA indicated significant difference between the means. Table 1-1 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant

difference between high and low risk ( $\Delta = 28.814$ ) and high risk and medium risk ( $\Delta = 21.870$ ) at the .05 level.

Table 4-2  
*Potential Terrorist Attack - Case two Frequency*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	9367.355	2	4683.678	8.476	.000
Within Groups	40336.592	73	552.556	-----	-----

Note.  $p < .05$

Given the same case, but with risk communicated in the form of probability, when asked the probability of a potential terrorist attack occurring at this facility within the next three months, the majority, 12 (15.79%) felt there was a ten percent chance. Additionally, 49 ( $M = 38.47$ ) felt the arena was at high risk for a potential terrorist attack, 17 ( $M = 18.82$ ) medium risk, and 10 ( $M = 7.50$ ) low risk. A one way ANOVA indicated significant difference between the means. Table 1-2 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between high risk and low ( $\Delta = 30.969$ ) and high risk and medium ( $\Delta = 19.646$ ) at the .05 level.

Overall, results indicated facility managers' perceptions varied on both the frequency scale and probability scale; therefore, there was no difference in how risk was communicated.

Table 4-3  
*Potential Terrorist Attack - Case two Probability*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	10700.825	2	5350.413	10.416	.000
Within Groups	37499.175	73	513.687	-----	-----

Note.  $p < .05$

Research question two (“Does the way in which risk communication is presented (i.e., frequency versus probability) influence security preparation plans?”), utilized an ANOVA. Case one, when asked on a frequency scale how likely they were to re-evaluate their security plans, 62 ( $M = 38.15$ ) responded very likely, 10 ( $M = 14.00$ ) somewhat likely, and four (5.00) responded unlikely. A one way ANOVA indicated significant difference between the means. Table 2 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between very likely and unlikely ( $\Delta = 33.145$ ) and very likely and somewhat likely ( $\Delta = 24.145$ ) at the 0.05 level.

Table 4-4  
*Security Preparation Plans - Case one Frequency*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	8383.504	2	4191.752	7.937	.001
Within Groups	38551.694	73	528.105	-----	-----

Note.  $p < .05$

Given the same case, but with risk communicated in the form of probability, when asked whether they would re-evaluate their security preparation, 63 ( $M = 38.17$ ) said very likely, eight ( $M = 26.25$ ) said somewhat likely, and five ( $M = 8.00$ ) said unlikely. A one way ANOVA indicated significant difference between the means. Table 2-1 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between very likely and unlikely ( $\Delta = 30.175$ ) at the 0.05 level.

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Table 4-5  
*Security Preparation Plans - Case one Probability*

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	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	4892.092	2	2446.046	4.720	.012
Within Groups	37832.579	73	518.255	-----	-----

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Note.  $p < .05$

Overall, facility managers perceptions varied on both the frequency and probability scales; therefore, there was no difference in how risk was communicated.

Case two, when asked on a frequency scale how likely they were to re-evaluate their security plans, 57 ( $M = 39.56$ ) responded very likely, 12 ( $M = 15.83$ ) somewhat likely, and seven ( $M = 9.29$ ) unlikely. A one way ANOVA indicated significant difference between the means. Table 2-2 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between very likely and unlikely ( $\Delta = 30.276$ ) and very likely and somewhat likely ( $\Delta = 23.728$ ) at the .05 level.



Table 4-6  
*Security Preparation Plans - Case two Frequency*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	9926.817	2	4963.409	9.109	.000
Within Groups	39777.130	73	544.892	-----	-----

Note.  $p < .05$

Given the same case, but with risk communicated in the form of probability, when asked how likely they were to re-evaluate their security plans, 55 ( $M = 35.91$ ) responded very likely, 13 ( $M = 18.46$ ) somewhat likely, and eight ( $M = 8.13$ ) unlikely. A one way ANOVA indicated significant difference between the means. Table 2-3 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between very likely and unlikely ( $\Delta = 27.784$ ) and very likely and somewhat likely ( $\Delta = 17.448$ ) at the .05 level.

Table 4-7  
*Security Preparation Plans - Case two Probability*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	7479.349	2	3739.674	6.704	.002
Within Groups	40720.651	73	557.817	-----	-----

Note.  $p < .05$

Overall, facility managers perceptions varies on both the frequency and probability scales; therefore, there was no difference in how risk was communicated.

Research question three (“Does the way in which risk communication is presented (i.e., frequency versus probability) influence how closely facility managers monitor Homeland Security and/or mass media?”), utilized an ANOVA. Case one, when asked on a frequency scale how closely they would monitor Homeland Security and/or some other form of mass media for updates on security, 63 ( $M = 37.14$ ) said very closely, 10 ( $M = 15.50$ ) said somewhat closely, and three ( $M = 10.00$ ) said not closely. A one way ANOVA indicated significant difference between the means. Table 3 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significance difference between very closely and somewhat closely ( $\Delta = 21.643$ ) at the 0.05 level.

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Table 4-8  
*Monitor Homeland Security and/or Mass Media - Case one Frequency*

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	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	5726.983	2	2863.492	5.073	.009
Within Groups	41208.214	73	564.496	-----	-----

---

Note.  $p < .05$

Given the same case, but with risk communicated in the form of probability, when asked how closely they would monitor Homeland Security and/or some other form of mass media for updates on security, 62 ( $M = 38.47$ ) responded very closely, nine ( $M = 18.89$ ) indicated somewhat closely, and five ( $M = 20.00$ ) said not closely. A one way

ANOVA did not indicate significant differences between the means [ $F(2,73) = 3.986, p < .05$ ].

Overall, results would indicate that facility managers are more likely to monitor Homeland Security when risk is presented on a frequency scale as opposed to a probability scale.

Case two, with risk communicated in the form of frequency, when asked how closely they would monitor Homeland Security and/or some other form of mass media for updates on security, 63 ( $M = 36.83$ ) said very closely, nine ( $M = 18.89$ ) said somewhat closely, and four ( $M = 5.00$ ) said not closely. A one way ANOVA indicated significant difference between the means. Table 3-1 shows the results of the one way ANOVA. A follow up Tukey HSD indicated significant difference between very closely and not closely ( $\Delta = 31.825$ ) at the .05 level.

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Table 4-9  
*Monitor Homeland Security and/or Mass Media - Case two Frequency*

---

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	5849.979	2	2924.990	4.869	.010
Within Groups	43853.968	73	600.739	-----	-----

---

Note.  $p < .05$

Given the same case, but with risk communicated in the form of probability, when asked how closely they would monitor Homeland Security and/or some other form of mass media for updates on security, 53 ( $M = 36.32$ ) said very closely, 18 ( $M = 18.33$ ) somewhat closely, and five ( $M = 5.00$ ) not closely. A one way ANOVA indicated

significant difference between the means. Table 3-2 shows the results of the ANOVA. A follow up Tukey HSD indicated significant difference between very closely and not closely ( $\Delta = 31.321$ ) and very closely and somewhat closely ( $\Delta = 17.987$ ) at the .05 level.

Table 4-10  
*Monitor Homeland Security and/or Mass Media - Case two Probability*

	Sum of Squares	df	Mean Squares	F	Sig
Between Groups	7692.453	2	3846.226	6.931	.002
Within Groups	40507.547	73	554.898	-----	-----

Note.  $p < .05$

Overall, facility managers' perceptions varied on both scales; therefore, there was no difference in how risk was communicated.

#### Media Influence Results - Research Questions Four & Five

Section one of the survey also dealt with identifying whether media (television, radio, internet, conference, magazines, newspaper, and word of mouth) influences a facility manager's perception of the likelihood of a terrorist attack (research question four) and security preparation plans (research question five). It is felt that the portrayal of terrorism through the media may have an effect on one's perception. According to the responses, 37 (48.68%) agreed the media, through news coverage, shapes their perception of risk or threats; however, 29 (38.16%) of the subjects disagreed with that statement whereas four (5.25%) strongly disagreed, and two (2.63%) had no opinion. When looking at whether or not the media, through news coverage, shapes the way people perceive risk, 41 (53.95%) agreed, 31 (40.79%) strongly agreed with that statement, two (2.63%) strongly disagreed, one (1.32%) disagreed, and one had no opinion (1.32%). Of the

responses, 41 (53.95%) agreed the media, through news coverage, shapes the way most professionals in their industry perceive risk or threats, 23 (30.26%) disagreed, six (7.89%) strongly agreed, four (5.26%) had no opinion, and two (2.63%) strongly disagreed.

In regard to security preparation, when respondents were asked whether the media influences their security plans, 42 (55.26%) agreed it was necessary to take added precautions to protect their facility based on the dangers that they have learned about on the news or through other media outlets, while 18 (23.68%) disagreed, 15 (19.74%) strongly agreed, and one (1.32%) strongly disagreed. Additionally, 36 (47.37%) agreed that the media, through news coverage, affects the way sport facility managers develop their risk management policies and procedures, while 29 (38.16%) disagreed, five (6.58%) strongly agreed, and four (5.26%) strongly disagreed. Finally, when asked if the media has affected the development of risk management policies and procedures for their facility, 35 (46.05%) agreed with that statement, 25 (32.89%) disagreed, seven (9.21%) strongly disagreed, five (6.58%) had no opinion, and four (5.26%) strongly agreed.

Overall, the results would indicate that most facility managers are influenced by the way the media portrays terrorism and that their changes in security preparation were influenced by the media coverage of terrorism.

#### Other Results

This research examined at what point, i.e., threshold, would facility managers feel a facility was at risk for a potential terrorist attack. Facility managers were provided risk assessments ranging from one out of 100 or one percent to 30 out of 100 or 30% chance of a possible terrorist attack at a basketball facility. According to the results, the threshold

for when facility managers felt a facility was at high risk for a potential terrorist attack occurred sooner when presenting risk on a frequency scale than a probability scale. Facility managers indicated a facility was at high risk for a potential terrorist attack when the security warning hit 10 out of 100 (36.84%) as opposed to 20% (36.84%) when communicated on a probability scale. Facility managers indicated they would re-evaluate their security preparation plans sooner when risk was communicated on a frequency scale than probability. Facility managers indicated very likely to re-evaluate plans at one out of 100 (36.84%) as opposed to 10% (42.11%) on a probability scale. However, facility managers did agree on when to monitor Homeland Security and/or some other form of mass media for security updates. Arena managers stated at 10 out of 100 (36.84%) or 10% (39.47%) they would very closely monitor Homeland Security and/or mass media.

## **Chapter Five - Discussion**

### **Survey Response**

The entire population of basketball facility managers at Division I institutions were sent the survey. Out of 350, 76 were completed, a return rate of 22.3%. The low return rate from facility managers may indicate that arena managers do not consider themselves a target for a potential terrorist attack and as a result, may not feel the need to partake in research in that area (Dunn, 2010). The sensitivity of the topic could have been another reason facility managers did not complete the survey.

It should be noted that most (26.32%) of the facility managers who completed the survey reside in the Northeast part of the country; this may be the result of 9/11 terrorist attacks in New York. Facility managers who work in the Northeast may feel they are more vulnerable to potential attacks than facility managers who work in a different part of the country and, therefore, want to partake in research in this area.

### **Risk Communications**

Results of research question one (“Does the way in which risk communication is presented (i.e., frequency versus probability) influence a facility manager’s perception of the likelihood of a terrorist attack?”) and research question three (“Does the way in which risk communication is presented (i.e., frequency versus probability) influence how closely facility managers monitor Homeland Security and/or mass media?”) in case one did follow Slovic et al., (2000) study on risk assessment and risk communication in which individuals perceived risk differently on a frequency scale versus a probability scale. In this study, facility managers perceived risk greater on a frequency scale than a probability scale. Slovic et al., (2000) attributed the different reactions to probability and

frequency to frightening images evoked by the frequency format. In other words, individuals envision more people dying and/or are at a greater risk when they read 10 out of 100 as opposed to 10%. Case one placed the facility manager in Queens, NY, not far from where the 9/11 attacks took place. Facility managers were provided a brief report of the area which included the following: (1) an SUV parked one block away was found to contain weapons of mass destruction, capable of killing hundreds of people; (2) the area airport was on high alert due to a bomb exploding in the bathroom of a terminal one day ago. The bomb had killed 60 people and injured hundreds; (3) the police chief on campus had requested additional police presence; (4) the game was being televised live on ESPN; and (5) the game was sold out.

Experiential thinking could have played a role in how the results turned out in case one. Experiential thinking encodes reality in images, metaphors, and narratives which can affect one's feelings and judgment (Slovic & Peters, 2006). A year ago, police found an SUV parked in Times Square that contained weapons of mass destruction. Although the bomb failed to explode, it brought back painful memories and reminded people in the area of the events of 9/11. Considering that most of the facility managers who completed the survey worked in the Northeast, it is a possibility that part of their judgment in answering the survey was influenced by the 9/11 events and the car bomb scare in Times Square, triggering the higher frequency outcome.

In comparison, results of research questions one and two in case two did not follow the Slovic et al., (2000) study on risk assessment and risk communication in which individuals perceived risk differently on a frequency scale versus a probability scale as facility managers' perceptions varied on both the frequency and probability scales. This



case placed facility managers in Los Angeles, California overseeing a basketball game at the Pauley Pavilion. Facility managers were provided a brief report of the area which included the following: (1) this month a rental truck carrying weapons of mass destruction exploded next to a federal court house, located five miles from the arena. The explosion killed 35 people and injured dozens; (2) the game will not be televised live; and (3) its 'Hall of Fame Night' and several well-known alumni as well as NBA stars will be on hand.

Unlike the first case, this scenario took place far away from the 9/11 attacks. Although Los Angeles is a well known city, it has never been attacked by weapons of mass destruction. Therefore, Slovic's et al., (2000) theory that frightening images and experiential thinking stimulate the frequency format would not hold. The results presented no biases when the facility manager assessed the risk, there were no advantages or disadvantages for communicating risk via a frequency or probability scale.

The results of research question two ("Does the way in which risk communication is presented (i.e., frequency versus probability) influence security preparation plans?") indicated that the way in which risk was communicated made no difference to facility managers. The lack of training facility managers have concerning what to do to guard against a terrorist attack at their respective facility can be attributed to the results (Dunn, 2010; Baker et al., 2007). Although the International Association of Venue Managers provides a five day training program geared to venue safety and security and offers a *Best Practice Planning Guide*, most facility managers are unaware of their existence (Dunn, 2010; Baker et al., 2007). This lack of knowledge could potentially leave basketball arenas vulnerable to terrorist attacks.

The interesting finding in this case: facility managers' perceptions of the likelihood of a potential terrorist attack occurring in the next three months did change based on the scales (20 out of 100 and probability 10%). Research has shown that frequency should evoke a higher rate of risk perception; however, this did not occur. This case had an opposite effect on facility managers' perceptions wherein probability evoked a higher rate of risk. An individual's gut and/or instinct feeling that tells someone something is wrong or right can attribute to these results.

### Media's Influence

Descriptive analysis indicated that most of the facility managers agreed that the media influences their perception of the likelihood of a terrorist attack and that mass media influences security preparation (research questions four and five). With technology constantly advancing and the forms of mass media never ending, this result is not surprising. The media plays an important role in most people's lives (Schleifer, 2009; Shoshani & Slone, 2008; Gurwitch, Sitterle, Young, & Pfefferbaum, 2002; Ahern, Galea, Resnick, Kilpatrick, Bucuvalas, Gold, & Vlahov, 2002; Schuster, Stein, Jaycox, Collins, Marshall, Elliott, Zhou, Kanouse, Morrison, & Berry, 2001; Ofman, Mastria, & Steinberg, 1995; Tversky & Kahneman, 1973); it shapes the way we eat, dress, purchase items, vote, etc, and evidently influences the profession of facility management. Facility managers must be aware of what is going on in their geographic region to better prepare their staff as well as make changes to security plans. It is the job of the facility manager, with the assistance of security personal, to maintain a safe environment for their patrons. It would be in any facility manager's best interest to monitor local and regional media reports to identify trends and major incidents before, during, and after each event they host.

An interesting finding in this study: 55.26% of facility managers felt the media influenced their security plans and it was necessary to take added precautions to protect their facility based on the dangers learned on the news or through other media outlets. Based on two previous studies, this level of influence was not always the case. When football stadium managers were asked if they adjusted their security based on the Department of Homeland Security (DHS) threat levels, only 49% said they did (Baker, Connaughton, Zhang, & Spengler, 2007). Dunn's (2010) study on basketball facility managers indicated only 33% either agreed or strongly agreed that they adjusted their security preparation based on the current threat level set by the DHS color threat level.

This difference in media influence on security measures could be the result of facility managers taking media reports more seriously than they have in the past. Both Dunn (2010) and Baker, Connaughton, Zhang, & Spengler, (2007) conducted studies that revealed basketball and football managers feel they are a target for potential terrorist attacks. According to Johnston and Nedelescu (2006), terrorist organizations alternate their targets from military to civilian, leading more towards business entities; for example, the 2008 terrorist attacks in Mumbai, India, that killed more than 160 people (Sweeney, 2011). Over a three day period, ten terrorists attacked several locations known to be frequented by tourists including: Taj Mahal Palace and Tower, Hotel Oberoi, Cafe Leopold, Chhatrapati Shivaji Terminus, Nariman House, and Cama Hospital. Media outlets streamed live, while millions around the world watched as gun fire and explosions broke out throughout the city. The unknown terrorist group specifically targeted American and British civilians. The attacks temporary shut down Mumbai's financial district, educational institutions, international air carriers, sporting events, and filming of

Bollywood movies and television series. This attack continued the trend in which terrorist organizations targeted specific businesses in which innocent civilians frequent. Targeting such areas leads one to believe that any business in which civilians frequent, including entertainment and sporting events can be potential targets.

Another reason for this difference could be that more facility managers have obtained membership to professional organizations, like the International Association of Venue Managers (IAVM). Such organizations provide resources to facility managers regarding security preparation. For example, IAVM provides their members with a *Best Practices Planning Guide*, which incorporates the DHS threat level into decision making. IAVM also provides a Venue Safety and Security (AVSS) training program that focuses on security planning and life safety management.

Furthermore, Osama Bin Laden was killed in a raid by U.S. Navy Seals during the collection of data for this study. Due to potential retaliation attacks, the U.S. placed its embassies, diplomatic missions, military bases around the world, and traveling U.S. citizens on a heightened state of alert. This heightened alert could have influenced the facility managers completing this survey.

#### Other Results

This research examined at what point, i.e., threshold, (e.g. dangerousness) would a facility manager perceive a facility at high risk for a potential terrorist attack, when they would monitor Homeland Security and/or mass media for security updates, and re-evaluate their security preparation plans. The results indicated that facility managers perceived risk sooner on a frequency scale as opposed to a probability scales in all but one area, monitoring of Homeland Security and/or mass media for security updates.

These results followed Slovic, Monahan, and MacGregor (2000) study where clinicians who were given another expert's assessment of a patient's risk of violent behavior framed in terms of relative frequency, subsequently labeled him as more dangerous than did clinicians who were shown a statically "equivalent" risk expressed in probability (Slovic & Peters, 2006). In this study, facility managers perceived risk much quicker on a frequency scale than probability scale. As mentioned before, Slovic et al., (2000) attributed the different reactions to probability and frequency to frightening images evoked by the frequency format.

There have been several other studies that have examined communicating judgment on frequency and probability scales in which individuals have perceived the risk greater on a frequency scale than probability. Such studies include: Yamagishi (1997), individuals judged deadly diseases; Koehler and Macchi (1999), individuals judged the likelihood of a suspect's DNA matching the crime scene; and Epstein (1994), individuals judged the likelihood of drawing a jelly bean out of an urn.

The study left a disconcerted feeling in the mind of this researcher as the results revealed that facility managers are influenced by the distribution of numerical response options. It makes one wonder if we need to retrain our facility managers and/or mandate certain types of curriculum and/or certification programs through professional organizations.

#### Recommendations for Future Studies

The need for future studies on facility managers' perceptions of terrorism and risk communication in the form of frequency and probability scales is clear. This study focused on NCAA Division I basketball facility managers' perceptions of possible

terrorist attacks. However, other facility managers, including facility managers at the professional level as well as other collegiate sports facility managers at the Division I, II, and III should be studied. Furthermore, it might be helpful to perform a multivariate ANOVA on the results in this study, to see if changes in the independent variables have significant effects on the dependent variables and if there are interactions among the dependent variables and among the independent variables. In addition, qualitative research through interviewing facility managers in the field of security would be helpful in understanding their thought processes when evaluating risk communications.

### Conclusion

This research studied judgments and decisions based on how risk was communicated, i.e., frequency versus probability scales. Overall, the results from this study have shown that when communicating risk on frequency and probability scales, different judgments will arise. It would seem individuals perceive risk greater on a frequency scale than a probability scale. Slovic et al., (2000) attributed the different reactions to probability and frequency to frightening images evoked by the frequency format.

Facility managers have many decisions to make before hosting an event and while they cannot ward off all potential negative incidents from occurring, they can reduce the extent of damage if something were to happen. It would seem based on the results of this study that more research needs to be completed; specifically, how facility managers analyze risk and what goes through a facility managers mind while analyzing risk. Perhaps risk cannot be communicated based on frequency and probability scales, but through other forms of communication.

Recently, the Obama administration eliminated the color-coded terrorism threat advisory scale, introduced after 9/11 by the Bush administration. The color-coded alert system was meant to inform U.S. citizens of the risks for potential terrorist attacks on federal, state, and local authorities and to U.S. civilians. The new system, the National Terrorism Advisory System (NTAS), is designed to offer a more comprehensive, detailed alert to U.S. citizens. In addition, the PLAN system, a new text messaging alert system will be in place for residents living in New York and Washington, D.C. later this year (AFP, 2011).

There are no easy ways to predict a threat. Risk managers face the difficult and ongoing task of providing the safest venue possible via continual evaluation of their risk management plans, corresponding to changing events, governmental alerts, and increasing information from researchers and professionals in risk communication. Research in the area of risk communications is vital in this era of international terrorism.

## Appendix A

### Introduction Letter to Facility Managers

April, 2011

Robyn Lubisco  
University of New Mexico  
Department of Health, Exercise, and Sports Sciences  
Johnson Center  
MSC04 2610  
1 University of New Mexico  
Albuquerque, NM 87131-1251

Dear Facility Manager:

My name is Robyn Lubisco, I am a Ph.D candidate in Sports Administration at the University of New Mexico. As part of my last requirement for my degree, I must complete research (dissertation) in the field of Sports Management. As you are aware, providing a safe arena is of the utmost importance, especially since the events of September 11, 2001. It is my hope that this research will provide a better understanding of how a facility manager assesses risk and risk communication.

You were selected as a participant for this study based on your professional practice and experience. Your response to the survey will provide critical and valuable information to our profession. It will require approximately 10 minutes of your time to fill out the survey questionnaire.

There is no risk of harm to you. You may choose whether to participate in this study or not. If you agree to participate, you may withdraw at any time. You may also refuse to answer any questions you do not want to answer and still remain in the study. Once the questionnaire responses are received, they will not be viewed by anyone but the researcher. Your responses and the results of this study will remain completely confidential and private.

If you have any questions and/or concerns of this study or would like to know the results, you may contact me directly at 732-491-6619 or [rlubisco@unm.edu](mailto:rlubisco@unm.edu). You may also contact my dissertation chair, Dr. Annie Clement 505-277-5151 or [annieclement1@bellsouth.net](mailto:annieclement1@bellsouth.net).

Thank you for your time and consideration.

Sincerely,  
Robyn Lubisco



**APPENDIX B. Survey**  
**Section I.**

Thank you for participating in this study. The length of time required for the completion of this survey is about fifteen (15) minutes. Your participation in this study is completely voluntary and the results of individual surveys will be confidential. There is no risk of harm to you. You may withdraw from the survey at any time with no penalty to you. This survey collects no personal identifying data. Respondents will remain completely anonymous.

Your Demographic Information

1. What is your highest level of education?
  1. **High School Graduate** \_\_\_\_\_
  2. **Some College** \_\_\_\_\_
  3. **Bachelor's Degree** \_\_\_\_\_
  4. **Graduate Degree** \_\_\_\_\_
  5. **Doctorate** \_\_\_\_\_
  
2. How long have you worked in facility management? (Include years as an intern and graduate assistant)  
A. **0-2 years** \_\_\_\_\_ B. **3-5 years** \_\_\_\_\_ C. **6-8 years** \_\_\_\_\_ D. **9+ Years** \_\_\_\_\_
  
3. How long have you been in your current position?  
A. **0-2 years** \_\_\_\_\_ B. **3-5 years** \_\_\_\_\_ C. **6-8 years** \_\_\_\_\_ D. **9+ Years** \_\_\_\_\_
  
4. In what area of the country do you work?  
A. **Northeast** \_\_\_\_\_ B. **Midwest** \_\_\_\_\_ C. **Southeast** \_\_\_\_\_ D. **Southwest** \_\_\_\_\_ E. **West** \_\_\_\_\_



<http://excelfacilityservices.com/>

**Directions:** Please read the following statements and choose your answer by checking the box next to the answer that most appropriately reflects your opinion. Please note: Mass media is any form of communication, i.e. television, radio, internet, conferences, magazine, & word of mouth.

1. The media, through news coverage, shapes the way people perceive risk.

Strongly Disagree  Disagree  Agree  Strongly Agree  No Opinion

2. It is necessary to take added precautions to protect my facility based on dangers that I have learned about on the news or through other media outlets.

Strongly Disagree  Disagree  Agree  Strongly Agree  No Opinion

3. The media, through news coverage, shapes the way most professionals in my industry perceive types of risk or threats.

Strongly Disagree  Disagree  Agree  Strongly Agree  No Opinion

4. The media, through news coverage, affects the way sport facility managers develop their risk management policies and procedures.

Strongly Disagree  Disagree  Agree  Strongly Agree  No Opinion

5. The media, through news coverage, shapes my perception of risks or threats.

Strongly Disagree  Disagree  Agree  Strongly Agree  No Opinion

6. The media has affected the development of risk management policies and procedures for my facility.

Strongly Disagree  Disagree  Agree  Strongly Agree  No Opinion

## Section II.

Directions: You will be given eight risk assessments. Please read each risk assessment and answer the three questions that follow. Choose your answer by checking the box next to the answer that most appropriately reflects your opinion.

### Condition #1

**Homeland Security has issued the following warnings to all college sport facility managers. There is an estimated 1% probability of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #2

**Homeland Security has issued the following warnings to all college sport facility managers. There is a 1 out of 100 chance of being attacked by group XY in the next month.**

Please answer the following questions:

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #3

**Homeland Security has issued the following warnings to all college sport facility managers. There is an estimated 5% probability of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #4

**Homeland Security has issued the following warnings to all college sport facility managers. There is an estimated 10% probability of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #5

**Homeland Security has issued the following warnings to all college sport facility managers. There is a 5 out of 100 chance of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #6

**Homeland Security has issued the following warnings to all college sport facility managers. There is a 10 out of 100 chance of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely



Condition #7

**Homeland Security has issued the following warnings to all college sport facility managers. There is a 20 out of 100 chance of being attacked by group XY in the next month.**

Please answer the following questions:

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #8

**Homeland Security has issued the following warnings to all college sport facility managers. There is an estimated 20% probability of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #9

**Homeland Security has issued the following warnings to all college sport facility managers. There is a 30 out of 100 chance of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

Condition #10

**Homeland Security has issued the following warnings to all college sport facility managers. There is an estimated 30% probability of being attacked by group XY in the next month.**

*Please answer the following questions:*

1. Would you describe this facility as being high risk, medium risk, or low risk for a potential terrorist attack?

High Risk

Medium Risk

Low Risk

2. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely

Somewhat Closely

Very Closely

3. How likely are you to re-evaluate your security preparation?

Unlikely

Somewhat Likely

Very Likely

### Section III.

**Direction:** Please read this page before continuing. Please note: at anytime you may withdraw from the survey. Definitions you will need to know.

**1. What is meant by risk?**

The chance of injury, damage, or loss; dangerous chance; hazard (Webster's, 2007).

**2. What are Weapons of Mass Destruction (WMD)?**

“Weapons capable of inflicting massive destruction to property and/or population, using chemical, biological or radioactive material” (Army-technology, 2010).

**3. What is meant by frequency?**

Frequency describes how often an event or set of circumstances is expected to occur based on previous experience, either in a period of time (e.g., once per year) or in a number of trials (e.g., seven times out of ten) (Hillson, 2009). “A frequency format presents the chance of occurrence as a proportion of discrete cases over those at risk for an occurrence” (Schapira, Nattinger, & Mchorney, 2001, p. 464). An example would be: There is a 20 out of 100 chance a terrorist attack can occur.

**4. What is mass media?**

Mass media is any form of communication, i.e., television, radio, internet, conferences, magazine, & word of mouth.

**Directions:** You will be asked to read two hypothetical cases involving risk assessment. After reading each case, please answer the four questions that follow. Choose your answer by checking the box next to the answer that most appropriately reflects your opinion.

**Hypothetical Case # 1**

You are the facility manager in charge of security at tonight's Saint John's vs. Rutgers University Men's Basketball Game.

**Arena Location** - Queens, New York

**Size of Arena** - 6,008. Carnesecca Arena ranks as the fourth-largest indoor arena in the Metropolitan area, behind the Meadowlands, Madison Square Garden and Nassau Veterans Memorial Coliseum.

**Size of Borough** - 2,306,712

**Terrorist-like activity** - An SUV parked one block away was found to contain weapons of mass destruction, capable of killing hundreds of people. New York University, located approximately 13 miles/25 minutes from the Carnesecca arena, recently had to evacuate the Jerome S. Cole Sports center due to a bomb scare. The area airports are on high alert due to a bomb exploding in the bathroom of the American Airlines terminal one day ago. The bomb killed 60 people and injured hundreds.

**Miscellaneous Items** - The police chief on campus has requested to have more of a police presence at the basketball game. The game is being televised live on ESPN. The arena will be sold out due to the rivalry that exists between these two teams. The Sports Administration Club on campus is hosting a tailgate party that is expected to attract many students and alumni.

Please answer the following questions.

1. In your judgment, what is the frequency (e.g., 10 out of 100) of a potential terrorist attack occurring at this facility within the next 3 months?

0 10 20 30 40 50 60 70 80 90 out of 100

2. Would you describe the risk at this facility to be high, medium, or low for a potential terrorist attack?

High Risk  Medium Risk  Low Risk

3. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely  Somewhat Closely  Very Closely

4. How likely are you to re-evaluate your security preparation?

Unlikely  Somewhat Likely  Very Likely

**Hypothetical Case #2**

You are a facility manager in charge of security at today’s UCLA vs. Stanford Men’s basketball game.

**Arena Location** - Los Angeles, CA

**Size of Arena** - Pauley Pavilion 10,337 permanent upholstered seats and retractable bleachers for 2,482 spectators.

**Size of City** - 3,833,995

**Terrorist-like activity** - This month a rental truck carrying weapons of mass destruction exploded after an individual parked it next to a federal court house, located approximately 5 miles from your arena. The explosion killed 35 people and injured dozens.

**Miscellaneous Items** - The student association at UCLA are hosting a tailgate party. The game will be televised live on ESPN. Both teams are currently undefeated, its ‘Hall of Fame Night’ and several well-known alumni as well as NBA stars will be in attendance.

*Please answer the following questions:*

1. In your judgment, what is the frequency (e.g., 10 out of 100) of a potential terrorist attack occurring at this facility within the next 3 months?

0 10 20 30 40 50 60 70 80 90 out of 100

1. Would you describe the risk at this facility to be high, medium, or low for a potential terrorist attack?

High Risk  Medium Risk  Low Risk

3. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely  Somewhat Closely  Very Closely

4. How likely are you to re-evaluate your security preparation?

Unlikely  Somewhat Likely  Very Likely

Please read this page before continuing. Please note: at anytime you may withdraw from the survey. You will be asked to read over two hypothetical cases involving risk assessment. After reading over each case, please answer the four questions that follow.

Definitions you will need to know.

**1. What is meant by risk?**

The chance of injury, damage, or loss; dangerous chance; hazard (Webster's, 2007).

**2. What are Weapons of Mass Destruction (WMD)?**

"Weapons capable of inflicting massive destruction to property and/or population, using chemical, biological or radioactive material" (Army-technology, 2010).

**3. What is meant by probability?**

A statistical term describing how likely a single uncertain event or set of circumstances is to occur (Hillson, 2009). "A probability format typically presents the chance of occurrence as a percentage" ( Schapira, Nattinger, & Mchorney, 2001, p. 464-465). An example would be: There is a 20% likelihood that a terrorist attack can occur.

**4. What is mass media?**

Mass media is any form of communication, i.e. television, radio, internet, conferences, magazine, & word of mouth.

**Directions:** You will be asked to read two hypothetical cases involving risk assessment. After reading each case, please answer the four questions that follow. Choose your answer by checking the box next to the answer that most appropriately reflects your opinion.



**Hypothetical Case #1**

You are the facility manager in charge of security at tonight's Saint John's vs. Rutgers University Men's Basketball Game.

**Arena Location** - Queens, New York

**Size of Arena** - 6,008. Carnesecca Arena ranks as the fourth-largest indoor arena in the Metropolitan area, behind the Meadowlands, Madison Square Garden and Nassau Veterans Memorial Coliseum.

**Size of Borough** - 2,306,712

**Terrorist-like activity** - An SUV parked one block away was found to contain weapons of mass destruction, capable of killing hundreds of people. New York University, located approximately 13 miles/25 minutes from the Carnesecca arena, recently had to evacuate the Jerome S. Cole Sports center due to a bomb scare. The area airports are on high alert due to a bomb exploding in the bathroom of the American Airlines terminal one day ago. The bomb killed 60 people and injured hundreds.

**Miscellaneous Items** - The police chief on campus has requested to have more of a police presence at the basketball game. The game is being televised live on ESPN. The arena will be sold out due to the rivalry that exists between these two teams. The Sports Administration Club on campus is hosting a tailgate party that is expected to attract many students and alumni.

*Please answer the following questions.*

1. Please indicate your judgment of the probability that a terrorist attack could potentially occur at this facility within the next 3 months?

0%    10%    20%    30%    40%    50%    60%    70%    80%    90%    100%

2. Would you describe the risk at this facility to be high, medium, or low for a potential terrorist attack?

High Risk                       Medium Risk                       Low Risk

3. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely                       Somewhat Closely                       Very Closely

4. How likely are you to re-evaluate your security preparation?

Unlikely                       Somewhat Likely                       Very Likely

**Hypothetical Case #2**

You are a facility manager in charge of security at today’s UCLA vs. Stanford Men’s basketball game.

**Arena Location** - Los Angeles, CA

**Size of Arena** - Pauley Pavilion 10,337 permanent upholstered seats and retractable bleachers for 2,482 spectators.

**Size of City** - 3,833,995

**Terrorist-like activity** - There is no terrorist activity in your city; however, this month a rental truck carrying weapons of mass destruction exploded after an individual parked it next to a federal court house, located approximately 5 miles from your arena. The explosion killed 35 people and injured dozens.

**Miscellaneous Items** - The student association at UCLA are hosting a tailgate party. The game will not be television live, but on tape delay. Both teams are undefeated, its ‘Hall of Fame Night’ and several well-known alumni as well as NBA stars will be in attendance.

*Please answer the following questions:*

1. Please indicate your judgment of the probability that a terrorist attack could potentially occur at this facility within the next 3 months?

0%    10%    20%    30%    40%    50%    60%    70%    80%    90%    100%

2. Would you describe the risk at this facility to be high, medium, or low for a potential terrorist attack?

High Risk                       Medium Risk                       Low Risk

3. How closely would you monitor Homeland Security and/or some other form of mass media for updates on security?

Not Closely                       Somewhat Closely                       Very Closely

4. How likely are you to re-evaluate your security preparation?

Unlikely                       Somewhat Likely                       Very Likely

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