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CRISIS AND EMERGENCY RISK COMMUNICATION ON A COLLEGE CAMPUS: USING SCHOOL SPIRIT AND FEAR APPEALS TO ACHIEVE STUDENT SAFETY

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CRISIS AND EMERGENCY RISK COMMUNICATION
ON A COLLEGE CAMPUS:
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STUDENT SAFETY

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF COMMUNICATION

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Abstract

In today's society where universities are viable targets for crises, it is imperative that school administrators communicate effectively with students and that those students, in turn, follow appropriate crisis and emergency risk procedures (National Summit, 2004). However, as is seemingly evident in cases such as Virginia Tech, the communication models currently employed by university officials are less than effective. The question then becomes, why? The current research was driven by two goals. The first, from a general communication perspective, was to explore the role of the receiver's perceptions of the sender on the acceptance or rejection of the crisis and emergency risk communication (CERC) message. The second, from an academic organizational context, was to test the effectiveness of Witte's (1992) extended parallel process model (EPPM) in predicting student response (acceptance or rejection) to CERC messages sent by university officials. By incorporating a quasi-experimental design, participants were asked to indicate their attachment to the university and respond to a series of hypothetical CERC email messages sent from university officials. The results indicated that although the EPPM is an appropriate tool for creating effective health risk messages aimed at changing behavior over time, it is not appropriate for creating CERC messages in the midst of a crisis. However, if a student has high organizational attachment (i.e., "school spirit") *before* a crisis occurs, then he or she will be more likely to follow safety instructions provided by university officials when the crisis does occur. Thus, the lesson for university officials is to put forth effort to increase students' organizational attachment *now* so that when faced

with a crisis, the university can rely on its reputation and credibility to effectively keep its students safe.

CHAPTER ONE:
INTRODUCTION

On April 16, 2007 the largest single act of violence at an American university occurred resulting in a wave of unsettling emotions that swept across college campuses. It was on this infamous date in 2007 that the Virginia Tech senior, Seung-Hui Cho, shot 49 students and faculty, killing 32, before finally committing suicide in front of wounded survivors (Flynn & Heitzmann, 2008). The sense of vulnerability, direct threat, and shattering of the usual impression of safety reverberated across our nation's campuses. As shocking as this event was, it was not the first time an American university was terrorized. Prior to 2007, the nation's worst campus shooting took place on August 1, 1966 at the University of Texas at Austin. Perched atop the tower at the center of campus, Charles J. Whitman shot and killed 15 students/faculty members and injured 31 others. Whitman was ultimately shot and killed by local law enforcement ending the shooting spree (Walker, 2007). Although the shootings from the UT tower remain haunting and legendary, they did not result in a national sense of urgency to implement risk and crisis protocol like the tragic events at Virginia Tech.

Emergency plans became a necessity after the 2001 terrorist attacks in New York City but it was the tragedy at Virginia Tech that caused Americans to accept the reality that universities are not necessarily the safe havens of learning and research they are perceived to be. Today, institutions of higher education are strategically rich terrorist targets (Day & Shalash, 2008; Developing, 2007; Homeland security: The role of schools, 2005; Rainsberger, 2007). In fact, the Department of Homeland Security acknowledged openly that institutions of culture and education are the most threatened arenas in the war on terror (National Summit, 2004).

Institutions of higher learning are particularly vulnerable for a number of reasons. Many universities function as full-scale towns, with permanent and transient populations that often exceed 25,000 people. Acting as self-contained entities, such institutions encompass large residential populations, shops, recreational facilities, full-service fire and police departments, and cultural/entertainment venues (National Summit, 2004). Many campuses house sensitive materials and information (i.e., historic and classified documents) as well as host activities and events that increase their vulnerability. They also serve as homes to scholars who comprise a notable segment of the national intellectual power. For example, universities commonly employ researchers/scientists dedicated to the fields of biochemistry, nuclear sciences, defense, engineering, technology, international affairs, intelligence, aerospace, communication, and public safety (Homeland security: The role of schools, 2005; National Summit, 2004).

Finally, universities are particularly vulnerable due to their open environments with few security restrictions (Homeland security: The role of schools, 2005; National Summit, 2004). Higher education is founded on the notion of freedom: freedom of thought, freedom of expression, freedom of movement, and freedom of learning. Restrictions are seen as contrary to the core mission of most universities, which generally embodies an environment of intellectual and physical openness (Homeland security: The role of schools, 2005; National Summit, 2004).

Although universities' vulnerability impacts faculty, staff, and students, as the (often) youngest members on campuses, students are considered an especially vulnerable population (Homeland security: The role of schools, 2005; National

Summit, 2004). The majority of American college students are between the ages of 18-23 and thus they have limited life experience and are transitioning from teenager to adult, which implies a desire for independence coupled with an often exaggerated sense of invincibility (Nezlek & Zebrowski, 2001). Such traits only perpetuate the all too common assumption that freedom of learning equals freedom from risk (National Summit, 2004).

Furthermore, unlike faculty and staff, students typically do not have ties to the larger community and therefore are more dependent on university officials for information and resources (Homeland security: The role of schools, 2005). The unique characteristics of typical college students place them in an especially vulnerable position that warrants research specific to that population (National Summit, 2004). Ultimately, the devastating event on the Virginia Tech campus provided a lens through which to view ourselves, serving as an undeniable truth that universities are not exempt from crisis and the physical safety and continuing apprehension on college campuses can no longer be ignored (Flynn & Heitzmann, 2008; Homeland security: The role of schools, 2005).

Although the terms *risk* and *crisis* are often used interchangeably by researchers, the media, and community members, there is a distinction that must be noted. A risk is a potential threat or danger, while a crisis is considered to be a risk that has come to fruition (Heath, 2006). Recently, in an effort to merge the fields of risk and crisis communication into a more comprehensive approach, the Centers for Disease Control coined the term “crisis and emergency risk communication” (CERC; Reynolds, Galdo, & Sokler, 2002). CERC is viewed as a strategic process that requires

ongoing communication (Reynolds, Galdo, & Sokler, 2002; Reynolds & Seeger, 2005). Thus, the current study will refer to all risk and crisis communication as CERC.

As a result of tragic natural and human-made disasters, which have exposed the susceptibility of communities and organizations, much empirical research has examined the roles and relationships of the key stakeholders (emergency managers, fire/police, non-profit organizations, hospitals, primary/secondary schools, etc.) within communities as they must effectively communicate with one another prior to, during, and after crises (Glick, Jerome-D'Emilia, Nolan, & Burke, 2004; Heath & Palenchar, 2000). However, there is a lack of empirical evidence exploring the actual CERC messages sent by organizations of higher education to their student members during a crisis despite the fact that it is through such messages that lives are saved or lost. As communication scholars, we are frequently concerned with the impact that persuasive messages have on attitudes and behaviors. Ultimately, we are interested in the final outcome: message acceptance or message rejection (Umphrey, 2004).

However, in order to understand the outcome we must assess the message as well as the *source of the message* when determining its effectiveness. For the purposes of the current study, perceptions of the message source will be conceptualized by the following organizational components: identification, commitment, trust, and assimilation. Such components determine how psychologically connected employees are to the organization and within the current study will be referred by the general term, *organizational attachment*. Thus, by combining the students' organizational attachment with the university and the EPPM we can better understand the role of source perception in CERC message construction as well as interpretation.

Extended Parallel Process Model

In order to determine the effectiveness of CERC messages sent by universities, Witte's (1992) extended parallel process model (EPPM) will serve as the theoretical foundation of this study. In essence, the EPPM (Witte, 1992; Witte, Meyer, & Martell, 2001) proposes that persuasive health risk messages should present a potential threat (fear appeal) that recipients will perceive as personally relevant, and then provide relatively simple instructions, which recipients will feel capable of following, for averting the threat. This presentation of the threat will motivate recipients to behave in such a way that reduces the harm from the threat. In other words, risk messages initiate two cognitive appraisals—an appraisal of the threat and an appraisal of the efficacy of the recommended response (Witte, Meyer, & Martell, 2001). Based on these appraisals, one of three outcomes will follow—no response, a danger control response, or a fear control response.

The cognitive appraisal of the threat happens first (Witte, Meyer, & Martell, 2001). Individuals determine the relevance and severity of the threat. If the threat is deemed irrelevant or trivial individuals do not process any further information about the threat and ignore the risk message. Thus, if individuals have *low* perceived susceptibility or *low* perceived severity, then they simply do not respond to the risk message (Witte, Meyer, & Martell, 2001).

Conversely, if the recipient appraises the threat and believes they are vulnerable to it and/or it could lead to severe harm, then they experience fear which motivates them to act (Witte, Meyer, & Martell, 2001). Individuals then appraise, or think about, the efficacy of the recommended response (e.g., Is the recommended

response likely to keep me out of harm's way? Am I able to follow the instructions in the risk message in order to avert the threat?). The level of efficacy perceived determines recipients' response—engagement in the danger control process or the fear control process (Witte, Meyer, & Martell, 2001). If the recipient is motivated to control the danger they will follow the instructions within the fear appeal (message acceptance), ultimately displaying changes in attitudes, intentions and behaviors. If the recipient does not perceive the fear appeal to be effective (message rejection) recipients will be motivated to reduce the fear through defensive avoidance, message minimization, and perceived manipulation (Witte, 1992, 1996).

EPPM and Organizational Attachment

Although Witte's (1992) EPPM provides an effective tool for determining appropriate CERC messages, it is important to consider the message *source* and its potential impact on recipient perceptions of fear appeals. For example, universities are considered to be organizations and thus it is important to acknowledge students' organizational attachment (identification, commitment, trust, and assimilation), which potentially influences students' responses to fear appeals. Clearly students and employees are not the same, however, both are members within the university system and therefore organizational communication theories and concepts are appropriate to use in the academic context (Cheney & Christensen, 2001; McMillan & Cheney, 1996).

Combining organizational attachment and the EPPM allows researchers to better understand the interdependent relationship between students and administrators (Lamsa & Pucetaite, 2006). For university officials to use the EPPM without

acknowledging the students' pre-existing attachment with the organization would be leaving out the impact of the university-student relationship, which arguably acts as a lens for interpreting all university messages (Shinn, 2007). In essence, students are dependent upon administrators to not only provide them with a quality education, but also to supply them with accurate, timely information in day-to-day interactions, particularly in times of risk and crisis. In turn, universities are dependent upon students to provide information regarding risks and crises that may be unknown to university officials, maintain their academic standing, and their commensurate tuition for economic survival and continued growth.

The 2001 terrorist attack on the Twin Towers in New York launched our nation into a state of heightened alert. The epic event on 9/11 raised our collective consciousness about safety and preparation. The 2007 attack at Virginia Tech further expanded our awareness to college campuses. Today, university administrations are obligated to provide their students with a quality education and to ensure that their students are as safe as possible in the event of both natural (i.e., Hurricane Katrina, H1N1 flu pandemic) and human-made disasters. This added responsibility of safety has created a new variable in college selection and continued enrollment, relating directly to the financial viability of college and university systems. As such, it has become increasingly clear that administrators today must understand the causal relationship between student perceptions of university communication and enrollment levels.

Campus Safety

In 1966, the financial impact of campus shootings was not an issue at public universities (such as UT) because they were well-funded by the state and thus less reliant on privately paid tuition (Walker, 2007). However, today, university officials must cope with enrollment issues in a competitive admissions environment. Students are more willing to move around the country, change their minds, and investigate other possibilities at the last minute than they were 40 years ago (Shinn, 2007). Even if students choose not to transfer in response to a risk or crisis on campus, it is not uncommon for other schools to attempt to take advantage of the situation by offering care packages and transfer possibilities, playing off the fear and emotion of surviving students (Shinn, 2007). Along with students, universities must now be cognizant of effectively communicating with students' parents, who in most cases, are the ones deciding where to spend educational dollars. Willamette University, for example, began receiving calls from parents who would not commit to paying tuition until they knew the administration was planning for the potential avian flu outbreak (Hill, 2006).

Although the tragedy at Virginia Tech served as a catalyst for university implementation of CERC planning, risks and crises in schools is hardly a new phenomenon, as is evident through: the collapse of the bonfire at Texas A&M University (Colloff, 2004; Lowery, 2000); the significant rise in teen suicide as a result of an increase in bullying and suicide pacts/chains (Youth, 2007); school shootings at South Texas College and the University of Arizona; hurricane Katrina and the floods and tornadoes in Northeast Iowa (Heinselman, 2008); and student panic regarding pandemic outbreaks (Hill, 2006). In response to the above disasters (and

countless others), universities around the country have begun to incorporate changes in an attempt to more effectively manage emergency risks and crises for their students. For example, the devastation caused by Hurricane Katrina inspired Louisiana State University to set up a one-stop location for students to apply for admission, register, apply for financial aid, obtain academic counseling, and enroll in courses in an attempt to streamline communication for students (Walker, 2007).

Lessons Learned

Importantly, the tragedy at Virginia Tech was not the first event resulting in a call for campus safety recommendations. Post 9/11, in an effort to encourage campus safety dialogue among university officials, student organizations, campus fire/police departments, federal agencies, and major professional associations, the National Summit on Campus Public Safety (created by the U. S. Department of Justice via the Office of Community Oriented Policing Services) was held November 29-December 1, 2004 in Maryland. The goals of the summit included overcoming fragmentation in campus safety, creating a national agenda on campus safety, and establishing a national center for campus safety to provide information sharing, policy sharing, and research (National Summit, 2004). The Summit exposed the fact that despite the severity of the terrorist attacks on 9/11, most university officials around the country did not perceive their campuses as vulnerable and thus had not taken proactive measures to increase student safety (National Summit, 2004).

Importantly, the Summit (2004) yielded three broad recommendations for university officials: (1) Create a national collective, establish a national agenda, and promote cooperation and collaboration, (2) Operate a safe campus through effective

prevention and response, and (3) Strengthen operations and administrative functions. Although appropriate in theory, such recommendations are difficult to accomplish and most administrations have failed to incorporate them at all (Niles, 2007; Stewart, 2007). The lack of implementation by universities of these suggestions exposes the need for further research into HOW, in a practical sense, to create a safe learning environment. In particular, previous suggestions fail to address the communicative elements necessary for survival (i.e., source credibility, message production, message processing). Furthermore, the recommendations do not address the role of students' organizational attachment with the university (identification, commitment, trust, and assimilation) in predicting student response/behavior. Thus, the current study aims at contributing to operating a safe campus through prevention and response (specifically addressing recommendation #2 of the National Summit).

Despite the fact that the National Summit openly criticized universities for failing to implement safety measures three years after 9/11, the majority of American institutions of higher education had still not progressed in implementing campus safety measures in 2007 (Niles, 2007; Stewart, 2007), when Cho terrorized students and faculty at Virginia Tech. Once again, in the wake of another national tragedy, there have been innumerable reviews and reports, each generating a lengthy list of wide-ranging recommendations that challenge universities to provide effective direction and response through CERC (Niles, 2007; Stewart, 2007; Virginia Tech Review Panel, 2007).

Criticisms of Virginia Tech

Such recommendations are founded on Virginia Tech's passive reaction to Cho's behavior. Specifically, it has been reported that several Virginia Tech students and faculty members had voiced concerns about Cho's anti-social behavior and violent writings prior to the shootings. On one occasion, he was seen stabbing at a piece of carpet during a party while making suicidal threats. He also had several run-ins with the campus police, was evaluated at a psychiatric hospital (he denied any history of prior counseling or pharmacologic treatment; Flynn & Heitzmann, 2008), and received counseling at the university's counseling center. His parents, however, were never informed about their son's health records because of his right to privacy. University officials failed to track Cho and share information amongst themselves regarding his health and educational records because they misunderstood federal privacy laws (Collaborate, 2007; Day & Shalash, 2008; Developing, 2007; Flynn & Heitzmann, 2008; Kapsidelis, 2008; Rainsberger, 2007). When Cho was admitted to Virginia Tech in 2003, no information regarding his mental health history, special needs accommodations, or the "desire to repeat Columbine" accompanied him (Flynn & Heitzmann, 2008).

Furthermore, Virginia Tech officials have been criticized for failing to quickly notify students, faculty and staff after two students were fatally shot in a dormitory (Day & Shalash, 2008). An email message was sent a little more than two hours after the initial shootings but unfortunately many students were already in class at that time. Gunfire erupted less than 20 minutes later in Norris Hall. Although extreme and sad, Cho's experience of slipping through the cracks is amazingly not that uncommon,

begging the question: Had the recommendations offered by the National Summit on Campus Public Safety (2004) been implemented by Virginia Tech, could actions have been taken which might have prevented the shootings on April 16, 2007 (Day & Shalash, 2008)?

Benefit of Virginia Tech

The terrorist attack at Virginia Tech exposed the vulnerability of American universities and as a result many college campuses are finally beginning to incorporate new strategies for improving safety and security for students, faculty, and staff. Such additions include: implementing the use of practical measures such as tasers, bullet-proof vests, phone/email/text alert systems, locks and peepholes for all classrooms, sirens, and cell phones for all students providing them with information such as class schedules, campus safety updates, and class lectures (Day & Shalash, 2008; Kapsidelis, 2008; Reed & Plummer, 2007; Rey, 2008); providing adequate resources for all students, not just those marked as "high risk" (Collaborate, 2007; Flynn & Heitzmann, 2008; Gallagher, 2006); lowering student privacy rights so that physical and/or mental problems are known and addressed by the appropriate officials (Day & Shalash, 2008; Flynn & Heitzmann, 2008); creating formal inter- and intra-organizational teams for threat assessment and streamlined communication (Colloff, 2004; Day & Shalash, 2008; Develop, 2007; Flynn & Heitzmann, 2008; Heinselman, 2008; Hill, 2006; Huffman, 2008; Kapsidelis, 2008; Lowery, 2000; Rainsberger, 2007; Reed & Plummer, 2007; Rey, 2008); and utilizing appropriate communication channels to provide accurate, timely information to students, faculty, and staff (Day & Shalash, 2008; Kapsidelis, 2008; Reed & Plummer, 2007; Rey, 2008; Walker, 2007).

Although such safety recommendations are a good first effort on the part of universities, many of them also leave room for error and unnecessary panic. For example, students tend not to trust administrators with their cell phone numbers (Rey, 2008); sirens successfully get people's attention but they fail to provide any useful information regarding the nature of the crisis or instructions for safety (Kapsidelis, 2008; Rey, 2008); and in an effort to protect their children, parents are often fearful that simulated crisis and emergency risk situations will cause unnecessary mental and emotional stress (Involve, 2008; Reed & Plummer, 2007).

Despite the vast array of suggestions and recommendations offered by the National Summit of Campus Public Safety (2004) as well as universities who have incorporated safety measures since Virginia Tech, there are no national standards, laws, or incentives for campus safety. Ultimately it is the responsibility of each individual university to determine appropriate prevention and response behaviors in times of crisis and emergency risk (Homeland security: The role of schools, 2005). Thus, rather than continue to offer blanket recommendations of safety policies that should, in theory, be implemented by university officials, the current study incorporates students' organizational attachment with Witte's (1992) extended parallel process model (EPPM) in an effort to better understand the role of the CERC message source combined with the message itself.

Student Crisis and Emergency Risk Message Processing

As is evident from the plethora of recommendations offered to universities, much research has been conducted regarding the most effective policies and procedures for universities in times of crisis (Day & Shalash, 2008; Kapsidelis, 2008;

Reed & Plummer, 2007; Rey, 2008). However, few investigations examine the effectiveness of actual CERC messages sent by administrators to students when natural or man-made tragedies occur. The EPPM (Witte, 1992) has the capacity to help us design effective crisis and emergency risk messages—especially for those events that arouse great levels of fear. By focusing message writers on the elements necessary to create change, the EPPM offers insight into how to channel an individual's fear into a motivator for effective action, rather than into an inhibitor of self-protective behavior (McMahan, Witte, & Meyer, 1998; Witte, Meyer, & Martell, 2001).

Organizational Attachment

Organizations, including universities, spend considerable time, money, and energy creating an appealing reputation for both internal and external audiences. The goal of such efforts is ultimately to align the attitudes, values, and beliefs of the members with those of the organization. Specifically, organizational attachment includes identification, commitment, trust, and assimilation (Cheney & Christensen, 2001; Eisenberg & Riley, 2001; McMillan & Cheney, 1996). Organizational attachment is necessary for effectively maintaining and growing an organization and is thus coveted by management as it strongly correlates with increased productivity, decreased turnover, greater employee satisfaction, and extra-role behaviors (Cheney & Christensen, 2001; Cheney & Tompkins, 1987; Connell, Ferres, & Travaglione, 2003; Farrell & Stamm, 1988; Lamsa & Pucetaite, 2006; Mathieu & Zajac, 1990; Michaels & Spector, 1982; Postmes, Tanis, & De Wit, 2001; Suchman, 1995; Tett & Meyer, 1993). Organizational communication creates the conditions for attachment and

thus, should be seen as one of organizational attachment's important antecedents (Elving & Bennebroek Gravenhorst, 2005; Meyer & Allen, 1997; Postmes, Tanis, & De Wit, 2001).

Organizational identification consists of a perception of shared characteristics with other members, the degree of solidarity with the organization, and support of the organization. *Affective commitment* refers to employees' emotional attachment to, identification with, and involvement in the organization (Sass & Canary, 1991). *Organizational trust* can be defined as the basis for interpersonal relationships, cooperation, and stability in organizations (Lewicki, McAllister, & Bies, 1998). *Organizational assimilation* refers to the multi-dimensional process by which individuals integrate into the culture of an organization (Jablin, 2001).

University attachment. Specifically within universities, students who have strong identification, trust, commitment, and assimilation with the academic institution (i.e., school spirit) are more likely to have increased feelings of self-worth (Crosby, Kim, & Hathcote, 2006; Myers & Oetzel, 2003), increased commitment to gaining an education (Braxton, Milem, & Sullivan, 2000; Cabrera, Nora, & Castaneda, 1993; Myers & Oetzel, 2003; Sandler, 2000; Tinto, 1993; Wright & Ngan, 2004), increased retention rates (Rowley, 2003; Seeman & O'Hara, 2006), greater intention to enroll in advanced courses within the same university (Douglas, McClelland, & Davies, 2008; Seeman & O'Hara, 2006), increased frequency in the use of ancillary services (Blackmore, Douglas, & Barnes, 2006), and willingness to recommend the institution to potential students (Blackmore, Douglas, & Barnes, 2006; Cleary, 2001). In times of crisis, students' organizational attachment with the university is already established as

a result of perceptions of previous university messages and behaviors. It makes sense then that in the unique context of a devastating event on a college campus, student responses to fear appeals sent by administrators would necessarily be predicted by the nature of the CERC message as well as perceptions of the source of the message.

Further, by incorporating organizational attachment into understanding CERC, a more holistic picture is offered in an attempt to understand how, when, and why students either accept or reject crisis and emergency risk messages.

Research Focus

In today's society where schools are viable targets for crises, it is imperative that school administrators communicate effectively with students and that those students, in turn, follow appropriate crisis and emergency risk procedures (National Summit, 2004). However, as is seemingly evident in cases such as Virginia Tech, the communication models currently employed by university officials are less than effective. The question then becomes, why? The current research is driven by two goals. The first, from a general communication perspective, is to explore the role of the receiver's perceptions of the sender on the acceptance or rejection of the CERC message. The second, from an academic organizational context, is to channel the energy expressed in the aftermath of the tragic events at Virginia Tech to predict student response (acceptance or rejection) to CERC messages sent by university officials. Admittedly, these goals are large and inherently complex. Thus, the current study will serve as merely the first step toward achieving these goals.

The EPPM (Witte, 1992) allows message writers to persuade recipients to respond in the desired manner by controlling the amount of perceived threat and

efficacy within the message. Taken one step further, by including students' organizational attachment (identification, commitment, trust, and assimilation) with the EPPM, university administrators are able to use their source credibility to further impact student acceptance or rejection of instructions sent in times of crisis and emergency risk.

In essence, the ultimate purpose of CERC messages sent by universities is to save student and faculty lives and to ensure the economic survival of the university (Reynolds, 2006). Student response to such messages (i.e., self-efficacy, willingness to follow prescribed instructions provided by the university) determines the accomplishment of this goal. However, because experts and lay people process crisis and emergency risk messages differently, it is critical to discover effective CERC strategies to promote self-protective and adaptive behaviors. The EPPM has proven to be an effective tool for the creators of health and safety messages (McMahan, Witte, & Meyer, 1998).

According to the EPPM, health risk messages are most persuasive when individuals perceive the threat as likely to place them in danger (severity/susceptibility) *and* when individuals perceive they have the knowledge and skills to successfully avert the impending threat (response/self efficacy; McMahan, Witte, & Meyer, 1998; Witte, 1992; Witte, Meyer, & Martell, 2001). As university decision makers are continuing to feel the mounting pressure to hone their CERC strategies, it would be naïve, if not negligent, to ignore students' organizational attachment (identification, commitment, trust, and assimilation) in determining student responses to university fear appeals.

The variables and relationships within the EPPM and organizational attachment presented above are explored in greater detail in the following section. The remainder of the paper includes an account of methodologies used, the subsequent results, and finally a discussion offering an explanation of findings and suggestions for university officials regarding the formation of effective CERC messages, persuasive strategies within such messages, the role of organizational attachment (perceptions of the message source), and the ensuing student responses.

CHAPTER TWO:
LITERATURE REVIEW

In today's post 9/11, Virginia Tech, Hurricane Katrina society it is imperative that researchers as well as university administrators, effectively design crisis and emergency risk communication (CERC) messages targeting students. Communication is seen as vital to the effective management of risks and crises within organizations (Heath & Palenchar, 2000). For the purposes of this study, the ultimate goal of organizational communication is to effectively manage risk through educating, collaborating, and evaluating message exchanges (O'Hair & Heath, 2009). The EPPM combined with organizational attachment allows universities to achieve this goal by creating fear appeals that predict student cooperation in times of crises.

University Crisis and Emergency Risk Management

Emergent threats to American society create challenges for Federal, State, local, and tribal agencies in their ability to communicate in accurate, credible, timely, and reassuring ways. Risk communication is an established area of research and practice that informs many government agencies, organizations, communities, and campaigns (Reynolds & Seeger, 2005). Heath (1994) claims that "risk communication deals with risk 'elements', whether they are appropriately tolerable, or risk consequences" (p. 257).

Risk communication is defined as "the exchange of information among interested parties about the nature, magnitude, significance, or control of a risk" (National Research Council, 1998, p. 359). The National Research Council (1998) describes risk communication as "an interactive process of exchange of information

and opinion among individuals, groups, and institutions" (p. 2). Risk communication is also grounded in the assumption that the public has a right to know about hazards and risks. The availability of information allows the public to make informed, educated decisions regarding risk (Reynolds & Seeger, 2005). In this way, risk communication facilitates decision making and risk sharing.

Crisis communication involves the sending and receiving of messages to "prevent or lessen the negative outcomes of a crisis and thereby protect the organization, stakeholders, and/or industry from damage" (Coombs, 1995, p. 4). Such communication processes are created to diminish and contain harm, provide specific information to stakeholders, initiate and enhance recovery, manage image and perceptions of blame and responsibility, repair legitimacy, generate support and aide, explain and justify actions, and promote healing, learning, and change (Seeger, Sellnow, & Ulmer, 2003).

Recently, the Centers for Disease Control and Prevention have combined the ideas of risk and crisis into a practice known as crisis and emergency risk communication (CERC; Reynolds, 2004). Such efforts are in response to the fact that American society today is faced with the threat of bioterrorism and other worldwide pressures that require strategic, broad based, responsive planning (Reynolds & Seeger, 2005). This viewpoint supports the idea of crisis as a process: (1) preventative stages of risk development, (2) the actual crisis, and (3) postmortem and clean-up phases (Coombs, 1995).

Reynolds and Seeger (2005) described the ideal phases of crisis management. In the first phase messages are sent out to the public in the form of warnings,

education, and promotions (Reynolds & Seeger, 2005). Once a threat "explodes" and the actual crisis stages begin, the immediate audience—those directly impacted by the crisis (i.e., victims, potential victims, family members, emergency workers, and first responders)—is targeted. Such an audience is provided with pertinent information including how to avoid harm, where to go for treatment, and who to contact for help (Reynolds & Seeger, 2005). Finally, once the crisis has subsided, the post-crisis stages begin (Coombs, 1995; Seeger, Sellnow, & Ulmer, 1998). Post-crisis is described as a time of learning, assessment, and ideas for prevention of new risks (Turner, 1976).

CERC Model

By combining risk and crisis communication into a strategic process, Reynolds and Seeger (2005) have created a working model, CERC, which illustrates the evolutionary process of crisis. The purpose of the CERC model is to outline the process that occurs before, during, and after a crisis. In essence it is meant to provide a framework for all crises and thus reduce uncertainty and fear (Reynolds & Seeger, 2005).

The first stage of the model, Precrisis, includes risk messages, warnings, and preparation (Reynolds & Seeger, 2005). During this phase, target audiences are focused on issues such as: monitoring and recognition of emerging risks, general public understanding of risk, public preparation for the possibility of an adverse event, and alliances and cooperation with agencies, organizations, and groups (Reynolds & Seeger, 2005).

Initial Event, the second stage, includes uncertainty reduction, self-efficacy, and reassurance (Reynolds & Seeger, 2005). It is at this time in the process that rapid

communication to the general public and affected groups seeks to create empathy, reassurance, and reduction in emotional turmoil, designated crisis/agency spokespersons and formal channels and methods of communication, reduction of crisis-related uncertainty, and specific understanding of emergency management and medical community responses (Reynolds & Seeger, 2005).

The third stage, Maintenance, involves ongoing uncertainty reduction, self-efficacy, and reassurance (Reynolds & Seeger, 2005). Continuing communication to the general public and affected groups aims to facilitate more accurate public understandings of ongoing risks; understanding of background factors and issues; feedback from affected publics and correction of any misunderstandings/rumors; and informed decision-making by the public based on understanding of the risks/benefits (Reynolds & Seeger, 2005).

The fourth stage in the CERC model is Resolution. This stage includes updates regarding resolution, discussions about current and new risks or new understandings of risk (Reynolds & Seeger, 2005). During this phase, public communication and campaigns are aimed at the appropriate audience(s) with the intent to inform and persuade about ongoing clean-up, remediation, recovery, and rebuilding efforts; facilitate broad based discussions that are open and honest and with the goal of resolving issues regarding cause, blame, responsibility, and adequacy of response; and promoting the activities and capabilities of agencies and organizations to reinforce positive corporate identity and image (Reynolds & Seeger, 2005).

The fifth and final stage, Evaluation, includes discussions of adequacy of response, consensus about lessons and new understandings of risks (Reynolds &

Seeger, 2005). During this phase in the process communication is directed toward agencies and the response community in an effort to evaluate and assess responses, including communication effectiveness; document, formalize, and communicate lessons learned; and create linkages to pre-crisis activities (Reynolds & Seeger, 2005).

CERC model and universities. For organizations to be truly prepared for crisis and emergency risk it is imperative that ongoing communication take place amongst the first responding entities, management, various departments, organizational members, and other vital organizations (i.e. schools, churches, government, etc.) within the community (Glick, Jerome-D'Emilia, Nolan, & Burke, 2004). According to Heath and Palenchar (2000) a "fully functioning risk community is one in which risks are known to occur, and this knowledge keeps industry, government, and citizens continually learning what to do during such events" (p. 156). The more organizational/community members are involved in the learning process the more self-efficacy they feel and therefore the more responsibility they will take prior to, during, and after a crisis event (Heath & Palenchar, 2000). Thus, given the fact that universities are organizations and/or small communities within themselves, utilization of the CERC model (Reynolds & Seeger, 2005) is an effective guide for message production in the various stages.

Using the EPPM within each stage of CERC (Reynolds & Seeger, 2005) ensures that messages are strategically created to ideally result in perceptions of increased self-efficacy and threat leading to adaptive behaviors in times of risk and crisis (Colquitt, 2001; McComas & Trumbo, 2007; Tyler & Degoey, 1996a, 1996b). For example, in the Precrisis stage risk messages need to be sent to all students and

faculty regarding warnings and preparations. In the Initial Event stage and the Maintenance stage the administration needs to be sending messages to students and faculty that help to decrease uncertainty and increase self-efficacy and reassurance. During the Resolution stage, the university must send updates on the resolution of the crisis and provide opportunities for discussion regarding the event and any new risks. And finally, in the Evaluation stage communication from the administration must address the adequacy of the university's response and come to a conclusion about the lessons learned from the crisis. Regardless of the CERC stage (Reynolds & Seeger, 2005), one theory that can guide research for predicting student response in regard to the perceived threat of a crisis on the university campus, the perceived efficacy of averting the crisis, and the intent to follow instructions provided by university officials is the EPPM (Witte, 1992).

Extended Parallel Process Model (EPPM)

The Extended Parallel Process Model (EPPM) was developed by Witte (1992) as a model to assist in the development of effective health risk communication messages. The EPPM was born out of four decades of research on risk perceptions (McMahan, Witte, & Meyer, 1998) and incorporates three major theoretical approaches: the fear-as-acquired-drive model (Hovland, Janis, & Kelly, 1953); the parallel process model (Leventhal, 1970); and protection motivation theory (Rogers, 1975, 1983). Past researchers have found that when a threatening crisis looms, people address either the threatening crisis *or* their fear (Witte, 1992, 1994). Specifically, the EPPM suggests that risk messages initiates two cognitive appraisals—threat and efficacy. Based on these appraisals, individuals will respond in one of three ways (no

response, danger control, or fear control; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001; see Fig. 1).

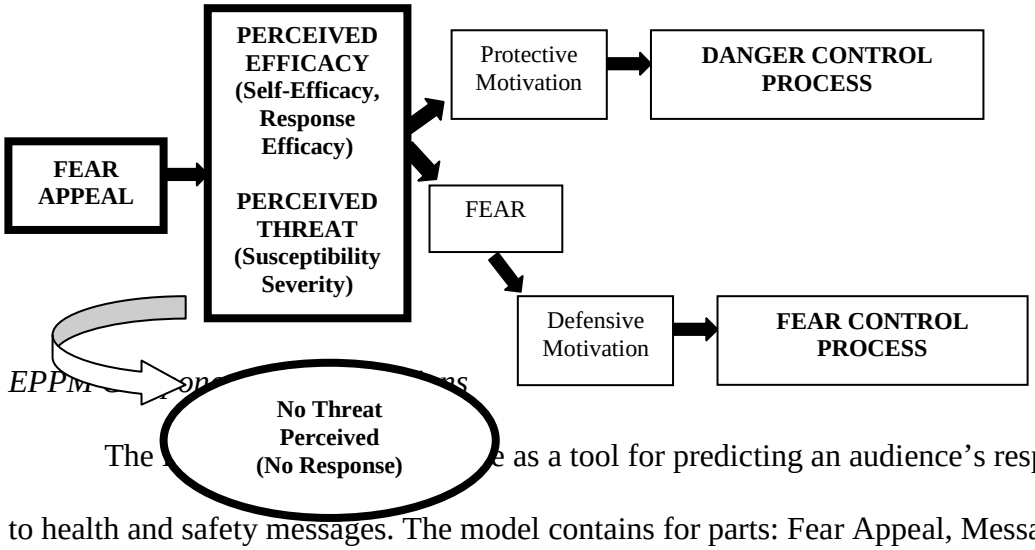
Since its publication in 1992, the EPPM has been used as a framework for communicating about a wide range of health and safety issues. Applications of this theory include AIDS prevention (Witte, 1992), skin cancer (Stephenson & Witte, 1998), tractor safety (Witte, 1995), electromagnetic fields (McMahan, Witte, & Meyer, 1998), rape protection (Morrison, 2005), firearm injury and death prevention (Roberto, Meyer, Johnson, & Atkin, 2000), hearing protection for farmers and landscape workers (Smith, et al., 2008), hearing loss in miners (Murray-Johnson, et al., 2004; Patel, et al., 2001), risk behaviors (Rimal, 2001; Rimal & Real, 2003; Witte, 1996), breast self-exams (Egbert & Parrott, 2001), terror management (Shehryar & Hunt, 2005), and eating disorders (Smalec & Klingle, 2000). Creating effective fear appeals has proven to be an ongoing challenge for risk message writers; however, the EPPM has helped explain the reasons behind risk message success or failure (Witte, 1994; Witte, Meyer, & Martell, 2001).

Depiction of EPPM

Although it is difficult to illustrate the intricate relational nuances between threat, efficacy, and fear, Figure 2.1 offers a simplistic explanation of how danger control and fear control processes operate. In short, risk messages (external stimuli) initiate message processing. First, threat is cognitively appraised and if perceived to be relevant and serious, then efficacy is cognitively appraised (Witte, 1994; Witte, Meyer, & Martell, 2001). However, if no threat is perceived then there is no response to the risk message. If perceived threat is high people are motivated to act. This act is

dependent upon the individual's level of perceived efficacy (Witte, 1994; Witte, Meyer, & Martell, 2001). Specifically, if perceived efficacy is high then individuals will be motivated to follow the recommended self-protective behaviors. Conversely, if perceived efficacy is low, then individuals become so fearful they must cope with and control their fear via defense mechanisms (i.e. avoidance or denial) and ultimately reject the risk message (Witte, Meyer, & Martell, 2001).

FIG. 1



EPPM [illegible]

The [illegible] as a tool for predicting an audience's response to health and safety messages. The model contains for parts: Fear Appeal, Message Processing, Individual Differences, and Outcomes/Process (Witte, 1992, 1994).

Fear Appeal

The EPPM begins with the creation of a fear appeal, or risk message. A fear appeal is a persuasive message that attempts to arouse fear by depicting a personally significant and extreme threat followed by recommendations that are feasible and effective in averting the threat (Witte, 1992; Witte, Meyer, & Martell, 2001). Fear appeals are comprised of the following constructs: threat, efficacy, and fear.

Threat. A *threat* is a danger that exists in the environment whether we are aware of it or not. *Perceived threat,* which is defined as cognitions or thoughts about

that danger, has been found to be a key variable in persuasive processes (Witte, 1994; Witte, Meyer, & Martell, 2001). Two underlying dimensions exist within perceived threat: *perceived susceptibility* (an individual's beliefs about the likelihood of experiencing the threat) and *perceived severity* (beliefs about the significance or magnitude of the threat; Witte, Meyer, & Martell, 2001).

Efficacy. The effectiveness, feasibility, and ease with which a recommended response averts a threat is referred to as *efficacy* (Witte, 1992, 1994). Components of this construct include perceived *response efficacy* (cognitions regarding the effectiveness of the risk message's recommendations for averting the threat) and *perceived self-efficacy* (an individual's beliefs about his/her ability to perform the desired response to deter the threat; Witte, 1992, 1994).

Fear. An internal emotional reaction, *fear* is characterized by subjective experiences (psychological dimension) and physiological arousal (Easterling & Leventhal, 1989; Witte, 1992). Fear is aroused due to the perception of a serious and personally relevant threat.

Message Processing

The EPPM (Witte, 1992, 1994; Witte, Meyer, & Martell, 2001) proposes that in response to a risk message (fear appeal), individuals progress through two cognitive appraisals, which result in one of three responses—no response, danger control response (i.e., cognitive processes), or fear control response (i.e., emotional processes). The *primary appraisal* assesses the level of perceived *threat* in the fear appeal (i.e., susceptibility and/or severity). If the individual perceives the threat to be

insignificant, the risk message is too weak to educe a response (Witte, Meyer, & Martell, 2001).

If, however, the message is perceived to be meaningful (e.g., severe and/or relevant), then fear is elicited (Easterling & Leventhal, 1989). Fear then motivates them to engage in the second appraisal. Essentially, feeling threatened motivates action (Murray-Johnson, Witte, Liu, & Hubbel, 2001; Rosenstock, 1974; Witte, Cameron, Lapinski, & Nzyuko, 1998; Witte, Meyer, & Martell, 2001).

Given that threat encourages action (Smith, Ferrara, & Witte, 2007), perceived *efficacy* (the *secondary appraisal*) determines the nature of this action (Witte, Meyer, & Martell, 2001). Individuals evaluate how successfully they could perform the recommended responses (self-efficacy) and how effectively these recommendations alleviate the threat (response-efficacy; Smith, Ferrara, & Witte, 2007; Witte, 1992, 1995; Witte, Meyer, & Martell, 2001). Essentially, the EPPM explicates the moderating role that an individual's perceived ability to combat a threat plays in the link between perceived risk and preventive action (Rimal, 2001).

Individual Differences

Responses to risk messages are determined by the levels of perceived threat and efficacy (Witte, Meyer, & Martell, 2001). Each person receiving the fear appeal evaluates the components of the message through the lens of his/her prior experiences, culture, and personality characteristics (Witte, 1992, 1994). Thus, the same fear appeal may result in different perceptions for different people, thereby influencing subsequent outcomes.

Within the traditional EPPM, individual differences such as worldviews (i.e., individualism/collectivism), trait variables (i.e., anxiety, communication apprehension, locus of control), or previous experiences are not directly tied to the possible outcomes (i.e., attitudes, behaviors, defense avoidance, reactance; Witte, Meyer, & Martell, 2001). Instead, individual differences influence the appraisals of threat and efficacy, which will affect the *critical point* at which individuals begin to cope with fear (emotion), instead of danger (cognition; Witte, 1992, 1994). In other words, unique characteristics of individuals have the potential to cause a shift in the initial perceptions of threat and efficacy thereby influencing the subsequent initiation of danger control or fear control processes (Witte, 1994; Witte, Meyer, & Martell, 2001).

A number of scholars have examined individual differences (demographic factors and personality characteristics) and their subsequent impact on risk perceptions and safety behaviors (Choi & Lin, 2004; Hampson, Andrews, Barkley, Lichtenstein, & Lee, 2006; Johnson, 1993; Mileti & Fitzpatrick, 1992; Savage, 1993). Specifically, research has found that people, who are highly anxious, lack coping skills, have low self-esteem, or feel vulnerable to the threat are more likely to perceive threats as worse than they really. For such individuals, recommended responses are perceived as more difficult to achieve than they really are. This skewed perception makes them more likely to reach their critical point (resulting in fear control process) faster those who are not anxious, have high self-esteem, or do not feel vulnerable to threat (Boster & Mongeau, 1984; Choi & Lin, 2007; Dabbs & Leventhal, 1966; Witte, Meyer, & Martell, 2001).

Other research has concluded that people with self-determined worldviews (i.e., high self-efficacy) are more likely to believe, personalize, and respond to risk communication (resulting in danger control process) than people with fatalistic worldviews (i.e., low self-efficacy; Johnson, 1993; Mileti & Fitzpatrick1992; Savage, 1993). In addition, people who can be classified as repressors, poor copers, or avoiders, tend to reject strong fear appeals, while those who are sensitizers or good copers tend to accept strong fear appeals (Choi & Lin, 2007; Fang, Miller, Daly, & Hurley, 2002; Hill & Gardner, 1980; Miller, 1987; Miller et. al., 2005; Schwartz, Lerman, Miller, Daly, & Mashy, 1995; Self & Rogers, 1990).

Outcomes/Processes

The ultimate goal behind the EPPM's use of risk messages is to induce strong feelings of threat and efficacy as they motivate individuals to follow the safety message (Smith, et al., 2008; Witte, 1995; Witte, Meyer, & Martell, 2001). According to the EPPM (Witte, 1992, 1994), there are three possible outcomes that can result from the two cognitive appraisals: no response, danger control response, or fear control response.

If the fear appeal is perceived as non-threatening, in severity and/or susceptibility, then recipients will simply not respond to the risk message. Message acceptance occurs when perceived threat *and* perceived efficacy are high, leading to the danger control processes. When perceived threat is *greater* than perceived efficacy, the message will be rejected and the individual will respond to and cope with their fear, as opposed to the actual threat (Morrison, 2005; Roberto, Meyer, Johnson, & Atkin, 2000; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001).

Danger control process. If individuals believe they can perform the recommended response (high perceived self-efficacy) and they believe the recommended response works in averting the threat (high perceived response efficacy), their heightened perceptions of threat and efficacy act as motivators to control the danger (McMahan, Witte, & Meyer, 1998; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001). When individuals control the danger, they take actions to protect themselves against it (protection motivation). Danger control responses are usually changes in attitude, intention, and behavior in line with the message's recommendations (Kleinot & Rogers, 1982; Maddux & Rogers, 1983; McMahan, Witte, & Meyer, 1998; Rogers & Mewborn, 1976; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001).

It is not uncommon for people to realize they cannot avoid a serious threat, either because they believe the risk message to be ineffective or they believe they will be ineffective or unable to perform the recommended response (Witte, 1992, 1994). The moment in message processing where this shift in perceived threat and efficacy occurs, known as the *critical point*, is where fear control processes will begin to override the danger control processes (McMahan, Witte, & Meyer, 1998; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001).

Fear Control Process. If individuals doubt their ability to perform the recommended response (low perceived self-efficacy) and/or they doubt whether the recommended response really averts the threat (low perceived response efficacy), they believe it is futile to try to control the danger (McMahan, Witte, & Meyer, 1998; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001). Instead, they turn their attention to

controlling their fear (defensive motivation). To control their fears individuals typically use psychological defense strategies such as defensive avoidance, denial, or reactance (McMahan, Witte, & Meyer, 1998; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001).

Defensive avoidance occurs when people block further thoughts or feelings about a health threat; in order to avoid further information individuals may distort or flat-out ignore risk messages (McMahan, Witte, & Meyer, 1998; Rippetoe & Rogers, 1987; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001). *Denial* is when people simply refuse to believe they could experience the threat. They might believe that "other people" could be victims of the threat but they are protected in some magical, unexplainable way (McMahan, Witte, & Meyer, 1998; Rippetoe & Rogers, 1987; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001). *Reactance* occurs when individuals perceive the source of the risk message as trying to manipulate them. This perceived manipulation prompts individuals to either reject the message outright or to become angry about the entire issue (Kleinot & Rogers, 1982; McMahan, Witte, & Meyer, 1998; Rippetoe & Rogers, 1987; Witte, 1992, 1994; Witte, Meyer, & Martell, 2001).

The following hypotheses were guided by the previous discussion:

H1: Students who receive high threat/high efficacy risk messages will be more likely to engage in danger control responses than students who receive high threat/low efficacy or low threat risk messages.

H2: Students who receive high threat/low efficacy risk messages will be more likely to engage in fear control responses than students who receive high threat/high efficacy or low threat risk messages.

H3: Students who receive low threat/high efficacy risk messages will be less likely to engage in danger control responses and fear control responses than students who receive high threat/high efficacy or high threat/low efficacy risk messages.

Organizational Attachment and CERC Processing

Although some EPPM research has incorporated the role of the receivers' disposition characteristics in message processing of fear appeals (e.g., Boster & Mongeau, 1984; Dabbs & Leventhal, 1966; Hampson, Andrews, Barkley, Lichtenstein, & Lee, 2006; Hill & Gardener, 1980; Johnson, 1993; Mileti & Fitzpatrick, 1992; Savage, 1993; Self & Rogers, 1990), there is a lack of empirical research examining the influence of perceptions of the CERC source (i.e., organizational attachment) on risk message interpretation. Specifically, the current study incorporates students' organizational attachment (organizational identity, commitment, trust, and assimilation)—often referred to as *school spirit* (Crosby, Kim, & Hathcote, 2006)— with the EPPM to better determine student response to CERC messages.

Organizational Attachment

As previously mentioned, organizational attachment (identification, commitment, trust, and assimilation) is necessary for organizational survival and prosperity (Cheney & Christensen, 2001; Lamsa & Pucetaite, 2006; Postmes, Tanis, &

De Wit, 2001). Organizational communication scholars routinely incorporate identification, commitment, trust, and assimilation into their research because these attachments expose members' underlying psychological connections to the organization (Allen & Brady, 1997; Barker & Tompkins, 1994; Cheney & Christensen, 2001; Cox & Todd, 2000; Ducharme & Martin, 2000; Lamsa & Pucetaite, 2006; Myers & Oetzel, 2003; Postmes, Tanis, & De Wit, 2001; van Knippenberg & Van Schie, 2000).

Such attachments are just as valuable and necessary for universities as any other type of organization. For example, according to the National Survey of Student Engagement (2007-2008) which was completed by 380,000 freshmen and seniors at 722 four-year colleges in the US, transfer and first generation college students are less engaged and less identified with institutions than students who start and graduate from the same university (i.e., native students; Lipka, 2008a, 2008b). As a result, it is essential that communication scholars as well as university officials incorporate school spirit with the EPPM, as this will ultimately impact student responses to university sanctioned CERC messages.

Organizational Identification

Organizational identification (OI) refers to those core, distinctive, and enduring features unique to an institution (Albert & Whetton, 1985; Hatch & Schultz, 1997; Sillince, 2006). Organizational identification considers how the messages exchanged both internally and externally shape the identity of organizational members and simultaneously make an organization what it is (Cheney, 1983; Cheney & Tompkins, 1987; Scott, Corman & Cheney, 1998).

Ultimately, organizational identification gives members a sense of identity that "directs . . . the individual in terms of making contributions to the organization" (Cheney & Tompkins, 1987, pp. 1-2). The literature on organizational identification has developed through calls for links between identification and strategy (Whetton & Godfrey, 1998), the claim that identification drives strategy (Corley & Gioia, 2004), the claim that identification enables members to select and adapt a strategic direction (Ashforth & Mael, 1989; Fiol, 1991; Kogut & Zander, 1996) and to notice and respond to environmental changes (Whetton & Godfrey, 1998; White, Godart, & Corona, 2007).

Organizational identification is rooted in social identity theory (SIT; Tajfel, 1978; Tajfel & Turner, 1979) and its extension, self-categorization theory (SCT; Turner, 1982). Central in the SIT/SCT perspectives is the idea of *social identity* which is defined as, "the individuals' knowledge that he/she belongs to certain groups together with some emotional and value significance to him/her of the group membership" (Tajfel, 1978). Social identity can be distinguished from personal identity, which refers to the individual's unique attributes (i.e., physical appearance, idiosyncratic personality traits, etc.). SIT and SCT suggest that in a context in which people recognize themselves and others as belonging to a shared group, group members will seek to achieve positive self-esteem based on this higher-order categorization (Haslam, 2001; Turner, Oakes, Haslam, & McGarty, 1994). Thus, when people's idea of who they are is defined more in terms of "we" rather than "I", the in-group ("we") is wanted to be seen as different, better, than the out-group ("they"; Haslam, 2001).

More recent conceptualizations of organizational identification have highlighted the importance of examining employees' multiple group memberships when considering the influence of organizational identification on employee affect and behavior (Hennessey & West, 1999; Scott et al., 1999; van Knippenberg & van Schie, 2000). Organizations are internally structured social systems consisting of numerous structural and functional groups (Hogg & Terry, 2000; Scott, Corman, & Cheney, 1998). Although the goals of these groups are usually integrated with organizational objectives, their very existence results in a highly differentiated social environment. Within such an environment employees are readily distinguishable by their memberships of numerous organizational categories, such as work units and teams, levels of management, occupational and professional groups, employment categories, steering committees, and special project groups (Grice, Gallois, Jones, Paulsen, & Callan, 2006). The end result of this organizational demarcation is a social system that offers its members a variety of sources and targets from which to derive a sense of attachment and belonging (van Knippenberg & van Schie, 2000).

Organizational identification and CERC processing. Organizational identification perceptions can influence organizational performance (during times of change and crisis) because they influence how internal and external constituents evaluate an organization's legitimacy (Suchman, 1995), which in turn affects its ability to access needed human and material resources (Pfeffer & Salancik, 1978). For instance, the structural and cultural shifts often associated with organizational change typically challenge pre-existing power structures and undermine the consistency of group norms and in doing so, destabilize notions of group permanence. The net result

of such organizational instability is that employees feel that organizational in-groups are under direct threat.

Because there is evidence to suggest that a perceived threat to the existence of a group is associated with heightened prejudice towards out-groups in non-organizational contexts (e.g., Quillan, 1995; Tougas, Sablonniere, Lagace, & Kocum, 2003), a similar dynamic is likely to occur when employees interpret communicative information. In other words, faced with a perceived threat (risk) to group norms and performance, employees may evaluate organizational communication in a way that favors information sent by in-group members (i.e., trusted peers, supervisors, administrators) as they are perceived as having the group's best interests at heart.

University identification. Within the context of higher education, student identification with universities is strengthened by in-group and out-group distinctions (Crosby, Kim, & Hathcote, 2006). Students differentiate themselves via in-group favoritism and out-group derogation. Research indicates this distinction is strengthened through unique rituals (i.e., game day chants, graduation traditions) which allow students to create a sense of belonging (Gibson, Willming, & Holdnak, 2002). Students self-categorize as loyal members of their school in order to perceive themselves as part of the larger organizational group, thereby resulting in the emphasis of characteristics and values common to all students attending the university (Crosby, Kim, & Hathcote, 2006).

Student identification with the university is also influenced by perceived organizational prestige (Crosby, Kim, & Hathcote, 2006). Perceived organizational prestige is defined as the degree to which the institution is well regarded both in

absolute and comparative terms (Mael & Ashforth, 1992). The more prestigious the organization, the greater the potential boost to self-esteem through identification (Mael & Ashforth, 1992). As a result, students feel proud to be part of a well-respected university because they are vicariously claiming the accomplishment of the group, which strengthens their feelings of self-worth. Similarly, students may feel embarrassed or discontent with belonging to a university with a negative reputation, which can lead to looser ties with the university (Crosby, Kim, & Hathcote, 2006). Therefore, a university's perceived external image is a significant factor in influencing organizational identification (Smidts, Cees, & Pruyn, 2000).

Organizational Commitment

Like organizational identification, an employee's level of organizational commitment is established over time and is central to an organization's continued existence. Mowday, Steers, and Porter (1979) defined organizational commitment as "the relative strength of an individual's identification with and involvement in a particular organization" (p. 226, p. 27). This definition is characterized by three interrelated factors: "(1) a strong belief in and acceptance of the organization's goals and values; (2) a willingness to exert considerable effort on behalf of the organization; and (3) a strong desire to maintain membership in the organization" (Mowday, Steers & Porter, 1979, p. 226). In essence, organizational commitment is conceptualized as a function of identification (Hall, Schneider & Nygren, 1970; Mowday, Steers, & Porter, 1979; Sheldon, 1971).

It has often been observed that communication creates the conditions for commitment, and thus communication should be seen as one of its important

antecedents (Postmes, Tanis, & De Wit, 2001). People's sense of belonging to the organization does not primarily depend on the quality of their informal and socio-emotional interactions with peers and colleagues, but is related more strongly to their appreciation of the management's communication abilities (Postmes, Tanis, & De Wit, 2001). In other words, general, repeated communication about what the organization stands for makes it easier for people to commit themselves to the organization as an entity (Ashforth & Mael, 1989).

Studies of the antecedents and consequences of commitment appear frequently in academic and professional literature. With respect to the consequences, there is strong empirical evidence for a causal relationship between organizational commitment and important organizational outcome variables such as higher job satisfaction and willingness to take on extra responsibilities, lower absenteeism and, higher turn-over rates (Farrell & Stamm, 1988; Mathieu & Zajac, 1990; Michaels & Spector, 1982; Postmes, Tanis, & De Wit, 2001; Tett & Meyer, 1993). As a result, the study of organizational commitment is not only significant in merely producing commitment as an end in itself, but also in representing a means of linking perceptions to desirable organizational outcomes (Postmes, Tanis, & De Wit, 2001).

Types of organizational commitment. Research shows there are three types of commitment: affective, normative, and continuance (Meyer & Allen, 1991). Affective commitment refers to the employee's emotional attachment to, identification with, and involvement in the organization. Employees with a strong affective commitment continue employment with the organizational because they *want* to do so. Continuance commitment refers to an awareness of the costs associated with leaving the

organization. Employees whose primary link to the organization is based on continuance commitment remain because they *need* to do so. Finally, normative commitment reflects a feeling of obligation to continue employment. Employees with a high level of normative commitment feel that they *should* to remain with the organization (Meyer & Allen, 1991). For the current study, only affective commitment will be measured as it is the most appropriate for an organization, such as a university, where the nature of student involvement is primarily voluntary (i.e., continued enrollment, joining clubs, attending classes).

University commitment. Student commitment to universities is defined in a number of ways including the overall impression, satisfaction, sense of belonging, perception of quality, match with, and attraction to a particular institution (Braxton, Milem, & Sullivan, 2000; Nora & Cabrera, 1993; Sandler, 2000; Seeman & O'Hara, 2006; Strauss & Volkwein, 2004; Tinto, 1993). Importantly, student's level of institutional commitment is associated with recruitment, student satisfaction, and retention (Douglas, McClelland, & Davies, 2008; Rowley, 2003). Student commitment to an institution of higher education is often referred to as student loyalty (Helgesen & Nesset, 2007). Student loyalty is positively related to student satisfaction and to the performance of the university (Helgesen, 2006; Kotler & Fox, 1995; Seeman & O'Hara, 2006; Zeithaml, 2000).

Organizational Trust

Organizational trust, the third type of attachment incorporated in the current study, is offered as another possible lens through which students perceive messages sent by university officials. Rousseau, Sitkin, Burt, and Camerer (1998) offered a

widely used (Child & Mollering, 2003; Clark & Payne, 2006; Dirks & Ferrin, 2001) operational definition of trust as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviors of another" (p. 395). Organizational researchers and practitioners acknowledged that trust is an important element of an effective organization and that it plays a central role in the coordination of social actors' expectations and interactions, particularly in times of crisis (Cox, Jones, & Collinson, 2006; Gould-Williams, 2003; Kramer, 1999; Lamsa & Pucetaite, 2006; Leana & van Buren III, 1999; McAllister, 1995; Whitener, Brodt, Korsgaard, & Werner, 1998; Wicks & Berman, 2004; Wicks, Berman, & Jones, 1999). Ultimately, organizational trust is important for successful socialization, cooperation and effective teamwork (Lamsa & Pucetaite, 2006); provides a foundation for social order (Hosmer, 1995; Lewicki, McAllister, & Bies, 1998; Lewis & Weigert, 1985); contributes to improved quality of life (Lamsa & Pucetaite, 2006); and, in the long term, helps to minimize risks and decrease operating costs (Connell, Ferres, & Travaglione, 2003).

Lane and Bachmann (1998) hypothesized that without a certain degree of trust it is almost impossible to establish or maintain successful organizational relations over extended periods of time. From a communication perspective, it is imperative that the sender be viewed as credible in order for the message to be believed. The longevity of trust relations is thus important for sustainability and continuous growth. The increasing interest in the concept of trust is a result, in part, of the perceived sense that change is occurring rapidly and dramatically within organizations in today's society (Bachmann & Lane, 2001).

There is an abundance of literature surrounding organizational trust. Although difficult to define, scholars have provided consistent, foundational research in such areas as: different types of trust within organizational relationships (Cox, Jones, & Collinson, 2006; Lamsa & Pucetaite, 2006; Lewicki & Bunker, 1996), various components or indicators of trust (i.e. commitment, competence, predictability; Covello, 1992; Frewer, Howard, Hedderley, & Shepherd, 1996; Johnson, 1999; Lamsa & Pucetaite, 2006; Maeda & Miyahara, 2003; Whitener, Brodt, Korsgaard, & Werner, 1998); suggestions for how organizations can increase trust through open communication (Gilbert & Tang, 1998; Jablin, 1985; Lamsa & Pucetaite, 2006; Redding, 1972; Roberts & O'Reilly, 1974); and the effects of positive and negative information on trust (Conchie & Burns, 2008; Cvetkovich, Siegrist, Murray, & Tragesser, 2002; Poortinga & Pidgeon, 2004; Slovic, 1993; White, Pahl, Buehner, & Haye, 2003).

Ultimately, research indicates that a safe organizational culture founded on mutual trust seems dependent on the development of effective two-way communication between employees and managers (Clark, 1999; Conchie & Burns, 2008; Leiss, 1996; Morgan, Fischhoff, Bostrom, & Atman, 2002). In addition, there are a growing number of studies concerned with potentially high-risk environments (i.e., hospitals, schools, and hazardous occupations) in which trust is recognized as a critical foundation for the development of effective safety cultures prior to, during, and post crisis (Clark & Payne, 2006; Conchie, Donald, & Taylor, 2006; Conchie & Burns, 2008; Cox, Jones, & Collinson, 2006; Reason, 1997).

Based on the findings of prior research, trust among employees is not inherent, but management can nurture it with the help of appropriate and context-sensitive managerial practices (Blunsdon & Reed, 2003; Creed & Mills, 1996; Gould-Williams, 2003; Whitener, 1997; Young & Daniel, 2003). Central to risk management is risk communication, and core to risk management is trust (Renn, 2003).

University trust. Students' trust in universities is dependent upon the reputation of the institution. Reputation may be interpreted as the overall perception of an organization, what it stands for, what it is associated with, and what services or products it supplies (Elliot & Healy, 2001). Essentially, trust in higher education administrations is created through consistent quality service, reliable information, formation and support of social networks within the university, helpful and convenient facilities, and a commitment, by administrators, to the education and well-being of the students (Helgesen & Nesset, 2007).

Organizational research has shown that individuals with peer relationships based on moderate levels of trust, self-disclosure, and emotional support are more likely to receive higher quality information than individuals with peer relationships based on low levels of trust and support (Sias, 2007; Wrench, 2007). Such relationships within higher education are of importance as they expose students' trust and commitment in the university (Allen, 1996; Peterson, Pulia, & Suess, 2003; Raabe & Beehr, 2003) and thus how risk information will be perceived.

Further, organizational trust can be determined by examining the quality of information provided by the university (Dudo, Dahlstrom, & Brossard, 2007). Quality information, as it relates to risks regarding science, environment, and health issues

should contain: more factual data about a risk's (potential) magnitude than subjective opinions (Roche & Muskavitch, 2003); specific information regarding the measures an individual can take to increase self-efficacy as it relates to avoiding the risk (Roche & Muskavitch, 2003); references to risk scenarios that are similar to the risk issue at hand, to serve as a comparison (Friedman, Gorney, & Egolf, 1987; Roche & Muskavitch, 2003); and minimal sensational content (Friedman, Gorney, & Egolf, 1987).

Organizational Assimilation

Globalization. Globalization is causing widespread changes in multiple aspects of culture, both in and outside of organizations (Eisenberg & Riley, 2001). In this context, globalization refers to the intricately woven web connecting the global economy, the interpenetration of global and domestic organizations, and communication technologies that blur temporal and spatial boundaries (Stohl, 2001). As a result of infinite communicative possibilities and blurred boundaries, organizations are no longer the culturally homogenous entities they once were, making the alignment of an employee's individual culture and the organizational culture a necessary and on-going process. In fact, it is almost impossible to imagine a uni-cultural, purely domestic organization today (Johnson & Packard, 1987; Stohl, 2001).

Organizational assimilation. Survival in a global economy requires organizations and their members to work together for cultural integration through cultivating international relationships and accepting the cultural variations of their host countries, members, and/or outside audiences (Jablin, 2001; Myers, 2005; Ulijn, O'Hair, Weggeman, Ledlow, & Hall, 2000). This process of mutual integration is

known as organizational assimilation (Jablin, 2001). Assimilation is necessary as it represents the degree to which organizational members feel as though they "fit in" and are accepted by their peers (Myers & Oetzel, 2003). Organizational assimilation is an ongoing process in which researchers have identified a number of characteristics (i.e., development of satisfying and successful relationships within the organization, acceptance of the norms and values of the organization, perception of one's value within the organization, involvement in member activities, ability to perform designated duties, and cultural adjustment by both the member and the organization (Ashforth & Saks, 1996; Chao, et al., 1994; Feldman, 1981; Myers & Oetzel, 2003).

Research indicates that members who have achieved a high degree of assimilation feel as though they are connected to and an integral part of their organizations (Chao, et al., 1994). They see themselves as competent, contributing members and feel comfortable in their environments. Further, previous research argues that these members have higher levels of job satisfaction, organizational identification, and are less likely to leave (Myers & Oetzel, 2003).

Academic organizations are no exception to the evidence of growing cultural variability and globalization. Today, institutes of higher learning cater to a wider variety of coeds than ever before. It is no longer safe to assume that all undergraduates have similar or stereotypical college experiences (i.e., graduating in four years, heavy involvement in campus activities and sporting events, attending college immediately upon graduating from high school, or starting and graduating from the same university). Instead, there are more first generation students attending college than ever before as the expectation for obtaining a college degree is quickly becoming the

norm (Lipka, 2008a, 2008b). In addition, due to the economy, there are more transfer students than ever before as individuals often start at a community college and then transfer to a four-year school in order to save money on tuition (Lipka, 2008a, 2008b). Finally, there are more foreign exchange students, both in and outside the U. S., than ever before as universities continue to embrace the notion of globalization (McCormack, 2007).

As is apparent in the above sections on organizational attachment, most universities work hard to communicate with students in ways that aim to increase identification, commitment, trust, and assimilation with the organization. Although institutes of higher education put a great deal of their resources toward enhancing school spirit, when a crisis occurs attention naturally shifts to survival; the goal becomes getting information to students as quickly and accurately as possible (Emergency Planning: National Response Plan, 2005; Reynolds, 2006). However, perceptions of CERC messages do not occur in a vacuum and are thus vulnerable to existing perceptions of organizational attachment, which can ultimately enhance or detract from student adaptive behaviors, thus warranting incorporation with the EPPM. Therefore, the following hypotheses are posited:

H4: There will be a correlation among organizational identification, commitment, trust, and assimilation.

H5: When controlling for organizational attachment the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the danger control process.

H5a: When controlling for organizational identification the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the danger control process.

H5b: When controlling for organizational commitment the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the danger control process.

H5c: When controlling for organizational trust the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the danger control process.

H5d: When controlling for organizational assimilation the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the danger control process.

H6: When controlling for organizational attachment the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the fear control process.

CHAPTER THREE:
METHODOLOGY

Participants

Two hundred and fifty-three individuals enrolled in various communication courses at a southern university participated in this quasi-experiment. Consent was obtained from all participants prior to data collection and students were offered extra credit for their participation. Participants ranged in age with 64% between the ages of 19 and 24 and 15% were over 27 years old. One hundred and sixty-one participants were female and 71% were classified as juniors and seniors. The type of student varied with 46% of the participants starting and remaining at the same university (i.e., native students), 27% were first generation college students, 33% transferred from a different university, and 2% were foreign exchange students. Two hundred and twenty-two participants were Hispanic. Among the participants, 60% had previously received an email notification from the university administrators indicating a pending risk, most notably regarding pandemic flu (51%) and hurricanes (42%).

CERC Message Design

Three Conditions of the Independent Variable

The CERC messages designed for the current study were based on the original email messages sent out by university officials to Virginia Tech students during the shootings on April 16, 2007 (Memmott, 2007; Shapira, & Jackman, 2007). CERC messages previously used during an actual university crisis were chosen, as opposed to creating hypothetical CERC messages, because of their inherent authenticity and ecological validity. Like those sent at Virginia Tech, fear appeals in the current study

were written as a series of four emails sent by university officials to students in the midst of a (hypothetical) terrorist attack by a fellow student. By varying the perceived threat and perceived efficacy in the CERC messages three conditions (four emails in each) were created: (1) high threat / high efficacy, (2) high threat / low efficacy, and (3) low threat / high efficacy.

Verification of the Three Conditions

Before conducting the experiment, it was first necessary to ensure that there were noticeable differences between the three conditions of the independent variable. The CERC messages (emails) from the three conditions were distributed to two communication classes (not participating in the actual study) from the southern university. Participants in this message verification phase were asked to read the email messages created by the researcher and then provide specific suggestions for how to enhance the meanings of threat and efficacy in the three conditions. Based on this feedback the level of threat and efficacy in each message was adjusted with the intention of inducing various levels of fear. The specific phrasing and punctuation suggestions provided by the verification participants to enhance differences in high and low levels of threat and efficacy are described below.

Severity. Perceived severity of the threat refers to how dangerous or trivial the consequences of the event are believed to be (Witte, Meyer, & Martell, 2001). A sense of *high severity* was created through vivid and intense language such as "deadly", "terrorist", "extreme caution", "two victims" and "campus is on lockdown". Writing words in all capital letters, underlining, writing in bold font, and using exclamation marks helped to further a sense of extreme danger. Such language gave

students the impression that this was a life and death situation, which frightened the authorities, and that law enforcement was not in control of the situation.

A sense of *low severity* was enhanced by using much more benign language, such as referring to the shooter as “suspect” rather than “terrorist”. In addition, the phrases “routine procedures” and “the campus is temporarily closed” were used to describe how police were handling the situation. This helped to keep fear at a minimum as it implied that the authorities were in control of the situation, that law enforcement was not surprised by shootings on campus, and that life at the university would be back to normal soon.

Susceptibility. According to Witte, Meyer, and Martell (2001) perceived susceptibility is the extent to which the audience perceives the event will occur and will impact them personally. A sense of *high susceptibility* was operationalized by personalizing the risk messages for the intended audience. This was accomplished through the repeated use of specific building names where shootings occurred on campus and speaking directly to the students in the Subject line of the emails (e.g., “STAY WHERE YOU ARE!”). This language was intended to keep the students from dismissing the messages by falsely believing the crisis was *occurring elsewhere, to other people*. Specific building names and personal, direct messages in the Subject lines forced students to accept the reality of the situation *occurring on their campus, to them*.

Conversely, *low susceptibility* was operationalized though the use of objective, ambiguous statements in the Subject line of the emails (e.g., “Classes Canceled”). In addition, a sense of low susceptibility was enhanced through phrases that implied any

immediate danger occurring *on their campus, to them* had passed and that the emails were sent more to inform of a crisis that had already occurred rather than to warn the student body of a continuing threat and on-going crisis (e.g., "Police currently have the suspect in custody. As UTPA is committed to actively following routine police risk/crisis procedures, Police continue to search for other possible suspects"). In essence, such language made it easier for the students to have a false sense of security.

Self-efficacy. The extent to which an individual feels capable of avoiding the threat by engaging in the recommended behaviors is referred to as *self-efficacy* (Witte, Meyer, & Martell, 2001). In the current study, *high self-efficacy* was operationalized by repeatedly providing simple, clear safety instructions for students both on and off campus (e.g., "STUDENTS ON CAMPUS—MUST remain where you are, lock or barricade your doors, and stay away from windows until further notice; STUDENTS OFF CAMPUS—do NOT to come to campus until further notice; Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information"). A sense of *low self-efficacy* was created by offering ambiguous safety precautions for students (e.g., "Students on campus are urged to protect themselves immediately"). In addition, failing to include informative resources for further information and safety instructions (e.g., no emergency contact information for UTPA was provided; no mention of checking UTPA Email accounts or the UTPA homepage address) helped to enhance a sense of helplessness for the students in the face of danger.

Response efficacy. An individual's belief that the suggested actions will effectively avert the impending threat is known as *response efficacy* (Witte, Meyer, &

Martell, 2001). A sense of *high response efficacy* was created by providing specific acts for students to do to protect themselves physically from the shooter (i.e., "barricading doors", "staying away from windows", and "hiding under desks"). Such recommendations would effectively keep the shooter and the bullets from having access to harming the students on campus. In contrast, a sense of *low response efficacy* was created through a complete lack of recommended physical safety behaviors for students to avoid getting shot by the gunman. Such messages merely informed students that a threat was impending but did not provide safety precautions, creating a perception that university officials did not know how to protect the students.

Based on the specific feedback (language and understanding) described above, the email messages (in all three conditions) originally created by the researcher were altered and the CERC messages ultimately used in the quasi-experiment reflect the participants' differences in perceptions of threat and efficacy (See Appendixes B, C, and D).

Manipulation Check

To ensure that the threat and efficacy levels in each of the three conditions were manipulated correctly, a post-hoc manipulation check was conducted. A sample of 35 students from a communication course (not associated with the current study) were randomly assigned to one of the conditions: (1) high threat / high efficacy, (2) high threat / low efficacy, and (3) low threat / high efficacy. As in the actual study, students involved in the manipulation check were asked to complete the questionnaire. The first section assessed the students' attachment to the university (organizational identification, commitment, trust, and assimilation). The second half of the

questionnaire assessed the students' responses and perceptions to the hypothetical scenario (the same for all three conditions) and the four email messages. Specific to the post-hoc manipulation check, in order to determine perceived differences in threat and efficacy between the three conditions, students were asked to complete Witte's (1992) threat and efficacy measures (see Appendix F).

Procedure

The current study employed an experimental design aimed at assessing university students' responses to hypothetical CERC messages sent by university officials, which varied in perceived levels of threat and efficacy. After signing the consent form, participants were randomly assigned to one of three conditions: (1) high threat / high efficacy, (2) high threat / low efficacy, and (3) low threat / high efficacy. Assignment into the three conditions was achieved by randomly distributing one of the three versions of the email messages to students in various communication courses. Participants were then instructed to complete the multi- part questionnaire.

The first section of the survey asked participants to provide demographic information (e.g., age, gender, race, past risk experiences, and type of student; Mileti & Fitzpatrick, 1992; Savage, 1993). The second component of the questionnaire assessed the students' organizational attachment (identification, commitment, trust, and assimilation) with the university. Next, participants read the scenario (see Appendix A), which was the same for all conditions, followed by a series of four emails (one of three conditions) that had been sent from university officials (see Appendixes B, C, and D). Upon reviewing the email messages, participants completed the last set of outcome measures. Once finished, participants were provided with a

hand-out from the researcher which (a) assured the hypothetical nature of the scenario and email messages used in the study, (b) fully debriefed them on the purpose and intent of the experiment, and (c) provided contact information for various resources including campus safety, mental/physical healthcare, and an anonymous crisis hotline which may be helpful prior to, during, and/or post crisis (see Appendix E).

Design and Independent Variable

To test hypotheses one, two, and three a one-way analysis of variance (ANOVA) was computed where the independent variable was the threat/efficacy condition (Condition 1: high threat / high efficacy, Condition 2: high threat / low efficacy, and Condition 3: low threat / high efficacy) and the dependent variable was the outcome response (danger control process *or* fear control process). Post Hoc analyses were conducted using a Bonferroni test of multiple comparisons. Hypothesis four was tested using Pearson's correlation coefficient to determine the relationships between organizational identification, commitment, trust, and assimilation. To test hypotheses five and six an analysis of co-variance (ANCOVA) was computed with the threat/efficacy condition serving as the independent variable, the outcome response as the dependent variable, and organizational identification, commitment, trust, and assimilation as covariates.

Covariates – Organizational Attachment

Organizational identification. Organizational identification considers how the messages exchanged within an organization shape the identity of organizational members and simultaneously make an organization what it is (Cheney, 1983; Cheney & Tompkins, 1987; Scott, Corman & Cheney, 1998). Identification with the university

was measured using a 5-point Likert-type modified version of Cheney's (1983) organizational identification questionnaire (OIQ; *a* = .74; e.g., "I feel I have a lot in common with others at UTPA"). Items were specifically chosen that emphasized "oneness with" or "commonality with" so as to better separate identification with similar constructs such as commitment (see Sass & Canary, 1991) and to avoid some critiques of OIQ in general (see Miller, Allen, Casey, & Johnson, 2000; Scott & Stephens, 2005).

Organizational commitment. Commitment to the university was measured using an 8-item 5-point Likert-type modified version of Meyer and Allen's (1997) organizational affective commitment scale (*a* = .80; e.g., "I would be very happy to spend the rest of my college career at UTPA"). Affective commitment refers to the employee's emotional attachment to, identification with, and involvement in the organization (Meyer & Allen, 1991, 1997) and is therefore the most appropriate aspect of commitment for the current study.

Organizational trust. Organizational trust is the extent to which individuals are willing to be vulnerable to the actions of the organization, whose behavior and actions he/she cannot control (Tan & Lim, 2009). Using 5-point Likert-type statements, the five items assessing students' trust in the university were adapted from several previous scales (Gillespie, 2003; Mayer & Davis, 1999; Tan & Lim, 2009); for example "If I had my way, I would not let UTPA have any influence over issues that are important to me" (*a* = .78).

Organizational assimilation. Assimilation refers to the reciprocal process of individuals integrating into the culture of an organization (Jablin, 2001; Myers &

Oetzel, 2002). It was measured using a modified version of Myers and Oetzel's (2002) 20-item organizational assimilation index (OAI; a = .81). The scale assessed all six dimensions of assimilation, each through multiple items, using 5-point Likert-type statements such as "I feel like I know my professors pretty well" and "I volunteer for duties that benefit UTPA".

Dependent Variables

Ultimately, the current study aimed at determining message strategies that are most effective when university officials are communicating CERC messages to students. According to the EPPM (Witte, 1992; Witte, Meyer, & Martell, 2001) perceived threat motivates action. The stronger the threat is perceived to be, the greater the fear aroused and the stronger the motivation to act. Perceived efficacy determines the nature of this action—does the risk message motivate individuals to control the danger or control their fear? The messages' effectiveness was ultimately determined by the students' outcome response: (a) *danger control process* or (b) *fear control process*. The *danger control process* represented the desired response as it includes attitudes, intentions, and behaviors that are inline with those recommended in the CERC message. In other words, students were willing to follow the instructions provided by university officials (message acceptance). Conversely, the *fear control process* represented the undesired response of defensive avoidance, perceived manipulation, and message minimization. This outcome response indicated that students were not willing to follow the instructions provided by university officials (message rejection).

Danger-Control Outcomes

Attitudes. Participants rated their attitudes toward the instructions provided by university officials in the CERC messages (emails) using a 5-point Likert-type scale (e.g., "helpful", "advantageous", "useless"; *a* = .80; McMahan, Witte, & Meyer, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996).

Intentions. Students' behavioral intentions were assessed using three items on a 5-point scale; items included "I will follow instructions provided by university officials in risk/crisis email messages next time a crisis occurs on campus", "I plan to use recommended control measures to reduce the likelihood of getting shot with every crisis presented on campus", and "I will NOT follow instructions provided by university officials in risk/crisis email messages next time a crisis occurs on campus" (*a* = .81; McMahan, Witte, & Meyer, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996).

Behaviors. Students' existing behaviors in times of risk and crisis were assessed using a using a 5-point Likert-type scale with statements including "I currently follow directions provided by university officials during times of risk and crisis on campus", "I consistently follow directions provided by university officials during times of risk/crisis on campus", "I regularly follow directions provided by university officials during times of risk/crisis on campus" (*a* = .91; McMahan, Witte, & Meyer, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996).

Fear-Control Outcomes

Defensive avoidance. Defensive avoidance was determined through an examination of the degree to which participants wanted to avoid thinking further about

a shooter on the university campus. Participants responded using a using a 5-point Likert-type scale with statements including “When I first read about the shooter on campus, I spent additional time thinking about it” and “When I first read about the shooter on campus I “wanted to do something to keep myself safe from the violent student” (*a* = .50; McMahan, Witte, & Meyer, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996).

Message minimization. Message minimization, or denial of the importance of the terrorist attack CERC message, was determined by measuring the degree to which participants derogated or minimized the messages using a 5-point Likert-type scale. Specifically, the message minimization items assessed whether participants thought the messages were “overblown”, “exaggerated”, or “overstated” (*a* = .89; McMahan, Witte, & Meyer, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996)

Perceived manipulation. The perceived manipulation questions were designed to determine the degree of reactance participants had in response to the CERC message. Using a 5-point Likert-type scale, students were asked whether they felt the CERC message was “manipulative”, “misleading”, or “distorted” (*a* = .85; McMahan, Witte, & Meyer, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996).

CHAPTER FOUR:
RESULTS

The goal of the current study was to gain a better understanding of effective message construction in times of crisis on university campuses. The study was theoretically driven by the EPPM (Witte, 1992; Witte, Meyer, & Martell, 2001), which served as a tool for predicting message response based on the level of threat and efficacy induced. In addition, the current study incorporated students' organizational attachment to assess the influence of perceptions of the source on CERC message response. Although the proposed hypotheses were determined not to be significant, the study yielded a number of important findings and lessons learned for future research.

Findings from the post-hoc manipulation check, each of the proposed hypotheses, followed by an explanation of results determined when controlling for specific demographic variables are discussed below.

Post-hoc Manipulation Check

Although the perceived variations of threat and efficacy in each condition were created and verified by students at the southern university, the post-hoc manipulation check revealed no significant differences between the three conditions. As a result, making accurate claims regarding the effectiveness of the EPPM in crisis and emergency risk situations impossible.

Predicted Hypotheses

The first hypothesis predicted that students who received high threat/high efficacy CERC messages would be more likely to engage in danger control responses than students who received high threat/low efficacy or low threat/ high efficacy CERC

messages. To test this hypothesis a one-way analysis of variance was computed with the threat/efficacy condition (Condition 1: high threat / high efficacy; Condition 2: high threat / low efficacy; Condition 3: low threat / high efficacy) serving as the independent variable and danger control response serving as the dependent variable. This hypothesis was not supported, F (2, 252) = .554, p=.58. Students in Condition 1 (n = 88, $\bar{x}$ = 12.65, SD = 5.57) were not more likely to engage in danger control responses (message acceptance) than students in Condition 2 (n = 86, $\bar{x}$ = 13.49, SD = 5.24) or Condition 3 (n = 84, $\bar{x}$ = 13.08, SD = 4.67).

The second hypothesis predicted that students who received high threat/low efficacy CERC messages would be more likely to engage in fear control responses than students who received high threat/high efficacy or low threat CERC messages. To test this hypothesis a one-way analysis of variance was computed with the threat/efficacy condition (Condition 1: high threat / high efficacy; Condition 2: high threat / low efficacy; Condition 3: low threat / high efficacy) serving as the independent variable and fear control response serving as the dependent variable. This hypothesis was not supported, F (2, 252) = 1.21, p = .30. Students in Condition 2 (n = 83, $\bar{x}$ = 26.4, SD = 5.99) were not more likely to engage in fear control responses (message rejection) than students in Condition 1 (n = 86, $\bar{x}$ = 28.30, SD = 4.86) or Condition 3 (n = 84, $\bar{x}$ = 27.6, SD = 5.27).

The third hypothesis predicted that students who received low threat/high CERC messages would be less likely to engage in danger control responses and fear control responses than students who received high threat/high efficacy or high threat/low efficacy CERC messages. To test this hypothesis a one-way analysis of

variance was computed with the threat/efficacy condition (Condition 1: high threat / high efficacy; Condition 2: high threat / low efficacy; Condition 3: low threat / high efficacy) serving as the independent variable and danger and fear control responses serving as the dependent variables. This hypothesis was not supported, F (2, 251) = 1.67, p = .191. None of the tests of analysis of variance were significant at the .01 level.

The fourth hypothesis predicted that there would be a correlation among organizational identification, commitment, trust, and assimilation. Two-tailed Pearson correlations were used to examine relationships between the covariates. This hypothesis was statistically supported. There is a significant positive correlation among organizational identification, commitment, trust, and assimilation (collectively referred to as *organizational attachment* in the current study) at the .01 level (see Table 1).

Table 1
Correlation Among Organizational Attachment

		Organizational Commitment	Organizational Identification	Organizational Trust	Organizational Assimilation
Organizational Commitment	Pearson Correlation	1	.595**	.442**	.508**
	Sig. (2-tailed)		.000	.000	.000
	N	253	253	253	253
Organizational Identification	Pearson Correlation		1	.445**	.526**
	Sig. (2-tailed)			.000	.000
	N		253	253	253
Organizational Trust	Pearson Correlation			1	.404**
	Sig. (2-tailed)				.000
	N			253	253
Organizational Assimilation	Pearson Correlation				1
	Sig. (2-tailed)				
	N				253

The last two hypotheses (and sub-hypotheses) were examined using an analysis of covariance (ANCOVA) to control for students' organizational attachment in determining CERC message acceptance (danger process) or rejection (fear process).

The fifth hypothesis predicted that when controlling for organizational attachment the threat/efficacy condition would have less of an effect on the likelihood of student engagement in the danger control process. Although this hypothesis was statistically significant, F (5, 252) = 7.16, p = .000), there was not a significant difference found between the three conditions, thus, this hypothesis cannot be supported. The overall model (threat/efficacy condition and organizational attachment) accounted for 13% of the variance in the danger control process. More specifically, 12% of the variance came solely from organizational attachment.

Importantly, only sub-hypotheses *5c* and *5d* were significant. Specifically, when controlling for organizational trust, F (1, 252) = 3.92, p<.05, eta^2=.02, and organizational assimilation, F (1, 252) = 7.64, p<.001, eta^2=.03, there was a reduction in the effect of the threat/efficacy condition on the likelihood of engagement in the danger control process. Controlling for both organizational commitment and identification was found to be insignificant at the .05 level.

The sixth hypothesis predicted that when controlling for organizational attachment the threat/efficacy condition will have less of an effect on the likelihood of student engagement in the fear control process. This hypothesis was not supported F (5, 252) = 1.26, p = .28. Organizational attachment does not have an impact on the likelihood of student engagement in fear responses.

Control Variables

Sex and danger control process. When controlling for sex using a two-way analysis of variance, with sex as one independent variable and threat/efficacy condition as the second independent variable and danger control process as the

dependent variable, there was a main effect of sex F (1, 250) = 9.19, p<.003, which accounted for 4% of the variance.

Sex and fear control process. When controlling for sex using a two-way analysis of variance, with sex as one independent variable and threat/efficacy condition as the second independent variable and fear control process as the dependent variable, there was a main effect of sex F (1, 250) = 9.07, p<.003, which accounted for 4% of the variance.

Although a main effect was found between sex and danger control process and fear control process, they account for a minimum variance and therefore interpreting these control variables is lacking in meaning (Levine & Hullett, 2002).

Type of student (native) and organizational attachment. When controlling for students who have remained at the university throughout their higher education experience (native students) using a two-way analysis of variance, with type of student (native) as one independent variable and threat/efficacy condition as the second independent variable and organizational attachment as the dependent variable, only type of student (native) was statistically significant in predicting organizational attachment F (1, 226) = 3.60, p<.05, which accounted for 2% of the variance.

Type of student (first generation) and organizational attachment. When controlling for students who are the first in their family to attend college (first generation students) using a two-way analysis of variance, with type of student (first generation) as one independent variable and threat/efficacy condition as the second independent variable and organizational attachment as the dependent variable, no significance was found.

Type of student (transfer) and organizational attachment. When controlling for students who have attended other universities and then transferred to the current university (transfer students) using a two-way analysis of variance, with type of student (transfer) as one independent variable and threat/efficacy condition as the second independent variable and organizational attachment as the dependent variable, there was a main effect of type of student (transfer) F (1, 227) = 5.19, p=.02, which accounted for 2% of the variance.

Although the type of student, both native and transfer, variables were statistically significant, suggesting that they impact students' organizational attachment, the effect size (eta^2=.02) makes the findings irrelevant (Levine & Hullett, 2002).

Receipt of previous email risk messages and danger control process. When controlling for the receipt of previous email CERC messages in times of crisis using a two-way analysis of variance, with previous email messages as one independent variable and threat/efficacy condition as the second independent variable and danger control process as the dependent variable, no significance was found.

CHAPTER FIVE:
DISCUSSION

University campuses across the United States are not immune to the devastating impact of natural and human-made crises and emergency risks. Although each campus has unique geographic and demographic characteristics, vulnerability to risks and crises is a common thread. The purpose of the current study was two-fold. First, from a broad communication perspective, the study aimed to explore how perceptions of the message source impact the acceptance or rejection of the CERC message. Second, from a more specific university – crisis and emergency risk context, the study examined how the components of the CERC messages themselves effect student response (message acceptance or rejection) in times of crisis.

Hypotheses one, two, and three were driven by Witte's (1992) EPPM and predicted that students' responses to the CERC messages would be determined by the level of perceived threat and efficacy in the message. These three hypotheses were not supported. There are two reasons why the perceived level of threat and efficacy in the CERC messages did not influence the students' responses.

First, the EPPM has been determined to be an effective theoretical tool for altering attitudes, behaviors, and intentions in various health and safety campaigns (e.g., McMahan, Witte, & Meyer, 1998; Murray-Johnson, et al., 2004; Rimal, 2001; Rimal & Real, 2003; Smith, et al., 2008; Witte, 1995, 1996). The goal of the EPPM is to induce cognitive dissonance in the receiver causing a shift from unhealthy or unsafe attitudes and behaviors to those that will keep the individual out of harms way (i.e., rape prevention, firearm injury and death prevention, breast self-exams; Egbert & Parrott, 2001; Morrison, 2005; Roberto, Meyer, Johnson, & Atkin, 2000; Stephenson

& Witte, 1998). In order to accomplish this goal, the messages sent in health and safety campaigns must necessarily be complex in nature. In other words, to induce a sense of high severity and susceptibility *and* a high sense of self and response efficacy requires the messages themselves to be nuanced and carefully crafted (Witte, 1992).

The goal of CERC messages sent in times of crisis is not to alter existing attitudes and behaviors but to have the receiver simply follow instructions for safety (Emergency Planning: National Response Plan, 2005; Reynolds, 2006). Inherent to crises is a sense of urgency and a heightened state of fear that make processing complex messages difficult, if not impossible (Sellnow, Seeger, & Ulmer, 2002). CERC messages must be simple and short in order to be effective in keeping individuals from physical harm (Sellnow & Ulmer, 1995). As a result, because the CERC messages (in all three conditions) were constructed by varying the levels of perceived threat and efficacy, they were ultimately too complex to be effective in persuading students to follow instructions.

The second reason that support was not found for the first three hypotheses is that in times of crisis, individuals will look for a leader to emerge who will take charge and give instructions for others to follow (Seeger, Sellnow, & Ulmer, 1998). During a crisis, emotions are high and therefore an individual's ability to critically think is decreased (Weick, 1993). Thus, relying on the receiver to accurately perceive the message in times of crisis will be futile. However, a message source that is perceived to be credible and trustworthy will have the power to get receivers of the message to follow instructions. Ultimately, in times of crisis, the current study indicates that the perception of the source is crucial in the effectiveness of CERC messages.

The fourth hypothesis predicted a correlation between the four components within organizational attachment (identification, commitment, trust, and assimilation). This hypothesis was supported, which is in line with previous organizational research that has found strong ties between these variables (Allen & Brady, 1997; Barker & Tompkins, 1994; Cheney & Christensen, 2001; Cox & Todd, 2000; Ducharme & Martin, 2000; Lamsa & Pucetaite, 2006; Myers & Oetzel, 2003; Postmes, Tanis, & De Wit, 2001; van Knippenberg & van Schie, 2000). This finding is important as it furthers the argument that universities are merely a type of organization and like any organization, its members must feel a connection to the organization in order for it to be successful (Cheney & Christensen, 2001; Lamsa & Pucetaite, 2006; Postmes, Tanis, & De Wit, 2001).

The fifth hypothesis claimed that accounting for students' organizational attachment would be more indicative of their engagement in the danger control process (message acceptance) than accounting for the perceived threat and efficacy in the message alone. This hypothesis was found to be statistically significant. In particular, organizational trust and assimilation were found to significantly predict engagement in the danger control process. This finding indicates that in times of crisis, students' perception (organizational attachment) of the source is critical in determining students' willingness to follow directions.

Finally, hypothesis six predicted that by controlling for students' organizational attachment, the threat/efficacy condition would have less of an effect on student engagement in the fear control process (message rejection) than by accounting for the perceived threat and efficacy of the message alone. This hypothesis

was not supported. The experimental design of the current study explains this lack of support. The manner in which the crisis scenario and email messages were presented made the hypothetical nature impossible to ignore. Inducing a level of fear necessary to truly determine the influence of organizational attachment would require a highly controlled environment and a CERC message presentation manner that is highly realistic. Given the strict ethical codes of the IRB, creating a true sense of fear in research participants is almost impossible.

Implications for University Administrators

Ultimately, the findings from the current study indicate that more research is needed to truly understand the most effective means of creating and presenting CERC messages to university students. Specifically, two important implications for university officials have begun to emerge and warrant future research. First, when a crisis occurs students' safety will largely be dependent upon the university. It is the organization's responsibility to provide timely and accurate information and instructions to its members. The goal for university administrators is for students to follow instructions that will keep them safe. This safety not only ensures that lives are not lost but also helps to ensure the financial stability of the organization (Shinn, 2007; Walker, 2007). It is a given that during a crisis, students' fear and anxiety will be high (Reynolds & Seeger, 2005) and therefore effective CERC messages should be constructed as simple and short sets of instructions. This simplicity will help in preventing the dismissal of vital information and reduce overall confusion inherent in crises (Seeger, 2006; Weick, 1993).

Second, although students are likely dependent upon university officials to send safety instructions during a crisis, the effectiveness of those instructions is perhaps dependent upon students' perceptions of the university. In other words, administrators should be focused on the pre-existing relationship between the university and its students. Organizational attachment is often referred to as "school spirit" and is a desired characteristic of many larger institutions of higher education because of the financial revenue generated by activities associated with a sense of loyalty and pride (Crosby, Kim, & Hathcote, 2006; Shulman & Bowen, 2001; Sperber, 2000). For example, universities with strong athletic programs, Greek systems, unique traditions, and high participation in clubs are found to have higher levels of student satisfaction, commitment to completing their education, greater likelihood of retention, and stronger recommendations for future students (Gibson, Willming, & Holdnak, 2002; Helgesen, 2006; Kotler & Fox, 1995; Seeman & O'Hara, 2006; Zeithaml, 2000). Although many universities already put an extensive amount of time and energy into increasing university attachment, many smaller schools (i.e., private universities, community colleges, and liberal arts colleges) do not (Reifman, 2004; Shulman & Bowen, 2001). However, what the current study indicates that creating a strong sense of "school spirit" is much more valuable than merely serving as a vehicle for revenue generation. It is this connection, or organizational attachment, to the university that establishes students' perceptions of the organization.

Due to the inherent sense of urgency in a crisis (Seeger, 2006), students' safety is dependent upon their receipt of simple instructions and their willingness to follow those instructions. As this study has shown, how the source of the message influences

the response outcome. Therefore, if a student has high organizational attachment (i.e., "school spirit") *before* a crisis occurs, then perhaps he or she will be more likely to follow safety instructions provided by university officials when the crisis does occur. This is inline with previous CERC communication research claiming that establishment of positive sender – receiver relationships, a sense of trust in the message source, and perceptions of source credibility before an event are necessary in successfully managing the crisis (Coombs, 1999; Ulmer, 2001; Seeger, 2006). Thus, the lesson for university officials is to put forth effort to increase students' organizational attachment *now* so that when faced with a crisis, the university can rely on its reputation and credibility to effectively help keep its students safe.

Limitations

Although the current study yielded some important findings and implications for university officials, there were a number of limitations that must be acknowledged as well how such limitations provide important guidance for future research.

One over-arching limitation in the current study was the lack of a true manipulation check prior to collecting data. Although the EPPM has been shown to be an effective tool for predicting responses to fear appeals, it has only been utilized in the creation of health and safety campaigns (e.g., Rimal, 2001; Rimal & Real, 2003; Witte, 1996). Empirical research has not employed it as a tool for predicting responses to CERC messages in times of crisis. The fear appeals used in the current were based on the email messages sent by university officials at Virginia Tech during the shootings in 2007. This study employed a verification strategy for ensuring message distinction (between the three conditions) by asking students (not participating in the

study) to provide specific feedback and suggestions for enhancement of threat and efficacy in the email messages. Although students from the southern university verified differences between the three conditions, the post-hoc manipulation check revealed that there were not significant differences in the perceived threat and efficacy in the CERC messages. As a result, it is not possible to make accurate claims regarding any of the hypotheses. Ultimately, the current study can only claim that more research is needed.

Another limitation involves the dissemination of the CERC messages and questionnaires. The current study utilized paper and pencil surveys that were distributed during class by either the researcher or instructor of record. Because it was paper and pencil, the survey (including the email messages) was handed out to students by different individuals who may or may not have prefaced the questionnaire with information or opinions regarding campus safety. Thus, students' reactions to the CERC messages may have been influenced by perceptions of the researcher (an unknown person) or perceptions of the instructor of record (a known person with an existing relationship with the students).

Additionally, the fear appeals in this study were created as email messages sent by university officials. Email is a likely channel for CERC messages in times of crisis on a university campus (Day & Shalash, 2008; Kapsidelis, 2008; National Summit, 2004; Reed & Plummer, 2007; Rey, 2008; Walker, 2007). However, the CERC messages (for all three conditions) in the current study were presented to the students on paper rather than on a computer (as they would be in real life). Although the email messages were copied from an actual email screen (and included all of the appropriate

components), the fact that they appeared on paper made any sense of reality null. As a result, students' perceptions of the CERC messages may have been framed by the glaringly obvious hypothetical nature of the study as opposed to the true threat and efficacy that may be perceived in a more realistic presentation.

Another limitation of the current study is the fact that only one university was sampled. Although risks and crises are a reality for any place of higher education, the student composition, level of degree plans offered, and "school spirit" are unique to each university. Such differences warrant further investigation to provide further insight into message source perceptions. Along these same lines, the current population sampled was predominately Hispanic, a group that is largely under represented in empirical communication research (Stern, 2009). The purpose of this study was not to examine the role of student culture on CERC message perceptions, however cultural differences likely influence message perceptions. Furthermore, due to the geographic location of the southern university, students are perhaps accustomed to various crises in the community (i.e., hurricanes, swine flu) which may have influenced their perceptions of the severity of the hypothetical situation and CERC messages.

Directions for Future Research

The current study provides researchers with numerous platforms for future research. Future studies, set up as controlled experiments, would benefit from presenting the scenario, CERC messages, and questionnaire on computers. Not only would this remove any influence the researcher or instructor may have on how the CERC messages are perceived but it would also create a more realistic condition for

how such messages would be received in the event of an actual crisis. In addition, multiple universities need to be assessed to gain better understanding of how cultural composition, size of student population, availability of financial resources, and other demographic variables influence perceptions of CERC messages.

Future research should also address the implications of too much school spirit on perceptions of CERC messages. Are students who are extremely attached to the university less likely to think for themselves and blindly trust administrators? And if so, how would this negatively affect student safety in times of crisis?

In today's society, it is a given that crises will occur on university campuses. When this happens, it is imperative that administrators communicate information and instructions for safety to their students. An effective means for creating such messages has yet to be determined, but clearly warrants further attention by communication scholars.

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Appendix A

UNIVERSITY RISK SCENARIO
(Same for all 3 conditions)

Please read the following hypothetical scenario.

It is 8:00am on a Monday morning in July. As an undergraduate student at the University of Texas – Pan American (UTPA), you are slowing forcing yourself out of bed to get dressed and ready for your 10:00am class. Like most mornings at approximately 9:30am, you stop to check your UTPA email account before leaving for campus…just in case.

Keeping the above scenario in mind please read the following four <u>hypothetical</u> emails sent by UTPA officials regarding a crisis on campus and then complete the remaining questionnaire items.

Appendix B

CONDITION 1:

HIGH THREAT / HIGH EFFICACY

Message No. 1:

Date: July 7, 2009 09:26:24 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **DEADLY SHOOTING AT BRONC VILLAGE APPARTMENTS- DO NOT COME TO CAMPUS!!**

DEADLY SHOOTING AT BRONC VILLAGE APPARTMENTS –

DO NOT COME TO CAMPUS!!

At a little past 7:00 this morning two students were fatally shot in Bronc Village.

At this time the terrorist remains at large! Police are on the scene and are actively pursuing the assassin.

All students are urged to use extreme caution as the terrorist is armed and dangerous!! Students are asked to immediately contact UTPA Police if you observe anything suspicious or if you have any information on the case (Dial 9-1-1).

University officials will continue to keep you informed on the status of the shooter as well as provide you with further instructions for safety.

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Message No. 2:

Date: July 7, 2009 09:50:07 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU>
From: Unirel@utpa.edu

Reply-To: Unirel@utpa.edu
Subject: **PLEASE STAY PUT!!**

WARNING: ALL STUDENTS PLEASE STAY PUT!!

A gunman remains loose on campus!

Students who are on campus are urged to protect themselves by staying in buildings, hiding under desks, barricading doors, and away from all windows until further notice!

University officials will continue to keep you informed on the status of the shooter as well as provide you with further instructions for safety.

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Message No. 3:

Date: July 7, 2009 10:16:40 -0400

To: Multiple recipients LISTSERV@LISTSERV.UTPA.EDU
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **ALL CLASSES CANCELED—STAY WHERE YOU ARE!!**

UTPA CAMPUS CLOSED – ALL CLASSES CANCELED

ARMED TERRORIST AT LARGE

Armed suspect(s) remain at large and UTPA officials have canceled all classes indefinitely!

- **STUDENTS ON CAMPUS—MUST remain where you are, lock or barricade your doors, and stay away from windows until further notice.**
- **STUDENTS OFF CAMPUS—do NOT to come to campus until further notice.**

University officials will continue to keep you informed on the status of the shooter as well as provide you with further instructions for safety.

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Message No. 4:

Date: July 7, 2009 10:52:45 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU>
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **MORE SHOOTINGS REPORTED; POLICE HAVE ONE GUNMAN IN CUSTODY!!**

SHOOTINGS CONTINUE – MULTIPLE DEATHS CONFIRMED!!

The UTPA campus is currently on lockdown. All entrances to campus are closed until further notice from UTPA officials.

In addition to the 2 victims shot and killed in Bronc Village this morning, UTPA Police are now confirming that there have been multiple shootings, MANY FATAL, in the Academic Services Building.

Police and EMS are on the scene and are working with city and state agencies to ensure the safety of the UTPA community.

Police currently have one terrorist in custody. As UTPA is committed to actively following routine police risk/crisis procedures, they continue to search for a second shooter.

- **STUDENTS ON CAMPUS—are REQUIRED to stay inside until further notice!**

University officials will continue to keep you informed on the status of the shooter as well as provide you with further instructions for safety.

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Appendix C

CONDITION 2:

HIGH THREAT / LOW EFFICACY

Message No. 1:

Date: July 7, 2009 09:26:24 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **DEADLY SHOOTING IN CAMPUS HOUSING**

DEADLY SHOOTING in CAMPUS HOUSING!!

Early this morning a number of individuals were fatally shot in campus housing.

At this time the terrorist remains at large! Police are on the scene and are actively pursuing the assassin.

All students are urged to use extreme caution as the terrorist is armed and dangerous!!

Message No. 2:

Date: July 7, 2009 09:50:07 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU>
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **WARNING!**

WARNING: GUNMAN REMAINS AT LARGE!

Students on campus are urged to protect themselves immediately!

Two students confirmed dead! The shooter's whereabouts are currently unknown and all students on campus are urged to use extreme caution!!

UTPA Police are on the scene and searching for the terrorist.

Message No. 3:

Date: July 7, 2009 10:16:40 -0400

To: Multiple recipients LISTSERV@LISTSERV.UTPA.EDU
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **ALL CLASSES CANCELED**

UTPA CAMPUS CLOSED – ALL CLASSES CANCELED

ARMED TERRORIST(s) AT LARGE!!

Armed suspect(s) remains at large and UTPA officials have canceled all classes indefinitely!

Message No. 4:

Date: July 7, 2009 10:52:45 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU>
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **MORE SHOOTINGS REPORTED; POLICE HAVE ONE GUNMAN IN CUSTODY!!**

SHOOTINGS CONTINUE – MULTIPLE DEATHS CONFIRMED!!

The UTPA campus is currently on lockdown. All entrances to campus are closed until further notice from UTPA officials.

In addition to the victims shot and killed in campus housing this morning, UTPA Police are now confirming that there have been more shootings, MANY FATAL, in the Academic Services Building.

Police currently have one terrorist in custody and continue to search for a second assassin.

Appendix D

CONDITION 3:

LOW THREAT / HIGH EFFICACY

Message No. 1:

Date: July 7, 2009 09:26:24 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **Shooting Incident at Bronc Village Apartments**

At a little past 7:00 this morning two students were shot in Bronc Village.

Police are on the scene and are actively pursuing the offender.

All students are asked to use caution and to immediately contact UTPA Police if you observe anything suspicious or if you have any information on the case (Dial 9-1-1).

University officials will continue to keep you informed on the status of the offender as well as provide you with further instructions for safety.

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Message No. 2:

Date: July 7, 2009 09:50:07 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU>
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **Students are asked to remain indoors**

ALL STUDENTS PLEASE REMAIN INDOORS

UTPA Police confirm that the offender is NOT yet in custody.

Students currently on UTPA campus should protect yourselves by staying in buildings, hiding under desks, barricading doors, and away from all windows until further notice.

University officials will continue to keep you informed on the status of the offender as well as provide you with further instructions for safety.

Students are asked to immediately contact UTPA Police if you observe anything suspicious or if you have any information on the case (Dial 9-1-1).

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Message No. 3:

Date: July 7, 2009 10:16:40 -0400

To: Multiple recipients LISTSERV@LISTSERV.UTPA.EDU
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **Classes Canceled**

UTPA CAMPUS TEMPORARILY CLOSED

Suspect(s) remains at large and UTPA officials have canceled classes for the remainder of the day.

- **STUDENTS ON CAMPUS—please stay where you are, lock or barricade your doors, and stay away from windows until further notice.**
- **STUDENTS OFF CAMPUS—please do NOT to come to campus until further notice.**

University officials will continue to keep you informed on the status of the offender as well as provide you with further instructions for safety.

Students are asked to immediately contact UTPA Police if you observe anything suspicious or if you have any information on the case (Dial 9-1-1).

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Message No. 4:

Date: July 7, 2009 10:52:45 -0400

To: Multiple recipients <LISTSERV@LISTSERV.UTPA.EDU>
From: Unirel@utpa.edu
Reply-To: Unirel@utpa.edu
Subject: **Police have one suspect in custody**

ALL ENTRANCES TO THE UTPA CAMPUS ARE BLOCKED UNTIL FURTHER NOTICE FROM UTPA OFFICIALS.

Police have stopped traffic on University Drive.

Please be prepared for detours.

Police currently have the suspect in custody. As UTPA is committed to actively following routine police risk/crisis procedures, Police continue to search for other possible suspects.

In addition to the 2 students harmed in Bronc Village this morning, UTPA Police are now confirming that there have been shots reported in the Academic Services Building.

Police and EMS remain on campus and are actively working with city and state agencies to ensure the safety of the UTPA community.

- **STUDENTS IN UNIVERSITY BUILDINGS—remain inside until further notice from UTPA officials.**

University officers are committed to keeping you informed on the status of other possible suspects as well as providing you with further instructions for safety.

Please continue to check your UTPA EMAIL ACCOUNT and the UTPA homepage (www.utpa.edu) for the most up to date information.

Appendix E

Debriefing Statement

****ALL INFORMATION CONTAINED IN THE SURVEY AND EMAIL MESSAGES WAS FICTIONAL****

Purpose of the Study:
The purpose of this research study is to determine the effectiveness of messages sent by university officials to students during times of crisis. Additionally, the study aims to illustrate the connection between how students feel about the university and how they respond to emergency emails.
As a participant in this study you got one of three versions of the **hypothetical** emails from UTPA officials. The only difference in the three versions was the severity of the **fictional** messages. All participants received the same initial scenario.

Benefit of the Study:
By participating in this research study you are giving a voice to all college students who are dependent upon university officials to provide safety information in times of crisis. The more effective the risk messages are the more likely you will be to remain out of harms way.

Helpful Contact Information:
Should you wish to discuss the emotional and/or logistical aspects of crises that may occur at UTPA, the following contact information is provided:

UTPA Dept. of Environmental Health & Safety	(956) 381-3690
UTPA Medical/Fire/Other Emergencies	911 or HELP (4357)
UTPA Campus Police	(956) 381-2625
UTPA Counseling Services	(956) 381-2574
Edinburg Regional Medical Center	(956) 388-6000

For questions, comments, and concerns regarding the current study please feel free to contact Cory Cunningham (Principal Investigator) at cbc@ou.edu.

Many thanks for your participation!!

Appendix F

Organizational Affective Commitment Scale
(Meyer & Allen, 1997)
5-point Likert-type scale

1. I would be very happy to spend the rest of my college experience at the University of Texas – Pan American (UTPA).
2. I enjoy discussing UTPA with people not affiliated with it.
3. I really feel as if UTPA's problems are my own.
4. I think that I could easily become as attached to another university as I am to UTPA.
5. I do not feel like "part of the family" at UTPA. ®
6. I do not feel "emotionally attached" to UTPA. ®
7. UTPA has a great deal of personal meaning for me.
8. I do not feel a strong sense of belonging to UTPA. ®

Organizational Identification Questionnaire (OIQ)
(Cheney, 1982)
5-point Likert-type scale

1. I feel I have a lot in common with others at UTPA.
2. I find it easy to identify with UTPA.
3. I find that my values and the values of those at UTPA are very similar
4. I view UTPA's problems as my problems

Organizational Trust Scale
(Gillespie, 2003; Mayer & Davis, 1999)
5-point Likert-type scale

1. If I had my way, I would not let UTPA have any influence over issues that are important to me.
2. I would be willing to let UTPA have complete control over the remainder of my educational career.
3. I would be comfortable allowing UTPA to make decisions that directly impact me, even my absence.
4. I am willing to rely on UTPA to represent my work accurately to others.
5. I am willing to depend on UTPA to back me up in difficult situations.

Organizational Assimilation Index (OAI)
(Myers & Oetzel, 2003)
5-point Likert-type scale

Familiarity with Others

1. I feel like I know my professors pretty well.
2. My professors sometimes discuss university issues with me.

3. My professors and I talk together often.

Acculturation

1. I understand the norms at UTPA.
2. I think I have a good idea about how UTPA operates.
3. I know the values of UTPA

Recognition

1. My professors recognize when I do a good job.
2. My professors listen to my ideas.
3. I think my professors value my opinion.
4. I think my professors recognize my value to UTPA.

Involvement

1. I talk to other UTPA students about how much I like it here.
2. I volunteer for duties that benefit UTPA.
3. I talk about how much I enjoy my major.
4. I feel involved in UTPA.

Job Competency

1. I often show other students how to perform our school work.
2. I think I'm an expert in my major area of study.
3. I have figured out efficient ways to do my school work.
4. I am capable of doing school work in other areas of study, if I am needed.

Role Negotiation

1. I have offered suggestions for how to improve various aspects of UTPA.
2. I have helped to change the duties/expectations of students at UTPA.

Dependent Variables
(McMahan, Witte, & Meyer, 1998; Witte, McKeon, Cameron, & Berkowitz, 1996)
5-point Likert-type scale

Attitudes.

1. The instructions provided by UTPA officials regarding the shooter on campus would be helpful.
2. Following the instructions provided by UTPA officials regarding the shooter on campus would be advantageous.
3. Following the instructions provided by UTPA officials regarding the shooter on campus would be useless.

Intentions.

1. I will follow instructions provided by UTPA officials in risk/crisis email messages next time a crisis occurs on campus.
2. I plan to use recommended control measures to reduce the likelihood of harm for every crisis occurring on campus.
3. I will NOT follow instructions provided by UTPA officials in risk/crisis email messages next time a crisis occurs on campus.

Behaviors.

1. I currently follow directions provided by UTPA officials during times of risk/crisis on campus
2. I consistently follow directions provided by UTPA officials during times of risk/crisis on campus
3. I regularly follow directions provided by UTPA officials during times of risk/crisis on campus

Defensive avoidance.

1. When I first read about the shooter on campus, I spent additional time thinking about it.
2. When I first read about the shooter on campus I wanted to do something to keep myself safe from the violent offender.

Message minimization.

1. I thought the email messages from UTPA officials were overblown.
2. I thought the email messages from UTPA officials were exaggerated.
3. I thought the email messages from UTPA officials were overstated.

Perceived manipulation.

1. I thought the email messages from UTPA officials were manipulative.
2. I thought the email messages from UTPA officials were misleading.
3. I thought the email messages from UTPA officials were distorted.

Scales – Post-hoc Manipulation Check

Perceived Threat Scale
Witte, Cameron, McKeon, & Berkowitz, 1996; Witte, Meyer, & Martell, 2001
5-point Likert-type scale

Threat—Susceptibility

1. It is possible that I *will get shot* if I do not follow the instructions in the risk message emails from UTPA administrators.
2. I am at risk of *getting shot* if I do not follow the instructions in the risk message emails from UTPA administrators.
3. I am susceptible to experiencing *getting shot* if I do not follow the instructions in the risk message emails from UTPA administrators.

Threat—Severity

1. *Getting shot by a terrorist* on UTPA campus is a severe threat.
2. *Getting shot by a terrorist* on UTPA campus is harmful.
3. *Getting shot by a terrorist* on UTPA campus is a serious threat.

Perceived Efficacy Scale
Witte, Cameron, McKeon, & Berkowitz, 1996; Witte, Meyer, & Martell, 2001
5-point Likert-type scale

Efficacy—Response

1. *Following the instructions in the risk message emails* from UTPA administrators is effective in stopping *getting shot by a terrorist*.
2. *Following the instructions in the risk message emails* from UTPA administrators works in deterring *getting shot by a terrorist*
3. *Following the instructions in the risk message emails* from UTPA administrators prevents *getting shot by a terrorist*.

Efficacy—Self

1. I am able to *follow the instructions in the risk message emails* from UTPA administrators to prevent *getting shot by a terrorist.*
2. I can *follow the instructions in the risk message emails* from UTPA administrators to prevent *getting shot by a terrorist*