

FIRST RESPONDERS: COPING WITH COMMUNITY  
TRAUMATIC EVENTS

by

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ABSTRACT  
FIRST RESPONDERS: COPING WITH COMMUNITY  
TRAUMATIC EVENTS  
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The researcher conducted an online survey through social networking sites to identify coping processes utilized by first responders responding to a Community Traumatic Event (CTE) and to identify beneficial supportive services. The majority of participants utilized positive coping styles with “positive reappraisal” being the most common type of coping used. Debriefing was found to be the most commonly used supportive service and was helpful for the majority of participants who used it. Factors including type of CTE and proximity of the CTE to friends and family also played a role in how first responders coped. Implications for research and practice are also discussed.



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CHAPTER 1  
INTRODUCTION

1.1 Rationale

*1.1.1 Prevalence of the Problem*

It has long been documented that first responders, such as firefighters, police, and Emergency Medical Technicians (EMTs), have high stress occupations (e.g. Kop, Euwema, & Schauell, 1999; Ortega, Brenner, & Leather, 2006; Varvel, He, Shannon, Tager, Bledman, Chaichanasakul, et al., 2007). On a day-to-day basis, these groups work independently and jointly to keep citizens safe from the various dangers within their communities. When a Community Traumatic Event (CTE) occurs, that is, an event that impacts the economic, physical, mental, and/or emotional aspects of all or most of the community in a negative way (Praetorius, 2006), the daily stress faced by workers is compounded. CTE's are not new; yet, the enormity of various disasters continues to meet unprecedented levels. Natural disasters, such as Hurricane Katrina, which impacted an estimated 700,000 people or more (Congressional Research Service, 2005) and the South Asia Tsunami of 2004, which resulted in over 8,000 people who were declared missing or dead (Merlin-Scholtes, 2005), require emergency personnel to deal with casualties and trauma on a scale significantly larger than their daily work activities.

Human-made disasters such as the September 11, 2001 terrorist attacks and the 1995 Oklahoma City Federal Building bombing rival the devastation of many natural disasters. These CTEs were so large in scale that first responders from outside of the disaster area were required in order to meet the needs of the community. In contrast, small scale CTEs, such as the Virginia Tech University Shooting that left 33 people dead (Hauser, 2007), still result in a significant impact on the community affected.



### *1.1.2 Impact of Problem*

There is significant interest in the effects of traumatic events and how to cope with the aftermath of these events. Castellano and Plionis (2006) state that first responders often fall into two unique subgroups: "(a) those first responders who are at a higher than normal risk due to terrorist activities, and (b) those first responders who are simultaneously rescuer-victim as in Hurricane Katrina" (p. 326). The very nature of the job poses an increased risk for first responders. They encounter life and death situations on a daily basis; however, these risks increase significantly when a community wide disaster occurs. When faced with disasters that impact their home community, first responders have the potential of being both the victim and the rescuer. During the Hurricane Katrina recovery effort, many first responders left the job temporarily to care for their own families only to return in order to continue in the rescue efforts. For many, this additional stress can compound and begin to have deleterious consequences. Due to training, work experience, and/or role as a first responder, their experience of a community disaster will vary from that of a typical bystander, which requires a different approach to addressing their needs (Duckworth, 1991).

Duckworth (1991) discusses the variable extent to which psychological trauma can impact first responders differently. Psychological impact can vary from "those that are transitory and self correcting to those that are longer-term, incapacitating, and meet the criteria for psychological or psychiatric disorder" (Duckworth, 1991, ¶ 7). The personal connection felt with the event plays a significant role in determining the impact a particular event will have on a person responding to that event. If an individual can emotionally detach from the victims, the impact may be lesser than if the person identified with the victim or felt his/her life was in danger. In many community wide disasters first responders also experience additional distress as they fear for loved ones who may have also been impacted by the disaster (Somer, Buchbinder, Peled-Avram, & Ben-Yizhack, 2004).

Faced with ongoing or extreme stress, first responders resort to various ways of coping to deal with the trauma. Maladaptive coping strategies, such as increased alcohol consumption,

have been identified in first responders after a traumatic event (Benedek, Fullerton, & Ursano, 2007). In the aftermath of a traumatic event, family and marital problems among those affected appear to be more prevalent (Osofsky, 2008). For first responders, these additional detrimental effects not only impact their personal relationships but also their job performance resulting in decreased efficiency and efficacy. Identifying whether or not different types of responders are utilizing different strategies (maladaptive vs. adaptive) in relation to types of CTEs (natural vs. human-made) may provide insight and guidance into appropriate interventions that may need to be altered based on type of CTE and/or type of first responder.

### *1.1.3 Attempts to Address the Problem*

Historically, crisis intervention, the primary form of supportive service, has focused on the general public and the United States military. Castellano and Plionis (2006) outline two fields that have emerged as a response to significant traumatic events. While crisis intervention is focused primarily at civilian populations, disaster mental health services are directed towards first responders. It was not until the 1990s that a need for crisis intervention for first responders was addressed.

The focus in recent years has been to promptly diagnose and treat the symptoms of Post Traumatic Stress Disorder (PTSD) in first responders (e.g. Benedek, Fullerton, & Ursano, 2007; Fullerton, Ursano, & Wang, 2004; Grieger, Staab, Cardeña, McCarroll, Brandt, Fullerton, et al., 2000). Debriefing procedures have been implemented in many organizations. To date, supportive services for first responders have focused on the creation of an all-inclusive procedure to treat all types of first responders (e.g. Emergency Medical Technicians, police officers, fire fighters, National Guard, Red Cross Volunteers). While this approach holds some merit with certain types of first responders, it has not been made clear as to the effectiveness for any and all types of responders. Castellano and Plionis (2006) compare the three crisis intervention models (i.e. psychological first aid, critical incident management, Federal Emergency Management Association/Substance Abuse Crisis Counseling Program) used on first responders following a CTE and determined that no single model is appropriate at all times during the crisis. They go on

to note that the type of intervention may need to be modified based on the nature of the CTE. Nonetheless, some researchers recommend that some treatment is better than no treatment and emphasize the need to make these mandatory to ensure all first responders have access to some resource in order to process the traumatic event (Hokanson & Wirth, 2000).

### 1.2 Purpose Statement

The purpose of this study was to identify the primary coping process utilized by first responders who have responded to a community traumatic event, as well as to identify what, if any, supportive activities were beneficial for individuals who respond to these events.

### 1.3 Objectives

Specific objectives formulated to guide this study included efforts to:

1. Describe the first responders on the following characteristics:
  - a. Gender
  - b. Age
  - c. Race
  - d. Hispanic origin
  - e. Type of first responder (Role and Paid v. Volunteer status)
  - f. Length of time as a first responder
  - g. Number of CTEs responded to
  - h. Type of CTE used for Ways of Coping – Revised (WOC-R)
  - i. Proximity of CTE in relation to home and friends/family
  - j. Types of supportive services
  - k. Participation in supportive services
  - l. Perception of supportive services
  - m. Scores on the WOC-R
2. Identify if a relationship exists between type of coping process (positive or negative) and manner in which supportive services are offered (i.e. mandatory, offered, not offered).
3. Compare coping processes of first responders across the variables of:

- a. Gender
  - b. Age
  - c. Race
  - d. Hispanic origin
  - e. Type of first responder (Role and Paid v. Volunteer status)
  - f. Length of time as a first responder
  - g. Proximity of CTE in relation to home and friends/family
  - h. Type of CTE
4. Compare services utilized and perceptions of these services across the variables of:
    - a. Type of first responder (Role and Paid v. Volunteer status)
    - b. Type of CTE (Natural v. Human-made)
  5. Identify if a model exists to determine type of supportive service most helpful depending on coping process identified using the WOC-R.

#### 1.4 Significance of Study

This study focused on the coping processes used by first responders during a CTE. Many studies have identified the negative coping mechanisms first responders use; however, the focus remains on intervention after the CTE and how to address the negative coping mechanism utilized once an individual has reached a point worthy of a psychiatric diagnosis (e.g. Post-Traumatic Stress Disorder). This study explored the process first responders use to cope during the traumatic event rather than after the event has been resolved. By identifying the processes that allow first responders to continue to work in times of extreme stress, it is possible to identify more effective ways to intervene during or following a CTE. The study also identified what types of intervention first responders found useful, which provides guidance to supportive workers so that they are better able to intervene appropriately.

#### 1.5 Definitions

- Community Traumatic Event (CTE) - an event that impacts an entire community, or most of the community, in a negative way (Praetorius, 2006).

- Community - a group that consists of a number of people with something in common that connects them in some way. This common connection may be a place where members live (e.g. city or neighborhood), an activity (e.g. job or school), or other common identifications (e.g. religion or language) (Homan, 2008).
- Coping Process – “the behaviors, thinking, and emotional processes that a person uses to handle stress and continue to function” (Kanel, 2005, p.12).
- First Responders - trained individuals who in the early stages of a catastrophic event are responsible for the protection and preservation of life, property, evidence, and the environment. This includes Federal, State, and local government emergency public safety, law enforcement, emergency response, emergency medical, and related personnel, agencies and authorities (Homeland Security Act, 2002).
- Natural CTE – an event that impacts an entire community that is the result of a naturally occurring event such as hurricanes, tornadoes, tsunamis or, earthquakes (Praetorius, 2006).
- Human-made CTE – an event that impacts an entire community that is the result of human intervention such as terroristic activities, serial murders, serial rapes, or bomb threats (Praetorius, 2006).
- Supportive Services – a variety of services provided following a Community Traumatic Event that provide a level of emotional and psychological support to persons who have been impacted by the CTE.

## CHAPTER 2

### REVIEW OF RELATED LITERATURE

#### 2.1 Theoretical Framework: Crisis Theory

Crisis theory, first conceptualized by Caplan (1964), built upon the work of Lindemann (1944) and Erikson (1950, 1959). Lindemann's (1944) work provided understanding into the behaviors of bereaved individuals who experienced crises brought about as a result of a personal loss, while Caplan (1964) expanded this focus to include all forms of traumatic events (James, 2008). Caplan (1964) sought to develop an understanding of environmental and individual factors that contribute to poor mental health and how those factors could be addressed through primary prevention community services. Caplan's equilibrium/disequilibrium framework, to be elaborated on in the next section, provides the context within which this study emerges.

##### *2.1.1 The Equilibrium Model*

In Caplan's (1964) original model, "people are seen as being in a state of psychological disequilibrium and need to return to a steady state in which they can deal with issues in their life effectively" (Payne, 2005, p. 105). Everyone experiences crisis and disequilibrium; however, it is the manner in which an individual returns to equilibrium that varies, specifically, through the utilization of one's own resources and previous knowledge. Crisis theory is based on the assumption that individuals possess "supplies" (i.e. physical, psychosocial, and sociocultural) in proportion to his/her stage of growth and development (Caplan, 1964). Physical supplies include things that are necessary to grow and maintain bodily health (e.g. food, shelter). Psychosocial supplies include things that satisfy a person's interpersonal needs directly (e.g. healthy and satisfying relationships with family, friends, co-workers). Sociocultural factors may be direct or indirect and include "influences on personality development and functioning which are exerted by the customs and values of the culture and the social structure" (e.g. societal expectations,

established institutional support systems) (Caplan, 1964, p. 33). When attempting to return to a state of equilibrium, individuals refer back to their “supplies” to help them transition. When “supplies” are lacking, or unable to be utilized, the individual becomes increasingly susceptible to stress that may lead to a breakdown in overall mental health.

Crisis serves as an impetus for change and is viewed as a “transitional period presenting an individual both with opportunity for personality growth and with the danger of increased vulnerability to mental disorder” (Caplan, 1964, p. 36). When traumatic events occur, some individuals are able to draw upon their existing resources and previous experiences to cope effectively with the event. As a result, the incident becomes an opportunity for growth. In contrast, individuals who are unable to resolve the crisis by means of established skills and past experience may resort to using “regressive, non-reality based, or socially unacceptable ways of dealing with predicaments which may lead to neurotic or psychotic symptoms as a way of avoiding or symbolically mastering his problems” (Caplan, 1964, p. 37). Crisis theory posits that by helping the individual “extend his repertoire of effective problem-solving skills” he/she will not need to resort to using maladaptive ways of coping with the crisis (Caplan, 1964, p.37).

## 2.2 Community Traumatic Events

For first responders, dealing with individuals who are in a state of crisis is a common occurrence. The nature of the work first responders engage in is one that encompasses out of the ordinary exposure to traumatic incidents. While first responders have long been involved in these incidents, the prevalence of large-scale disasters appears to be on the rise. Naturally occurring disasters are often unpredictable in nature and beyond the control of human intervention. Tsunamis, for example, have been occurring for thousands of years; however, in 2004, the tsunami that swept across Southeast Asia gave inhabitants of coastal areas little to no warning leaving more than 8,000 people declared missing or dead (Merlin-Scholtes, 2005). The United Nations Environment Programme (UNEP, 2005) reports that natural disasters have been on the rise moving from less than 50 in 1900 to more than 350 by the year 2000.

In contrast, human-made events rival the magnitude of many natural disasters. The National Counterterrorism Center (NCTC, 2008) estimated that approximately 14,000 terrorist attacks occurred globally during 2007, which resulted in more than 22,000 deaths. While the number of attacks remained relatively close to that of the previous year, the death toll increased by 9.0% (NCTC, 2008). The United States Fire Administration (USFA, 2005) estimates 3,300 fires resulted in the death of 3,380 people. They go on to report a rise in arson related fires resulting in a fatality (USFA, 2005). Deaths by naturally caused fires were the lowest of all the causes of fires resulting in fatalities (USFA, 2005).

### *2.2.1 Impact of Community Traumatic Events*

Regardless of the magnitude of a traumatic event, individual first responders are forced to resolve crises promptly in order to fulfill their role at a traumatic event. Not every event responded to will have deleterious effects on every first responder; however, due to the nature of the profession, there is an increased likelihood for first responders to encounter one or more traumatic events that cannot be dealt with by means already in their possession.

First responders are typically among the first ones on the scene in the aftermath of a disaster and typically remain until the crisis is resolved. In a review of the literature investigating the mental health of workers and volunteers who responded to the September 11<sup>th</sup> attacks, Bills, Levy, Sharma, Charney, Herbert, Moline, et al. (2008) found multiple articles that compared rates of Post-Traumatic Stress Disorder (PTSD) in workers who were exposed to the September 11<sup>th</sup> event and workers who were not. All but one indicated first responders who were exposed to the traumatic event had higher rates of PTSD than workers who were not exposed.

Prolonged exposure to these traumatic events has also been found to be detrimental to the well being of the first responder (Bartone, Ursano, Wright, & Ingram, 1989.) In large-scale disasters, rescue and clean up efforts are often prolonged, which compounds the daily stress experienced by first responders. When large-scale community wide disasters occur, initial rescue efforts often turn into ongoing rescue and/or recovery efforts lasting for days, weeks, and even months as was seen following the September 11<sup>th</sup> terrorist attack and Hurricane Katrina.



### *2.2.2 Impact of Psychological Trauma*

Researchers have found that involvement in a critical incident, which may or may not be a CTE, has a significant, positive association with posttraumatic stress; however, this diminishes as a function of unit-level supervisory support (Bacharach & Bamberger, 2007). These findings indicate that access to resources may be an additional contributing factor to how first responders cope. This concept aligns with crisis theory, indicating that adequate resources may contribute to better psychological outcomes. In a follow up study, Bacharach, Bamberger, and Doveh (2008) found firefighter units with less adequate resources were more vulnerable to distress and psychological sequelae following the September 11<sup>th</sup> World Trade Center attacks.

Within the literature, there has been a focus on identifying maladaptive strategies that first responders employ to cope with trauma. The most common factor investigated is drinking to cope, primarily focused on the firefighter population; however, the implications for other populations hold some merit. Bacharach, Bamberger, and Doveh (2008) found, for a group of firefighters, a link between the level of involvement in a critical incident and drinking to cope. This further supports the findings of North, Tivis, McMillen, Pfefferbaum, Cox, Spiznagle, et al. (2002) who found alcohol use disorders and drinking to cope were significantly associated with indicators of poorer job functioning in firefighters following the Oklahoma City bombing. Stewart, Mitchell, Wright, and Loba (2004) identified an association between the frequency and severity of PTSD symptoms and coping to drink amongst a group of community volunteers who responded to an airplane crash. Consistent with previous studies, Bacharach, Bamberger, and Doveh (2008) confirmed there is a link between the intensity of involvement for firefighters during critical incidents and drinking to cope.

### *2.2.3 Coping Processes*

Throughout the literature, researchers have examined the role of coping processes in various types of first responders. While many have found significant findings (to be explained below), the measurement tools between studies have varied limiting any kind of meaningful comparisons between studies. One study identified coping mechanisms, as identified by the

Coping Mechanisms Questionnaire (CMQ; adapted from Dyregrov & Mitchell, 1992), utilized by various types of disaster workers; however, effectiveness of each method was not provided (Holaday, Warren-Miller, Smith, & Yost, 1995). Chang, Lee, Connor, Davidson, and Lai (2008), utilized the Ways of Coping – Revised (Folkman & Lazarus, 1988). The following strategies were found to modify the effect of direct trauma involvement on psychiatric morbidity: confrontive coping, distancing, and planned problem solving. In another examination of the same population, Chang, Lee, Connor, Davidson, Jefferies, and Lai (2003) identified confrontive coping as a predictor of psychiatric morbidity. Distancing, escape-avoidance, and positive reappraisal were predictors of posttraumatic morbidity. The COPE Questionnaire (Carver, Scheier, & Kumari-Weintraub, 1989) was used in conjunction with the Drinking Motives Questionnaire (DMQ; Cooper, Russell, Skinner, & Windle, 1992) to correlate coping motives (Stewart, Mitchell, Wright, & Loba, 2004). Stewart, et al. (2004) found DMQ Coping Motives to be significantly positively associated with frequency and severity of PTSD symptoms in addition to the finding that the frequency and severity of PTSD symptoms were associated with greater use of maladaptive coping strategies.

### 2.3 Gaps in Research

A review of the selected literature indicates that there is a lack of available research demonstrating the differences in coping strategies among different types of first responders. While examining specific groups (e.g. firefighters only, police only) may provide insight into specific cultures, investigation in the similarities and differences between groups may guide primary intervention efforts directly following a traumatic event. Often, when events impact an entire community multiple types of first responders will be required at the scene. The gap in the literature leaves practitioners at a disadvantage when applying interventions with various types of first responders.

How first responders cope with these incidents appears to be related to the development of negative or detrimental behaviors in the future (e.g. excessive drinking). It is not clear as to whether the maladaptive coping is a result of the CTE or if other underlying factors are influencing

the coping processes demonstrated. A better understanding of the underlying factors that contribute to these behaviors, in light of a traumatic event, merits further investigation. Identifying what, if any, skills first responders already possess to enable them to cope effectively with daily stressors may provide insight into responses and coping skills utilized in the aftermath of a traumatic event.

There are clearly several additional factors that appear to be influencing coping responses (e.g. personality, length of exposure to event). Gaining a better understanding of the role these factors play in conjunction with coping processes may provide additional insight into the experience of the first responder during a traumatic incident. Supervising organizations charged with the well being of first responders can better assist these individual in advance of, during, and following a CTE.

The next step in the research process is to identify what coping strategies are being used by different types of first responders. A common measurement tool should be utilized across types of first responders so that comparisons can be made between groups in order to better understand what strategies are effective as opposed to detrimental to first responders. Contributing factors (e.g. age, experience, impact on family/friends) should also be explored in order to identify the most vulnerable populations to target for intervention efforts in the future. Lastly, understanding the significance of a CTE to a first responder and how this association impacts his/her ability to cope should also be explored. The lack of research related to natural disasters should be expanded and contrasted to disasters that are the result of human intervention.

## CHAPTER 3

### METHODOLOGY

The purpose of this study was to identify the primary coping process utilized by first responders who have responded to a community traumatic event, as well as to identify what, if any, supportive services were beneficial for individuals who responded to these events. This study was designed as an exploratory study. Approval to conduct this study was obtained from the University of Texas at Arlington Institutional Review Board (IRB #2008-444S, Appendix A). Requests for modification were also obtained from the University of Texas Institutional Review Board in order to recruit additional participants (IRB #2008-444S Modification 1 & IRB #2008-444S Modification 2, Appendix B & Appendix C).

This study was exempt from informed consent procedures due to the online nature of the survey. There was no direct contact with any participant therefore it was not possible to obtain a traditional signed informed consent form. While an electronic signature would have been feasible, it would create a link to the person's identity, eliminating their choice to remain anonymous. The opening page of the survey stated:

This survey contains questions about your experience following a Community Traumatic Event and services that may have helped you to cope following this event. The survey data will be kept anonymous and confidential, and you will not be asked to identify yourself in any way. If you choose to be contacted about research efforts relating to first responders in the future you will be directed to a separate webpage to provide contact information. If you choose to provide your contact information it will not be linked to you answers in any way. If you choose to participate in this survey, please click the "next" button to proceed. If you do not choose to participate, you may close this window to exit the survey at any time.

By continuing with the survey the participant indicated s/he consented to participation. For additional questions or concerns contact information for the principal investigator was provided. Due to the potentially distressing nature of this study, the following precautions were taken: 1) throughout the survey, a message encouraged participants who felt distressed and wanted to talk to someone to refer to the Befrienders Worldwide website; a link was provided which allowed participants to choose a country, state and/or local area and provided the participant with contact information to locate a crisis hotline in their area; 2) at the completion of the survey, the United States National crisis line phone number was provided as well as a link to the Befrienders website to locate crisis line phone numbers for other countries.

### 3.1 Sample

The administrators of multiple Facebook® groups were contacted and asked if they would be interested in assisting with the study. The administrators for the Facebook Firefighters and EMTs, Support Our First Responders!, Firefighter's and EMT's, EMT-Emergency Medical Technicians, Emergency Response Personnel of Facebook, Army National Guard, Red Cross and American Red Cross groups indicated they would support this study. One week after data collection began the Fire and Rescue Facebook® group administrator indicated a willingness to recruit participants. As a result, IRB #2008-444S Modification was submitted and approved in order to include this group in the final sample (Appendix B). Letters of support were provided from each group administrator (Appendix D). Although each administrator agreed to assist by contacting members of their respective groups and inviting them to participate in the study this was not done in the same manner by all administrators. The administrators invited members of the group to participate through one or more of the following locations: recent news, posted items, discussion board message, events, or global e-mail message. As a result, the principal investigator made additional postings to each of the previously listed websites in an effort to recruit additional participants.

One month into data collection, the researcher contacted the Training Resources and Data Exchange (TRADE) Program Manager who agreed to post information regarding the study

in the TRADENET Newsletter that is distributed weekly to members. The TRADE network is comprised of “directors of the 50 State Fire Service Systems ... senior executive training officers ... and representatives from fire departments which protect populations greater than 200,000 and/or have more than 400 uniformed personnel” (U.S. Fire Administration, 2008, ¶3). A second modification to IRB #2008-444S was submitted and approved in order recruit participants through this network (Appendix C).

For the purpose of this study, a combination of convenience and snowball sampling was used to obtain participants. Participants were invited to participate in the study if they were a member of one of the participating Facebook© groups or subscribed to the US Fire Administration’s Net Forum; therefore, this sample was not an all-inclusive representation of first responders. Rather, only those first responders who have access to the Internet and were members of the previously mentioned groups or network were represented in the convenience sample.

Snowball sampling was also used to recruit additional participants. First responders were encouraged to invite other first responders to participate in the study by sharing the electronic link to the survey; therefore, first responders who were not members of the Facebook© community or US Fire Administration’s Trade Net Network may have participated. Since the survey was available to anyone who had access to the Internet there was the possibility that first responders who have not responded to a community traumatic event or were not a first responder may have accessed the survey. Skip logic was utilized within the survey to screen out ineligible participants and prevent them from proceeding with the survey based on their responses to the initial questions. Participants were eligible for this study if they met the following requirements: were currently (or have been in the past) a first responder, were age 18 or older, and have responded to a CTE. Data collection continued for two and a half months based on the follow-up procedure outlined by Dillman (2000) which initiates follow up contact two, four and eight weeks after the initial invitation letter is sent.

## 3.2 Instrumentation and Data Collection

### *3.2.1 Developed Instrument*

The purpose of this study was threefold: to identify supportive services used and perception of those services following a CTE and to learn about coping styles after a CTE. In order to identify supportive services, it was necessary to develop questions that address the various aspects of supportive programs. Questions were developed to identify types of supportive programs that have been utilized by first responders as well as the perceived benefit of these programs. Additional questions were included to identify if these programs were provided by the supervising organization and if so, whether or not the services were mandatory. If supportive services were not available or not utilized, questions were included to address the lack of services and to identify what services would have been helpful following a response to the participants specified CTE. The respondent was given the opportunity to identify any specific program that has been particularly useful. Lastly, demographic information was collected including information on age, gender, ethnicity and race. Each question in this section of the survey was assessed for content validity by the primary researcher and three committee members during the initial proposal meeting and consensus was reached.

### *3.2.2 Ways of Coping – Revised (WOC-R)*

The Ways of Coping – Revised (WOC-R) (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986) was the instrument utilized to capture information relating to the coping processes used by first responders during the CTE. The Consulting Psychologists Press made some modifications to this scale, which is now copyrighted and has been purchased by MindSpring. The cost associated with purchasing the latest version of this scale was not feasible for this study. Folkman provided the WOC-R (that did not have the modifications made by MindSpring) and suggested using the version from the study of middle-aged married couples (Folkman et al., 1986) because the “factor analysis was based on a broader sampling of subjects and stressful encounters” (S. Folkman, personal communication, April 25, 2008) (Appendix E). The WOC-R has been used with the first responder population; specifically firefighters who

engaged with rescue work in the Chi-Chi earthquake in Taiwan (Chang, et al., 2008). The internal consistency alphas for each of the eight coping strategies included in the WOC-R were 0.73 for confrontive, 0.76 for distancing, 0.85 for self-control, 0.78 for seeking social support, 0.75 for accepting responsibility, 0.81 for escape-avoidance, 0.80 for planned problem solving, and 0.85 for positive reappraisal (Chang, et al., 2008). The reliability coefficients for the eight subscales ranged from 0.72 to 0.83 (Chang, et al., 2003). Chang, et al. (2008) note the WOC-R was used to determine general coping strategies rather than specific strategies used during the earthquake rescue effort. This varies from the purpose of the WOC-R and how it will be utilized in this study.

The Ways of Coping questionnaire is a 66-item scale designed to assess eight coping processes (Appendix F). A modification to the wording of the instructions was made in order to clarify to participants how they should answer. Specifically, the original wording states “Please read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described.” This was modified for this study to state “Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic.” Responses are scored on a four point Likert scale: “0 – Not Used”, “1 – Used Somewhat”, “2 – Used Quite a Bit”, and “3 – Used a Great Deal”. In order to better clarify for the participants, additional instructions were added stating, “If item does NOT apply select 'Not Used'”. This study used an English only version of the WOC-R. The cost and time associated with translating the scale, assessing validity and reliability of the translated version, and translation of subsequent responses were excessive for this study.

### *3.2.3 Data Collection*

All data was collected utilizing the online survey software Survey Monkey©. This online format is secure when collecting data and can be downloaded into multiple spreadsheet formats for analysis, including the Statistical Package for the Social Sciences (SPSS). All downloaded data is kept online on a password-protected workspace, MavSpace, provided by the University of Texas at Arlington. The principal researcher and fellow committee members were the only people with access to the password for this workspace. Data downloaded from this workspace was held



on personal computers that were password protected, only accessible to the principal researcher and committee members. The complete version of the survey instrument is in Appendix G.

#### *3.2.4 Internal Validity Threats*

There were threats to the internal validity of this study. Maturation may have impacted the survey results due to the passage of time between the CTE that respondents are remembering when answering the survey (Rubin & Babbie, 2005). This may not have been true for all participants; however, many may have had months or years between the time the CTE occurred and when they began the survey. It is possible that the traumatic nature of the event led to additional memory decay if the participant was only able to remember the negative aspects of the CTE and not much of their actual feelings and experience at the time of the event.

History may also have impacted the results of the study (Rubin & Babbie, 2005). Participants may have experienced more than one CTE and thus learned new or different ways to cope with these events. This study attempted to account for this by asking participants to identify and focus on one single event that was most traumatic to them and answer according to how they reacted during that specific event. Another threat to the validity of this study was attrition (Rubin & Babbie, 2005). Many participants who began the survey exited out before completing the entire survey due to the amount of time involved. The survey was condensed from the onset to attempt to reduce this possibility; however, many of the participants did not complete the survey (n = 331) and were therefore excluded from final analysis.

Ambiguity was another threat to the internal validity of the study (Rubin & Babbie, 2005). Each respondent had different experiences that will impact the way s/he coped with the CTE and perceived supportive services. A variety of variables that may have impacted the responses include, but are not limited to, the number and type of CTE's the first responder responded to, the types of services available, or not available, and the experience of attending these services. Since there was no pre-test it was not possible to see if the CTE was the event that triggered a particular coping process or if the responder already had ways of coping developed based on past experience.

Selection bias had the greatest impact on this study (Rubin & Babbie, 2005). It would have been extremely difficult to gather a complete list of all first responders nationally or globally in order to draw a random sample. For the purposes of this study, a convenience sample was obtained from first responders who were members of an online social networking site or subscribers to an online communication network. Due to the online aspect of this survey, the sample only included first responders who had access to and were familiar with a computer and the Internet, and were able to read and write English. Participants who met these requirements may have varied in terms of comfort level with an online activity, the language required, as well as the nature of the questions being asked.

### *3.2.5 External Validity Threats*

Selection bias posed the most significant threat to the external validity of the study. Since the sample was a convenience sample, rather than random, generalizing these findings beyond first responders who met the criteria of the sample should be done with caution.

## 3.3 Data Analysis

The data collected for this study were statistically analyzed as described below, organized by research objectives. For all inferential statistical tests, the alpha level of .05 was set *a priori*. Statistical analyses were conducted using the SPSS Package, version 17.0. Transformations of a few variables were necessary in order to conduct data analysis. The process used, if applicable, is discussed within each objective.

### *3.3.1 Objective 1*

Describe the first responders who have responded to a CTE on the following characteristics:

- a. Gender
- b. Age
- c. Race
- d. Hispanic origin
- e. Type of first responder (Role and Paid v. Volunteer status)

- f. Length of time as a first responder
- g. Number of CTEs responded to
- h. Type of CTE used for WOC-R
- i. Proximity of CTE in relation to home and friends/family
- j. Types of supportive services
- k. Participation in supportive services
- l. Perception of supportive services
- m. Primary type of coping

These characteristics were analyzed using descriptive statistics including measures of central tendency. For nominal variables (e.g. gender, race, Hispanic origin, type of first responder, type of CTE, proximity of CTE in relation to home and friends/family, type of supportive services used, participation in supportive services, and primary type of coping based on WOC-R scores) the frequency and mode were calculated. For ordinal variables (e.g. length of time as a first responder and perception of supportive services), the frequency, median and mode were calculated. For interval/ratio variables (e.g. age) the mean and standard deviation were calculated. Transformations of a few variables were necessary in order to conduct data analysis. The process used for each variable is discussed here.

#### 3.3.1.1 Gender

Gender was categorized as a dichotomous nominal variable (e.g. male and female). No transformation of this variable was necessary for analysis.

#### 3.3.1.2 Age

Age was collected as a continuous interval/ratio variable. To conduct a meaningful analysis with sufficient participants, the interval variable of age was organized into the following ordinal categories by the researcher:

- i. 18 – 25 years old
- ii. 26 – 30 years old
- iii. 31 – 35 years old

- iv. 36 – 40 years old
- v. 41 – 45 years old
- vi. 46 – 50 years old
- vii. 51 years old and older

It was not appropriate to create a category for less than 18 years old since these participants were not of age to give informed consent and were therefore excluded from final analysis. Due to the limited number of participants (n = 15) above the age of 50 it was appropriate to combine those participants into one category.

#### 3.3.1.3 Race

Race was collected as a discrete nominal variable based on the following categories from the United States Census: White, Black, Asian, Native Hawaiian or Pacific Islander, and Native American. Rather than allowing the participant to select more than one category, an additional category of Multi-racial was added. Black, Asian, Native Hawaiian or Pacific Islander, Native American, and Multi-racial accounted for less than 5.0% of the total participants and therefore were recoded as Non-White.

#### 3.3.1.4 Hispanic Origin

Hispanic origin was collected as a nominal dichotomous variable (i.e. Hispanic or Not Hispanic). No transformation of this variable was necessary.

#### 3.3.1.5 Type of First Responder (Type and Paid v. Volunteer Status)

Type of first responder was collected as a nominal variable. This variable was not mutually exclusive in that participants were able to select more than one category if appropriate. Categories allowed for selection included Paid Firefighter, Volunteer Firefighter, Emergency Medical Technician (EMT), Police, National Guard or Other Military, Red Cross Volunteer, Red Cross Mental Health Volunteer, and Red Cross Staff. These categories listed were selected based on the Facebook© groups that agreed to recruit participants for the study. In order to make this variable all-inclusive, an additional category of “Other” was listed where, if selected, the participant was required to describe type of first responder. For final analysis, the majority of

“Others” were re-categorized into one of the existing categories; those that did not readily fit into an existing category remained as “Other”.

Since participants could enter more than one “type of first responder”, multiple combinations of types of first responder were listed and made analysis difficult. In response to this, a new variable was created based on the type of CTE listed as most traumatic and the primary role the first responder had at that CTE. Paid and Unpaid Firefighters were combined into one role called Firefighter. Since there were quite a few Firefighter/EMT combinations these were left as a separate value from Firefighter Only. Medical First Responder included all roles related to providing medical care (e.g. paramedic, EMT, and nurses). Police officer was left separate and included all forms of law enforcement. Red Cross became an all-encompassing Red Cross role that included Red Cross Volunteers, Red Cross Mental Health Professional, and Red Cross Staff. Participants who listed Red Cross in combination with another role were typically coded according to their primary role for the CTE eliminating them from the Red Cross category. If it was not possible to distinguish which role the first responder had during the CTE, the case was either eliminated from final analysis or placed in a Multiple Roles category.

#### 3.3.1.6 Length of Time as First Responder

Length of time as a first responder was categorized as an ordinal variable. Participants selected from the following mutually exclusive categories: “Less than 1 year”, “1 – 5 years”, “6 – 10 years”, and “More than 10 years”. No transformation of this variable was necessary.

#### 3.3.1.7 Number of CTEs Responded To

This variable was intended to be collected as a ratio level variable based on the response to the question “Please list ALL the CTE(s) you responded to.” A count of the CTEs listed would have provided the numeric count of number of CTEs responded to; however, the manner in which the participants responded to this question (e.g. fires rather than two fires) was often ambiguous making an accurate count impossible to obtain. As a result, this part of Objective 1 was not completed.

#### 3.3.1.8 Type of CTE Used for WOC-R (Natural v. Human-made)

For the variable CTE used for WOC-R, participants were able to write in the specific event they were thinking of when answering WOC-R questions. The principal investigator and committee chair used a modified version of the process outlined by Praetorius (2006) to categorize CTEs as Natural, Human-made, or Suicide. Events that were beyond the control of human intervention (e.g. floods, earthquakes, hurricanes) were coded as “Natural”. Events that were in the control of humans or the result of human error (e.g. car accidents, terroristic activities, school shootings) were coded as “Human-made” The principal investigator and committee chair recoded all CTEs, regardless of the size or nature of the event. It was assumed that events listed both impacted a community and were considered to be traumatic from the perspective of the participant and thus impacted the participant. Participants who did not state a specific CTE were eliminated from final analysis. Suicide accounted for less than 3.0% of the total cases and therefore, since suicide is not considered a naturally occurring event, the researcher and committee chair agreed to combine these into the category “Human-made”.

#### 3.3.1.9 Proximity of CTE in Relation to Home and Friends/Family

Proximity of CTE in relation to home as well as proximity to friends/family were collected as nominal dichotomous variables. Participants were asked to answer yes/no to the question “Was this event in the same town/city/metropolitan area where you live?” In order to identify if the CTE listed affected friends or family members, participants were asked if friends/family were directly impacted by the CTE. The term impact can take on multiple meanings. The principal researcher and committee chair determined that the participant would best be able to define impact for him/herself and therefore chose not to further clarify the meaning of the word. No transformation of the data was necessary for either of these variables.

#### 3.3.1.10 Type of Supportive Services

Types of supportive services were collected and analyzed as two separate variables. The first part of this was collected as a discrete nominal variable. It was categorized based on whether services available were “Mandatory”, meaning the services were required by the

participants supervising organization, “Offered”, meaning the services were available but the participant chose not to participate, or “Not offered”.

The second aspect of this variable described first responders based on the actual services utilized. Participants were able to select one or more of the following categories based on the services they did participate in following the CTE: “Individual counseling”, “Debriefing with peers or supervisors”, “Group counseling”, “Mental health assessment”, or “Online services” (e.g. blogs, chat rooms, e-mail). The option of “Other” was available for participants to fill in another form of supportive service that they participated in. The “Other” category responses were re-categorized based on the description of the supportive service into one of the previously listed categories. If it was not possible to determine which category was most appropriate the researcher left the response coded as “Other”.

#### 3.3.1.11 Participation in Supportive Services

Participation in supportive services was collected and analyzed as a nominal variable based on two separate questions. Participants were asked if they participated in supportive services following the event and were given the option of “No – Services were available to me”, “No – Services were NOT available to me”, and “Yes”. No transformation of the data was necessary for analysis.

For those who did participate in services, skip logic was used to prompt them to answer an additional question. This allowed the participant to specify the type of supportive service utilized. Participants were able to select “Yes” or “No” for each individual type of supportive service (i.e. individual counseling, debriefing, group counseling, mental health assessment, online services, and other). Since it was not required for the participant to provide an answer for each type of supportive service many participants only selected “Yes” for the services they utilized making it difficult to determine if a participant chose to not participate or if a service was not offered to him/her. The principal investigator and committee chair assigned cases identified as “Other” to one of the existing categories where appropriate. A limited number of cases did not fall into one of these categories and were left coded as “Other” for final analysis.

#### 3.3.1.12 Perception of Supportive Services

Perception of supportive services was collected as a discrete ordinal variable in the form of a five-point Likert scale with the following scores: “0 – Not applicable”, “1 – Not at all helpful”, “2 – Somewhat helpful”, “3 – Neither helpful or unhelpful”, “4 – Very helpful”, and “5 – Extremely helpful”. Participants who selected “0 – Not applicable” were eliminated from the final analysis because this option was used as a cross-check with participation in services. No transformation of this data was necessary.

#### 3.3.1.13 Primary Type of Coping

Primary type of coping was based on the scores of the WOC-R. Participant’s scores from the WOC-R were summed for eight coping processes subscales (i.e. confrontive, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving, and positive reappraisal) based on the scoring provided by Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen (1986). Initially, statistical procedures were to be conducted based on this variable being measured at the ratio level; however, the process of scoring resulted in the conversion of the final scores into a nominal variable (e.g. Confrontive, Positive Reappraisal, Distancing) based on the subscale with the highest score. This action was similar to the process used by Chang, Lee, Connor, Davidson, and Lai (2008) with the subgroup of firefighters which used the subscale as a nominal variable, identifying the one with the highest score as the first responder’s primary coping style. Cases where a participant obtained equal scores on more than one subscale were eliminated from final analysis.

### 3.3.2 *Objective 2*

Identify if a relationship exists between primary type of coping process (i.e. positive or negative) and manner in which supportive services are offered (i.e. mandatory, offered, not offered).

#### 3.3.2.1 Primary Type of Coping (Positive v. Negative)

Primary type of coping was redefined as a discrete nominal variable indicating if the coping process was Positive or Negative. Distancing, self-control, accepting responsibility and



escape avoidance were coded as negative based on the literature that indicate these coping processes were negatively associated with healthy outcomes for a variety of different populations and stressful situations (Brown, Mulhern, & Joseph, 2002; Penley, Tomaka, & Wiebe, 2002). Confrontive was categorized as negative based on Chang, Lee, Connor, Davidson, Jeffries, and Lai's (2003) study that identified confrontive as a predictor of psychiatric morbidity among rescue workers responding to an earthquake. The coping process of seeking social support has mixed support from the literature indicating, for some, increased psychological well-being (Schouws, Dekker, Tuynman-Qua, Kwakman, & Jonghe, 2001) and for others decreased psychological well-being (Aldwin & Revenson, 1987). For this study, seeking social support was determined to be a positive coping strategy based on Patterson (2003) who identified seeking social support as a means to reduce levels of distress for a group of police officers. Drawing from the steps of psychological first aid, making plans and developing action steps are key components to this process; therefore, Planful problem solving was identified as a positive coping strategy (James, 2008).

Participants who obtained identical scores on more than one scale were classified based on the combination of primary type of coping scales. If the combination of scales were all positive or all negative, the case was coded based on the respective type. If the combination of scales were both positive and negative the case was coded as "Both" for the purpose of analysis.

#### 3.3.2.2 Manner in Which Supportive Services Were Offered

Manner in which supportive services were offered was a discrete nominal variable. Participants who indicated that at least one of the supportive services was required by their supervising agency were coded as "Mandatory". Participants who indicated services were available to them but not required were coded as "Offered". Participants who indicated no services were offered were categorized as "Not Offered".

Initially, the Phi coefficient was the statistical measure to be used since both variables were nominal with one of the measures being dichotomous (Positive v. Negative). After categorizing the data to include Positive, Negative, and Both, the Phi coefficient was no longer

appropriate. As a result, Cramer's V measure of association was the statistical measure used since both variables were nominal with neither measure being dichotomous. To assess the impact of the association, Goodman and Kruskal Tau was also calculated.

### *3.3.3 Objective 3*

Compare coping processes of first responders who responded to a CTE across the variables of:

- a. Age
- b. Gender
- c. Race
- d. Hispanic origin
- e. Type of first responder (Role and Paid v. Volunteer status)
- f. Length of time as a first responder
- g. Proximity of CTE in relation to home and friends/family
- h. Type of CTE

The chi square test of independence was used in the analysis of nominal variables (e.g. gender, type of first responders, proximity of CTE and type of CTE). The Mann-Whitney U test was to be used with analysis of ordinal variables (e.g. age); however, due to the transformation of the coping process variable from interval to nominal, this statistical test was not appropriate and the chi square test of independence was used instead.

### *3.3.4 Objective 4*

Compare services utilized and perceptions of these services among different types of first responders who have responded to a CTE.

The chi square test of independence was the statistical method used to compare these variables since the variables are nominal.

### *3.3.5 Objective 5*

Identify if a model exists to determine type of supportive service most helpful for first responders who responded to a CTE depending on coping process identified using the WOC-R.

Originally, a multiple regression was planned for this objective; however, the WOC-R results were changed to a nominal variable from ratio making a multiple regression inappropriate. Ordinal logistical regression was the statistical method used to identify if a model exists to identify which coping processes predict which type of supportive service were most helpful since the independent variable (primary coping process) was nominal and the dependent variable (type of supportive service most useful) was ordinal. Each type of supportive service (i.e. "Individual Counseling", "Group Counseling", "Debriefing", "Mental Health Assessment", "Online Services" and "Other") was analyzed independently, rather than collectively. In addition to primary coping process, the researcher and committee chair determined it was appropriate to include additional variables in order to identify a more complete model. A forward ordinal logistical regression was used to add variables to the model in the following order: Gender, Age, Primary Role, Type of CTE, Proximity of CTE to Friends/Family, Type of Coping, and Manner in which Supportive Services were Offered (i.e. "Mandatory", "Offered", "Not Offered").

## CHAPTER 4

### RESULTS AND FINDINGS

The primary purpose of this study was to identify the primary coping process utilized by first responders who have responded to a community traumatic event, as well as to identify what, if any, supportive activities were beneficial for individuals who respond to these events. Data was collected online from August 4, 2008 through October 13, 2008, which included a total of 1,191 cases. Eight hundred and five cases did not meet the criteria for inclusion (e.g. participant was not a first responder (n = 51), participant was under the age of 18 (n = 41), participant did not respond to a CTE (n = 396), or participant did not complete the entire survey (n = 331)) leaving 386 cases that were included in the final analysis. Findings and analyses of relationships are presented in this chapter and are organized by objective.

#### 4.1 Objective 1

Objective 1 was to describe first responders who have responded to a CTE on the following characteristics:

- a. Gender
- b. Age
- c. Race
- d. Hispanic origin
- e. Type of first responder (Role and Paid v. Volunteer status)
- f. Length of time as a first responder
- g. Number of CTEs responded to
- h. Type of CTE used for WOC-R
- i. Proximity of CTE in relation to home and friends/family
- j. Types of supportive services

- k. Participation in supportive services
- l. Perception of supportive services
- m. Primary type of coping

#### 4.1.1 Gender

The first variable used to describe first responders was the nominal dichotomous variable gender. The mode and the majority of participants in this study were male (n = 284, 78.2%). Females accounted for 21.8% of this sample (n = 79).

#### 4.1.2 Age

The second variable used to describe first responders was the interval level variable of age. The mean age of first responders was 29.6 years (SD 9.95) with a range of 18 to 63 years. Collapsing the interval variable age into categories, “18 – 25 years old” was the mode and accounts for almost half of the total participants (n = 173, 47.7%); the dispersion among the age categories is illustrated in Table 1.

Table 4.1: Demographics - Gender and Age

	Females (n = 79, 21.8%)	Males (n = 284, 78.2%)	Total (n = 363, 100%)
18 – 25 years old	n = 44 12.1%	n = 129 35.5%	n = 173 47.6%
26 – 30 years old	n = 13 3.6%	n = 33 9.1%	n = 46 12.7%
31 – 35 years old	n = 8 2.2%	n = 36 9.9%	n = 44 12.1%
36 – 40 years old	n = 5 1.4%	n = 33 9.1%	n = 38 10.5%
41 - 45 years old	n = 4 5.1%	n = 26 9.2%	n = 30 8.3%
46 – 50 years old	n = 3 0.8%	n = 14 3.9%	n = 17 4.7%
51 years old and older	n = 2 0.6%	n = 13 3.6%	n = 15 4.1%

#### 4.1.3 Race

The third variable used to describe first responders was the discrete nominal variable of race. The majority of participants were “White” (n = 347, 95.6%). The remaining race categories (i.e.. Asian, Black, Native American or Pacific Islander, and Multi- racial) accounted for less than

5.0% of the total sample. These groups were combined into one group identified as “Non-White” (n = 16, 4.4%).

#### 4.1.4 Hispanic Origin

The fourth variable used to describe first responders was the dichotomous nominal variable of “Hispanic Origin”. The majority of participants were not of Hispanic origin (n = 348, 95.9%). The remaining 4.1% (n = 15) were of Hispanic origin.

#### 4.1.5 Type of First Responder (Type and Paid v. Volunteer Status)

This variable was constructed through two aspects of type of first responder: role of the first responder and method of compensation for the first responder. A combination of all roles listed yielded 25 different combinations of roles with a mode of “Volunteer Firefighter/Medical First Responder” (n = 90, 24.8%). “Medical First Responder” (n = 54, 14.9%) and “Volunteer Firefighter” (n = 59, 16.3%) were the only additional combination categories to have more than 10.0% of the total cases. Sixteen combinations were less than 1.0% of the total cases. The data was then reorganized into six primary roles based on the CTE. “Firefighter” only, which included both volunteer and paid firefighters, accounted for 28.7% of cases (n = 104) and “Medical First Responder” accounted for 14.9% of cases (n = 54). Since the combination role of “Firefighter/Medical First Responder” was the mode and accounted for the largest portion of the total cases (n = 154, 42.4%), it was determined to leave this category separate from “Firefighter” and “Medical First Responder”. “Police officer” (n = 5, 1.4%) included all forms of law enforcement personnel and “Red Cross” (n = 22, 6.1%) included all types of Red Cross personnel. Many participants who listed “Red Cross” also listed another role and were therefore included in one of the other categories (n = 19, 5.2%). Only those participants who listed “Red Cross” as the solitary role were included in the “Red Cross” category. Cases that could not be condensed into a single primary role accounted for 6.6% of the total cases (n = 24).

Table 4.2: Demographics - Primary Role

Firefighter	n = 104 28.7%
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Table 4.2 - *Continued*

Firefighter – Medical First Responder	n = 154 42.4 %
Medical First Responder	n = 54 14.9 %
Police Officer	n = 5 1.4 %
Red Cross	n = 22 6.1 %
Multiple Roles	n = 24 6.6%
TOTAL	n = 363 100 %

The second aspect of this variable was to describe first responders based on the nominal variable of “Paid”, “Unpaid”, and “Both”. The majority of cases were identified as either “Paid” (n = 134, 36.9%) or “Both” (n = 154, 42.4%). The remaining cases were “Unpaid” only and accounted for 20.7% of all cases (n = 75).

Table 4.3: Demographics - Paid/Unpaid/Both

Paid	n = 134 36.9%
Unpaid	n = 75 20.7%
Both	n = 154 42.4%

#### 4.1.6 Length of Time as First Responder

The next variable used to describe first responders was the ordinal level variable of length of time as a first responder. The mode was “1 – 5 years” (n = 165, 45.5%) which accounted for most of the respondents. Participants who had been a first responder for “Less than one year” accounted for just over 1.0% of the total cases (n = 4, 1.1%) and were therefore combined with “1 – 5 years” for further analysis. The remaining participants fell into the category of “6 – 10 years” (n = 88, 24.2%) or “More than 10 years” (n = 106, 29.2%).

#### 4.1.7 Number of CTEs Responded To

The seventh variable used to describe first responders was based on the total number of CTEs the participant responded to. It was not possible to obtain a reliable count based on the

manner in which respondents answered this question; therefore, the researcher could not report on this variable.

#### 4.1.8 Type of CTE Used for WOC-R

Type of CTE listed as most traumatic and used for the WOC-R was the eighth variable used to describe first responders who responded to a CTE. The majority of cases listed a “human-made” event (n = 208, 57.3%). When the 2.5% (n = 9) of cases that listed “Suicide” as the most traumatic event were condensed into the category “Human-made”, a total of 59.8% (n = 217) of all cases were Human-made. “Natural” events were listed for 40.2% of participants (n = 146).

Table 4.4: Demographics: Type of CTE

Natural	n = 146 40.2%	n = 217 <sup>a</sup> 59.8%
Human-made	n = 208 57.3%	
Suicide	n = 9 2.5%	

<sup>a</sup>Human-made and Suicide CTEs combined.

#### 4.1.9 Proximity of CTE in Relation to Home and Friends/Family

The ninth variable used to describe first responders was divided into two parts: “Proximity of CTE in relation to home” and “Proximity of CTE in relation to friends and family”. The first part was a nominal dichotomous variable that participants answered in response to the question “Was this event in the same town/city/metropolitan area where you live?” The majority of participants stated “yes” (n = 266, 73.3%), while only 26.7% (n = 97) answered “no”.

The second part of this variable regarding the question “Were your friends or family directly impacted by this CTE?” resulted in 46.8% (n = 170) of participants stating “no”, while 53.2% (n = 193) stated “yes”.

#### 4.1.10 Type of Supportive Services

The tenth variable used to describe first responders was based on the types of supportive services offered. Analysis of this variable indicated that the majority of participants did have services available to them (n = 284, 78.3%), while only 79 participants (21.7%) did not have



services available to them. Of those who had services offered to them, less than half (n = 124, 43.6%) actually utilized the services offered.

#### 4.1.11 Participation in Supportive Services

The next variable was to describe first responders based on the services used. This was addressed initially based on a combination variable that included all types of supportive services utilized. This resulted in 22 different combinations of services with most combinations (n = 16) individually accounting for less than 1.0%. Rather than look at services as a whole, the researcher chose to describe services used individually. The service most frequently utilized was “Debriefing with Peers or Supervisors” (n = 113, 31.1%). “Group Counseling” was the next service most often used with 10.5% of all first responders participating (n = 38); 6.9% of all first responders in this sample utilized “Individual Counseling” (n = 25); 4.4% of first responders participated in “Online Services” (n = 16), and even fewer participated in “Mental Health Assessments” (3.0%, n = 11).

Table 4.5: Demographics - Participation in Supportive Services

Individual Counseling	n = 25 6.9%
Debriefing with Peers or Supervisor	n = 113 31.1%
Group Counseling	n = 38 10.5%
Mental Health Assessment	n = 11 3.0%
Online Services	n = 16 4.4%

#### 4.1.12 Perception of Supportive Services

The twelfth variable used to describe first responders was the perception of supportive services that were used. Participants ranked each individual service on a 5-point Likert scale. For the purposes of this portion of the analysis, respondents who answered “0 – Not Applicable” were removed from analysis. Each service is described separately in this next section.

#### 4.1.12.1 Individual Counseling

Of the 27 participants who rated how helpful “Individual Counseling” was, most found it to be “very helpful” (n = 11, 40.7%). The remaining participants ranged from finding it to be “somewhat helpful” (n = 7, 25.9%), “neither helpful or unhelpful” (n = 4, 14.8%), to “extremely helpful” (n = 5, 18.5%).

#### 4.1.12.2 Debriefing with Peers or Supervisors

Debriefing with peers or supervisors was the most common service used among this sample of first responders (n = 113, 31.1%); however, only 110 participants (30.3%) ranked the helpfulness of this supportive service. The majority of participants (n = 73, 66.4%) found this service to be either “very helpful” (n = 50, 45.5%) or “extremely helpful” (n = 23, 20.9%). Three participants found this service to be “not at all helpful” (2.7%). Twenty percent of respondents (n = 22) indicated the service was “somewhat helpful” while 12 participants (10.9%) remained neutral indicating debriefing was “neither helpful or unhelpful”.

#### 4.1.12.3 Group Counseling

Group counseling was ranked on how helpful it was by 40 participants. While most (n = 20, 50.0%) found this service to be very helpful, 4 participants (10.0%) ranked group counseling as “not at all helpful”. This is the highest percentage of participants to negatively rate a supportive service among the different types of supportive services. An equal number of participants ranked this service as “somewhat helpful” (n = 6, 15.0%) and “extremely helpful” (n = 6, 15.0%). Four participants (10.0%) remained neutral indicating group counseling was “neither helpful or unhelpful”.

#### 4.1.12.4 Mental Health Assessment

Mental health assessments were the least frequently used supportive service among this sample of first responders (n = 12, 3.3%). The majority of participants did not view this service as being very helpful for them with 58.3% (n = 7) indicating this service was only “somewhat helpful”. A quarter (n = 3) found the service to be “neither helpful or unhelpful”. Even fewer found the service to be “very helpful” (n = 2, 16.7%).

#### 4.1.12.5 Online Services (e.g. blogs, chat rooms, e-mails)

Fifteen participants utilized online services (4.1%); however, the perception of how helpful this service was for the first responder was fairly evenly dispersed. No participants found this service to be “not at all helpful”. One third of the participants (n = 5, 33.3%) only found online services to be “somewhat helpful”, while 13.3% (n = 2) found these services to be “neither helpful or unhelpful”. The remaining participants found the service to be either “very helpful” (n = 4, 26.7%) or “extremely helpful” (n = 4, 26.7%).

Table 4.6: Demographics: Perception of Supportive Services

	1 Not at all helpful	2 Somewhat helpful	3 Neither helpful or unhelpful	4 Very helpful	5 Extremely helpful	
Individual Counseling		n = 7 25.9%	n = 4 14.8%	n = 11 40.7%	n = 5 18.5%	n = 27 100%
Debriefing	n = 3 2.7%	n = 0	n = 12 10.9%	n = 73 66.4%	n = 23 20.9%	n = 111 100%
Group Counseling	n = 4 10%	n = 6 15%	n = 4 10%	n = 20 50%	n = 6 15%	n = 40 100%
Mental Health Assessment	n = 0	n = 7 58.3%	n = 3 25%	n = 2 16.7%	n = 0	n = 12 100%
Online Services	n = 0	n = 5 33.3%	n = 2 13.3%	n = 4 26.7%	n = 4 26.7%	n = 15 100%

#### 4.1.13 Primary Type of Coping

The final variable used to describe this sample of first responders was the primary type of coping based on scores from the WOC-R. This variable was divided into two parts. The first part described first responders based on the primary type of coping as defined by the highest score on the WOC-R subscales. During analysis it was determined that many cases obtained identical scores on more than one scale indicating this sample of first responders often employed more than one type of coping in response to a CTE. Multiple types of coping were combined into one variable and resulted in 22 different combinations of primary type of coping and seven single primary type of coping categories. For the purpose of describing the primary type of coping, those that indicated more than one type of coping are reported as “Multiple Coping Styles”. Out of all the possible combinations of primary type of coping, less than one percent (n = 2, 0.6%) used

“Confrontive”. “Seeking Social Support” was the highest rated scale for 23 participants (6.3%). “Escape Avoidance” coping was noted as the highest rated scale for 9.4% (n = 34). “Distancing” was the primary form of coping for 8.5% (n = 31) while “Self-Controlling” was the primary form of coping for 16.5% (n = 60) cases. “Planful Problem Solving” and “Positive Reappraisal” were the two primary forms of coping for participants (n = 71, 19.6% and n = 89, 24.5% respectively). The remaining combinations of multiple types of coping accounted for 53 participants (14.6%) of the total sample spread between 22 different combinations of coping.

Table 4.7: Demographics: Primary Type of Coping

Confrontive	n = 2 0.6%
Seeking Social Support	n = 23 6.3%
Escape-Avoidance	n = 34 9.4%
Distancing	n = 31 8.5%
Planful Problem Solving	n = 71 19.6%
Positive Reappraisal	n = 89 24.5%
Self Controlling	n = 60 16.5%
Multiple Coping Styles	n = 53 14.6%

The second part of this variable was to describe the primary form of coping in terms of “Positive” or “Negative”. Due to the large number of combinations for primary form of coping, a third category of “Both” was included if the combination was not all positive or all negative types of coping. The majority of cases (n = 197, 54.3%) utilized “Positive” coping processes; 37.5% (n = 136) utilized “Negative” coping processes. A small portion of respondents’ (n = 30, 8.3%) cases could not be categorized as all positive or negative and were shown to have utilized “Both” positive and negative coping processes.

#### 4.2 Objective 2

The purpose of objective 2 was to identify if a relationship existed between the primary type of coping process (i.e. positive, negative or both) and manner in which supportive services

were offered (i.e. mandatory, offered, not offered). A weak but statistically significant association ( $V = 0.163$ ,  $p < 0.001$ ) was found between primary type of coping process and the manner in which services were offered. In order to determine the impact of this association, Goodman and Kruskal's tau was computed indicating that how services are offered (i.e. mandatory/offered/not offered) explained 3.9% of the variance in coping (i.e. positive, negative, both) and it is significant ( $\lambda = 0.039$ ,  $p < 0.001$ ).

### 4.3 Objective 3

Objective 3 was to compare coping processes of first responders who responded to a CTE across the variables of:

- a. Age
- b. Gender
- c. Race
- d. Hispanic origin
- e. Type of first responder (Role and Paid v. Volunteer status)
- f. Length of time as a first responder
- g. Proximity of CTE in relation to home and friends/family
- h. Type of CTE

#### 4.3.1 Age

For this variable, to determine if there was a statistically significant difference in type of coping process based on age, a chi square test of independence was performed. Analyses indicated the two variables were independent of each other ( $\chi^2 = 35.830$ ,  $p = 0.477$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher's exact test could be used to account for the violation; however, SPSS only calculates Fisher's exact test for a 2 x 2 table.

#### 4.3.2 Gender

For this variable, to determine if there was a statistically significant difference in type of coping process based on gender, a chi square test of independence was performed. Analyses indicated the two variables were independent of each other ( $\chi^2 = 9.369, p = 0.154$ ).

#### 4.3.3 Race

For this variable, to determine if there was a statistically significant difference in type of coping process based on race, a chi square test of independence was performed. Analyses indicated the two variables were independent of each other ( $\chi^2 = 0.886, p = 0.990$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher's exact test could be used to account for the violation; however, SPSS only calculates Fisher's Exact Test for a 2 x 2 table. Collapsing categories to account for this violation was not appropriate based on the remaining categories.

#### 4.3.4 Hispanic Origin

For this variable, to determine if there was a statistically significant difference in type of coping based on Hispanic Origin, a chi square test of independence was performed. Analyses indicated the two variables were independent of each other ( $\chi^2 = 7.425, p = 0.283$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher's exact test could be used to account for the violation; however, SPSS only calculates Fisher's exact test for a 2 x 2 table. It was not possible to collapse the variables to account for this violation.

#### 4.3.5 Type of First Responder (Role and Paid v. Volunteer status)

For this variable, to determine if there was a statistically significant difference in type of coping process based on type of first responder, a chi square test of independence was performed on two aspects of this variable (Role and Paid v. Volunteer status). For the first part of this variable (Role), analyses indicated the two variables were independent of each other ( $\chi^2 =$

34.277,  $p = 0.270$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher's exact test could be used to account for the violation; however, SPSS only calculates Fisher's exact test for a 2 x 2 table. To adjust for this cell count violation, cases listed as "Police officer", "Red Cross", "Medical First Responder", and "Multiple Roles" were removed in addition to all cases listed as "Confrontive". Analysis on the remaining cases indicated the two variables were independent of each other ( $\chi^2 = 2.299$ ,  $p = 0.806$ ).

For the second aspect of this variable (Paid v. Volunteer status), analyses indicated the two variables were independent of each other ( $\chi^2 = 10.831$ ,  $p = 0.543$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher's exact test could be used to account for the violation; however, SPSS only calculates Fisher's exact test for a 2 x 2 table. To adjust for this cell count violation, cases listed as "Confrontive" were removed. The researcher chose to leave the cases listed as "Seeking Social Support – Unpaid" since the expected value of 4.9 was close to the five cases per cell needed for an accurate chi square test of independence. Analysis on the remaining cases indicated the two variables were independent of each other ( $\chi^2 = 8.047$ ,  $p = 0.624$ ).

#### *4.3.6 Length of Time as a First Responder*

For this variable, to determine if there was a statistically significant difference in type of coping process based on the length of time as a first responder, a chi square test of independence was performed. Analyses indicated the two variables were independent of each other ( $\chi^2 = 20.673$ ,  $p = 0.296$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher's exact test could be used to account for the violation; however, SPSS only calculates Fisher's exact test for a 2 x 2 table. To adjust for this cell count violation, cases listed as "Confrontive" were removed and cases listed as "Less than 1

year” and “1 – 5 years” were condensed into one category of “Less than 5 years”. Analysis on the remaining cases indicated the two variables were independent of each other ( $\chi^2 = 13.021, p = 0.222$ ).

#### *4.3.7 Proximity of CTE in Relation to Home and Friends/Family*

For the first aspect of this variable, to determine if there was a statistically significant difference in type of coping process based on the proximity of the CTE in relation to the first responder’s home, a chi square test of independence was performed. Analyses indicated the two variables were independent of each other ( $\chi^2 = 5.254, p = 0.512$ ).

For the second aspect of this variable, to determine if there was a statistically significant difference in type of coping process based on the proximity of the CTE in relation to the first responder’s friends and/or family, a chi square test of independence was performed. Analyses indicated the two variables were not independent of each other ( $\chi^2 = 17.217, p = 0.009$ ).

#### *4.3.8 Type of CTE*

For this variable, to determine if there was a statistically significant difference in type of coping process based on the type of CTE (Natural v. Human-made), a chi square test of independence was performed. Analyses indicated the two variables were not independent of each other ( $\chi^2 = 23.314, p = 0.025$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Due to this, Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. To adjust for this cell count violation, cases listed as “Suicide” were collapsed into the category of “Human-made” and cases listed as “Confrontive” were removed. Analysis on the remaining cases indicated the two variables were not independent of each other ( $\chi^2 = 14.676, p = 0.012$ ).

### 4.4 Objective 4

For objective 4, the researcher compared services utilized and perceptions of these services among different types of first responders who had responded to a CTE in order to determine if there was a statistically significant difference. For the first aspect of this objective, to



determine if there was a statistically significant difference in type of services utilized based on the type of first responder, a chi square test of independence was performed for each individual type of service.

#### *4.4.1 Individual Counseling*

For “Individual Counseling”, analyses indicate the two variables were independent of each other ( $\chi^2 = 10.292, p = 0.067$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. To adjust for this cell count violation cases listed as “Medical first responder”, “Multiple Roles”, “Police Officer”, and “Red Cross” were removed. Analysis on the remaining cases indicated the two variables were independent of each other ( $\chi^2 = 0.016, p = 0.900$ ).

#### *4.4.2 Debriefing with Peers or Supervisors*

For “Debriefing with Peers of Supervisors”, analyses indicate the two variables were not independent of each other ( $\chi^2 = 25.308, p < 0.001$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.3 Group Counseling*

For “Group Counseling”, analyses indicate the two variables were not independent of each other ( $\chi^2 = 11.535, p = 0.042$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. To adjust for this cell count violation, cases listed as “Multiple Roles”, “Police Officer”, and “Red Cross” were

removed. Analysis on the remaining cases indicated the two variables were independent of each other ( $\chi^2 = 4.518$ ,  $p = 0.104$ ).

#### *4.4.4 Mental Health Assessment*

For “Mental Health Assessment”, analyses indicate the two variables were independent of each other ( $\chi^2 = 3.738$ ,  $p = 0.588$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.5 Online Services (e.g. blogs, chat rooms, e-mails)*

For “Online Services”, analyses indicate the two variables were independent of each other ( $\chi^2 = 3.184$ ,  $p = 0.672$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.6 Other Services*

For “Other Services”, analyses indicate the two variables were independent of each other ( $\chi^2 = 3.410$ ,  $p = 0.492$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

For the second aspect of this objective, to determine if there was a statistically significant difference in perception of services utilized based on the type of first responder, a chi square test of independence was performed for each individual type of service.

#### *4.4.7 Individual Counseling*

For “Individual Counseling”, analyses indicate the two variables were independent of each other ( $\chi^2 = 10.141, p = 0.811$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.8 Debriefing*

For “Debriefing”, analyses indicate the two variables were independent of each other ( $\chi^2 = 18.765, p = 0.281$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.9 Group Counseling*

For “Group Counseling”, analyses indicate the two variables were independent of each other ( $\chi^2 = 19.989, p = 0.221$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.10 Mental Health Assessment*

For “Mental Health Assessment”, analyses indicate the two variables were independent of each other ( $\chi^2 = 10.357, p = 0.410$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.11 Online Services (e.g. blogs, chat rooms, e-mails)*

For “Online services”, analyses indicate the two variables were independent of each other ( $\chi^2 = 13.045, p = 0.161$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

#### *4.4.12 Other Services*

For “Other Services”, analyses indicate the two variables were independent of each other ( $\chi^2 = 2.917, p = 0.405$ ). However, these results should be interpreted with caution because the assumption of at least five expected cases per cell necessary for an accurate chi square test of independence was violated. Fisher’s exact test could be used to account for the violation; however, SPSS only calculates Fisher’s exact test for a 2 x 2 table. It was not appropriate to condense or remove any of the data in order to account for the violation of an expected count of five; therefore, no further analysis was done.

## 4.5 Objective 5

Objective 5 sought to identify if a model existed to determine the type of supportive service most helpful for first responders who responded to a CTE depending on the primary coping process identified using the WOC-R.

For each of the following independent variables (i.e. gender, age, role, type of CTE, proximity of CTE to friends/family, type of coping and manner in which services were offered) an ordinal regression was conducted. Therefore, the multivariate analyses consisted of seven ordinal regressions, identifying significant predictors of perception of supportive services. This process was repeated for each individual category of supportive service (i.e. Individual Counseling, Debriefing, Group Counseling) except Mental Health Assessment and Online Services. There were not enough participants ( $n = 11$  and  $n = 16$  respectively) who utilized these supportive services to meet the assumptions necessary for ordinal regression. The results of these ordinal regressions are presented by type of supportive service category. Because SPSS does not perform a stepwise function for ordinal regression, predictor variables were entered individually to construct a model for each type of supportive service based on the researcher's and committee chair's intuition.

### *4.5.1 Individual Counseling*

#### 4.5.1.1 Predictor Variable - Gender

Gender was entered into the ordinal regression predicting the perception of helpfulness for individual counseling ("1 – Not at all helpful", "2 – Somewhat helpful", "3 – Neither helpful or unhelpful", "4 – Very helpful", and "5 – Extremely helpful"). A description of the regression diagnostics and parameter estimates of the model follows.

The assumption of parallel lines must be met for an ordinal regression in order to determine model adequacy. The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 2.687$ ,  $p = 0.430$ ). The parameter estimate indicates there was a

negative relationship between gender and perception of the variable Individual Counseling which is not statistically significant (Estimate = -.093,  $p = .852$ )

The model fitting statistics (Pseudo  $R^2$ ) suggest that the variable gender explained 0.0% of the variation in the DV (Cox and Snell = .001, Nagelkerke = .001, McFadden = .000). The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 2.687$ ,  $p = 0.379$ ). In other words, the model with the gender predictor was not better at predicting perception of supportive services than the model without this set of predictors.

According to the results of the ordinal regression, gender was not a significant predictor of the perception of the supportive service Individual Counseling.

#### 4.5.1.2 Predictor Variable - Age

Gender was removed and age was entered into the ordinal regression predicting the perception of helpfulness for individual counseling (“1 – Not at all helpful”, “2 – Somewhat helpful”, “3 – Neither helpful or unhelpful”, “4 – Very helpful”, and “5 – Extremely helpful”). A description of the regression diagnostics and parameter estimates of the model follows.

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 18.293$ ,  $p = 0.107$ ). The parameter estimate indicates there was a negative relationship between age and perception of the variable Individual Counseling which was statistically significant (See Table 4.8).

Table 4.8: Individual Counseling - Parameter Estimates for Variable Age

		Estimate	df	Sig.
Threshold	[Individual Counseling = 2 - Somewhat helpful]	-19.976	1	< 0.001
	[Individual Counseling = 3 - Neither helpful or unhelpful]	-19.379	1	< 0.001
	[Individual Counseling = 4 - Very helpful]	-17.808	1	< 0.001

Table 4.8 - Continued

Location	[Age Category = 18 - 25]	-18.283	1	< 0.001
	[Age Category = 26 - 30]	-19.212	1	< 0.001
	[Age Category = 31 - 35]	-18.738	1	< 0.001
	[Age Category = 36 - 40]	-19.693	1	< 0.001
	[Age Category = 41 - 45]	-17.538	1	< 0.001
	[Age Category = 46 - 50]	-19.212	1	.
	[Age Category = 51 and older]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable age explained between 13.9% and 30.6% of the variation in the perception of supportive services (Cox and Snell = .306, Nagelkerke = .330, McFadden = .139). The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 18.293$ ,  $p = 0.130$ ). In other words, the model with age predictors was not better at predicting perception of supportive services than the model without this set of predictors.

According to the results of the ordinal regression, age was not a significant predictor of the perception of the supportive service Individual Counseling; therefore, age was removed from the model. Primary role was added into the ordinal regression predicting the perception of supportive service the supportive service Individual Counseling.

#### 4.5.1.3 Predictor Variable - Primary Role

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 9.904$ ,  $p = 0.449$ ). The parameter estimate indicates there were negative and positive relationships between primary role and perception of the variable Individual Counseling which were not statistically significant (See Table 4.9).

Table 4.9: Individual Counseling - Parameter Estimates for Variable Primary Role

		Estimate	df	Sig.
Threshold	[Individual Counseling = 2 - Somewhat helpful]	-1.689	1	.035

Table 4.9 - *Continued*

	[Individual Counseling = 3 - Neither helpful or unhelpful]	-1.128	1	.140
	[Individual Counseling = 4 – Very helpful]	.086	1	.906
	[Individual Counseling = 2 - Somewhat helpful]	-1.689	1	.035
	[Individual Counseling = 3 - Neither helpful or unhelpful]	-1.128	1	.140
	[Individual Counseling = 4 - Very helpful]	.086	1	.906
Location	[Role = Firefighter]	-.629	1	.474
	[Role = Firefighter - Medical First Responder]	-.545	1	.502
	[Role = Medical First Responder]	-.460	1	.592
	[Role = Multiple Roles]	-1.120	1	.294
	[Role = Police Officer]	.294	1	.806
	[Role = Red Cross]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable primary role explained between 2.0% and 7.6% of the variation in the perception of the supportive service Individual Counseling (Cox and Snell = 0.070, Nagelkerke = 0.076, McFadden = 0.028). The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 10.372, p = 0.408$ ). In other words, the model with the primary role predictor was not better at predicting perception of the supportive service Individual Counseling than the model without this predictor.

According to the results of the ordinal regression, primary role was not a significant predictor of perception of the supportive service Individual Counseling; therefore, primary role was removed from the model. Type of CTE was added into the ordinal regression predicting the perception of the supportive service Individual Counseling.

#### 4.5.1.4 Predictor Variable - Type of CTE

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable



( $\chi^2 = 3.961$ ,  $p = 0.138$ ). The parameter estimate indicates there was a negative relationship between type of CTE and perception of the variable Individual Counseling which were not statistically significant (Estimate = -0.043,  $p = 0.927$ ).

The model fitting statistics suggest that the variable gender explained 0% of the variation in the perception of the supportive service Individual Counseling (Cox and Snell = .000, Nagelkerke = .000, McFadden = .000). The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 18.231$ ,  $p = 0.926$ ). In other words, the model with the Type of CTE predictor was not better at predicting perception of supportive services than the model without this set of predictors.

According to the results of the ordinal regression, Type of CTE was not a significant predictor of the perception of the supportive service Individual Counseling. Proximity of CTE to Friends/Family was added into the ordinal regression predicting perception of the supportive service Individual Counseling.

#### 4.5.1.5 Predictor Variable - Proximity of CTE to Friends/Family

The test of parallel lines showed that this assumption was violated indicating the corresponding regression coefficients were not consistent across all levels of the dependent variable ( $\chi^2 = 6.505$ ,  $p = 0.039$ ). Because this assumption was violated, the model could not be completed. Therefore, Proximity of CTE to Family/Friends was removed from the model. Type of Coping was added into the ordinal regression predicting perception of the supportive service Individual Counseling.

#### 4.5.1.6 Predictor Variable - Type of Coping

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 19.5589$ ,  $p = 0.283$ ). The parameter estimate indicates there was a positive relationship between type of coping and perception of the variable Individual Counseling which were not statistically significant (See Table 4.10).

Table 4.10: Individual Counseling - Parameter Estimates for Variable Type of Coping

		Estimate	df	Sig.
Threshold	[Individual Counseling = 2 - Somewhat helpful]	-.489	1	.471
	[Individual Counseling = 3 - Neither helpful or unhelpful]	.077	1	.905
	[Individual Counseling = 4 - Very helpful]	1.349	1	.048
Location	[Primary Coping = Multiple Coping Styles]	.496	1	.560
	[Primary Coping = Escape Avoidance]	.584	1	.461
	[Primary Coping = Planful Problem Solving]	.780	1	.452
	[Primary Coping = Positive Reappraisal]	1.079	1	.156
	[Primary Coping = Seeking Social Support]	1.547	1	.184
	[Primary Coping = Self Controlling]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable Type of Coping explained between 4.3% and 11.4% of the variation in perception of the supportive service Individual Counseling (Cox and Snell = 0.106, Nagelkerke = 0.114, McFadden = 0.043). The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 31.582$ ,  $p = 0.698$ ). In other words, the model with the Type of Coping predictor was not better at predicting perception of the supportive service Individual Counseling than the model without this set of predictors.

According to the results of the ordinal regression, Type of Coping was not a significant predictor of perceptions of the supportive service Individual Counseling; therefore, Type of Coping was removed from the model. Manner in which services were offered (i.e. mandatory, offered, not offered) was added into the ordinal regression predicting perceptions of the supportive services Individual Counseling.

#### 4.5.1.7 Predictor Variable - Manner in Which Services Were Offered

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 14.553$ ,  $p = 0.908$ ). The parameter estimate indicates there was a negative relationship

between manner in which services were offered and perception of the variable Individual Counseling which were almost statistically significant (Estimate = -0.934,  $p = 0.053$ ).

The model fitting statistics suggest that the variable Manner in Which Services Were Offered explained between 5.7% and 13.8% of the variation in perception of the supportive service Individual Counseling (Cox and Snell = 0.057, Nagelkerke = 0.149, McFadden = 0.138). The overall model fit test indicates the percent of variation explained by this set of independent variables was significant ( $\chi^2 = 14.745$ ,  $p = 0.045$ ). In other words, the model with the Manner in Which Services Were Offered predictor was better at predicting perception of the supportive service Individual Counseling than the model without this predictor. The chi square goodness of fit statistic ( $\chi^2 = .192$ ,  $p = 0.907$ ) was calculated to assess model fit and indicates that observed data were consistent with estimated values. This supported that this prediction model fits well.

In summary, the independent variable of Manner in Which Services Were Offered has been found to explain between 5.7% and 13.8% of the variation in how helpful first responders will find the supportive service of Individual Counseling.

#### *4.5.2 Debriefing*

##### *4.5.2.1 Predictor Variable - Gender*

Gender was entered into the ordinal regression predicting the perception of helpfulness for debriefing (“1 – Not at all helpful”, “2 – Somewhat helpful”, “3 – Neither helpful or unhelpful”, “4 – Very helpful”, and “5 – Extremely helpful”). A description of the regression diagnostics and parameter estimates of the model follows.

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 2.194$ ,  $p = 0.533$ ). The parameter estimate indicates there was a negative relationship between gender and perception of the variable Debriefing, which was not statistically significant (Estimate = -0.224,  $p = .384$ )

The model fitting statistics suggest that the variable gender explained 0.0% of the variation in the dependent variable (Cox and Snell = .007, Nagelkerke = .007, McFadden = .002).

The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 27.096$ ,  $p = 0.391$ ). In other words, the model with the gender predictor was not better at predicting perception of supportive services than the model without this set of predictors.

According to the results of the ordinal regression, gender was not a significant predictor of the perception of the supportive service Debriefing; therefore, gender was removed from the model. Age was added into the ordinal regression predicting perception of the supportive service Debriefing.

#### 4.5.2.2 Predictor Variable - Age

Gender was removed and age was entered into the ordinal regression predicting the perception of helpfulness for debriefing (“1 – Not at all helpful”, “2 – Somewhat helpful”, “3 – Neither helpful or unhelpful”, “4 – Very helpful”, and “5 – Extremely helpful”). A description of the regression diagnostics and parameter estimates of the model follows.

The test of parallel lines showed that this assumption was violated indicating the corresponding regression coefficients were not consistent across all levels of the dependent variable ( $\chi^2 = 43.118$ ,  $p = 0.040$ ). Because this assumption was violated, the model could not be completed. Therefore, Age was removed from the model. Primary Role was added into the ordinal regression predicting perception of the supportive service Debriefing.

#### 4.5.2.3 Predictor Variable - Primary Role

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 39.727$ ,  $p = 0.335$ ). The parameter estimates indicates there was a negative relationship between primary role and perception of the variable Debriefing, which was not statistically significant (See Table 4.11).

Table 4.11 – Debriefing - Parameter Estimates for Variable Primary Role

		Estimate	df	Sig.
Threshold	[Debriefing = 1 - Not at all helpful]	-4.449	1	< 0.001
	[Debriefing = 2 - Somewhat helpful]	-2.207	1	< 0.001
	[Debriefing = 3 - Neither helpful or unhelpful]	-1.739	1	.004
	[Debriefing = 4 - Very helpful]	-.353	1	.542
Location	[Role = Firefighter]	-.507	1	.415
	[Role = Firefighter - Medical First Responder]	-.950	1	.115
	[Role = Medical First Responder]	-1.118	1	.083
	[Role = Multiple Roles]	-1.235	1	.086
	[Role = Red Cross]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable Primary Role explained between 2.4% and 6.3% of the variation in perception of the supportive service Debriefing (Cox and Snell = 0.063, Nagelkerke = 0.068, McFadden = 0.024). The overall model fit test indicated the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 53.206$ ,  $p = 0.128$ ). In other words, the model with the Primary Role predictor was not better at predicting perception of the supportive service Debriefing than the model without this set of predictors.

According to the results of the ordinal regression, Primary Role was not a significant predictor of perceptions of the supportive service Debriefing; therefore, Primary Role was removed from the model. Type of CTE was added into the ordinal regression predicting perceptions of the supportive service Debriefing.

#### 4.5.2.4 Predictor Variable - Type of CTE

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 26.511$ ,  $p = 0.726$ ). The parameter estimates indicates there was a negative relationship between Type of CTE and perception of the variable Debriefing, which was statistically significant (Estimate = -15.899,  $p < 0.001$ ).

The model fitting statistics suggest that the variable Type of CTE explained between 2.8% and 7.7% of the variation in perception of the supportive service Debriefing (Cox and Snell = 0.072, Nagelkerke = 0.077, McFadden = 0.028). The overall model fit test indicated the percent of variation explained by this set of independent variables was significant ( $\chi^2 = 30.142$ ,  $p = 0.016$ ). In other words, the model with the Type of CTE predictor was better at predicting perception of the supportive service Debriefing than the model without this predictor. The chi square goodness of fit statistic ( $\chi^2 = 4.011$ ,  $p = 0.675$ ) was calculated to assess model fit and indicated that observed data were consistent with estimated values. This supported that this prediction model fits well.

According to the results of the ordinal regression, Type of CTE was a significant predictor of perceptions of the supportive service Debriefing and was left in the model. Proximity of CTE to Friends/Family was added into the ordinal regression predicting perceptions of the supportive service Debriefing.

#### 4.5.2.5 Predictor Variable - Proximity of CTE to Friends/Family

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 43.972$ ,  $p = 0.568$ ). The parameter estimates indicate there was a negative relationship between Proximity of CTE to Friends/Family and perception of the variable Debriefing, which was not statistically significant (Estimate = -0.125,  $p = 0.575$ ).

The model fitting statistics suggest that the variables Type of CTE and Proximity of CTE to Friends/Family explained between 2.9% and 8.0% of the variation in perception of the supportive service Debriefing (Cox and Snell = 0.075, Nagelkerke = 0.080, McFadden = 0.029). The overall model fit test indicated the percent of variation explained by this set of independent variables was significant ( $\chi^2 = 8.555$ ,  $p = 0.036$ ). In other words, the model with the Type of CTE and Proximity of CTE to Friends/Family predictors was better at predicting perception of the supportive service Debriefing than the model without these predictors. The chi square goodness of fit statistic ( $\chi^2 = 10.138$ ,  $p = 0.683$ ) was calculated to assess model fit and indicated that

observed data were consistent with estimated values. This supported that this prediction model fits well.

According to the results of the ordinal regression, Proximity of CTE to Friends/Family was a significant predictor of perceptions of the supportive service debriefing and was left in the model. Type of Coping was added into the ordinal regression predicting perceptions of the supportive service debriefing.

#### 4.5.2.6 Predictor Variable - Type of Coping

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 29.924, p = 0.318$ ). The parameter estimates indicates there were both positive and negative relationships between Type of Coping and perception of the variable Debriefing, which were not statistically significant (See Table 4.12).

Table 4.12: Debriefing - Predictor Variables Type of CTE, Proximity of CTE to Friends/Family, and Primary Coping

		Estimate	df	Sig.
Threshold	[Debriefing = 1 - Not at all helpful]	-19.797	1	< 0.001
	[Debriefing = 2 - Somewhat helpful]	-17.557	1	< 0.001
	[Debriefing = 3 - Neither helpful or unhelpful]	-17.079	1	< 0.001
	[Debriefing = 4 - Very helpful]	-15.607	1	< 0.001
Location	[Type CTE = Human made]	-16.563	1	< 0.001
	[Type CTE = Natural]	-15.948	1	.
	[Type CTE = Suicide]	0 <sup>a</sup>	0	.
	[CTE - Family Impact = No]	-.099	1	.674
	[CTE - Family Impact = Yes]	0 <sup>a</sup>	0	.
	[Primary Coping = Multiple Coping Styles]	.994	1	.077
	[Primary Coping = Distancing]	-.592	1	.300
	[Primary Coping = Escape Avoidance]	.225	1	.638
	[Primary Coping = Planful Problem Solving]	.299	1	.454
	[Primary Coping = Positive Reappraisal]	.467	1	.194
	[Primary Coping = Seeking Social Support]	.113	1	.812
	[Primary Coping = Self Controlling]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variables Type of CTE, Proximity of CTE to Friends/Family, and Type of Coping explained between 5.0% and 13.4% of the variation in perception of the supportive service Debriefing (Cox and Snell = 0.134, Nagelkerke = 0.144, McFadden = 0.053). The overall model fit test indicated the percent of variation explained by this set of independent variables was significant ( $\chi^2 = 8.555$ ,  $p = 0.070$ ). In other words, the model with the Type of CTE, Proximity of CTE to Friends/Family, and Type of Coping predictors was better at predicting perception of the supportive service Debriefing than the model without these predictors. The chi square goodness of fit statistic ( $\chi^2 = 90.041$ ,  $p = 0.625$ ) was calculated to assess model fit and indicated that observed data were consistent with estimated values. This supported that this prediction model fits well.

According to the results of the ordinal regression, Type of Coping was a significant predictor of perceptions of the supportive service Debriefing and was left in the model. Manner in which Services Were Offered was added into the ordinal regression predicting perceptions of the supportive service Debriefing.

#### 4.5.2.7 Predictor Variable - Manner in Which Services Were Offered

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 41.337$ ,  $p = 0.081$ ). The parameter estimates indicates there was a negative relationship between Manner in which Services Were Offered and perception of the variable Debriefing, which were not statistically significant ( $\chi^2 = -0.090$ ,  $p = 0.703$ ).

The model fitting statistics suggest that the variables Type of CTE, Proximity of CTE to Friends/Family, Type of Coping, and Manner in which Services Were Offered explained between 5.4% and 13.5% of the variation in perception of the supportive service Debriefing (Cox and Snell = 0.135, Nagelkerke = 0.145, McFadden = 0.054). The overall model fit test indicated the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 15.977$ ,  $p = 0.100$ ). In other words, the model with the Type of CTE, Proximity of CTE to Friends/Family, Type



of Coping, and Manner in which Services Were Offered predictors was not better at predicting perception of the supportive service Debriefing than the model without these predictors.

According to the results of the ordinal regression, Manner in Which Services Were Offered was not a significant predictor of perceptions of the supportive service Debriefing and was removed from the model. In summary, the independent variables of Type of CTE, Proximity of CTE to Friends/Family, and Type of Coping were found to be important predictors of how helpful first responders will find Debriefing supportive services.

#### *4.5.3 Group Counseling*

##### *4.5.3.1 Predictor Variable - Gender*

Gender was entered into the ordinal regression predicting the perception of helpfulness for group counseling (“1 – Not at all helpful”, “2 – Somewhat helpful”, “3 – Neither helpful or unhelpful”, “4 – Very helpful”, and “5 – Extremely helpful”). A description of the regression diagnostics and parameter estimates of the model follows.

The test of parallel lines showed that this assumption was violated indicating the corresponding regression coefficients were not consistent across all levels of the dependent variable ( $\chi^2 = 12.808$ ,  $p = 0.043$ ). Because this assumption was violated, the model could not be completed. Therefore, gender was removed from the model. Age was added into the ordinal regression predicting perceptions of the supportive service Group Counseling.

##### *4.5.3.2 Predictor Variable - Age*

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 39.551$ ,  $p = 0.398$ ). The parameter estimate indicated a positive relationship between age and perception of the variable Group Counseling, which was statistically significant for some categories and not statistically significant for others (see Table 4.13).

Table 4.13: Group Counseling - Parameter Estimates for Age

		Estimate	df	Sig.
Threshold	[Group Counseling = 1 - Not at all helpful]	-.583	1	.602
	[Group Counseling = 2 - Somewhat helpful]	.488	1	.652
	[Group Counseling = 3 - Neither helpful or unhelpful]	.931	1	.392
	[Group Counseling = 4 - Very helpful]	2.616	1	.021
Location	[Age Category = 18 - 25]	2.212	1	.056
	[Age Category = 26 - 30]	1.714	1	.140
	[Age Category = 31 - 35]	1.045	1	.378
	[Age Category = 36 - 40]	3.059	1	.046
	[Age Category = 41 - 45]	1.561	1	.224
	[Age Category = 46 - 50]	2.066	1	.100
	[Age Category = 51 and older]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable Age explained between 6.9% and 17.3% of the variation in perception of the supportive service Group Counseling (Cox and Snell = 0.173, Nagelkerke = 0.184, McFadden = 0.069). The overall model fit test indicated the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 8.555, p = 0.270$ ). In other words, the model with Age predictor was not better at predicting perception of the supportive service Group Counseling than the model without these predictors.

According to the results of the ordinal regression, Age was not a significant predictor of perceptions of the supportive service Group Counseling; therefore, age was removed from the model. Primary Role was added into the ordinal regression predicting perceptions of the supportive service Group Counseling.

#### 4.5.3.3 Predictor Variable - Primary Role

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable

( $\chi^2 = 15.247$ ,  $p = 0.228$ ). The parameter estimate indicated both positive and negative relationships between Primary role and perception of the supportive service Group Counseling, which were not statistically significant (see Table 4.14).

Table 4.14: Group Counseling - Parameter Estimates for Primary Role

		Estimate	df	Sig.
Threshold	[Group Counseling = 1 - Not at all helpful]	-2.367	1	.057
	[Group Counseling = 2 - Somewhat helpful]	-1.329	1	.259
	[Group Counseling = 3 - Neither helpful or unhelpful]	-.896	1	.441
	[Group Counseling = 4 - Very helpful]	.690	1	.547
Location	[Role = Firefighter]	-.224	1	.850
	[Role = Firefighter - Medical First Responder]	.244	1	.835
	[Role = Medical First Responder]	7.962E-16	1	1.000
	[Role = Police Officer]	-1.804	1	.256
	[Role = Red Cross]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable Primary Role explained between 2.9% and 8.1% of the variation in perception of the supportive service Group Counseling (Cox and Snell = 0.076, Nagelkerke = 0.081, McFadden = 0.029). The overall model fit test indicates the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 3.155$ ,  $p = 0.532$ ). In other words, the model with the Primary Role predictor was not better at predicting perception of the supportive service Group Counseling than the model without this predictor.

According to the results of the ordinal regression, Primary Role was not a significant predictor of perceptions of the supportive service Group Counseling; therefore, Primary Role was removed from the model. Type of CTE was added into the ordinal regression predicting perceptions of the supportive service Group Counseling.

#### 4.5.3.4 Predictor Variable - Type of CTE

The test of parallel lines showed that this assumption was violated indicating the corresponding regression coefficients were not consistent across all levels of the dependent

variable ( $\chi^2 = 12.920, p = 0.014$ ). Because this assumption was violated, the model could not be completed. Therefore, Type of CTE was removed from the model. Proximity of CTE to Friends/Family was added into the ordinal regression predicting perceptions of the supportive service Group Counseling.

#### 4.5.3.5 Predictor Variable - Proximity of CTE to Friends/Family

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 20.611, p = 0.624$ ). The parameter estimate indicated a positive relationship between Proximity of CTE to Friends/Family and perception of the supportive service Group Counseling, which was not statistically significant (Estimate = 0.269,  $p = 0.459$ ).

The model fitting statistics suggest that the variable Proximity of CTE to Friends/Family explained between 0.5% and 1.5% of the variation in perception of the supportive service Group Counseling (Cox and Snell = 0.014, Nagelkerke = 0.015, McFadden = 0.005). The overall model fit test indicated the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 3.155, p = 0.459$ ). In other words, the model with the Proximity of CTE to Friends/Family predictor was not better at predicting perception of the supportive service Group Counseling than the model without this predictor.

According to the results of the ordinal regression, Proximity of CTE to Friends/Family was not a significant predictor of perceptions of the supportive service Group Counseling; therefore, Proximity of CTE to Friends/Family was removed from the model. Type of Coping was added into the ordinal regression predicting perceptions of the supportive service Group Counseling.

#### 4.5.3.6 Predictor Variable - Type of Coping

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable ( $\chi^2 = 22.082, p = 0.443$ ). The parameter estimate indicated both positive and negative relationships between Type of Coping and perception of the supportive service Group

Counseling; some were statistically significant and some were not statistically significant (See Table 4.15).

Table 4.15: Group Counseling - Parameter Estimates for Type of Coping

		Estimate	df	Sig.
Threshold	[Group Counseling = 1 - Not at all helpful]	-2.060	1	.005
	[Group Counseling = 2 - Somewhat helpful]	-1.041	1	.098
	[Group Counseling = 3 - Neither helpful or unhelpful]	-.623	1	.305
	[Group Counseling = 4 - Very helpful]	1.110	1	.064
Location	[Primary Coping = Multiple Coping Styles]	2.383	1	.043
	[Primary Coping = Distancing]	.030	1	.973
	[Primary Coping = Escape Avoidance]	.847	1	.355
	[Primary Coping = Planful Problem Solving]	.122	1	.882
	[Primary Coping = Positive Reappraisal]	.174	1	.786
	[Primary Coping = Seeking Social Support]	-.359	1	.668
	[Primary Coping = Self Controlling]	0 <sup>a</sup>	0	.

a. This parameter is set to 0 because it is redundant.

The model fitting statistics suggest that the variable Type of Coping explained between 1.0% and 2.6% of the variation in perception of the supportive service Group Counseling (Cox and Snell = 0.242, Nagelkerke = 0.258, McFadden = 0.101). The overall model fit test indicated the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 11.081, p = 0.086$ ). In other words, the model with the Type of Coping predictor was not better at predicting perception of the supportive service Group Counseling than the model without this predictor.

According to the results of the ordinal regression, Type of Coping was not a significant predictor of perceptions of the supportive service Group Counseling; therefore, Type of Coping was removed from the model. Manner in Which Services Were Offered was added into the ordinal regression predicting perceptions of the supportive service Group Counseling.

#### 4.5.3.7 Predictor Variable - Manner in Which Services Were Offered

The test of parallel lines showed that this assumption was not violated indicating the corresponding regression coefficients were consistent across all levels of the dependent variable

( $\chi^2 = 1.035$ ,  $p = 0.793$ ). The parameter estimate indicated a negative relationship between Manner in Which Services Were Offered and perception of the supportive service Group Counseling, which were not statistically significant (Estimate = -0.090,  $p = 0.703$ ).

The model fitting statistics suggest that the variable Manner in Which Services Were Offered explained between 0.3% and 1.0% of the variation in perception of the supportive service Group Counseling (Cox and Snell = 0.009, Nagelkerke = 0.010, McFadden = 0.003). The overall model fit test indicated the percent of variation explained by this set of independent variables was not significant ( $\chi^2 = 0.359$ ,  $p = 0.549$ ). In other words, the model with the Manner in Which Services Were Offered predictor was not better at predicting perception of the supportive service Group Counseling than the model without this predictor.

In summary, no independent variables were found to explain any of the variation in how helpful a first responder will find Group Counseling.

CHAPTER 5  
CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1. Conclusion 1

It was anticipated that a very diverse sample would have been obtained since the study was conducted online allowing for a variety of participants located anywhere in the world to participate; however, analysis indicated the demographics of the sample were fairly homogeneous. The makeup of this sample consisted primarily of males. While first responder roles are predominantly male, women are moving into the profession and will face similar risks as their male counterparts. Examining the differences between males and females across the various aspects of this study yielded limited results due to the small sample size. A larger and more diverse sample might shed light into the various differences between men and women following a CTE.

The majority of this sample fell into the younger age brackets. This has several implications. First, this may be the result of the manner in which the survey was conducted. Older generations may not be comfortable or familiar with computer technology and the various social networking sites. As a result, it was difficult to draw any conclusions based on age. Future research efforts might focus on recruitment of participants through different sources including retired first responder groups in order to gain insight and be able to make meaningful comparisons among different generations.

This sample was overwhelmingly skewed with regards to race with White participants who were not of Hispanic origin making up nearly the entire sample. For this reason, it was not possible to make any useful assessments based on race. One possible limitation to this study was basing racial categories on the US Census racial categories. Since some participants were not Americans, it is possible the categories did not accurately reflect racial categories of other

nations. Future research may reexamine the manner in which race is categorized if looking at populations outside of the United States.

When looking at types of first responders, categorization was a challenge. This study did not anticipate the great number of first responders who identified themselves as being more than one type of first responder. The resulting multiple combinations resulted in low numbers of participants in the various categories. This prevented meaningful analysis that was able to account for the various types of combinations of roles. Firefighters comprised the greatest proportion of participants, which is likely due to the additional recruitment through the National Firefighter TRADE network. Due to the significant response received as a result of this method of recruitment, identifying other national or international organizations for recruitment may help to gain a more diverse sample. There were very few police officers included in the sample. Unfortunately, there were no Facebook® groups directed at law enforcement personnel who agreed to participate in the study. Specified recruitment of this category of first responder may increase the number of participants in the future.

By classifying each participant into a specific role, some of the richness of the data may have been lost. For example, most of the Red Cross Volunteers also served in a different role. When recategorizing this variable, this data was lost due to the decision to focus on the function of the first responder when multiple roles were selected rather than the combination of roles. Possible ways to prevent this in the future include limiting participants to one choice of primary type of first responder. Having the participant indicate the role s/he was in during the CTE listed as most traumatic is another way to take the guesswork out of classification. The categories available may have been an additional limitation. A total of 60 eligible participants exited the survey at the point where they were required to identify type of first responder. The participant may not have identified with any of the categories listed and therefore exited the survey prematurely. Expanding the categories listed to include additional categories identified over the course of this study may assist in reducing this possibility. Another challenge emerged when attempting to classify paid v. volunteer status due to the many combinations of categories listed.



Requiring participants to specifically indicate this role during the CTE listed will eliminate the challenge of having the researcher categorize this variable based on limited information.

Most of the participants included in the study had relatively little experience as a first responder (less than five years). This is likely due to the age, as well as recruitment procedure previously discussed, and may have impacted the outcomes. In order to account for this in future studies, altering the recruitment method to target older and more experienced first responders may be helpful.

It was not possible to look at the number of CTEs responded to due to the manner in which respondents answered this question. The original intent to count the number of CTEs listed became impossible. The lack of specificity in the participant's answers (e.g. answering fires as opposed to two fires) prevented any analysis of this variable. Recommendations for future research include rewording the question in order to elicit a specific response or to provide estimates (e.g. 1 to 5 CTE, 6 – 10 CTEs, 11 or more CTEs) as option categories.

The type of CTE listed as most traumatic was spread fairly evenly between Natural and Human-made events. The recategorization of this variable by the researcher required making assumptions regarding the participants' intent. The impact of this is unknown; however, this can be eliminated in future studies by requiring the participant to categorize the CTE as one or the other.

With regards to supportive services, it was found that while the majority of participants did have services available to them, less than half actually utilized them. Further investigation into why participants chose to not participate may provide insight into the reasons behind lack of participation. The literature emphasizes the need to provide services to first responders following any type of critical incident including CTEs; however, identifying what aspects of supportive services elicit active engagement in the service as opposed to lack of participation can be useful in restructuring current supportive services to engage first responders. Understanding the reasons why debriefing was the most frequently utilized supportive service may provide additional insight. It was surprising to find that online services were used by a small number of the overall

participants. It would have been expected that this outlet may have been used more due to the comfort level these participants had with using computer technology; however, only a small number of organizations actually offered this service (n = 5).

A significant challenge arose when identifying the primary coping process utilized by first responders. There was no clear guideline on what to do with participants who scored equally high on more than one subscale. While this would be expected based on Folkman's and Lazarus' (1985) assertion that coping is a process that often requires the employment of more than one type of coping to adequately deal with the crisis, categorizing the data to include the multiple combinations was not feasible. Increasing the sample size may accommodate this in future studies; however, for this study, these combinations were eliminated from final analysis due to limited numbers in each category.

#### 5.2 Conclusion 2

The way in which services were offered (i.e. mandatory/offered/not offered) explains a very small percentage of the differences in type of coping (i.e. positive, negative, both). However, due to the nominal nature of this variable it is not possible to determine the direction of the relationship. Restructuring the measurement of these variables may allow for more meaningful interpretation of what exactly this association indicates.

#### 5.3 Conclusion 3

A significant challenge emerged when comparing coping processes with age, race, Hispanic origin, type of first responder, length of time as first responder, and proximity of CTE in relation to home and friends/family. Due to an inadequate sample size, comparisons that were made could not be interpreted with any level of certainty. Obtaining a larger sample size for future research would eliminate this problem and allow for more accurate conclusions to be made regarding these variables. Nonetheless, accounting for the inadequate sample size, the way in which first responders coped was related to the proximity of the CTE in relation to friends and family. This indicates that manner in which a first responder copes may be influenced by her/his concerns for the well-being of loved ones. In contrast, the proximity of the CTE to the first

responder's home did not appear to have a significant impact on the manner in which s/he coped indicating a greater influence of the concern about others rather than oneself. This difference may be attributed to the fact that while the CTE was in the same area as the first responders home, it may not have directly impacted his/her physical home. Further examination of these contributing factors may lead to a better understanding of the implications of this finding.

Another limitation for this study resulted from the manner in which the question regarding loved ones was asked. Only one question asked if friends and family members were impacted by the CTE. Future research should explore this area further in order to understand what first responders consider the term "impact" to mean, as well as to see if the level of impact played a role in determining how first responders cope. The intensity of concern may be influenced by whether or not the participant's friends and family were directly or indirectly impacted and the severity of the CTE.

The type of CTE was also related to the manner in which first responders coped; however, not identifying which coping process was associated with which type of supportive service limits the overall interpretation of this finding. Exploring this aspect, practitioners can provide more tailored crisis intervention based on the type of CTE

#### 5.4 Conclusion 4

There were no significant relationships between the type of first responder and how s/he ranked each supportive service. As a result, other intervening factors should be examined to determine what is associated with how helpful a first responder finds a particular supportive service. A relationship between the supportive service of debriefing and the level of helpfulness of the intervening supportive service was the only relationship identified for all of the different types of services listed. Since debriefing was the most frequently used of all the supportive services, it is possible that by having a larger sample size for this service, as compared to other services, contributed to this finding. Gaining a more diverse set of participants who have participated in the remaining types of supportive services (i.e. individual counseling, group, counseling, mental health assessments, and online services) may generate a more accurate description of

relationships. Individual personality and community/organizational factors may also be related to how helpful the participant will find a particular supportive service. This should be further explored.

### 5.5 Conclusion 5

The manner in which the services were offered was the only predictor of how well the participant ranked the supportive service of individual counseling. None of the remaining factors had any significant impact on how helpful the supportive service was. Conducting phenomenological interviews with participants in the future can help identify common themes that should be included in future examinations of this type of supportive service. A potential limitation to this study results from the diversity of the population. Since each subgroup (e.g. firefighter, medical first responder, law enforcement) includes participants from all over the world who have engaged in various forms of individual counseling with different practitioners, the category of individual counseling might be too broad. Focusing on first responders who have received the same type of intervention (e.g. cognitive behavioral) may reveal a stronger connection among these categories.

The type of CTE predicts how helpful participants found debriefing to be. While the intent of this study was to look at first responders across a variety of individually specified events, this relationship does not explain what aspects of debriefing were specifically helpful. Further breaking down categories in to specified types of debriefing (i.e. group v. individual), as well as conducting structured interviews may assist in developing a better understanding of what this finding indicates.

For group counseling, none of the examined factors predicted how helpful first responders found this supportive service. This is interesting since debriefing was identified as the primary service offered to first responders following a critical incident. Further investigation into what makes the service helpful or not helpful should be conducted in order to determine what factors contribute to the service's success, or lack thereof. Structured interviews may provide insight into what factors do contribute to how helpful first responders find this service.

Lastly, the shortage of participants who received mental health assessments and used online services prevented statistical analysis to identify predictors of how helpful participants viewed the services. The reduced samples sizes may be indicative that the population as a whole does not utilize these services, possibly due to the stigma associated with obtaining these services; however, a larger sample would need to be analyzed in order to verify this. If this is the case, the focus of future research efforts should remain on the services most likely to be utilized in order to further develop evidence based practices.

#### 5.6 Implications for Practice

While this study identified important factors related to first responders' coping with CTEs, such as type of CTE and proximity to family and friends, further investigation is warranted due to the relatively small sample size of this study. Specifically, since this population is typically being resistant to services due to the stigma associated with mental health issues, further investigation should be made into understanding the benefits of not only offering supportive services, but making participation mandatory. Additionally, the type of CTE and the proximity of family/friends appear to play a role in how first responders cope; therefore, further investigation is needed in order to guide practitioners who provide interventions following community traumatic events.

APPENDIX A

IRB #2008-00444 APPROVAL LETTER



THE UNIVERSITY  
OF TEXAS  
AT ARLINGTON

Office of  
Research Administration

Box 19188

202 E. Border St., Suite 201

Arlington, Texas

76019-0188

T 817.272.3723

F 817.272.1111

<http://www.uta.edu/research>

Expertise at UTA Arlington

[www.uta.edu/expertise](http://www.uta.edu/expertise)

August 4, 2008

Holli M. Slater  
Jaimie L. Page, Ph.D.  
Diane B. Mitschke, Ph.D.  
Regina T.P. Aguirre, Ph.D.  
School of Social Work  
Box 19129

**TITLE:** *First Responders: Coping with Community Traumatic Events and Supportive Services*

**Re:** Expedited Approval Letter with Waiver

**IRB No.:** 2008.444s

The University of Texas at Arlington Institutional Review Board (UTA IRB) Chair (or designee) has determined that this research is eligible for expedited review in accordance with Title 45 CFR 46.110(a)-(b) (1), 63 FR 60364 and 63 FR 60367, category (7). The IRB Chairman (or designee) approved the protocol effective **August 4, 2008**.

It is further found that the above referenced study also qualifies for a waiver of the requirement to obtain Informed Consent under the federal guidelines for the protection of human subjects as referenced at Title 45 CFR 46.117 (c). An IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds that:

Pursuant to §46.117(c)(2), the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

**The approved subject sample size is 40,000 subjects.**

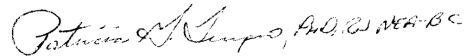
Your study is approved for a period not to exceed one year. Please note that your study will be scheduled for continuing review in August 3, 2009. Please be advised that as the principal investigator, you are required to report local adverse (unanticipated) events to this office within 24 hours. In addition, pursuant to Title 45 CFR 46.103(b) (4) (iii), investigators are required to, “promptly report to the IRB any proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject.”

All investigators and key personnel identified in the protocol must have documented *Human Subjects Involved in Research (Tier II) Training* or *CITI Training* on file with this office.

If applicable, approval by the appropriate authority at a collaborating facility is required prior to subject enrollment. If the collaborating facility is *engaged in the research*, an OHRP approved Federalwide Assurance (FWA) may be required for the facility (prior to their participation in research-related activities). To determine whether the collaborating facility is engaged in research, go to:  
<http://www.hhs.gov/ohrp/humansubjects/assurance/engage.htm>

The UT Arlington Office of Research Integrity and Compliance appreciates your continuing commitment to the protection of human research subjects. Should you have questions or require further assistance, please contact Jan Parker by calling (817) 272-0867.

Sincerely,



Patricia G. Turpin, PhD, RN, NEA-BC  
Associate Clinical Professor  
UT Arlington IRB Chair

Federal Reference: 45 CFR 46.117 (c) (2) waiver for the investigator to obtain a signed consent form



APPENDIX B

IRB #2008-00444 MODIFICATION APPROVAL LETTER 1



THE UNIVERSITY  
OF TEXAS  
AT ARLINGTON

Office of  
Research Administration

Box 19188

202 E. Border St., Suite 201

Arlington, Texas

76019-0188

T 817.272.3723

F 817.272.1111

<http://www.uta.edu/research>

Expertise at UTA Arlington

[www.uta.edu/expertise](http://www.uta.edu/expertise)

August 11, 2008

Holi M. Slater  
Jaimie L. Page, Ph.D.  
Diane B. Mitschke, Ph.D.  
Regina T.P. Aguirre, Ph.D.  
School of Social Work  
Box 19129

**RE:** Minor Modification Approval Letter

**Title:** *First Responders: Coping with Community Traumatic Events and Supportive Services.*

**IRB No.:** 2008.444s

The UT Arlington Institutional Review Board (UTA IRB) Chair (or designee) reviewed and approved the modification(s) to this protocol on **August 11, 2008** in accordance with Title 45 CFR 46.110(b)(2). Therefore, you are authorized to conduct your research. The modification(s), indicated below, was deemed minor and appropriate for expedited review.

- Protocol modified to **add** an additional Facebook group administrator, for the group **Fire and Rescue**

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, “promptly report to the IRB **any** proposed changes in the research activity, and ensure that such changes in approved research, during the period for which IRB approval has already been given, **are not initiated without IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject.”

The modification approval will additionally be presented to the convened board on September 9, 2008 for full IRB acknowledgment [45 CFR 46.110(c)]. All investigators and key personnel identified in the protocol must have documented *Human Subjects Involved in Research (Tier II) Training* or other UTA approved compliance education in the responsible conduct of human subject research on file with the UT Arlington Office of Research Administration Regulatory Services.

The UT Arlington Office of Research Administration appreciates your continuing commitment to the protection of human research subjects. Should you have questions or require further assistance, please contact Jan Parker by calling (817) 272-0867.

Sincerely,

Patricia G. Turpin, PhD, RN, NEA-BC  
Associate Clinical Professor  
UT Arlington IRB Chair

APPENDIX C

IRB #2008-00444 MODIFICATION APPROVAL LETTER 2



Office of Research Administration  
Box 19188  
202 E. Border St., Suite 201  
Arlington, Texas  
76019-0188  
T 817.272.3723  
F 817.272.1111  
<http://www.uta.edu/research>  
Expertise at UT Arlington  
<http://www.uta.edu/expertise>

October 8, 2008

Holi M. Slater  
Jaimie L. Page, Ph.D.  
Diane B. Mitschke, Ph.D.  
Regina T.P. Aguirre, Ph.D.  
School of Social Work  
Box 19129

**RE:** Minor Modification Approval Letter

**Title:** *First Responders: Coping with Community Traumatic Events and Supportive Services.*

**IRB No.:** 2008.444s

The UT Arlington Institutional Review Board (UTA IRB) Chair (or designee) reviewed and approved the modification(s) to this protocol on **October 3, 2008** in accordance with Title 45 CFR 46.110(b)(2). Therefore, you are authorized to conduct your research. The modification(s), indicated below, was deemed minor and appropriate for expedited review.

- Protocol modified to **allow** recruitment of participants from US Fire Administration's TRADE Net forum.

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, "promptly report to the IRB **any** proposed changes in the research activity, and ensure that such changes in approved research, during the period for which IRB approval has already been given, **are not initiated without IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject."

The modification approval will additionally be presented to the convened board on November 11, 2008 for full IRB acknowledgment [45 CFR 46.110(c)]. All investigators and key personnel identified in the protocol must have documented *Human Subjects Involved in Research (Tier II) Training* or other UTA approved compliance education in the responsible conduct of human subject research on file with the UT Arlington Office of Research Administration Regulatory Services.

The UT Arlington Office of Research Administration appreciates your continuing commitment to the protection of human research subjects. Should you have questions or require further assistance, please contact Robin Pahanish by calling (817) 272-0867.

Sincerely,

BeAMaverick™

Patricia G. Turpin, PhD, RN, NEA-BC  
Associate Clinical Professor  
UT Arlington IRB Chair

APPENDIX D

LETTERS OF SUPPORT

Date: 01 July 2008

Institutional Review Board  
University of Texas at Arlington, Department of Regulatory Services  
202 E. Border, Suite 201  
Box 19188  
Arlington, TX 76019

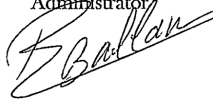
Dear Review Committee for Protocol Number 2008-00444:

I am ~~wishing~~ to express my strong support for the research project that Holli Slater is submitting to the Institutional Review Board for approval. As the administrator of the Red Cross group on Facebook®, I plan to assist her by posting a link to her survey on the group's webpage and sending a message to members inviting them to participate. The prospect of collaborating with Ms. Slater to further understand the impact of community traumatic events on first responders is an exciting one that I am confident supporting.

We are very interested in efforts that may help improve the understanding of first responders' experiences following a significant event that impacts an entire community. Understanding which supportive services are beneficial to these first responders will be valuable in assisting these individuals following traumatic events.

Sincerely,

Roderick Ballan  
Administrator




Profile edit Friends **Inbox**
home account privacy logout

**Search**

Inbox
Sent Messages
Notifications
Updates
Compose Message

**First Responder Research**  
Between [Ryan Betz](#) and You

---



**Holli Slater**  
June 23 at 8:36pm

Dear Mr. Betz,

I am a master's student at the University of Texas at Arlington working toward my degree in Social Work. I am submitting this request for you to consider assisting in contacting participants for a voluntary research study to be conducted with first responders. The purpose of this study is to investigate the impact of community traumatic events (e.g. Hurricane Katrina, September 11th, the Earthquake and Tsunami in Asia) on first responders. This will be accomplished by having members of various first responder Facebook® groups fill out an online survey.


The survey will be completely anonymous and no names or identifying information will be recorded unless the respondent indicates he/she would like to be contacted for future research efforts. The survey is voluntary and if a participant chooses to participate they will need to click on a link to take them to the survey website. The results of this study will be used to fulfill the requirements of my thesis project and may be presented at conferences and published in scholarly journals in the future to improve care for first responders. At this time I am in the process of gaining IRB approval and will not have the survey ready until I gain this approval.

As the administrator of the Support Our First Responders! group, would you be willing to send a message to the members of that group to invite them to participate in this study? In addition, would you be willing to post a link to the survey on the group page?

If you have any questions or concerns you may contact me through Facebook®, personal e-mail (holli.slater@uta.edu) or via phone (214-682-5895). Thank you.

Sincerely,

Holli Slater, MSSW Student




**Ryan Betz**  
Add as Friend  
June 23 at 10:29pm  
[Report Message](#)

Mrs. Slater,


I would be glad to send out the invite for the survey! It is nice to see a fellow social work(er) on facebook. (Although I'm sure there are many more) I am a criminal justice/social work double major and I currently work at a boarding school and residential treatment facility for boys. (<http://www.starr.org>) Thank you for contacting me about the survey. As soon as you can send me a link I will send it out. Please feel free to join the group too. Thank you for your time.

Ryan Betz  
FF/MFR



**Holli Slater**  
June 24 at 9:40pm

Thank you for your support! As soon as I get IRB approval I will send you the link. As part of the process I need a letter of support from you. I can draft an example that will let you know what I am looking for. You can either copy it or you can write your own. Do

Online Friends (0) | 1 

1 of 2

7/19/08 3:42 PM

80

would you rather I add you as a friend and we continue to correspond through facebook?

I'm glad to know there are other social workers out there too. I checked out the Starr website and it looks like a really nice program. I am not familiar with any equivalent program here in Texas; however, my experience with working with youths has been limited.



**Ryan Betz**

[Add as Friend](#)

June 24 at 9:44pm

[Report Message](#)

I look forward to working with you and will be in contact soon. Thank you again!

Holli

Holli,  
Either way works! You may add me as a friend or you may e-mail me at rymel0607@live.com. I'll write my own letter for you, but an example will be helpful because this is the first letter of support that I have written for anyone! Starr is a great place to work. I'm very fortunate. Keep in touch!  
Ryan

Reply:

Send

Back to Inbox

Mark as Unread | Delete



Profile edit Friends Inbox home account privacy logout

Inbox Sent Messages Notifications Updates Compose Message

**First Responders Research**  
Between Brian Crisan and You

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If you were a dog what type would you be?


more

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MoveOn is giving away 1 million "Obama '08" bumper stickers this week. Free. No strings attached. Get yours today.

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**Holly Slater**  
June 23 at 8:29pm

Dear Mr. Crisan,

I am a master's student at the University of Texas at Arlington working toward my degree in Social Work. I am submitting this request for you to consider assisting in contacting participants for a voluntary research study to be conducted with first responders. The purpose of this study is to investigate the impact of community traumatic events (e.g. Hurricane Katrina, September 11th, Iowa Floods) on first responders. This will be accomplished by having members of various first responder Facebook® groups fill out an online survey.


The survey will be completely anonymous and no names or identifying information will be recorded unless the respondent indicates he/she would like to be contacted for future research efforts. The survey is voluntary and if a participant chooses to participate they will need to click on a link to take them to the survey website. The results of my thesis project and may be presented at conferences and published in scholarly journals in the future to improve care for first responders. At this time I am in the process of gaining IRB approval and will not have the survey ready until I obtain this approval.

As the administrator of the Emergency Response Personnel of Facebook group, would you be willing to send a message to the members of that group to invite them to participate in this study? In addition, would you be willing to post a link to the survey on the group page?

If you have any questions or concerns you may contact me through Facebook®, personal e-mail (holli.slater@uta.edu) or via phone (214-682-5895). Thank you.

Sincerely,

Holly Slater, MSSW Student




**Brian Crisan**  
Add as Friend  
June 23 at 9:19pm  
[Report Message](#)

Ms. Slater,

Absolutely! Send me the link and any additional information and I'll do my best to publicize it via the group.

Regards,

Brian Crisan



**Holly Slater**  
June 24 at 9:24pm

I am very excited to have your support! I am still working on getting the survey approved through IRB, but I will let you know as soon as it is available. As part of this process I need a letter of support from you. I can send you an example or what I am looking for that you can copy or you can create your own. Do you have an e-mail address I can send this to you at or would you

Online Friends (0) 1

facebook? I appreciate your support and will be in contact with you soon!

Holli



**Brian Crisan**  
Add as Friend  
June 24 at 9:25pm  
Report Message

Send e-mails to [backburner001@gmail.com](mailto:backburner001@gmail.com).

Reply:

Send

Back to Inbox

Mark as Unread | Delete


Profile edit Friends **Inbox**
home account privacy logout

**Search**

**Inbox**
Sent Messages
Notifications
Updates
Compose Message

**First Responder Research**  
Between [Gabriel Deukmaji](#) and You

---



**Holloi Slater**  
June 23 at 8:44pm

Dear Mr. Deukmaji,

I am a master's student at the University of Texas at Arlington working toward my degree in Social Work. I am submitting this request for you to consider assisting in contacting participants for a voluntary research study to be conducted with first responders. The purpose of this study is to investigate the impact of community traumatic events (e.g. Hurricane Katrina, September 11th, the Earthquake and Tsunami in Asia) on first responders. This will be accomplished by having members of various first responder Facebook® groups fill out an online survey.


The survey will be completely anonymous and no names or identifying information will be recorded unless the respondent indicates he/she would like to be contacted for future research efforts. The survey is voluntary and if a participant chooses to participate they will need to click on a link to take them to the survey website. The results of this study will be used to fulfill the requirements of my thesis project and may be presented at conferences and published in scholarly journals in the future to improve care for first responders. At this time I am in the process of gaining IRB approval and will not have the survey ready until I gain this approval.

As the administrator of the Facebook Firefighters and EMTs group, would you be willing to send a message to the members of that group to invite them to participate in this study? In addition, would you be willing to post a link to the survey on the group page?

If you have any questions or concerns you may contact me through Facebook®, personal e-mail (holli.slater@uta.edu) or via phone (214-682-5895). Thank you.

Sincerely,

Holloi Slater, MSSW Student




**Gabriel Deukmaji**  
Add as Friend  
June 23 at 11:14pm  
[Report Message](#)

Hi Holli,


I thank you for your interest in working with First Responders...it's good to know people are out there trying to take care of the people who take care of them 24/7! Once I have the opportunity to review your survey, I will be glad to post the information for it and draw some attention to it. I can't speak to the expected participation by group members but we can give it a shot. Let me know when you get approval from your institution.

Good Luck!



**Holloi Slater**  
June 24 at 9:43pm

Thank you so much for your support! The participation rate is something I have been concerned about. I have contacted several other groups on Facebook and have received some responses so hopefully I will be able to get a large enough sample.

Online Friends (1) | 1 

1 of 2

7/19/08 12:16 AM

84

As soon as the survey is approved I will forward you a copy to review. As part of the review process I need a letter of support from you. I can draft a copy so that you can see what I am needing. You can either copy it or create your own. Do you have an e-mail address I can send it to or would you rather I add you as a friend and we continue to correspond through e-mail?



**Gabriel Deukmaji**  
[Add as Friend](#)  
June 25 at 9:52am  
[Report Message](#)

Thank you again for your support! I will be in contact with you soon.

Holli

You can email it to me at vatechfire@yahoo.com.

Reply:

Send

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### First Responders Research

Between Adam Duso and You



**Holli Slater**  
June 23 at 8:59pm

Dear Mr. Duso,

I am a master's student at the University of Texas at Arlington working toward my degree in Social Work. I am submitting this request for you to consider assisting in contacting participants for a voluntary research study to be conducted with first responders. The purpose of this study is to investigate the impact of community traumatic events (e.g. Hurricane Katrina, September 11th, the Earthquake and Tsunami in Asia) on first responders. This will be accomplished by having members of various first responder Facebook® groups fill out an online survey.


The survey will be completely anonymous and no names or identifying information will be recorded unless the respondent indicates he/she would like to be contacted for future research efforts. The survey is voluntary and if a participant chooses to participate they will need to click on a link to take them to the survey website. The results of this study will be used to fulfill the requirements of my thesis project and may be presented at conferences and published in scholarly journals in the future to improve care for first responders. At this time I am in the process of gaining IRB approval and will not have the survey ready until I gain this approval.

As the administrator of the Fire and Rescue group, would you be willing to send a message to the members of that group to invite them to participate in this study? In addition, would you be willing to post a link to the survey on the group page?

If you have any questions or concerns you may contact me through Facebook®, personal e-mail (holli.slater@uta.edu) or via phone (214-682-5895). Thank you.

Sincerely,

Holli Slater, MSSW Student



**Adam Duso**  
Add as Friend  
June 24 at 2:03am  
Report Message

Search


Applications edit

- Photos
- Groups
- Events

If you were a dog what type would you be?

more

The Promo Factory, Inc.



Exclusive savings on the hottest promotional products! Check out our hot sale items today! Located in Dallas, Texas.

More Ads | Advertise

Online Friends (0)

Dear Holli,

I am happy to assist you in your academic endeavor. I think the topic upon which you have chosen to perform this study is both relevant and interesting. Please let me know as soon as you have the details and web address available for the survey, and I will alert my members via Facebook Message, and by updating the homepage of my group. I will also, of course, be happy to participate in your survey. :)

Please let me know if there is any other way that I might be able to assist you in your research. I can also be reached by personal email at [ajd2598@gmail.com](mailto:ajd2598@gmail.com) or if needed, by telephone at 434.996.8132.

Sincerely,

Adam J. Duso, Firefighter/EMT-B  
Undergraduate Student  
Jacksonville University

Thank you so much! I'm in the process of getting approval from IRB and will let you know as soon as the survey is ready.



**Adam Duso**  
[Add as Friend](#)  
July 1 at 11:08am  
[Report Message](#)

Sounds good, keep me informed. :)



**Holli Slater**  
June 30 at 9:51pm

Reply:

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 Reply  Reply to all  Forward |    |   |  Close |  Help

From: James Norris [jsnorris@gmail.com]

Sent: Sat 7/5/2008 3:08 AM

To: Slater, Holli M

Cc:

Subject: IRB Approval

Attachments:

[View As Web Page](#)

July 5, 2008

Institutional Review Board  
University of Texas at Arlington, Department of Regulatory Services  
202 E. Border, Suite 201  
Box 19188  
Arlington, TX 76019

Dear Review Committee for Protocol Number 2008-00444:

I am writing to express my strong support for the research project that Holli Slater is submitting to the Institutional Review Board for approval. As the administrator of the American Red Cross group on Facebook, I plan to assist her by posting a link to her survey on the group's webpage and sending a message to members inviting them to participate. The prospect of collaborating with Ms. Slater to further understand the impact of community traumatic events on first responders is an exciting one that I am confident supporting.

We are very interested in efforts that may help improve the understanding of first responders' experiences following a significant event that impacts an entire community. Understanding which supportive services are beneficial to these first responders will be valuable in assisting these individuals following traumatic events.

Sincerely,

James Norris  
American Red Cross Group Administrator


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**First Responder Research**  
Between Daniel Auston Kozlowski and You

---



**Holti Slater**  
June 23 at 8:38pm

Dear Mr. Kozlowski,

I am a master's student at the University of Texas at Arlington working toward my degree in Social Work. I am submitting this request for you to consider assisting in contacting participants for a voluntary research study to be conducted with first responders. The purpose of this study is to investigate the impact of community traumatic events (e.g. Hurricane Katrina, September 11th, the Earthquake and Tsunami in Asia) on first responders. This will be accomplished by having members of various first responder Facebook® groups fill out an online survey.


The survey will be completely anonymous and no names or identifying information will be recorded unless the respondent indicates he/she would like to be contacted for future research efforts. The survey is voluntary and if a participant chooses to participate they will need to click on a link to take them to the survey website. The results of this study will be used to fulfill the requirements of my thesis project and may be presented at conferences and published in scholarly journals in the future to improve care for first responders. At this time I am in the process of gaining IRB approval and will not have the survey ready until I gain this approval.

As the administrator of the EMT – Emergency Medical Technicians group, would you be willing to send a message to the members of that group to invite them to participate in this study? In addition, would you be willing to post a link to the survey on the group page?

If you have any questions or concerns you may contact me through Facebook®, personal e-mail (holli.slater@uta.edu) or via phone (214-682-5895). Thank you.

Sincerely,

Holti Slater, MSSW Student




**Daniel Auston Kozlowski**  
Add as Friend  
June 23 at 9:29pm  
Report Message

Holti,

I would be happy to. Would you like to write the invitation that I'll send to members or shall I draft it?


Dan



**Holti Slater**  
June 24 at 9:27pm

Thank you! I can draft something up once I get approval from IRB to move forward with the survey I have. As part of the approval process I need a letter of support from you. I can send you an example of what I am looking for and you can either copy that or create your own. Do you have an e-mail address you would like me to send it to or would you rather I add you as a friend and we continue to correspond through facebook?

I will be in contact with you soon! Thank you again for

Online Friends (0) | 1 

1 of 2


7/19/08 3:40 PM

89



Holli

dakozlowski@umail.ucsb.edu




**Daniel Auston Kozlowski**  
Add as Friend  
June 25 at 1:13am  
Report Message

Reply:

Empty text input field for replying to the message.

**Send** Back to Inbox Mark as Unread | Delete

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Online Friends (0) | 1 

The screenshot displays the Outlook Web Access interface. At the top, there is a search bar and navigation links for Privacy Statement, Address Book, Options, and Log Off. The left sidebar shows a folder tree with categories like Mail, Calendar, and Deleted Items. The main content area shows an email titled "RE: First Responder Research Study" from Robert W. Campbell. The email body contains a reply from Holli Slater, dated September 30, 2008, which references a previous email from Slater dated September 25, 2008. Slater's email discusses her research study on first responders and asks for feedback on publicizing the survey through the Tradenet forum. The interface includes standard email actions like Reply, Forward, and Delete, and a status bar at the bottom indicating a connection to Microsoft Exchange.

Microsoft Office Outlook Web Access

Type here to search This Folder Privacy Statement Address Book Options Log Off

Mail

Calendar

Contacts

Deleted Items (22)

Drafts

Inbox (6)

Junk E-Mail

Sent Items

Click to view all folders

AISD (1)

Death Studies

IRB Stuff

Phi Alpha

Phi Kappa Phi

Praetorius

Publications

Thesis

Volunteer Project

Manage Folders...

Reply Reply to All Forward Move Delete Junk Close

**RE: First Responder Research Study**  
Campbell, Robert W [Robert.W.Campbell@dhs.gov]

You replied on 10/6/2008 5:41 PM.

**Sent:** Tuesday, September 30, 2008 7:40 AM  
**To:** Slater, Holli M

If you can send me the text of you invitation letter in an email that includes the URL to the survey and your contact info, I can put it in the TRADENET Newsletter. The Newsletter goes out every Thursday, so it will go out the Thursday following receipt of your email.

Thanks

Robert "Warren" Campbell  
TRADE Program Manager  
National Fire Academy  
16825 S Seton Avenue  
Emmitsburg, MD 21727  
301-447-1894  
301-447-1005 Fax  
Robert.W.Campbell@dhs.gov

<http://www.usfa.dhs.gov/nfa/trade/index.shtm>

Those who expect to reap the blessings of freedom, must, .....undergo the fatigues of supporting it.  
Thomas Payne, Sept 12th, 1777.

-----Original Message-----  
From: Slater, Holli M [mailto:[holli.slater@mavs.uta.edu](mailto:holli.slater@mavs.uta.edu)]  
Sent: Thursday, September 25, 2008 9:04 AM  
To: Robert.W.Campbell@dhs.gov  
Subject: First Responder Research Study

Hi Mr. Campbell,

I am a student pursuing my Masters degree in Social Work at the University of Texas at Arlington. I am currently conducting a research study and was referred to the Tradnet website as a possible place to recruit participants.

The purpose of this study is to investigate the impact of community traumatic events (e.g. Hurricane Katrina, September 11th, the Earthquake and Tsunami in Asia, school bomb threats, school shootings) on first responders. The survey will be completely anonymous and no names or identifying information will be recorded unless the respondent indicates he/she would like to be contacted for future research efforts. The survey is voluntary and if a participant chooses to participate they will need to click on a link to take them to the survey website. The results of this study will be used to fulfill the requirements of my thesis project and may be presented at conferences and published in scholarly journals in the future to improve care for first responders.

Would the tradenet forum be an appropriate place to publicize the survey? If so, what do I need to do? If you feel this is appropriate I will need to submit a change to IRB which will take a few days before I would be able to proceed. I have attached a copy of the information I have used so far to publicize with through Facebook forums for your review.

I look forward to hearing back from you.

Holli Slater

Connected to Microsoft Exchange

APPENDIX E

S. FOLKMAN PERSONAL COMMUNICATION

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

OSHER CENTER FOR INTEGRATIVE MEDICINE AT UCSF  
1701 DIVISADERO STREET, SUITE 100  
SAN FRANCISCO, CALIFORNIA 94115

TEL: 415 353 7719  
FAX: 415 353 7554  
E-MAIL: FOLKMAN@OCIM.UCSF.EDU

SUSAN FOLKMAN, PH.D.  
PROFESSOR OF MEDICINE AND  
DIRECTOR

Dear Colleague:

The Ways of Coping that was revised in 1985 is in the public domain and you do not need special permission to use it. In 1988 the Consulting Psychologists Press made minor modifications to a few items. Their version is copyrighted, and has since been purchased by Mind Garden. If you wish to use their version and/or their scoring service, you'll need permission from Mind Garden. You can reach them at <http://www.mindgarden.com/> or Mind Garden, Inc., 1690 Woodside Road, Suite 202, Redwood City, CA 94061, USA, (650-261-3500). You might also want the manual for the Ways of Coping. It is available through the same publisher.

Sincerely,

Susan Folkman, Ph.D.  
Professor of Medicine  
Director, Osher Center for Integrative Medicine at UCSF

APPENDIX F

WAYS OF COPING – REVISED QUESTIONNAIRE

### WAYS OF COPING (Revised)

Please read each item below and indicate, by using the following rating scale, to what extent you used it in the situation you have just described.

- | <b>Not<br/>Used</b> | <b>Used<br/>Somewhat</b> | <b>Used<br/>Quite A Bit</b> | <b>Used<br/>A great deal</b> |
|---------------------|--------------------------|-----------------------------|------------------------------|
| <b>0</b>            | <b>1</b>                 | <b>2</b>                    | <b>3</b>                     |
- 
- \_\_\_\_\_ 1. Just concentrated on what I had to do next – the next step.
  - \_\_\_\_\_ 2. I tried to analyze the problem in order to understand it better.
  - \_\_\_\_\_ 3. Turned to work or substitute activity to take my mind off things.
  - \_\_\_\_\_ 4. I felt that time would make a difference – the only thing to do was to wait.
  - \_\_\_\_\_ 5. Bargained or compromised to get something positive from the situation.
  - \_\_\_\_\_ 6. I did something which I didn't think would work, but at least I was doing something.
  - \_\_\_\_\_ 7. Tried to get the person responsible to change his or her mind.
  - \_\_\_\_\_ 8. Talked to someone to find out more about the situation.
  - \_\_\_\_\_ 9. Criticized or lectured myself.
  - \_\_\_\_\_ 10. Tried not to burn my bridges, but leave things open somewhat.
  - \_\_\_\_\_ 11. Hoped a miracle would happen.
  - \_\_\_\_\_ 12. Went along with fate; sometimes I just have bad luck.
  - \_\_\_\_\_ 13. Went on as if nothing had happened.
  - \_\_\_\_\_ 14. I tried to keep my feelings to myself.
  - \_\_\_\_\_ 15. Looked for the silver lining, so to speak; tried to look on the bright side of things.
  - \_\_\_\_\_ 16. Slept more than usual.
  - \_\_\_\_\_ 17. I expressed anger to the person(s) who caused the problem.
  - \_\_\_\_\_ 18. Accepted sympathy and understanding from someone.

- | <b>Not<br/>Used</b> | <b>Used<br/>Somewhat</b> | <b>Used<br/>Quite A Bit</b> | <b>Used<br/>A great deal</b> |
|---------------------|--------------------------|-----------------------------|------------------------------|
| <b>0</b>            | <b>1</b>                 | <b>2</b>                    | <b>3</b>                     |
- 
- \_\_\_\_ 19. I told myself things that helped me to feel better.
- \_\_\_\_ 20. I was inspired to do something creative.
- \_\_\_\_ 21. Tried to forget the whole thing.
- \_\_\_\_ 22. I got professional help.
- \_\_\_\_ 23. Changed or grew as a person in a good way.
- \_\_\_\_ 24. I waited to see what would happen before doing anything.
- \_\_\_\_ 25. I apologized or did something to make up.
- \_\_\_\_ 26. I made a plan of action and followed it.
- \_\_\_\_ 27. I accepted the next best thing to what I wanted.
- \_\_\_\_ 28. I let my feelings out somehow.
- \_\_\_\_ 29. Realized I brought the problem on myself.
- \_\_\_\_ 30. I came out of the experience better than when I went in.
- \_\_\_\_ 31. Talked to someone who could do something concrete about the problem.
- \_\_\_\_ 32. Got away from it for a while; tried to rest or take a vacation.
- \_\_\_\_ 33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.
- \_\_\_\_ 34. Took a big chance or did something very risky.
- \_\_\_\_ 35. I tried not to act too hastily or follow my first hunch.
- \_\_\_\_ 36. Found new faith.
- \_\_\_\_ 37. Maintained my pride and kept a stiff upper lip.
- \_\_\_\_ 38. Rediscovered what is important in life.

- | <b>Not<br/>Used</b> | <b>Used<br/>Somewhat</b> | <b>Used<br/>Quite A Bit</b> | <b>Used<br/>A great deal</b> |
|---------------------|--------------------------|-----------------------------|------------------------------|
| <b>0</b>            | <b>1</b>                 | <b>2</b>                    | <b>3</b>                     |
- 
- \_\_\_\_\_ 39. Changed something so things would turn out all right.
- \_\_\_\_\_ 40. Avoided being with people in general.
- \_\_\_\_\_ 41. Didn't let it get to me; refused to think too much about it.
- \_\_\_\_\_ 42. I asked a relative or friend I respected for advice.
- \_\_\_\_\_ 43. Kept others from knowing how bad things were.
- \_\_\_\_\_ 44. Made light of the situation; refused to get too serious about it.
- \_\_\_\_\_ 45. Talked to someone about how I was feeling.
- \_\_\_\_\_ 46. Stood my ground and fought for what I wanted.
- \_\_\_\_\_ 47. Took it out on other people.
- \_\_\_\_\_ 48. Drew on my past experiences; I was in a similar situation before.
- \_\_\_\_\_ 49. I knew what had to be done, so I doubled my efforts to make things work.
- \_\_\_\_\_ 50. Refused to believe that it had happened.
- \_\_\_\_\_ 51. I made a promise to myself that things would be different next time.
- \_\_\_\_\_ 52. Came up with a couple of different solutions to the problem.
- \_\_\_\_\_ 53. Accepted it, since nothing could be done.
- \_\_\_\_\_ 54. I tried to keep my feelings from interfering with other things too much.
- \_\_\_\_\_ 55. Wished that I could change what had happened or how I felt.
- \_\_\_\_\_ 56. I changed something about myself.
- \_\_\_\_\_ 57. I daydreamed or imagined a better time or place than the one I was in.
- \_\_\_\_\_ 58. Wished that the situation would go away or somehow be over with.
- \_\_\_\_\_ 59. Had fantasies or wishes about how things might turn out.



	<b>Not Used</b>	<b>Used Somewhat</b>	<b>Used Quite A Bit</b>	<b>Used A great deal</b>
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
_____ 60.				
I prayed.				
_____ 61.				
I prepared myself for the worst.				
_____ 62.				
I went over in my mind what I would say or do.				
_____ 63.				
I thought about how a person I admire would handle this situation and used that as a model.				
_____ 64.				
I tried to see things from the other person's point of view.				
_____ 65.				
I reminded myself how much worse things could be.				
_____ 66.				
I jogged or exercised.				

APPENDIX G

COMPLETE ONLINE SURVEY

# First Responders and Community Traumatic Events

## Introduction

This survey is intended to collect information on first responders and their experiences following their response to a Community Traumatic Event(s). If you have already participated in this survey please exit the survey now.

This survey contains questions about your experience following a Community Traumatic Event and services that may have helped you to cope following this event. The survey data will be kept anonymous and confidential, and you will not be asked to identify yourself in any way. If you choose to be contacted about research efforts relating to first responders in the future you will be directed to a separate web page to provide contact information. If you choose to provide your contact information it will not be linked to your answers in any way. If you choose to participate in this survey, please click the next button to proceed. If you do not choose to participate, you may close this window to exit the survey at any time.

This survey is part of a study being conducted by a Master's student at the University of Texas at Arlington in partial fulfillment of thesis requirements. IRB approval has been granted. If you have any questions or concerns regarding your participation in this survey please contact Holli Slater at [hollislater@gmail.com](mailto:hollislater@gmail.com).

This survey is expected to take 20-30 minutes. If at any time you experience discomfort you may exit the survey.

## First Responders and Community Traumatic Events

### First Responder?

**\* Are you a first responder or have you been one in the past?**

Yes

No

## First Responders and Community Traumatic Events

### Demographics

The following questions have been added in order to collect demographic information.

**\* What is your gender?**

- Male  
 Female

**\* What is your age?**

**\* What is your race?**

**\* Are you of Hispanic origin?**

- Yes  
 No

**\* What type of first responder? (You may choose more than one.)**

- Paid Firefighter  
 Volunteer Firefighter  
 Police Officer  
 Emergency Medical Technician (EMT)  
 National Guard or Other Military  
 Red Cross Volunteer  
 Red Cross Mental Health Volunteer  
 Red Cross Staff  
 Other (please specify)

**\* How many years have you been (or were you) a first responder?**

- Less than 1 year  
 1 - 5 years  
 6 - 10 years  
 More than 10 years

## First Responders and Community Traumatic Events

### Community Traumatic Event(s)

For the purposes of this study, a Community Traumatic Event (CTE) is defined as an event that impacts an entire community, or most of the community, in a negative way.

A community is defined as a group that consists of a number of people with something in common that connects them in some way. This common connection may be a place where members live (e.g. city or neighborhood), an activity (e.g. job or school), or other common identifications (e.g. religion or language).

Some Examples of Community Traumatic Events may be:

Natural Disasters - tornadoes, hurricanes, earthquakes, tsunamis, floods, wildfires

Human-made Disasters - school shootings, serial murders, serial rapes, bomb threats, hijackings

**Based on the definition provided for Community Traumatic Event (CTE), have you ever responded to a CTE?**

- Yes
- No

## First Responders and Community Traumatic Events

### Community Traumatic Event(s) cont.

**\* Please list ALL the CTE(s) you responded to. (You may list more than one.)**

**\* Think about the event that was most traumatic and list below. Please keep this event in mind when answering the following questions.**

**\* Was this event in the same town/city/metropolitan area where you live?**

Yes

No

**\* Were your friends or family directly impacted by this CTE?**

Yes

No

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*

## First Responders and Community Traumatic Events

### Supportive Services

**\* Did you participate in any supportive services for yourself following this event?**

- Yes
- No - Services were available to me
- No - Services were NOT available to me

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*



## First Responders and Community Traumatic Events

### Supportive Services Available

**\* What type of supportive services did you participate in? (Check all that apply.)**

	Did you participate?	How helpful was this service?	Was this PROVIDED BY your supervising organization?	Was this REQUIRED by your supervising organization?
Individual counseling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debriefing with peers or supervisors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group counseling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental health assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-line services (e.g. blogs, chat rooms, e-mail)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Please specify below.)

If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.

## First Responders and Community Traumatic Events

### Supportive Services Available Continued

**In the previous question you indicated which service(s) you attended. What about this service(s) was helpful? (Please respond to all that apply.)**

Individual counseling	<input type="text"/>
Debriefing with peers or supervisors	<input type="text"/>
Group counseling	<input type="text"/>
Mental health assessment	<input type="text"/>
On-line services (e.g. blogs, chat rooms, e-mail)	<input type="text"/>
Other	<input type="text"/>

**In the previous question you indicated what service(s) you attended. What about this service(s) was NOT helpful? (Please respond to all that apply.)**

Individual counseling	<input type="text"/>
Debriefing with peers or supervisors	<input type="text"/>
Group counseling	<input type="text"/>
Mental health assessment	<input type="text"/>
On-line services (e.g. blogs, chat rooms, e-mail)	<input type="text"/>
Other	<input type="text"/>

**\* Is there a specific name for the supportive program you participated in?**

- Yes  
 No

If Yes, please provide name(s).

**\* Were there additional services provided that did NOT participate in?**

- Yes  
 No

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*

## First Responders and Community Traumatic Events

### Supportive Services Available - Not Used

**\* What type of services were available to you that you did NOT participate in? (Check all that apply.)**

- Individual counseling
- Debriefing with peers or supervisors
- Group counseling
- Mental health assessment
- On-line services (e.g. blogs, chat rooms, e-mail)
- None of these were available
- Other (please specify)

**In the previous question you indicated there were services available to you but you did NOT attend. Why did you choose to not participate? (Please respond to all that apply.)**

Individual counseling	<input type="text"/>
Debriefing with peers or supervisors	<input type="text"/>
Group counseling	<input type="text"/>
Mental health assessment	<input type="text"/>
On-line services (e.g. blogs, chat rooms, e-mail)	<input type="text"/>
Other	<input type="text"/>

**Are there any services that you would have liked to participate in if they were available to you?**

- Yes
- No

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*

## First Responders and Community Traumatic Events

### Supportive Services NOT Available

**\* Would you have liked to participate in any of the following services if they were available to you? (Check all that apply.)**

- Individual counseling
- Debriefing with peers or supervisors
- Group counseling
- Mental health assessment
- On-line services (e.g. blogs, chat rooms, e-mail)
- None of these
- Other (please specify)

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*

## First Responders and Community Traumatic Events

### Coping

**\* Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic. If item does NOT apply select "Not Used".**

	Not Used	Somewhat	Quite A Bit	A Great Deal
1. Just concentrated on what I had to do next - the next step.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I tried to analyze the problem in order to understand it better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Turned to work or substitute activity to take my mind off things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I felt that time would make a difference - the only thing to do was wait.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Bargained or compromised to get something positive from the situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I did something which I didn't think would work, but at least I was doing something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Tried to get the person responsible to change his or her mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Talked to someone to find out more about the situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Criticized or lectured myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Tried not to burn my bridges, but leave things open somewhat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Hoped a miracle would happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*

## First Responders and Community Traumatic Events

### Coping Cont.

**\* Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic. If item does NOT apply select "Not Used".**

	Not Used	Used Somewhat	Used Quite A Bit	Used A Great Deal
12. Went along with fate; sometimes I just have bad luck.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Went on as if nothing had happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I tried to keep my feelings to myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Looked for the silver lining, so to speak; tried to look on the bright side of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Slept more than usual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I expressed anger to the person(s) who caused the problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Accepted sympathy and understanding from someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I told myself things that helped me to feel better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I was inspired to do something creative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Tried to forget the whole thing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I got professional help.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## First Responders and Community Traumatic Events

### Coping Cont.

**\* Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic. If item does NOT apply select "Not Used".**

	Not Used	Used Somewhat	Used Quite A Bit	Used A Great Deal
23. Changed or grew as a person in a good way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. I waited to see what would happen before doing anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I apologized or did something to make up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I made a plan of action and followed it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I accepted the next best thing to what I wanted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I let my feelings out somehow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Realized I brought the problem on myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. I came out of the experience better than when I went in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Talked to someone who could do something concrete about the problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Got away from it for a while; tried to rest or take a vacation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## First Responders and Community Traumatic Events

### Coping Cont.

**\* Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic. If item does NOT apply select "Not Used".**

	Not Used	Used Somewhat	Used Quite A Bit	Used A Great Deal
34. Took a big chance or did something very risky.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. I tried not to act too hastily or follow my first hunch.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Found new faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Maintained my pride and kept a stiff upper lip.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Rediscovered what is important in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Changed something so things would turn out all right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Avoided being with people in general.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Didn't let it get to me; refused to think too much about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. I asked a relative or friend I respected for advice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Kept others from knowing how bad things were.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Made light of the situation; refused to get too serious about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## First Responders and Community Traumatic Events

### Coping Cont.

**\* Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic. If item does NOT apply select "Not Used".**

	Not Used	Used Somewhat	Used Quite A Bit	Used A Great Deal
45. Talked to someone about how I was feeling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Stood my ground and fought for what I wanted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Took it out on other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. Drew on my past experiences; I was in a similar situation before.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. I knew what had to be done, so I doubled my efforts to make things work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. Refused to believe that it had happened.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. I made a promise to myself that things would be different next time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. Came up with a couple of different solutions to the problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. Accepted it, since nothing could be done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. I tried to keep my feelings from interfering with other things too much.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. Wished that I could change what had happened or how I felt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## First Responders and Community Traumatic Events

### Coping Cont.

**\* Please read each item below and indicate, by using the following rating scale, to what extent you used it during the CTE you listed as most traumatic. If item does NOT apply select "Not Used".**

	Not Used	Used Somewhat	Used Quite A Bit	Used A Great Deal
56. I changed something about myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. I daydreamed or imagined a better time or place than the one I was in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. Wished that the situation would go away or somehow be over with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. Had fantasies or wishes about how things might turn out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. I prayed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. I prepared myself for the worst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. I went over in my mind what I would say or do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. I thought about how a person I admire would handle this situation and used that as a model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. I tried to see things from the other person's point of view.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. I reminded myself how much worse things could be.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. I jogged or exercised.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*If at any time during this survey you feel distressed and would like to talk to someone [click here](#) to locate a crisis hotline near you.*

## First Responders and Community Traumatic Events

### Another Survey

Unfortunately, you must be a first responder who has responded to a Community Traumatic Event in order to participate in this survey. If you are NOT a first responder, I thank you for your time and interest and ask that you please exit the survey now by closing the browser window or clicking on the Exit Survey link. If you are a first responder please click next.

## First Responders and Community Traumatic Events

### Final Page

Thank you for your interest in this survey! If you have any questions or concerns regarding this survey please contact Holli Slater at [hollislater@gmail.com](mailto:hollislater@gmail.com).

If you are a first responder and are interested in being contacted in the future for additional research purposes relating to first responders [click here](#) to provide your contact information. If you are not interested click Done.

*It is possible that you may have experienced some discomfort while responding to this survey. If you are in the United States and would like to talk to someone or are in crisis please call 1-800-273-TALK. If you are not in the United States [click here](#) to locate a crisis hotline near you.*

## Contact Information - First Responders and Community Traumatic

### Contact Information

**\* Please provide your contact information. Your information will remain confidential and will only be used to contact you in the future about research efforts relating to first responders. If you do NOT wish to be contacted you may close your browser to exit this page.**

**\*REQUIRED**

\*Name:

Address:

Address 2:

City/Town:

State:

ZIP/Postal Code:

Country:

\*Email Address:

Phone Number:

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## BIOGRAPHICAL INFORMATION

Holli Slater graduated from the University of Dallas with a Bachelor's degree in Psychology in 2002. Since her acceptance to the University of Texas at Arlington School of Social Work she has participated in research related to suicide, volunteer retention at a local crisis center and program evaluation of a teen parenting and education program. The masters degree will be conferred upon her in December of 2008. She has been accepted into the doctoral program at the University of Texas at Arlington and will be starting her coursework in January 2009. She plans to expand her research with first responders and how they cope with community traumatic events through a continuation of the current study that will be aimed at increasing the sample size for the current study. In addition, she plans to conduct phenomenological interviews with select participants of the current study in order to gain a more in depth understanding of the experiences of first responders who respond to community traumatic events.