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Knowledge, Involvement and Emergency Preparedness

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by

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DEDICATION

I want to extend my deepest thanks to my family for all their patience while I worked on this study. Without their constant support and willingness to help, my journey would have been much, much harder. To my little one for always bringing me smiles and reminding me why I chose the path that I have. To my oldest for showing me that hard work does pay off. To my husband for keeping up all the things I slacked on.

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ABSTRACT

This research formed a descriptive frame of the current levels of emergency preparedness and applied Hallahan's Issues Processes Model to examine the relationship between knowledge, involvement, and emergency preparedness among the participants. The variables were measured in the context of self-perception. The research method involved a survey of students who are just becoming responsible for their personal emergency preparedness. The results suggest that students lack overall emergency preparedness measures and show that self-perceived knowledge is positively related to self-perceived emergency preparedness. Yet, higher self-perceived knowledge is negatively related to actual emergency preparedness actions. Thus, the more knowledgeable the participants believed themselves to be the less likely they were to have an active household emergency plan. The results did not support involvement as a predictor of personal emergency preparedness. The findings highlight a serious deficiency among the population sample. Knowledge of personal emergency preparedness and related motivators can improve overall preparedness on local, state, and federal levels. Little is known about the relationship between knowledge and personal emergency preparedness. This paper presents findings that may assist public relations professionals in creating messages that account for the lack of preparedness and the contrary relationship between perceived knowledge and actual personal emergency preparedness.

CHAPTER 1: INTRODUCTION

"The work of the professional man… always bears some direct relation to well-defined fundamental principles. These principles may result from the experience of humanity, they may come from a priori reasoning, or they may rest upon combinations of these two. But no profession can be regarded as stable until it has such a body of well established principles as will guide a member of the profession in determining the actual value of his work, will teach him that his calling is honorable to himself and valuable to the community and will determine what a line of action may elevate the professional and instill into him the lesson that he must do nothing to bring reproach upon his chosen profession. In a word, they give him ideals to struggle for, and to struggle for an ideal is the only method of gaining true and lasting satisfaction…"

"Recognizing….that the success…rests upon harmony with nature's laws, and that she is merciless in showing his weakness, that this is the most accurate standard of which we know, we can draw some deductions from these principles and see what effect such a standard has upon the profession as a whole and upon the mind and character of the individuals."

- National Engineer [1903]

Background of Study

The aftermath of several disasters across the United States demonstrates the need among citizens to be better informed in emergency planning and preparation techniques. **E**mergency management media campaigns have amped up efforts to reach U.S. audiences, however, research has shown that segments of the population are still not preparing. More than 100,000 residents did not evacuate New Orleans prior to Hurricane Katrina's landfall (Gabe, Faulk, and McCarty, 2005). In 2011 the Centers for Disease Control and Prevention (2012) studied members of two metropolitan cities and found that 25% and 20% reported they were "not prepared at all". This demonstrates that a large

part of the population is completely unprepared for emergencies. The barriers to preparedness have been the topic of several government-sponsored studies (Federal Emergency Management Agency, 2003; 2007; 2009). However, the efficacy of the studies remains relatively unclear.

Federal, state, and local emergency organizations have responded to these recent events by increasing campaigns to promote preparedness. FEMA recently kicked off their media campaign entitled "Today is the Day Before" (Federal Emergency Management Agency, 2013). This campaign plays off the premise that individuals will never know when a disaster will strike or how large it will be. The ads attempt to tap into fear, but provide little actionable knowledge. FEMA has undertaken several large research studies focused on barriers to personal preparedness, yet the outcome of that research is not evident in these public service announcements. Similarly, New York City's Office of Emergency Management Ready New York campaign created several media pieces that focused on responsibility for family members. Neither campaign is grounded in research of the intended audience. Hence, the disconnection between communication and emergency management rears its ugly head.

These two disciplines of communication and emergency management are undeniably integrated yet the relationship hides in the shadows rather than becoming a centerpiece for media creation. Broadly broken down into two lines of thought (rhetoric and social science), "Communication studies examine the symbolic transmission of meaning in a variety of contexts" (Richardson & Byers, 2007, p.2). In the realm of emergency management is the unmistakable need for examination of "human decisions, governmental policies, and economic development models" (Richardson & Byers, 2007,

p.4). The examination of specific publics communication needs is required to successfully employ tactics to create personal preparedness.

Communication inadequacy is the "most consistent observation about disasters" (Auf der Heide, 1989, p. 80). As evidenced by the failure of current media campaigns there are two very specific areas that should influence media creation: the current state of the audience and the influencers of that audience.

Determining the influencers of emergency preparedness behavior is central to creating campaigns that will impact personal preparedness within the U.S. population. Through knowledge of the intended audience emergency management organizations will be better equipped to design media campaigns targeting specific population segments, creating a culture of personal preparedness. This research attempts to fill two voids in emergency management communication. The first mission is to measure the personal preparedness levels of the population. Next, the study addresses the problem of emergency management communication by measuring the relationship between knowledge and involvement with emergency preparedness. We first discuss the current state of emergency management.

Statement of the Problem

Emergency managers acknowledge that information flow is imperative to the success of any program. However, lack of knowledge of the receiver's access, interpretation, awareness, knowledge, and involvement (among others) indicates a failure of the system. A partnership between the disciplines of communication and emergency management is mutually beneficial as theories are cross-communicated and applied to

strengthening the knowledge base and the level of competitive intelligence available to create actionable plans.

In an attempt to bring professionalism and consensus to the emergency management community, FEMA's Emergency Management Institute Superintendent, Dr. Cortez Lawrence, convened a working group in 2007 (Federal Emergency Management Agency, 2007, p.4). The working group developed eight principles as a guide for the doctrine of emergency management, known as Principles of Emergency Management (PEM). Prior to this development the overarching model of emergency management was found in the Comprehensive Emergency Management Model but never fully realized in practice. Emergency management practitioners and academics outlined the principles of emergency management.

Individual and comprehensive vulnerability emerges as the core of emergency management. The vision of emergency management is identified as "seek[ing] to promote safer, less vulnerable communities with the capacity to cope with emergencies and disasters" (Federal Emergency Management Agency, 2007, p.4). This was led by David McCentire, whose research highlights lack of attention to vulnerabilities; the largest of which is the lack of attention of the publics themselves. McCentire (2004) recommends improving emergency management by "…think[ing] critically about theoretical concepts and paradigms… ensur[ing] that our perspectives are realistic so that our policy guidelines will be achievable…[and]…consider[ing] the impressive utility of the concept of vulnerability" (p.11). The new vision of emergency management incorporates the concept that knowledge of vulnerabilities will guide practitioners in

creating valid, actionable plans catered not only to the specific geographic area but with the inclusion of individual and organizational variables.

Vulnerabilities lie in the lack of preparedness of populations. Research of this concept allows for more than event-driven planning; it opens the minds to objective anticipation. Lack of research has led to many faulty assumptions. One such myth is crisis reactions among civilian disaster victims – the belief has been that victims "are prone to panic… [revert to savagery]… leading to a breakdown of social order and criminal activity" while the research shows victim's actually focus on "loved ones and neighbors and become … creative in dealing with the problems generated by disasters" (Canton, 2007, p.53). Properly assessing the population provides a more focused approach rather than casting a broad net and hoping for the best. Understanding the behavior of publics and other stakeholders is essential to developing actionable plans to decrease vulnerability while effectively distributing resources.

The mission of emergency management is to" protect communities by coordinating and integrating all activities necessary to build, sustain, and improve the capability to mitigate against, prepare for, respond to, and recover from threatened or actual natural disasters, acts of terrorism, or other man-made disasters" (Federal Emergency Management Agency, 2007, p.4). Emergency management is in its infancy as a discipline; hence defining the profession has been a major focus of those within the field.

The eight emergency management principles are outlined below. Each of the eight principles highlights the inclusion of the population as an essential ingredient to successful practices.

1. Comprehensive— emergency managers consider and take into account all hazards, all phases, all stakeholders and all impacts relevant to disasters.

2. Progressive— emergency managers anticipate future disasters and take preventive and preparatory measures to build disaster-resistant and disaster-resilient communities.

3. Risk-Driven— emergency managers use sound risk management principles (hazard identification, risk analysis, and impact analysis) in assigning priorities and resources.

4. Integrated— emergency managers ensure unity of effort among all levels of government and all elements of a community.

5. Collaborative— emergency managers create and sustain broad and sincere relationships among individuals and organizations to encourage trust, advocate a team atmosphere, build consensus, and facilitate communication.

6. Coordinated— emergency managers synchronize the activities of all relevant stakeholders to achieve a common purpose.

7. Flexible— emergency managers use creative and innovative approaches in solving disaster challenges.

8. Professional— emergency managers value a science and knowledge-based approach based on education, training, experience, ethical practice, public stewardship and continuous improvement.

Emergency management encourages a comprehensive inclusion of all stakeholders, including those of the general public. In order to have a comprehensive view of the population research must measure the specifics of the individuals within that population. Officials and organizations within emergency management are provided guidance on proper procedures and responsibilities, are required to provide status reports,

and are held responsible for their readiness levels. The general population is not held to such strict guidelines. Their positions as stakeholders are severely under-acknowledged, emphasizing the need for research into their current state of preparedness.

Anticipation of future disasters is essentially technology-based, but the ability of populations to weather disasters is measureable by examining populations themselves. Currently, progression is found in building upgrades and technological advances rather than incorporating individuals themselves into the equation. It is essential to study individuals to gather the "preparatory measures" needed to build "disaster-resistant and disaster resilient communities" (McCentire, 2004). Preparatory measures are outlined by the 2009 Citizen Corps National Survey to include active household emergency plans, setting aside supplies in the home, familiarity with emergency with emergency protocols and systems, and participation in emergency training (Federal Emergency Management Agency, 2009). The third principle directs the use of risk management to assign priorities and resources. Priorities should be assigned based on the most likely and most damaging scenarios. Knowledge of the state of preparedness within specific population is essential to a full and accurate risk assessment.

Integration of government and community presents a unity of effort that requires research into the elements. Integration requires the fifth principle of collaboration. The creation of relationships among emergency managers and the community require a high level of communication. This level of communication does not exist within most frameworks. One-way communication is prevalent whereas two-way is limited by resources. Coordination among government entities and non-profit organizations has

increased since the events of 9/11 and Hurricane Katrina but incorporation of the largest stakeholder, the public, is not often included in the equation.

The seventh principle, flexibility, pertains to all aspects of emergency management. As events occur emergency managers cannot predict the situation fully and must be able to deviate from a plan in the best interests of the stakeholders. The environment of disasters is "characterized by change, uncertainty, and a sense of urgency in which communications and decision-making systems may break down and standard operating procedures may not apply" (Lewis, 1988, p. 174). Researchers Moore and Lakha (2006) explain that in disaster situations humans revert to preprogrammed responses rather than adapting to the situation. The addition of research may reshape the ability to react adaptively by providing a larger base of knowledge for practitioners to pull from, essentially reprogramming "personal history and past experiences" (International Association of Campus Law Enforcement Administrators, 2009a).

The final principle highlights the value of science and knowledge-based approaches to emergency management. All eight principles require an incorporation of the public is determining best fit practices. The four phases of emergency management all require this consideration and yet rarely do actually incorporate the public. This is potentially because little is known about the specific public each emergency manager must plan for.

Concepts of emergency management have been around for a long time; the field, however, is in its infancy. Borrowing from other fields, the current theory progress is even younger. The application of emergency management studies how "humans interact, create, and cope with hazards, risks, and events" (Barsky, 2009). Yet,

as already mentioned the body of theory in this discipline is “unrecognized, underutilized, and underdeveloped” (Barsky, 2009).

Research applies competitive intelligence based on past and current practices to develop clearer principles and strategies for practical application by the organizations and stakeholders. “The theoretical knowledge that forms the basis of emergency management lies not in these technical skills but in social science research and a deeper understanding of the nature of disaster and the reaction of people and organizations to crisis” (Canton, 2007, p.38). The guidance of external disciplines’ theories is imperative to fully realize and take advantage of the relationships between the individuals and organizations that have a stake in the emergency management process. Emergency managers “… can better conceptualize the pathways flowing from and toward specific academic disciplines on whose research they must depend for the scientific knowledge in which the profession must remain grounded” (Drabek, 2007, p. 39).

The Principles of Emergency Management position the public at the center of all emergency management plans yet little is known about properly communicating with and motivating individuals. Examining specific publics for their current state of preparedness will provide the information needed to incorporate these publics’ needs into a successful emergency management program. The principles provide a basis for a comprehensive overall emergency program. Measuring the current state of preparedness provides a baseline for achieving an ideal state of emergency preparedness.

Rationale

A current problem within the field of disaster risk perception, which directly correlates to personal preparedness, is the basis of the National Research Council's review of the Department of Homeland Security's (DHS) risk analysis processes. The National Research Council recommends that DHS formulate a "well developed risk communication strategy" that "address[es] the deficiencies to adequately understand the social and economic impacts of terrorist attacks" (National Research Council, 2010). "Inadequate preparation and execution of risk communication and emergency response following [an attack] can weaken the state's ability to mitigate the terror generated" (Sheppard, 2011, p.6). This issue of neglecting the public's perception of risk essentially disregards their role in emergency management.

While understanding the risk perception of specific incidences is important Sheppard neglects the need to determine where individuals are on the knowledge/involvement spectrum. Without the measurement of this aspect of the population, any risk management communication attempts may be thwarted by the reception of the target population. Creating a message designed to reach individuals who are highly motivated (knowledge/involvement) may actually fall onto a population that is not prepared to receive the message.

A longitudinal study completed by Logie-MacIver and Piacentini (2011) further defines the need to understand the target population. The researchers followed forty subjects recruited for their negative diagnostic test for colorectal cancer. The sample population was diagnosed with a minor bowel disease which affected them physically and could be relieved with a change of diet. Using a combination of the Stages of Change

Model and the Coping Theory, the researchers explored "ways that people made changes to their behavior in response to an external stimulus" (Logie-MacIver & Piacentini, 2011, p. 63). The participants were placed in three categories (maintainers, relapsers, and limited or no change) based on the changes they made to their diet and whether they were able to continue the behavior. The researchers found that the most important indicator of maintenance of the behavior was "knowledge concerning diet" attained through socialization, leading to "long-term goal directed behavior" (p.72). Knowledge was a key ingredient to those participants in the maintainer category supporting the need for knowledge in a target population.

The integration of knowledge and involvement is not a new concept. Peattie and Peattie (2003) concluded that better education and involvement (along with interaction and understanding) are required for the development of effective campaigns. Wood (2008) furthered this notion by touting the contemplation stage (The Stages of Change Model) and the importance of information rather than physical goods in social marketing. He proposed achieving this through interactivity and relationship building supporting active publics as message advocates.

The inclusion of involvement level among target populations is paramount to determining the effectiveness of messages. Lewis, Watson and White (2009) neglected to include involvement in their study that sought to improve understanding of emotion based messages, both fear-based and positively inclined. Involvement was found to be a limitation of the study. Cauberghe, De Pelsmacker, Janssens, and Dens (2009) researched anti-speeding campaigns that identified involvement as influencing message acceptance. The more the individual feels connected to the message the more likely they are to accept

it. Inclusion of knowledge and involvement is essential to effective communication campaigns to promote personal responsibility in emergency preparedness.

Interestingly, several studies report that individuals demonstrated a lack of perceived information on the current disaster or a lack of knowledge to conduct proper risk assessments. Hurricane Katrina has become the most recently highly studied disaster phenomenon. Tuason, Guss, and Carroll (2012) conducted a qualitative study for the purpose of "explore[ing] the unique experiences … of displaced survivors who fled Hurricane Katrina, sought shelter, and recovered in places that were unfamiliar to them" (Tuason et al, 2012, p.289). Key among the results was the finding that preparation for the storm was characterized by uncertainty and panic while communication (unaware of storms path, conflicting messages) and risk assessment (underestimating the severity) were both prime complaints. Participants shared a general feeling of vulnerability and distress, anxiety and worry, and fear (Tuason, et al, p.293). Participants felt abandoned by the governments and felt that their relationships with family and friends were strained, but feelings of empowerment grew as they realized they "needed to rely on themselves more than anyone else" (Tuason et al, p.294).

Earlier studies conducted immediately following Hurricane Katrina found similar results. Both of the following studies concentrated on the vulnerable communities in the aftermath of Hurricane Katrina, defined as those individuals of low socio-economic status demonstrated by their need to remain in the government-run shelters two weeks after the storm hit. The studies take place in the same major evacuation centers of Houston, Texas: Reliant Center, Reliant Astrodome, and George Brown Convention Center. In one study, participants did not recall any specific destinations in the evacuation orders described

outside of New Orleans. They also reported receiving information from television and social networks. However, information from television was reported as "nonspecific and ambiguous" for example participants remember messages to "go somewhere" (Eisenman, Cordasco, Asch, Golden, & Gilk, 2007, p.S109) but not where or how to get there.

A quantitative study, followed survivors of Hurricane Katrina to examine "how social determinants, such as socioeconomic position, are related to preparedness communication outcomes such as accessing and understanding evacuation information and evacuation behaviors during an emergency" (Taylor-Clark, Viswanath, & Blendon, 2010, p.222). The researchers based their research on two premises: that communication is one way to "mitigate misinformed risk perceptions and inappropriate behavioral responses" and that "people access … relevant information, understand it, and act on it" (Taylor-Clark et al, p.222). The purpose of the study stems from the potential socioeconomic inequalities that may lead to deficits in access, exposure, and understanding relevant information. While the study named Knowledge Gap Theory as its theoretical foundation, additional variables, other than SES, were found to exert influence over the participant's actions in emergency management situations .Involvement is referred to in the Hurricane Katrina as the inclusion of the emergencies' proximity to the individual and was found to have an influence on the participants (Taylor-Clark et al, p.222). This supports the application of Hallahan's Issues Processes Model as the basis for this study. The specific examination of emergency preparedness with variables of knowledge and involvement is warranted and will add to examination of this important topic. This research will further the understanding of the state of personal emergency management in order to create effective public communication campaigns.

Importance of the Study

This study furthers mass communication research in the area of emergency management preparedness. No studies specifically address the influencers of knowledge and involvement on any population segments for the specific discipline of emergency management. The specific population of college students has not been directly studied for their lack of preparedness. This demonstrates a gap in research for the overall application of media campaigns to reach this specific population segment. Upon completion the study provides a baseline for the overall state of emergency preparedness among college students.

By measuring the state of preparedness among college students, emergency managers can then identify the needs in relation to the Principles of Emergency Management. The creation of campaigns based on these principles will be strengthened by specific knowledge of the college student population. Moreover, the inclusion of influential variables in the study provides a substantial basis to begin creating targeted emergency communication campaigns to increase the level of preparedness among this population.

College students have left the confines of their caretakers' protection and are in the transition of developing their own emergency preparedness plans. This provides a unique opportunity to measure emergency preparedness during the transitional phase of young adulthood. Identification of motivating variables is paramount to creating effective communication campaigns.

Overview of the Study

Chapter two focuses on the literature most relevant to the purpose of the study, including the perception of individual preparedness, the concepts of knowledge and involvement as variables in Hallahan's Issues Processes Model, and the definition of preparedness. Although there are several theories that may be applied to determine influencers of personal emergency preparedness, Hallahan's Issue Process Model provides the basis for the specific influencers of knowledge and involvement. This is the central focus of the study. By determining the role these two concepts play in the choice to personally prepare communications and emergency management professionals alike can apply Hallahan's model to other specific populations.

Chapter three presents the specific hypotheses as the basis of this research, chapter four discusses the methodology and research design, and chapter five reveals the results which are then further explained in chapter six. The final chapter presents limitations of this research study and suggestions for future investigations followed by the overall conclusion.

CHAPTER 2: LITERATURE REVIEW

Theoretical Framework

Hallahan's Issues Processes model provides the basis for measuring the relationship between knowledge, involvement, and emergency preparedness. According to the Issues Processes Model, the study of issue dynamics must "extend beyond abstract models of effective interaction between organizations and publics" to useable information that can be strategically applied to actual communication campaigns (Hallahan, 2001, p.33). "The model defines issue dynamics broadly as both the antecedent processes of how issues are created and the alternative responses that the organizations or institutions might use to respond to issues" (Hallahan, 2001, p.33). Based on this characterization, Hallahan (2001) identified five prime publics classified by their levels of knowledge of and involvement in a particular topic. While the model may seem constricting on its face, it allows for the fluidity of individuals to progress from one category of public to another based on their individual knowledge and involvement in particular topics or sub-topics. These serve as the focus for the model and are represented in the following diagram. The premise stands that if a person has a high level of knowledge and involvement, then their attitude will be favorable and may motivate the person to take action.

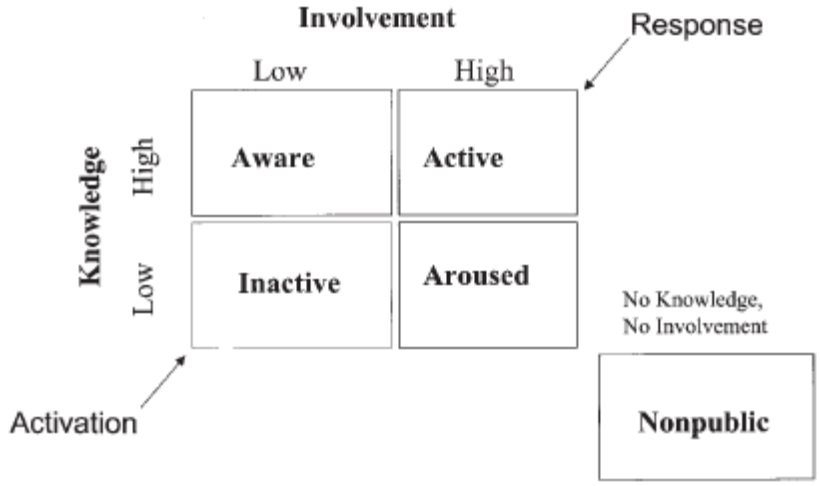

FIGURE 1. Five publics model (Hallahan, 2001).

Knowing the audience is most important when attempting to spread a message from sender to receiver. The inclusion of "…publics has been the most seriously inadequate for the purposes of research and practice….publics are viewed solely from the perspective of the organization and not from that of the public's themselves" (Leitch & Neilson, 2001, p.127). Newsom and Carrell (2001) argued that public relations writing is "tailoring messages for particular media and public" (p.3). Focus from the situational perspective considered a larger social-psychological process, positing that public discussion and debate over issues created societal change. Instead, Hallahan (2001) proposed a more dynamic explanation that fully encompasses the variety of degrees to which publics are organized "to discuss problems and issues" (p.33). In this light publics would encompass a group of individuals loosely organized toward an emergency management objective.

Knowledge

Organizations are constantly dealing with fluid audiences, understanding the different types and what is effective in creating persuasive messages will go a long way toward strategically enlarging audience reach. Recognizing the critical function of each audience in the communication process assists practitioners in developing messages aimed at particular population segments. "An understanding of what audiences know about products underpins what advertisers and scholars know about audiences' message processing and decision-making (Wang, 2006, p.282).

Therefore, understanding what audiences' know about emergency preparedness will assist in understanding how they will process message content providing communications practitioners with future strategies addressing the effectiveness of outreach campaigns. "…Theorists have provided limited findings to address how knowledge influences an audience's message processing of editorial content" (Wang, 2006, p.282). Understanding audience knowledge is an essential prerequisite to creating persuasive messages, the core of emergency management communication with the public.

Higher levels of knowledge positively correlate to better information processing. "Knowledge refers to beliefs, attitudes, and expertise that people hold in memory about a topic" (Hallahan, 2001, p. 35). Essentially, the higher the knowledge level, the more prepared to make sense of an issue and the more likely an individual is to take action. As knowledge increases, individuals become more aware of their personal responsibility in emergency preparedness which moves them toward higher knowledge and a more active state.

Involvement

Involvement has been shown to be a predictor of action. According to Hallahan (2001), "involvement … [demonstrates an] individual's predisposition to pay attention and communicate about a topic" (p.35). In situational theory, involvement is the extent to which a person feels a relationship to an issue (Grunig, 1997; Major, 1998). The higher the level of proximity/relevance/consequence, the more likely the individual is to take action.

Involvement is a psychological concept that when applied explains individual's motivation to process messages. Involvement began as a psychological construct in the 1940's and is now used to encompass a variety of concepts (relevance, connectedness, importance, personal concern, consequence, etc). "Involvement influences the processing of public relations messages in two ways: (1) as an antecedent, moderating individual's willingness to focus attention on the message and (2) as the heightened processing of the message itself" (Heath, 2005, p. 453). The processing of messages is guided by the relevance and consequence felt by the receiver. Emergency preparedness messages often attempt to relay the consequence of doing nothing but it is unknown whether these messages create a sufficient amount of involvement.

According to Heath (2005) "involvement is most often defined as the degree to which an individual perceives a message as being relevant to him or her because the subject matter… has consequences in his or her life" (p.453). Grunig and Hunt (1984) replace relevance with connectedness while Heath and Douglas (1991) explain involvement as a predictor of message processing and assessment. These definitions

collectively describe a variable that can be used as both a motivator and a predictor of the attendance to specific messages.

Michael D. Slater (1997; 2003) classified involvement into six subcategories: political or civic involvement, ego involvement, topic or issue involvement, task involvement, impression-relevant involvement, and product involvement. Of importance for the current research is the topic or issue involvement which can be summed up as the "degree to which a person is concerned about a situation that could have an impact on the person's life" (Heath, 2005, p.453). Similarly, both ego and task involvement may also influence an individual in their attentiveness to a message. Ego involvement links personal values or convictions to the message. An example would be the need to protect family members during an emergency. Task involvement describes the degree to which a person focuses on the "message in order to make a correct judgment or take action" (p.453). This can be identified in the attentiveness to emergency management messages such as the American Red Cross's (2007) ongoing preparedness campaign "Get a kit, make a plan, and be informed". Individuals attending to this message are gathering information to make decisions about the proper preparedness actions to take.

Grunig and Hunt (1984) found that involvement was a better predictor of activism than other tested socioeconomic variables. Grunig later found that there was a variation in the involvement level of those individuals in active publics versus those in passive publics and the research suggested that public relations practitioners concentrate on the active publics (those with higher involvement). This suggestion ignores the importance of the rank and file described by Hallahan (2000a). Those with low involvement, the inactive public, are comprised of a very large section of publics and should be considered

when attempting to create messages. The inactive public is likely the public that needs the most help before, during and after a storm. Following Grunig's suggestion would leave out the precise public that needs the information the most and provides the largest return on investment. Hallahan specifically suggests that the inactive public be considered when creating messages. Hallahan (2000a, 2000b, 2001) expanded Grunig's findings by dividing the two publics through the application of knowledge and involvement creating the Issues Processes Model. This 2 X 2 category matrix is the basis of the current study (See Figure 1 for more details).

The Convergence of Knowledge and Involvement

Individuals with high levels of both knowledge and involvement in a topic are categorized under the active public sector; these individuals are commonly the leaders on a particular topic. This sector is willing and able to affect change on a particular subject (Hallahan, 2001, 34). Aroused publics encompass individuals with high levels of involvement and low levels of knowledge about a problem or how to resolve it. "This group includes people who have recognized a potential problem or issue but are not prepared to move into an activist role, they are motivated but lack the organization and could become active once they have acquired the necessary knowledge and skills" (Hallahan, 2001, p.34). The core of this population segment is made up of the followers of the active public.

Aware publics include individuals with high levels of knowledge about a problem but who lack personal involvement. Hallahan (2001) refers to this segment as the opinion leaders (p.35). This segment is not likely to pilot causes but may join initiatives

mobilized by others. Those individuals with low levels of both knowledge and involvement comprise the segment dubbed inactive publics. The most amount of work is needed with this segment as they require increased "motivation, ability, and opportunity to attend to communication" (Hallahan, 2001, p.35). The lack of self-interest fosters a severe disinclination to take part in any organized activity. " Several factors are found to cause a lack of initiative: belief that no problem exists, failure to recognize a problem, assessment that a problem is not important enough to take action, conviction that others are attending to the problem, or belief that nothing can be done" (Hallahan, 2001, p.35). Lastly, the non public (the default category), represents individuals/ groups with no knowledge and no involvement in a particular issue. They are unlikely to become aware or involved with a particular issue and are not often studied.

Defining Preparedness

"The goal of public health disaster preparedness and response is for individuals and communities to "take simple steps to ensure that they have a supply of food, water and medicine, a reliable first aid kit, and a plan to find loved ones if communication and transportation networks are disrupted." Ironically, the importance of this message is convincingly conveyed by the media and others during and after the disaster but is avoided before the event." (Barnes, Hanson, Novilla, Meacham, McIntyre, and Erickson, 2008, p.604)

The Federal Emergency Management Agency (FEMA) constitutes the following as individual and household emergency management preparedness responsibilities:

- Reducing hazards in and around their homes

- Preparing an emergency supply kit and household emergency plan

- Monitoring emergency communications carefully

- Volunteering with an established organization

- Enrolling in emergency response training courses (Federal Emergency Management Agency, 2008, p.17-18)

The 2004 National Response Plan (NRP) defines preparedness as, "The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the operational capability to prevent, protect against, respond to, and recover from domestic incidents" (Department of Homeland Security, 2004, p.71). Purchasing safety gear such as fire extinguishers, planning for an event such as mapping out an evacuation route or a meeting point, actively looking for information such as visiting emergency web sites, news articles, or reading publications, discussing emergency preparedness topics with friends, neighbors, or colleagues, or taking a more public activist role in emergency management are all measures of action.

CHAPTER 3: RESEARCH HYPOTHESES

Rationale for Hypotheses

The purpose of this quantitative study is two-pronged. The overall intention is to examine the level of individual preparedness among the population sample. More specifically is the examination of the relationship between knowledge, involvement, and personal emergency preparedness. This research will attempt to fill the literature gap in public communications by identifying the relationship between the variables as influencers in individual preparedness actions. In regards to the descriptive statistics the research question probes what the current level of personal emergency preparedness is among the sample population both on a self-perceived level and a specific level.

The Issues Processes Model provides a background for knowledge and involvement as motivation for action or intent to act in many disciplines. This has yet to be tested in the emergency management arena. This research attempts to examine the relationship between the independent variables of knowledge and involvement and the dependent variable of personal emergency preparedness. With knowledge that a relationship does exist guidance for future studies based on the Issues Processes Model can be undertaken. Based on past research studies the following hypotheses were developed to understand the relationship between the variables.

Involvement is the level of personal relevance to the topic presented. This provides a measurement for the likelihood to attend to the message, to pay attention, and

discuss the topic. The higher the level of relevance felt the more likely the individual is to take action. Involvement provides motivation to process the intended message and to further take action. Involvement functions to heighten the willingness to focus on the message and to process the message. Individuals who attend to these messages do so to gather information to determine the proper preparedness actions to take. Involvement has been shown to be a good predictor of activism, Hallahan's active audience. Fostering involvement may move individuals from low levels of response to higher levels – thus moving them through Hallahan's audiences.

Understanding an audience's knowledge level, assists with determining how the intended message will be processed. This is especially important when the purpose of the message is to create a behavior. Communications practitioners will be able to base future strategies on specific knowledge levels to create greater processing of the message and a higher likelihood of action. The Issues Processes Model provides the theoretical support for the hypotheses. Identifying a correlation between knowledge and personal emergency preparedness will allow communication practitioners to cater public service messages to specific audiences thus increasing the level of understanding and ultimately action. As knowledge increases individuals become more aware of their personal abilities in emergency preparedness which moves them toward higher knowledge and a more active state.

Hypotheses

H1a: There is a positive relationship between involvement with emergencies and perceived level of personal emergency preparedness.

H1b. There is a positive relationship between involvement with emergencies and having an active household emergency plan.

H1c. There is a positive relationship between involvement with emergencies and the number of emergency supply items stored.

H1d. There is a positive relationship between the levels of involvement with emergencies and participation in emergency training.

H2a. There is a positive relationship between knowledge of emergencies and perceived level of personal emergency preparedness.

H2b. There is a positive relationship between knowledge of emergencies and having an active household emergency plan.

H2c. There is a positive relationship between knowledge of emergencies and the number of emergency supply items stored.

H2d. There is a positive relationship between knowledge of emergencies and participation in emergency training.

CHAPTER 4: METHODOLOGY

Chapter 4 illustrates the research design and the methods for data collection used to test the hypotheses for the current study. The participants' sample, instrument, and operationalization of variables will be discussed. Hallahan's Issues Processes Model was the theoretical framework applied to the study to investigate the relationships between perceived knowledge, perceived involvement, and personal emergency preparedness.

Sample

The participants were comprised of a convenience sample of 890 students from the School of Mass Communications at the University of South Florida during the summer of 2013. A convenience sample is a selection of participants based on availability rather than a probability (Wrench, Thomas-Maddox, Richmond, & McCroskey, 2008). The absence of a probability-based selection does not negate the importance of the research but does limit the generalizability to those enrolled as participants. Efficiency of time and money is the purpose of choosing this method. The results may not be representative of the general population but do add to the current pool of studies, even is only in an exploratory view (Wrench, Thomas-Maddox, Richmond, & McCroskey, 2008). The purpose of exploring the relationship of knowledge, involvement and personal emergency preparedness among this same population also substantiates the use of a convenience sample.

Of the 890 students invited to take part in the survey, 121 responded to questions. This was a low response rate (11.6%), but expected given the population sample. Further testing with other potential populations was not possible due to time restraints and attainability of access.

The respondents were asked ten demographic questions measured nominally to determine possible trend data. Tables 1-6 present key sample statistics. Of the 121 respondents, 88 provided their age. The ages ranged from 18 to 63 years, with the mean age of 23.44. A total of 92 participants provided their gender; of which 74 were female and 18 were male with 29 not responding. This equates to a sample that is approximately 61.2% female. Of the 121 respondents, 27.3% had an Associate degree and 22.3% had some college but no degree. Ninety of the respondents provided income information with the highest percentage (25.6%) coming in below $25,000. Ninety respondents also provided their race with the highest percentage (45.5%) choosing white. The residential description of the respondent's residence showed urban and suburban with the overwhelming majority of 31.4 % and 33.9%, respectively.

Table 1: Age

	N	Minimum	Maximum	Mean	Std. Deviation
Age	88	18.00	63.00	23.4432	7.63064
Valid N (list wise)	88				

Table 2: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	18	14.9	19.6	19.6
	Female	74	61.2	80.4	100.0
	Total	92	76.0	100.0	
Missing		29	24.0		
Total		121	100.0		

Table 3: Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school graduate or GED	6	5.0	6.7	6.7
	Some college but no degree	27	22.3	30.0	36.7
	Associate degree in college	33	27.3	36.7	73.3
	Bachelor's degree	21	17.4	23.3	96.7
	Master's degree	3	2.5	3.3	100.0
	Total	90	74.4	100.0	
Missing	System	31	25.6		
Total		121	100.0		

Table 4: Household Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< $25,000	31	25.6	34.4	34.4
	$25,000 - $50,000	14	11.6	15.6	50.0
	$50,000 - $75,000	15	12.4	16.7	66.7
	> $75,000	12	9.9	13.3	80.0
	Don't know	18	14.9	20.0	100.0
	Total	90	74.4	100.0	
Missing	System	31	25.6		
Total		121	100.0		

Table 5: Race

		Frequency	Percent	Valid Percent	Cumulative Percent
	White	55	45.5	61.1	61.1
	Black or African American	10	8.3	11.1	72.2
	Hispanic or Latino	14	11.6	15.6	87.8
Valid	Asian	6	5.0	6.7	94.4
	Other	4	3.3	4.4	98.9
	Don't know	1	.8	1.1	100.0
	Total	90	74.4	100.0	
Missing	System	31	25.6		
Total		121	100.0		

Table 6: Residence Type

		Frequency	Percent	Valid Percent	Cumulative Percent
	Urban	38	31.4	43.7	43.7
	Suburban	41	33.9	47.1	90.8
Valid	Rural	6	5.0	6.9	97.7
	DK	2	1.7	2.3	100.0
	Total	87	71.9	100.0	
Missing	System	34	28.1		
Total		121	100.0		

Research Design

A survey was utilized to assess the current level of emergency preparedness and measure the relationship between the independent variables. The use of a survey provided inexpensive and efficient access to a large population sample. The University Blackboard

was employed to reach participants by mass e-mail sent. This e-mail provided a link that the population sample could choose to click on and follow to *SurveyMonkey.* Once in *SurveyMonkey* the participants chose to move on or stop the survey.

Instrumentation

The first section of the survey questionnaire was a statement of confidentiality. Participation was entirely voluntary and students had the option to choose to move forward or to stop the survey at this time. On the second page of the survey the directions provided students with definitions of the four types of emergencies of importance to the study: natural disasters, terrorism, hazardous materials accident, and disease outbreak.

The following twelve questions were adapted from FEMA's Personal Preparedness in America: Findings from the 2009 Citizen Corps National Survey. The 2009 Citizen Corps National Survey developed this questionnaire based on "previous research, preparedness modeling, and policy and guidance from the Department of Homeland Security" (Federal Emergency Management Agency, 2009). The research objectives of the 2009 Citizens Corps National Survey are a continuation of previous year's data collection on individual preparedness for disasters. The original survey took place in 2003 and provided a baseline while the 2007 and 2009 surveys included refinements to incorporate additional areas of examination while also providing trend data (Federal Emergency Management Agency, 2009). The current research adjusted these previous questions to measure the overall variables of actual and perceived preparedness (four questions), perceived involvement (three questions were used; belief was dropped due to ambiguity), and perceived knowledge (three questions). A question

pertaining to source confidence was dropped due to its ambiguity in measuring the intended variable. These variables were measured using both interval level questions and nominal level questions.

The remaining ten questions measured demographics of the sample population measured by nominal level questions. Age was measured by an open-ended question. These were measured to identify any trends among the sample population for possible indicators of future research avenues. The demographics questions measured residence type, volunteer status in disasters, sources of disaster information and housemate types as well as job status, education, age, race, and gender and income. Appendix 1 presents a copy of the e-mail invitation. Appendix 2 shows the full survey as presented to the participants.

Operatonalization of Variables

The research will consist of the following measures for:

1. Independent variables: knowledge and involvement
2. Dependent variable: individual emergency preparedness

The variables are all self-reported and based on the participant's self-perception. The dependent variable of emergency preparedness was measured on the self-perception of personal emergency preparedness and also by three concrete measures of preparedness: active household emergency plan, disaster supplies, and training. The independent variable of involvement was determined by measuring relevance, importance, and personal concern. These variables have been identified as valid measurements of involvement through past research (Day, Stafford, & Camacho, 1995; Zaichkowsky,

1985). Finally, the independent variable of knowledge was evaluated through three self-perceived measures: confidence in knowledge of preparation, knowing what to do during an event, and knowledgeable with information pertaining to preparedness. Many of the variables were measured separately for four emergency types: natural disaster, terrorism, hazardous materials, and disease outbreak. This was done to identify differences among potential emergencies.

Scale Reliability

Utilizing the Cronbach Alpha Reliability test the scale reliability was calculated. This is considered the most commonly used single administration reliability test used by social scientists (Cronbach, 1951) and the most consistently reported (Wrench, Thomas-Maddox, Richmond, & McCroskey, 2008). SPSS for Windows was employed to complete calculations once the recoded data set was entered.

The measurements for involvement included personal relevance, importance, and personal concern borrowed from the Personal Involvement Inventory. This scale "successfully met standards for internal reliability, reliability over time, content validity, criterion-related validity, and construct validity" (Zaichkowsky, 1985, p.341). These are shown to be representative of involvement and applied by researchers in the communications field. All three measures showed good reliability for the three of the four emergency types as shown in Table 7 below. The alpha reliability found for the Personal Involvement Inventory in the current study was interpreted as respectable by the standards of Wrench, Thomas-Maddox, Richmond, & McCroskey (2008). The alpha reliability was measured for each of the four emergency types: natural disaster was .888

(*M* = 2.18, *SD* = 1.32); terrorism was .895 (*M* = 3.14, *SD* = 1.63); hazardous material was .755 (*M* = 3.64, *SD* = 1.44); and disease outbreak was .822 (*M* = 3.32, *SD* = 1.43). See Table 7 for more details.

Table 7: Reliability - Involvement

	Item Mean	Scale Mean	Scale s.d.	Cronbach's Alpha	N
Involvement: Natural Disaster		2.1756	1.31655	.888	93
personal relevance	2.5054				
importance	2.0323				
personal concern	1.9892				
Involvement: Terrorism		3.1362	1.63021	.895	93
personal relevance	4.0538				
importance	2.5914				
personal concern	2.7634				
Involvement: Hazardous Materials		3.6416	1.43729	.755	93
personal relevance	4.5054				
importance	3.0538				
personal concern	3.3656				
Involvement: Disease Outbreak		3.3226	1.42735	.822	93
personal relevance	4.0968				
importance	2.7419				
personal concern	3.1290				

Similarly, the Cronbach Alpha Reliability test was computed for two knowledge types: general self knowledge and specific knowledge. Under the general self knowledge

category natural disasters was calculated as the highest reliability at .929 (*M* = 3.42, *SD* = 1.84). While terrorism reported a reliability of .740 (*M* = 5.23, *SD* = 1.51), hazardous materials reported a reliability of .737 (*M* = 5.18, *SD* = 1.45) and disease outbreak reported a reliability of .794 (*M* = 4.98, *SD* = 1.59).

Table 8: Reliability - General Self Knowledge

	Item Mean	Scale Mean	Scale s.d.	Cronbach's Alpha	N
Knowledge: Natural Disaster		3.4185	1.84015	.929	92
confidence in knowledge	3.5761				
will know what to do	3.2609				
Knowledge: Terrorism		5.2253	1.50788	.740	92
confidence in knowledge	5.2637				
will know what to do	5.1868				
Knowledge: Hazardous Materials		5.1848	1.45012	.737	92
confidence in knowledge	5.1522				
will know what to do	5.2174				
Knowledge: Disease Outbreak		4.9783	1.59311	.794	92
confidence in knowledge	5.0978				
will know what to do	4.8587				

Specific knowledge was calculated based on self-reporting of knowledge of nine areas of emergency management preparedness. The alpha reliability for these nine areas was calculated at .921 (*M* = 4.57, *SD* = 1.54). Table 9 displays the results in more detail.

Table 9: Reliability - Specific Knowledge

	Item Mean	Scale Mean	Scale s.d.	Cronbach's Alpha	N
Specific Knowledge		4.5723	1.54396	.921	83
Alerts and warning systems	3.6988				
Official sources of public safety info	3.9277				
Community evacuation routes	4.5181				
Shelter locations near me	4.7711				
Who to contact for help	4.8193				
Where to find information on local hazards	4.6988				
Where to find information about a local public health emergency	4.6145				
My children's school emergency and evacuation plan	5.5301				

All measures of Cronbach's alpha were calculated within the acceptable range for reliability. The alpha reliability provided the statistical support for the measures of knowledge and involvement to move ahead with the hypothesis testing. The results of the hypothesis testing follow in chapter five.

CHAPTER 5: RESULTS

This research study was undertaken to both develop a descriptive overview of current individual emergency preparedness as well as measure the relationship between the independent and dependent variables. Descriptive statistics are presented below followed by a discussion of the hypotheses testing.

Descriptive Statistics

Descriptive statistics add to the currently growing body of research on the state of emergency preparedness among specific United States populations. The survey contained four different measures of individual emergency preparedness:

1. Perceived level of preparedness
2. Household Emergency Plan
3. Disaster supplies
4. Training

The perceived personal level of emergency preparedness was measured by an interval 7-point scale from “very prepared” to “not at all prepared”. Responses for eighty-nine participants were recorded ranging from a minimum of two to a maximum of seven with a mean of 4.60 as shown in Table 10.

Table 10: Perceived Preparedness Level Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Personal level of emergency preparedness	89	2.00	7.00	4.6067	1.56393
Valid N (list wise)	89				

The self-reported household emergency plan was recorded on a nominal level, with a yes or no response. A total of 101 participants responded to this question with an overwhelming 85.1% stating they do not have such a plan. The data is presented in Table 11.

Table 11: Active Household Emergency Plan Descriptive Statistics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	15	12.4	14.9	14.9
	No	86	71.1	85.1	100.0
	Total	101	83.5	100.0	
Missing	System	20	16.5		
Total		121	100.0		

Participants chose all disaster supplies found in their homes as the third measure of individual emergency preparedness. As shown in Table 12 respondents chose from nominal question of ten disaster supplies. Directions directed participants to choose all that apply. These supplies are to be specifically for emergency purposes and ample enough for the entire family to subsist on. Flashlights, non-perishable food, and first aid kits were the top three most common items the respondents stated were in their homes for emergency purposes. Eyeglasses, medications, and financial documents were the bottom

three chosen. Table 13 shows that an average of 3.64 home disaster supplies was chosen by 121 participants.

Table 12: Home Disaster Supplies Descriptive Statistics

	Yes		No	
	Frequency	Percent	Frequency	Percent
1 gallon of water per person per day	12	9.9	109	90.1
Nonperishable food	58	47.9	63	52.1
A portable battery powered radio	28	23.1	93	76.9
A supply of batteries	48	39.7	73	60.3
A flashlight	74	61.2	47	38.8
A first aid kit	58	47.9	63	52.1
Photocopies of important paperwork	34	28.1	87	71.9
Financial Documents	39	32.2	82	67.8
Medications	42	34.7	79	65.3
Eyeglasses	47	38.8	74	61.2

Table 13: Number of Emergency Supplies Descriptive Statistics

	N	Mean	Std. Deviation
No. of Emergency Supply Items	121	3.6364	3.11716
Valid N (list wise)	121		

In the final measurement of preparedness participants chose any training that they attended during the previous two years from a nominal question. A total of 101 responses were recorded. First aid skill training was chosen as the most common training attended, with a total of 15.8% of respondents. Community Emergency Response Training (CERT) followed with 5 respondents (5%) while Cardiopulmonary Resuscitation (CPR) training

was chosen by one respondent (1%). An overwhelming 78.2% reported not attending any of the training.

Table 14: Training Attendance < 2 yrs Descriptive Statistics

	Frequency	Percent	Valid Percent
Attended CPR training	1	.8	1.0
Attended first aid skills training	16	13.2	15.8
Attended training as part of CERT	5	4.1	5.0
Total	101	83.5	100.0
Missing	20	16.5	
Total	121	100.0	

To determine the overall level of involvement in emergencies among the population sample the average for each of the four emergencies was undertaken. A total of 93 participants responded. Involvement with hazardous materials ranked highest with a mean of 3.64, disease outbreak (M = 3.32), terrorism (M = 3.13) and natural disaster (M = 2.17).

Table 15: Involvement Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Natural Disaster	93	1.00	7.00	2.1756	1.31655
Terrorism	93	1.00	7.00	3.1362	1.63021
Hazardous Materials	93	1.00	7.00	3.6416	1.43729
Disease Outbreak	93	1.00	7.00	3.3226	1.42735
Valid N (list wise)	93				

Similarly, the overall level of knowledge of emergencies among the sample was averaged for each of the four types of emergencies. Participants self-assessed knowledge was the highest for terrorism (M = 5.22) and the lowest for natural disasters (M = 3.41).

The means of hazardous materials and disease outbreak knowledge were measured at (*M* = 5.18) and (*M* = 4.97) respectively.

Table 16: Knowledge Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Natural Disaster	92	1.00	7.00	3.4185	1.84015
Terrorism	91	1.50	7.00	5.2253	1.50788
Hazardous Materials	92	1.50	7.00	5.1848	1.45012
Disease Outbreak	92	1.50	7.00	4.9783	1.59311
Valid N (list wise)	91				

Hypothesis Testing

In this section, hypothesis-testing results are presented. All hypotheses were tested using SPSS 20.0. An alpha level of .05 was used for all statistical tests. In this study, the impact of knowledge and involvement on personal emergency preparedness was measured by perceived preparedness level, having a household emergency plan, the number of disaster supplies stored, and attendance in emergency training.

Hypothesis 1a: There is a positive relationship between involvement with emergencies and perceived level of personal emergency preparedness.

This purpose of this hypothesis was to test the relationship between participants' involvement with each of the four types of emergencies (natural disasters, terrorism, hazardous materials, and disease outbreak) and their overall perceived level of emergency preparedness. Pearson product-moment correlation coefficients were used to test the hypothesis. The results (Table 17) showed that none of the coefficients reached statistical

significance: natural disaster r (81) = -.046, p = .109; terrorism r (81) = .109, p = .331; hazardous materials r (81) = .142, p = .206; disease outbreak r (81) = .037, p = .743. Thus, Hypothesis 1a was not supported.

Table 17: Correlation Matrix - Involvement and Perceived Level of Personal Emergency Preparedness

		Perceived level of emergency preparedness	Natural disaster involvement	Terrorism involvement	Hazardous materials involvement	Disease outbreak involvement
Perceived level of emergency preparedness	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	89				
Natural disaster involvement	Pearson Correlation	-.046	1			
	Sig. (2-tailed)	.681				
	N	81	93			
Terrorism involvement	Pearson Correlation	.109	.429**	1		
	Sig. (2-tailed)	.331	.000			
	N	81	93	93		
Hazardous materials involvement	Pearson Correlation	.142	.537**	.525**	1	
	Sig. (2-tailed)	.206	.000	.000		
	N	81	93	93	93	
Disease outbreak involvement	Pearson Correlation	.037	.579**	.494**	.819**	1
	Sig. (2-tailed)	.743	.000	.000	.000	
	N	81	93	93	93	93

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 1b. There is a positive relationship between involvement with emergencies and having an active household emergency plan.

This hypothesis was intended to examine the relationship between participants' involvement in the four types of emergencies and whether or not they have an active household emergency plan. To test the hypothesis, participants were divided into high and low involvement groups with each emergency type using a median-split (Table 18). Four Chi-square tests were then conducted to assess whether individuals with high and low involvement differ in having an active emergency plan. Results (Table 19-22) showed that none of the tests was statistically significant: natural disaster X^2 (1, N = 93) = .000, p = .984; terrorism X^2 (1, N = 93) = .179, p = .272; hazardous materials X^2 (1, N = 93) = .000, p = .995; and disease outbreak X^2 (1, N = 93) = .237, p = .627. Based on the results, Hypothesis 1b was not supported.

Table 18: Medians of Emergency Involvement

		Natural Disaster	Terrorism	Hazardous Materials	Disease Outbreak
N	Valid	93	93	93	93
	Missing	28	28	28	28
Median		2.0000	3.0000	3.3333	3.0000

Table 19: Natural Disaster Involvement * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Natural disaster Involvement	Low	Count	8	49	57
		% within Ninvolve	14.0%	86.0%	100.0%
	High	Count	5	31	36
		% within Ninvolve	13.9%	86.1%	100.0%
Total		Count	13	80	93
		% within Ninvolve	14.0%	86.0%	100.0%

Pearson Chi-Square=.000, df =1, p=.984

Table 20: Terrorism Involvement * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Terrorism Involve-ment	Low	Count	5	26	31
		% within Tinvolve	16.1%	83.9%	100.0%
	High	Count	8	54	62
		% within Tinvolve	12.9%	87.1%	100.0%
Total		Count	13	80	93
		% within Tinvolve	14.0%	86.0%	100.0%

Pearson Chi-Square=.179, df =1, p=.272

Table 21: Hazardous Materials Involvement * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Hazardous Materials Involvement	Low	Count	6	37	43
		% within Hinvolve	14.0%	86.0%	100.0%
	High	Count	7	43	50
		% within Hinvolve	14.0%	86.0%	100.0%
Total		Count	13	13	80
		% within Hinvolve	14.0%	14.0%	86.0%

Pearson Chi-Square=.000, df =1, p=.995

Table 22: Disease Outbreak Involvement * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Disease Outbreak Involvement	Low	Count	2	17	19
		% within Dinvolve	10.5%	89.5%	100.0%
	High	Count	11	63	74
		% within Dinvolve	14.9%	85.1%	100.0%
Total		Count	13	80	93
		% within Dinvolve	14.0%	86.0%	100.0%

Pearson Chi-Square=.237, df =1, p=.627

Hypothesis 1c. There is a positive relationship between involvement with emergencies and the number of emergency supply items stored.

This hypothesis was intended to examine the relationship between involvement with each type of emergency and the number of emergency supply items. Pearson product-moment correlation coefficients were used to test the hypothesis. The results (Table 17) showed that none of the coefficients reached statistical significance: natural

disaster, r (93) = -.053, p = .616; terrorism, r (93) = -.119, p = .255; hazardous material, r (93) = -.044, p = .675; and disease outbreak, r (93) = -.055, p = .603. Consequently, Hypothesis 1c was not supported.

Table 23: Correlations Matrix - Involvement and Number of Emergency Supply Items

		Supply count	Natural disaster involvement	Terrorism involvement	Hazardous materials involvement	Disease outbreak involvement
Supply count	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	121				
Natural disaster involvement	Pearson Correlation	-.053	1			
	Sig. (2-tailed)	.616				
	N	93	93			
Terrorism involvement	Pearson Correlation	-.119	.429**	1		
	Sig. (2-tailed)	.255	.000			
	N	93	93	93		
Hazardous materials involvement	Pearson Correlation	-.044	.537**	.525**	1	
	Sig. (2-tailed)	.675	.000	.000		
	N	93	93	93	93	
Disease outbreak involvement	Pearson Correlation	-.055	.579**	.494**	.819**	1
	Sig. (2-tailed)	.603	.000	.000	.000	
	N	93	93	93	93	93

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis1d. There is a positive relationship between the levels of involvement with emergencies and participation in emergency training.

Four Chi-square tests were conducted to assess whether individuals with high involvement and low involvement differ in their participation in training programs for each type of emergency (natural disaster, terrorism, disease outbreak, and hazardous materials). The results for these tests were not statistically significant: natural disasters, X^2 (1, N = 93) = .110, p = .740; terrorism, X^2 (1, N = 93) = .255, p = .613; disease outbreak, X^2 (1, N = 93) = .525, p = .469; and hazardous materials X^2 (1, N= 93) = .012, p = .914. Based on the lack of statistical significance Hypothesis 1d was not supported.

Table 24: Natural Disaster Involvement * Training Participation Crosstabulation

			Participated in Training		Total
			No	Yes	
Natural disaster Involve-ment	1.00	Count	1	56	57
		% within Ninvolve	1.8%	98.2%	100.0%
	2.00	Count	1	35	36
		% within Ninvolve	2.8%	97.2%	100.0%
Total		Count	2	91	93
		% within Ninvolve	2.2%	97.8%	100.0%

Pearson Chi-Square=.110, df =1, p=.740

Table 25: Terrorism Involvement * Training Participation Crosstabulation

			Participated in Training		Total
			No	Yes	
Terrorism involve-ment	1.00	Count	1	30	31
		% within Tinvolve	3.2%	96.8%	100.0%
	2.00	Count	1	61	62
		% within Tinvolve	1.6%	98.4%	100.0%
Total		Count	2	91	93
		% within Tinvolve	2.2%	97.8%	100.0%

Pearson Chi-Square=.255, df =1, p=.613

Table 26: Disease Outbreak Involvement * Training Participation Crosstabulation

			Participated in Training		Total
			No	Yes	
Disease outbreak involve-ment	1.00	Count	0	19	19
		% within Dinvolve	0.0%	100.0%	100.0%
	2.00	Count	2	72	74
		% within Dinvolve	2.7%	97.3%	100.0%
Total		Count	2	91	93
		% within Dinvolve	2.2%	97.8%	100.0%

Pearson Chi-Square=.525, df =1, p=.469

Table 27: Hazardous Materials Involvement * Training Participation Crosstabulation

			Participated in Training		Total
			No	Yes	
Hazardous materials involve-ment	1.00	Count	1	42	43
		% within Hinvolve	2.3%	97.7%	100.0%
	2.00	Count	1	49	50
		% within Hinvolve	2.0%	98.0%	100.0%
Total		Count	2	91	93
		% within Hinvolve	2.2%	97.8%	100.0%

Pearson Chi-Square=.012, df =1, p=.914

Hypothesis 2a. There is a positive relationship between knowledge of emergencies and perceived level of personal emergency preparedness.

This hypothesis tested for a relationship between self-reported knowledge of each type of emergency and the perceived level of personal emergency preparedness. To accomplish this analysis, four Pearson product-moment correlation coefficients were calculated. Test results showed significant correlations for all four emergency types. Knowledge of natural disasters was found to be positively correlated with perceived level of personal emergency preparedness, $r(80) = .317$, $p < .01$. Knowledge of terrorism was found to be positively correlated with perceived level of emergency preparedness, $r(80) = .472$, $p < .001$. Knowledge of hazardous material was found to be positively correlated with perceived level of emergency preparedness, $r(80) = .435$, $p < .001$. Finally, disease outbreak was found to be positively correlated with perceived level of emergency preparedness, $r(80) = .397$, $p < .001$. Thus, Hypothesis 2a was supported.

Table 28: Correlation Matrix - Knowledge and Perceived Level of Personal Emergency Preparedness

		Personal level of emergency preparedness	Natural disaster knowledge	Terrorism knowledge	Hazardous materials knowledge	Disease outbreak knowledge
Personal level of emergency preparedness	Pearson Correlation	1	.317**	.472**	.435**	.397**
	Sig. (2-tailed)		.004	.000	.000	.000
	N	89	80	79	80	80
Natural disaster knowledge	Pearson Correlation	.317**	1	.472**	.496**	.495**
	Sig. (2-tailed)	.004		.000	.000	.000
	N	80	92	91	92	92
Terrorism knowledge	Pearson Correlation	.472**	.472**	1	.780**	.756**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	79	91	91	91	91
Hazardous materials knowledge	Pearson Correlation	.435**	.496**	.780**	1	.796**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	80	92	91	92	92
Disease outbreak knowledge	Pearson Correlation	.397**	.495**	.756**	.796**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	80	92	91	92	92

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 2b. There is a positive relationship between knowledge of emergencies and having an active household emergency plan.

To test the hypothesis, participants were divided by a median-split into high and low knowledge groups with each emergency type (Table 29). Four Chi-square tests were then conducted to assess whether individuals with high and low levels of knowledge differ in having an active emergency plan for each of the four emergency types (natural disaster, terrorism, disease outbreak, and hazardous materials). The results for these tests showed that, except for terrorism, X^2 (1, N = 91) = 2.18, p = .140, participants' level of emergency knowledge was significantly related to their having an emergency plan for natural disasters, X^2 (1, N = 92) = 4.86, p =.027; hazardous materials, X^2 (1, N = 92) = 4.2, p = .041; and disease outbreak X^2 (1, N= 92) = 6.81, p = .009.

Surprisingly, however, the direction of the relationships between levels of knowledge and emergency plan was the opposite of that predicted by Hypothesis 2b. Specifically, participants who professed lower levels of natural disaster knowledge were nearly four times more likely to have an active emergency plan (21.2%) than participants with higher level of natural disasters knowledge (5.0%). Similarly, participants with lower knowledge of hazardous materials (20.4%) were also more likely to have an emergency plan than those with a higher level of knowledge (5.3%). And finally, participants with lower knowledge of disease outbreak (23.4%) were more likely to have an emergency plan than those with higher knowledge (4.4%). Although the relationship between knowledge of terrorism and emergency plan failed to reach significance, the same pattern was found in the distribution: Participants with lower knowledge of

terrorism (18.9%) were more than twice as likely to have an emergency plan as those with higher knowledge (7.9%). Thus, Hypothesis 2b was not supported.

Table 29: Medians of Emergency Knowledge

		Nknowledge	Tknowledge	Hknowledge	Dknowledge
N	Valid	92	91	92	92
	Missing	29	30	29	29
Median		3.0000	5.5000	5.5000	5.0000

Table 30: Natural Disasters Knowledge * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Natural disasters knowledge	Low	Count	11	41	52
		% within Nknow	21.2%	78.8%	100.0%
	High	Count	2	38	40
		% within Nknow	5.0%	95.0%	100.0%
Total		Count	13	79	92
		% within Nknow	14.1%	85.9%	100.0%

Pearson Chi-Square=4.862, df =1, p=.027

Table 31: Terrorism Knowledge * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Terrorism knowledge	Low	Count	10	43	53
		% within Tknow	18.9%	81.1%	100.0%
	High	Count	3	35	38
		% within Tknow	7.9%	92.1%	100.0%
Total		Count	13	78	91
		% within Tknow	14.3%	85.7%	100.0%

Pearson Chi-Square=2.176, df =1, p=.140

Table 32: Hazardous Materials Knowledge * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Hazardous materials knowledge	Low	Count	11	43	54
		% within Hknow	20.4%	79.6%	100.0%
	High	Count	2	36	38
		% within Hknow	5.3%	94.7%	100.0%
Total		Count	13	79	92
		% within Hknow	14.1%	85.9%	100.0%

Pearson Chi-Square=4.195, df =1, p=.041

Table 33: Disease Outbreak Knowledge * Active Household Emergency Plan Crosstabulation

			Have an active household emergency plan		Total
			Yes	No	
Disease outbreak knowledge	Low	Count	11	36	47
		% within Dknow	23.4%	76.6%	100.0%
	High	Count	2	43	45
		% within Dknow	4.4%	95.6%	100.0%
Total		Count	13	79	92
		% within Dknow	14.1%	85.9%	100.0%

Pearson Chi-Square=6.811, df =1, p=.009

Hypothesis 2c. There is a positive relationship between knowledge of emergencies and the number of emergency supply items stored.

Pearson product-moment correlation coefficients were used to test the hypothesis. Results indicate that all correlations were statistically significant, albeit in the opposite directions of the hypothesis. Knowledge of natural disasters was found to be negatively correlated with the number of emergency supply items stored, $r(92) = -.250$, $p = .016$. Knowledge of terrorism was negatively related to the number of emergency supply items stored, $r(91) = -.298$, $p = .004$. A negative correlation was found between knowledge of hazardous material and the number of emergency supply items stored, $r(92) = -.234$, $p = 025$. Finally, disease outbreak was found to be negatively related to the number of emergency supply items stored, $r(92) = -.271$, $p = .009$. Thus, Hypothesis 2c was not supported.

Table 34: Correlation Matrix - Knowledge and Number of Emergency Supply Items Stored

		Supply Items count	Natural disaster knowledge	Terrorism knowledge	Hazardous materials knowledge	Disease outbreak knowledge
Supply Items count	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	121				
Natural disaster knowledge	Pearson Correlation	-.250*	1			
	Sig. (2-tailed)	.016				
	N	92	92			
Terrorism knowledge	Pearson Correlation	-.298**	.472**	1		
	Sig. (2-tailed)	.004	.000			
	N	91	91	91		
Hazardous materials knowledge	Pearson Correlation	-.234*	.496**	.780**	1	
	Sig. (2-tailed)	.025	.000	.000		
	N	92	92	91	92	
Disease outbreak knowledge	Pearson Correlation	-.271**	.495**	.756**	.796**	1
	Sig. (2-tailed)	.009	.000	.000	.000	
	N	92	92	91	92	92

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 2d. There is a positive relationship between knowledge of emergencies and participation in emergency training.

Four Chi-square tests were then conducted to assess whether individuals with high and low emergency knowledge differ in their participation in emergency training programs. The results for these tests were not significant for all emergencies: natural disasters, X^2 (1, N = 92) = .035, p = .851; terrorism, X^2 (1, N = 91) = .1.47, p = .226; disease outbreak, X^2 (1, N = 92) = 1.96, p = .230; and hazardous materials X^2 (1, N= 92) = 1.44, p = .162. Thus, Hypothesis 2d was not supported.

Table 35: Natural Disaster Knowledge * Participation in Emergency Training Crosstabulation

			Participated in Training		Total
			No	Yes	
Nknow	Low	Count	1	51	52
		% within Nknow	1.9%	98.1%	100.0%
	High	Count	1	39	40
		% within Nknow	2.5%	97.5%	100.0%
Total		Count	2	90	92
		% within Nknow	2.2%	97.8%	100.0%

Pearson Chi-Square=.035, df =1, p=.851

Table 36: Terrorism Knowledge * Participation in Emergency Training Crosstabulation

			Participated in Training		Total
			No	Yes	
Tknow	Low	Count	2	51	53
		% within Tknow	3.8%	96.2%	100.0%
	High	Count	0	38	38
		% within Tknow	0.0%	100.0%	100.0%
Total		Count	2	89	91
		% within Tknow	2.2%	97.8%	100.0%

Pearson Chi-Square=1.466, df =1, p=.226

Table 37: Hazardous Materials * Participation in Emergency Training Crosstabulation

			Participated in Training		Total
			No	Yes	
Hknow	Low	Count	2	52	54
		% within Hknow	3.7%	96.3%	100.0%
	High	Count	0	38	38
		% within Hknow	0.0%	100.0%	100.0%
Total		Count	2	90	92
		% within Hknow	2.2%	97.8%	100.0%

Pearson Chi-Square=1.439, df =1, p=.230

Table 38: Disease Outbreak Knowledge * Participation in Emergency Training Crosstabulation

			Participated in Training		Total
			No	Yes	
Dknow	Low	Count	2	45	47
		% within Dknow	4.3%	95.7%	100.0%
	High	Count	0	45	45
		% within Dknow	0.0%	100.0%	100.0%
Total		Count	2	90	92
		% within Dknow	2.2%	97.8%	100.0%

Pearson Chi-Square=1.957, df =1, p=.162

CHAPTER 6: DISCUSSION

The objectives of this quantitative research study were (1) to study the overall preparedness levels among the sample population, and (2) to examine the relationship between involvement, knowledge, and personal emergency preparedness. Applying Hallahan's Issues Processes Model, the study investigated the preparedness levels of the participants, along with their perceived involvement with and knowledge of four types of emergencies. Before proceeding with the discussion of specific findings, it should be noted that the study was based on a convenience sample of college students who are just stepping out into the world where responsibility for emergency preparedness is critical. Nevertheless, until this point much of that responsibility has fallen on the shoulders of their caretakers. Per the 2009 Citizen Corps National Survey, individuals in the college student age range showed a higher level of emergency preparedness (than this study) but more likely to report lack of time as a barrier to personal emergency preparedness (Federal Emergency Management Agency, 2009). College students are certainly lacking in time and perhaps the skills necessary for effective emergency preparation. The transitional nature of college life and probably ill-defined responsibilities may help explain, at least in part, some of the surprising findings of the study.

As is shown below, the level of involvement does not correlate to preparedness among this population. While overall involvement was lower than previously hypothesized, the lack of a difference between the high and low populations sample segments indicates that external variables may have an effect on the preparedness levels.

Knowledge of emergency management did show a relationship with the overall preparedness levels of the population.

Overall Preparedness

Similar to the 2009 Citizen Corps National Survey, a major part of this study was to measure the level of preparedness among the participants. The 2009 Citizen Corps National Survey found that participants often perceived themselves to be more prepared than what was demonstrated by their reported preparedness actions (Federal Emergency Management Agency, 2009). In the present study, participants reported an average M = 4.61 (SD = 1.56) when asked how they would describe their own level of personal emergency preparedness. The scale ranged from 1-7, thus the average of 4.61 indicates a level of indifference.

The existence of household emergency plans represents a more concrete measure of the level of preparedness. As such, the 14.9% positive response obtained from the sample seems alarmingly low -- significantly lower than the national average of 44% in 2009 (Federal Emergency Management Agency, 2009). The lack of emergency preparation plans provides insight into the aftermath of recent disasters. Several studies reported that many people involved in Hurricane Katrina expressed uncertainty with communications and a lack of knowledge of what actions to take (Eisenman, Cordasco, Asch, Golden, & Glik, 2007; Garnett & Kouzmin, 2007; Tuason, Guss, & Carroll, 2012). The finding in the current study suggests that emergency preparation might be severely lacking among college students.

The 2009 Citizen Corps National Survey found that the top three supplies stored in the home were packaged food, bottled water, and flashlights. This study found that the supplies most frequently chosen were flashlights (61.2%), nonperishable foods (47.9%), and first aid kits (47.9%) (Federal Emergency Management Agency, 2009). Two of the three choices from this study match with the national survey. Bottled water ranked lowest in the present study; only 9.9% of participants indicated they have a sufficient supply on-hand for emergencies.

This is an important finding as individuals can live without food for quite some time but lack of hydration hastens medical problems. As seen with events such as Hurricane Katrina some individuals were without assistance for several days surrounded by non-potable water. Further, the sample of this study faces the chance of hurricanes due to the location on the Florida peninsula, yet they are not stocking the most essential emergency preparedness item – water. The lack of water storage might be attributed to participants' young age. It might also be due to their living arrangements (e.g., in dorms with roommates) which is perceived as a reduced need for water storage in particular and the responsibility for emergency preparations in general.

The average number of emergency supply items stored by the respondents was M=3.64 (SD = 3.12) out of a possible total of ten. This indicates that significantly less than half of the possible emergency items were stored by the average participant. This is further representative of a lack of initiative among the student population. Actual participation in training is another indicator of individual preparedness. Nearly 22 % of the participants reported taking part in CPR, first aid skills, and or CERT training. This is, once again, far below the national average. It also runs contrary to the finding that the

18 to 54 age group is more likely to attend CPR training (Federal Emergency Management Agency, 2009). The results presented so far indicate a general lack of preparedness for emergencies among the participants. Fear abounds among professionals that the adult population as a whole is severely unprepared. Results from the present study provide a level of substantiation for those fears.

Involvement and Emergency Preparedness

A large body of literature has been devoted to the critical role of involvement in persuasive and strategic communications (e.g., Buchholz & Smith, 1991; Hallahan, 2000a, 2001; Kassarjian, 1981; Lord & Burnkrant, 1993). This present study predicted a positive relationship between involvement and four types of perceived emergency preparedness (natural disaster, terrorism, hazardous materials, and disease outbreak). The results did not support a relationship between these variables. This could indicate that, in addition to a general lack of emergency preparedness, there is a general lack of involvement with the four types of emergencies (mean levels of involvement ranged from 2.18 to 3.32 on 7-point scales) among college students.

Similarly, no difference was found between high- and low-involvement participants in terms of the existence of an active household emergency plan. The examination of the relationship between involvement and the number of emergency supply items stored also showed no significant results. The final test for involvement examined the relationship between the level of involvement and participation in emergency training programs. Once again the tests failed to yield any evidence supporting the relationship.

Each of the four hypotheses designed to study the relationship of personal emergency preparedness with involvement yielded non-significant results. This does not indicate that a relationship does not exist between involvement and emergency management preparedness but may be a consequence of the demographics of the convenience sample. The sample size itself is miniscule and encompasses a very specific population. This population is likely to be involved with emergencies on a basic level, but due to living arrangements, lack of funds, time management, and other extraneous variables they may not find emergencies particularly involving. The lack of involvement and preparedness put the college student population at higher risk of emergencies, however, as studies have repeatedly shown that that lack of perceived relevance, importance and concern with natural disasters often prevent the victims from taking actions for personal emergency management (e.g., Blendon, Benson, DesRoches, Lyon-Daniel, Mitchell, & Pollard, 2007; Eisenman, Cordasco, Asch, Golden, & Glik, 2007; Tuason, Guss, & Carroll, 2012).

Hallahan's involvement concept is issue-specific (in a strategic communication context); it is possible that emergencies are not perceived as an issue among college students (yet). College students are stakeholders in the public stage, not the issue stage (Hallahan, 2000a). It is likely that college students have not recognized the relevance of emergency preparedness enough to engage in action; they are essentially inert.

Hallahan defines a public as a "group with which an organization wants to build a relationship" (Hallahan, 2001, p. 29). Perhaps students do not reciprocate the need to build a relationship with emergency management officials. Instead the students may fall

into the role of the inactive audience because of beliefs that emergency preparedness is not personally relevant or they do not recognize the consequences.

Lack of concern from the inactive public puts the burden of communication is on emergency preparedness officials. The purpose of these communications should be to build a positive relationship with the inactive public (students) by gaining their attention and increasing engagement. Messages should focus on motivation by providing many opportunities to highlight the personal relevance of the topic. Emergency management officials are vying for the inactive publics' attention - to do so campaigns should take into account ways to become relevant to this specific population while increasing actionable knowledge.

As shown in the following section, self-perceived knowledge may not be enough to create an active public. Rather, the students have so many competing issues that rarely do they move from the inactive public during this time in their lives. Students are in transition from children to adults. With this transition they are learning that responsibility no longer lies with caregivers, yet they have not made the leap to full self-accountability. It is likely that students believe that government officials are responsible for the safety of the public. This has been identified as a barrier to involvement. The issue of personal emergency preparedness is cast to the wayside until problem recognition occurs, leading to consequence recognition and attendance to the message.

Knowledge and Emergency Preparedness

Knowledge was measured in the construct of self-perception. This proved to be a very important finding. Self-perception of knowledge may not equate to actual

knowledge and may have the opposite effect of false confidence in abilities. This was demonstrated by the contrary findings of perception and actual preparedness. The measurement of those participants who self-reported knowledge of emergencies had surprising and important implications. The relationship between knowledge of emergencies and having an active household emergency plan was negatively correlated. Those with low knowledge were more likely to have an active household emergency plan.

Knowledge was shown to have a significant positive relationship to the perceived level of personal emergency preparedness: The higher the perceived knowledge of the four types of emergencies (natural disaster, terrorism, hazardous materials, and disease outbreak), the higher the perceived level of personal emergency preparedness. This finding is consistent with Hallahan's Issues Processes Model which prescribes a positive relationship between stakeholder knowledge and activism. This does not demonstrate the actual level of preparedness but does indicate that individuals rate themselves on a higher level as their knowledge increases. Knowledge in this aspect of emergency management may indicate higher levels of confidence in one's own abilities to prepare but do not necessarily equate to actual preparedness.

Negative correlations were found for both areas of knowledge and measures of actual preparedness: a household emergency plan and the number of emergency supplies stored. The relationship between knowledge of terrorism and having an active household emergency plan did not follow the negative trend. A possible explanation is that of fatalism – the belief that nothing can be done. This belief has been described by Hallahan (2001) and supported in the 2009 Citizen Corps National Survey (Federal Emergency

Management Agency, 2009). With recent events such as the Boston Bombings terrorism is expected to be a highly considered topic though not in terms of personal preparedness. It is likely that students consider preparation for terrorism inconsequential in light of these recent attacks. Terrorism is a low probability, high consequence event. Individuals often fail to prepare for low probability events because other concepts take precedence. Time and finances are finite which cause individuals to pay more attention and extend resources where justification of cost is easily identifiable (Then & Loosemore, 2006).

Those with lower levels of knowledge tend to take action more often than those with high levels of knowledge. This indicates that those who perceive their knowledge as lower are more likely to prepare. Knowledge of emergencies, in this case, does not equate to storing items that would assist them in the event of those emergencies or participating in emergencies. This may occur because those with perceived knowledge do not actually have knowledge of the required actions for preparedness itself. The information obtained may be on a more general basis than on an operational level.

The negative correlation found between knowledge and the number of emergency supply items stored indicates that subjects believe they are knowledgeable yet their actions demonstrate that they are not converting that knowledge to action. This may demonstrate the gap between perceived knowledge and actual knowledge.

The convergence of these findings on the relationship between knowledge and emergency preparedness runs contrary to the theoretical basis yet provides insight into the participants' perceived knowledge of emergencies. The level of self-perceived knowledge may affect individuals' beliefs in the personal capability to prepare, provide a false sense of security, and a bloated belief in self-efficacy. Extended exposure to

emergencies may account for the inflated self-perception of knowledge. Those individuals who are not consistently exposed to emergencies may not have an inflated measurement of self-knowledge and thus feel the need to engage in emergency preparedness measures. The results show that those who believe they are more knowledgeable also believe they are more prepared yet do not show actions to support this belief.

The most important finding is a gap between perceived knowledge and concrete action. The know-do gap, though well-documented in scholarly research (e.g., Sheinberg & Nelson, 1975), was largely neglected in the Issues Processes Model. The results of the present study suggest that, at least in the context of emergency preparation, preparedness knowledge should be viewed as a necessary but not singularly sufficient condition for effective emergency planning and actions. The mean scores of perceived knowledge ranged from 3.41 to 5.22, indicating an above-average level of self-assessed knowledge among the participants. As such, the knowledge scores seem to illustrate the overconfidence effect, a bias in which an individual's subjective confidence in their judgment is reliably greater than his or her objective accuracy, especially when the confidence is relatively high (Pallier, Wilkinson, Danthiir, Kleitman, Knesevic. Stankov & Roberts, 2002).

The results further suggest that it is not enough to simply assume that available information on emergency preparedness will translate into actionable and life-saving results. Emergency preparedness managers ought to invest more resources and attention towards narrowing the gap between knowledge and action. These findings show that while individuals perceive themselves prepared they are failing to actually engage in

preparedness actions. This is an important construct when considering public relations media campaigns that attempt to increase the knowledge of the public. Providing general knowledge may not be enough to create action. The false sense that media campaigns create actionable knowledge among the targeted public may have the opposite effect, at least among those population segments that are not considered engaged. Students may measure their knowledge by the bits and pieces picked up from media outlets or by living in an area that commonly faces potential emergencies. Merely knowing that a geographic area is prone to specific emergencies is not indicative of understanding the actions to take. Yet, students may feel that constant exposure to emergencies has given them the needed knowledge base to make proper decisions.

Finally, as discussed previously, the students fall into the inactive public and require media campaigns targeted specifically for students. The emergency management officials carry the burden of communicating with the inactive public. In many organizations the inactive public is largely ignored due to the lack of resources by institutions or the false belief that inactive publics are not worth the resources spent. This is a failure of public relations, especially with the realization that inactive publics are often those that are most in need of assistance following disasters. Extending current programs to reach this inactive public by increasing personal relevance will ultimately increase motivation and likely yield extensive benefits.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

This study examined the relationship between knowledge and involvement and personal emergency preparedness. Overall preparedness was alarmingly low indicating that the sample population is not motivated to action. The study showed that even the most basic survival supplies are not being stocked in homes. The average number of supplies was well below average indicating a near complete lack of initiative. The outcomes of the variables tested, knowledge and involvement, did not support the use Hallahan's Issues Processes Model. In fact, the opposite was found in relation to knowledge. This may demonstrate a larger, macro-level lethargy within the general population.

Involvement showed no correlation to the reported levels of emergency preparedness measures. This indicates that involvement itself is not a predictor of emergency preparedness actions for this sample population. The small sample size likely influenced the results and should not negate a potential relationship between the variables. Involvement is a well researched variable and should not be dismissed as a potential motivator and predictor of behavior in emergency management. The lack of involvement indicates an inactive public. This could be driven by the belief that emergency management officials are the responsible parties during an emergency. In response to this emergency management professionals will need to shoulder the communication burden in order to target this very important population segment. This segment is at higher risk for being affected by emergencies due to their inactivity.

Creating a dialogue will increase the chance of survival and decrease the load on emergency personnel.

This study measured perceived knowledge which yielded interesting results. A negative relationship was found for knowledge and a household plan and the number of emergency items stored. Knowledge showed a positive correlation with perceived preparedness. Self-perception of knowledge may not equate to actual knowledge providing a sense of false confidence in the participants' ability to prepare. This is a problem as those who believe themselves capable are not likely to engage in preparedness actions. This creates a population blind to their own vulnerabilities.

Another important finding was the fatalism that is likely the cause of inactivity when preparing for terrorism. It is likely that the consequences are well understood due to the extensive media coverage of such events but the low probability and random nature of these attacks causes fatalism.

Consistent exposure to media concerning general emergency information may provide a false sense of knowledge. Those who believe they have more knowledge demonstrate less concrete preparedness activities. This indicates that available information may not translate into actionable and life-saving results. The gap between knowledge and action require attention from public relations professionals. Narrowing the gap should become a primary goal. General information may have the affect of creating false self-confidence. Actionable knowledge is required to narrow the gap and move the population out of inactivity and towards action.

Limitations of the Study

Although the study highlighted a relationship between knowledge and emergency preparedness there are limitations that prevent the generalization of the findings.

The most notable limitation is the population sample. This sample was one of convenience due to time and restrictions. The results would likely have been more pronounced with a larger population sample. Using students for a study of emergency preparedness is not ideal. The student population is less concerned with emergency preparedness due to age, income, and living arrangements. Many students are living in dorms and are dependent upon university officials to care for their emergency management needs. Reliance on officials has been noted as a primary barrier to emergency preparedness (Federal Emergency Management Agency, 2009).

A second limitation is the survey itself. While many of the questions were adapted from a well organized study completed by FEMA, the concepts were not as well developed for this study. FEMA's study was designed to test current levels of preparedness and to a smaller extent, knowledge of emergency preparedness. FEMA's study was concerned with accumulating descriptive statistics and comparing many different potential variables. This study attempted to narrow the focus to knowledge and involvement without including the extensive influence of other variables. A more in depth qualitative study would provide many of the details that this study could not measure. Allowing participants to respond to open-ended questions would provide more insight into the influencers and barriers to emergency preparedness actions.

The final limitation of the study is the time constraints. A longitudinal study on participants could provide insight at different stages of life. Students are inherently

occupied with other areas of life. This preoccupation likely skewed the results of the study. Following participants through different phases of life would provide more information as to the effects of external variables can be better identified throughout these phases.

Suggestions for Future Research

Despite the limitations of the study, the results raised a number of issues related to the state of preparedness among United States citizens in general and students specifically. Results demonstrated that knowledge does have a relationship to aspects of emergency preparedness. This study did not fully realize that relationship. Research has shown that lack of knowledge affects the actions of individuals, but in the opposite direction than was expected. The extent of that relationship within the realm of emergency preparedness has yet to be fully explored. This study only applied questions from FEMA's 2009 Citizen Corps National Survey that pertained to knowledge and preparedness. Although a study on the scale of FEMA's has not been accomplished, other studies have supported its validity by testing a smaller number of variables. Future research should be undertaken to strengthen findings on a more specific level.

Numerous studies have tested the role of knowledge and involvement on specific populations. None, however, have tested these variables in relation to emergency preparedness. This small study did not find a relationship between involvement and personal emergency preparedness. It is recommended that further studies with more diverse population samples attempt to measure this relationship. With a larger, more diverse population sample the results will be more generalizable and thus strengthen the

literature base. Age may affect the results of future studies and should be considered as moderator variable.

The study provided a basis for further research into emergency preparedness as a whole. The results for this specific population of students showed a disregard for personal emergency preparedness which has effects on the entirety of emergency management. It is recommended that qualitative and mixed methods approaches be applied to potentially identify variables that may influence actions. Longitudinal studies, especially those involving the incorporation of experimentation with exposure to emergency management education, should be undertaken to determine the actual effect of knowledge on personal preparedness.

Case studies of current emergency management media campaigns should be studied their effectiveness in fostering action and also for inclusion of the variables of knowledge and involvement. The affect of these media campaigns on individuals will provide more insight into the influencers of personal preparedness. The federal government and many states have very aggressive public service campaigns focused at increasing preparedness. Examination of these campaigns effectiveness will focus future campaigns and increase message reception among the intended audiences.

A final suggestion for future research is to perform experiments to measure the narrowing of the know-do gap. This important theory should be accounted for in future research studies to determine the extent to which it exists in the realm of emergency management. Identification of methods to narrow the gaps is also warranted and should be the primary goal of future research.

Recommendations

Actionable information needs to be presented to the public in order for citizens to make correct risk management decisions about personal emergency preparedness. Media campaigns that focus on providing information and resources to individuals are warranted. There should be a focus on increasing knowledge but also determining the influencing factors for specific populations. Many issues vie for the attention of individuals. Emergency management and communications professionals must determine the best avenues for reaching their intended audiences. Students, specifically, are just setting foot into the realm of caring for themselves. Creating messaging specific to students that takes into consideration their unique circumstances is likely to increase their attendance to the message.

In many past studies involvement has been shown to have a relationship to behavior. This was not mirrored in this study although there is still enough past evidence to show that a correlation between involvement and emergency management preparedness is worth investigating. If emergency management and communications professionals can identify influential variables of emergency preparedness behavior then successful communications campaigns can make an impact on the overall health of the emergency management system. This would increase the likelihood of success during response and recovery following major disasters and decrease the dependence on first responders and the emergency management community as a whole. Ultimately, this could increase preparedness and decrease the loss of life in the event of emergencies.

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APPENDIX 1

Consent Form

Dear Participants,

I'd like to invite you to participate in a research study on emergency management communication by Ms. Season Groves, a graduate student in the School of Mass Comm. The purpose of this research study is to measure the emergency preparedness actions of the participant population.

You are being asked to participate in this study because you are at least age 18. This study will take place online. You are being asked to follow a link to SurveyMonkey and respond to 24 multiple choice questions by clicking on the appropriate answer. Some questions will be on a scale of 1 to 5, others will ask that you rank order items, and others are designed to collect demographic information. The first question of the survey contains the confidentiality agreement. Choosing yes will move you onto the rest of the survey. Choosing no will end the survey. Follow-up contact is not required. Your participation is expected to take about 10 minutes of your time.

There are no risks anticipated with participation in this study. The study is not expected to immediately benefit you personally. However, the study is expected to benefit society and the emergency management /homeland security fields by providing insight into the motivation for personal emergency preparedness which may assist the development of emergency management communication campaigns.

No compensation will be provided for your participation in this study.

Please understand that participation is completely voluntary. You have the right to refuse to answer any question(s) for any reason, without penalty. You also have the right to withdraw from the research study at any time without penalty. If you want to withdraw from the study, please do not complete the online survey and do not submit it. You may choose to simply not respond in any way to this email invitation. Your decision to participate or not to participate will not affect your student status or course grade.

Your individual privacy will be maintained throughout this study. In order to preserve the confidentiality/anonymity of your responses, a faculty member from the university has sent this mass e-mail invitation. The link provided connects you to the survey without any request for personally identifiable information (name, e-mail address, etc.).

If you have any questions or would like additional information about this research, please contact the Principal Investigator, Season Groves at season.groves@gmail.com. You can also contact the faculty research sponsor, Dr. Sao-Kang Liu at sliu@usf.edu. The University of South Florida Institutional Review Board (IRB) for Human Subjects Research has approved this project. If you have questions about your rights, general questions, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638 and reference IRB # 13353.

Please retain this email invitation to participate in the research study for your records and as evidence of informed consent.

Thank you for your consideration

APPENDIX 2

Survey Questionnaire

1. Confidentiality Statement:
The purpose of this research is to obtain participants' views about their state of emergency preparedness in four major categories. Your participation in this survey is entirely voluntary. No identifying information will be collected and your responses will be kept confidential. No identifying information will be associated with your responses or included in any reports. For questions about the survey administration or confidentiality concerns please contact Season Groves at Season.Groves@gmail.com.

Please choose yes below to continue onto the survey. Thank you for your cooperation and time.

Yes, I understand the confidentiality statement and choose to continue onto the survey.

No, I choose not to continue onto the survey and understand I will now be redirected from this survey.

Throughout this survey, whenever the term "natural disaster" is used, it is referring to events caused by a force of nature that could disrupt water, power, transportation, and emergency and public services. Examples to consider: earthquake, flood, tornado, wildfire, hurricane, etc. Consider the event that is most likely to affect your area.

The term "terrorism" refers to violent events carried out by individuals or groups for the purpose of political or social objectives. Examples to consider: explosives, biological, chemical, or radiological.

"Hazardous accidents" cause harm to a person or damage to property but are not of intentional nature. Examples include: a large scale chemical spill, power plant accident, or over pressurization of holding tanks.

A "disease outbreak" refers to the sudden or extensive occurrence of a disease in your area. Example: the bird flu epidemic.

2. Using the scale provided, how would you describe your personal level of emergency preparedness?

Very prepared						Not at all prepared
○	○	○	○	○	○	○

3. I currently have an active household emergency plan.

- ○ Yes
- ○ No

4. Choose all disaster supplies you have in your home. These supplies should all be separate from day-to-day supplies, to be used only for emergencies. All supplies should be ample for the entire family.

- ☐ 1 gallon of water per person per day
- ☐ Non-perishable food
- ☐ A portable battery-powered radio
- ☐ A supply of batteries
- ☐ A flashlight;
- ☐ A first aid kit
- ☐ Photocopies of important paperwork
- ☐ Financial Documents
- ☐ Medications
- ☐ Eyeglasses

5. In the past 2 years, I have ...

- ○ Attended a meeting on how to be better prepared for a disaster
- ○ Attended CPR training
- ○ Attended first aid skills training
- ○ Attended training as part of a Community Emergency response Team (CERT)
- ○ None of the above

6. Using the scales below, please rate the extent each disaster type is personally relevant to you.

	Very personally relevant					Not personally relevant at all
Natural disaster	○	○	○	○	○	○
Terrorism	○	○	○	○	○	○
Hazardous materials	○	○	○	○	○	○
Disease outbreak	○	○	○	○	○	○

7. Using the scales below, please rate the extent each disaster type is important to you.

	Very important to me					Not at all important to me
Natural disaster	○	○	○	○	○	○
Terrorism	○	○	○	○	○	○
Hazardous materials accident	○	○	○	○	○	○
Disease outbreak	○	○	○	○	○	○

8. Using the scales below, please rate the extent each disaster type is of personal concern to you.

	Of concern to me						Of no concern to me
Natural disaster							
Terrorism							
Hazardous materials accident							
Disease outbreak							

9. Please rate how much you believe personal preparation will help you handle ...

	I believe very much						I do not at all believe
Natural disaster.							
Terrorism.							
Hazardous materials outbreak							
Severe disease outbreak							

10. How confident are you in your knowledge of preparation for the following?

	Very confident						Not at all confident
Natural Disaster							
Hazardous Materials Accident							
Contagious Disease Outbreak							
Terrorist Act							

11. I will know what to do in the event of...

	Strongly agree						Strongly disagree
A terrorist attack							
A hazardous materials accident							
A contagious disease outbreak							
A natural disaster							

12. To what extent are you knowledgeable with the following...

	Very knowledgeable						Not all knowledgeable
Alerts and warning systems in your community							
Official sources of public safety information							
Community evacuation routes							
Shelter locations near me							
Who to contact for help with evacuating or getting to a shelter							
Where to find information on local hazards							
Where to find information about a local public health emergency							
My children's school emergency and evacuation plan							

13. How confident are you in the following sources of disaster information?

	Very confident						Not at all confident
Local media	○	○	○	○	○	○	○
Local government official	○	○	○	○	○	○	○
Government website	○	○	○	○	○	○	○
Health care provider	○	○	○	○	○	○	○
Neighborhood association	○	○	○	○	○	○	○
Faith-based organization	○	○	○	○	○	○	○
Schools or child-care facilities	○	○	○	○	○	○	○
Workplace	○	○	○	○	○	○	○
Friends or family members	○	○	○	○	○	○	○

14. I have volunteered to help in a disaster.

○ Yes ○ No

15. In your current residence, do you live

○ With family members
○ With roommates (including boyfriend/girlfriend)
○ With both family members and roommates
○ Alone

16. Which best describes your job status?

- Work full-time
- Work part-time
- Not working
- Other

17. From which of the following sources have you received information about disasters in the last 12 months? (Check all that apply.)

- Friends or Family
- Local media
- Local government official
- Government website
- Health care provider
- Neighborhood association
- Faith-based organization
- Schools or childcare facilities
- Workplace
- None
- Other

18. I would describe the location of my residence as

- Urban
- Suburban
- Rural
- Don't know

19. What is the highest level of education that you attained?

- Less than 12th grade (no diploma)
- High school graduate or GED
- Some college but no degree
- Associate degree in college
- Bachelor's degree
- Master's degree
- Doctorate degree
- Don't know

20. Which of the following best describes your race?

- White
- Black or African American
- Hispanic or Latino
- Asian
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander
- Other

- [ ] Don't know

21. Please enter your age.

22. What is your annual household income range?

- [ ] Less than $25,000
- [ ] $25,000 to less than $50,000
- [ ] $50,000 to less than $75,000
- [ ] $75,000 or more
- [ ] Don't know

23. What is your gender?

- [ ] Male
- [ ] Female