Fall 2006

How Cumulative Stress Affected the Lived Experience of Emergency Medical Service Workers after a Horrific Natural Disaster: Implications for Professional Counselors

Scott Tracy

HOW CUMULATIVE STRESS AFFECTED THE LIVED EXPERIENCE OF

EMERGENCY MEDICAL SERVICE WORKERS AFTER A HORRIFIC NATURAL

DISASTER: IMPLICATIONS FOR PROFESSIONAL COUNSELORS

by

Scott Tracy

Submitted in partial fulfillment of the requirements for the degree

Doctor of Education

Counselor Education and Supervision

School of Education

May, 2006

DUQUESNE UNIVERSITY
SCHOOL OF EDUCATION
Department of Counseling, Psychology and Special Education

Dissertation

Submitted in Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy (Ph.D.)

Executive Counselor Education and Supervision Program

Presented by:

Scott Tracy
California University of Pennsylvania, M.Ed., 1986
California University of Pennsylvania, B.S., 1984

May 30, 2006

HOW CUMULATIVE STRESS AFFECTED THE LIVED EXPERIENCE OF
EMERGENCY MEDICAL SERVICE WORKERS AFTER A HORRIFIC NATURAL
DISASTER: IMPLICATIONS FOR PROFESSIONAL COUNSELORS

Approved by:

_____, Chair
Lisa Lopez Levers, Ph.D.
Associate Professor

_____, Member
Emma Mosley, Ph.D.
Assistant Professor

_____, Member
Gloria Nouel, Ph.D.
Professor

DEDICATION

This dissertation is dedicated to the victims of Hurricane Katrina and the

emergency workers who cared for them.

ACKNOWLEDGEMENTS

ABSTRACT

On Monday, August 29, 2005 Hurricane Katrina made landfall along the Louisiana and Alabama coastlines. The storm was recorded by the Federal Emergency Management Agency (FEMA) as the greatest natural disaster to strike the United States. Emergency Medical Service (EMS) workers from around the nation were dispatched to the disaster area to aid in the recovery operation. A small squad of volunteers from a regional disaster response team was dispatched on October 2005 by FEMA to Hurricane Katrina disaster areas. The team, composed of 24 members, worked the disaster area six weeks after the initial impact. This delayed response provided me with opportunistic informants who could report the effects of cumulative stress reactions that occurred during and shortly after their response into that devastated region. This study was grounded in Critical Incident Stress Management Theory (CISM) developed by Jeff Michell. This inquiry utilized focus groups and key informant individual interviews as the primary source of data. In this research project, I used an interpretive approach to data collection and analysis. Open ended lines of inquiry were used. An analysis of responses indicated that severe disruptions occurred in each of the five components of CISM. These disruptions included early intervention treatments for EMS providers, exposure to critical incidents, provision of psychosocial support to rescuers in need, an opportunity for expression of thoughts and feelings, crisis education and assistance in the development of coping mechanisms. A theme of disturbance also emerged within this study's subjects from interactions with administrative and political systems that were present in the Hurricane Katrina Recovery Area. Additionally, other factors such as the presence of Post

Traumatic Stress Disorder symptoms, disturbance in relationships, reduced job

satisfaction and existential dilemmas were reported by the subjects. Cumulative stress

from disaster recovery work has gone unrecognized. This study suggests that professional

counselors and the national EMS system must begin to address the affects of cumulative

stress on emergency providers in a systemic way. The importance of understanding

cultural issues, decentralization of decision making in a disaster and specialized treatment

mental health treatment protocols for emergency workers must be developed.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont)

CHAPTER I: THE PROBLEM

INTRODUCTION

It has been recognized for many years that Emergency Medical Service (EMS) workers encounter psychologically stressful situations in the course of their jobs, especially those involving disaster and major emergency responses (Rapheal, 1977, Mitchell, 1981). These first responders to medical emergencies experience an intense release of emotions, as a result of sudden, sad, and catastrophic events. Mitchell (1981) in his ground breaking work on stress reactions among EMS personnel, listed events that are likely to cause stress reactions in EMS responders. These events included emergencies involving the death of a coworker in the line of duty, death of a child, gruesome accidents, exposure to domestic violence, and natural disasters with widespread damage, injury and death. Other scenarios, such as exposure to suicide and homicide crime scenes, terrorist attacks and failed procedures by rescuers also have been attributed to causing stress reactions in emergency medical providers. (Everly and Mitchell, 1997)

Medical literature has described these stress reactions as having an impact on both the physical and emotional well-being of rescue workers. In a 2002 study, conducted by McSwain (2003), nearly 1/3 of all EMS workers left their jobs within three years of hire for other occupations. The study also discovered that workman's compensation insurance claims were three times higher than the average healthcare professional and that job dissatisfaction among emergency workers remained high. Some empirical evidence suggested that the negative effects of frequent ongoing stressors, also referred to as "cumulative stress," are possible reasons for attrition, illness, injury, and job dissatisfaction among EMS personnel (Mitchell & Bray, 1990).

1

A process to treat and prevent stress reactions called Critical Incident Stress Debriefing (CISD) was introduced to emergency personnel in 1983 (Mitchell & Bray, 1983). CISD became a widely accepted protocol for use by emergency service agencies, such as law enforcement, fire department, paramedical and rescue teams, and emergency room staff (Mitchell, 1987). CISD evolved into a more comprehensive process, known as CISM, involving a Multi-Component Work-Based Systems Approach to helping EMS workers deal effectively with highly traumatic and stressful work-related situations. (Mitchell & Everly, 1997) CISM was adopted in 2000 by the National Transportation and Highway Safety Administration as part of the National Curriculum for Emergency Medical Technicians and Paramedics, in order to deal with the stress reactions and the well being of the EMS provider. The five core process goals for this curriculum, as adapted from CISM, included the following: (1) early intervention treatments for EMS providers exposed to critical incidents, (2) provision of psychosocial support to rescuers in need,(3) an opportunity for expression of thoughts and feelings,(4) crisis education and (5) development of coping mechanisms in all EMS providers (NHTSA, 2000).

Although, emergency workers had a mechanism that addressed both the prevention and treatment of stress reactions, researchers found that these techniques applied only to critical incidents and not to the cumulative stress conditions of disaster recovery work. (Rapheal & Wilson, 1993). While there was a plethora of information on EMS personnel reactions to critical incidents, I found no research on the effects of stress in disaster recovery operations.

Typically, recovery operations last for several weeks. However, in the case of Hurricane Katrina relief efforts lasted several months. During the Katrina disaster,

workers from unaffected regions responded into the disaster zones to aid in the recovery efforts. I wondered about the emotional well-being of these secondary responders. It is with this lack of information about rescue workers experiences that this study examined the well-being of those secondary responders.

While considerable research exists on stress reactions from traumatic events, little is known about the physical and emotional responses of emergency providers in relation to cumulative stress. This qualitative study examined the issue of cumulative stress on EMS workers. The Hurricane Katrina disaster created a backdrop for my study. This dissertation presents a summary of findings and discusses mechanisms for helping emergency workers deal with cumulative stress, as well as suggests future research on helping rescue personnel achieve emotional and physical well-being.

Background of the Problem

This inquiry is a follow up to the works of Neil (1974), Mitchel (1981,1983,1987) and Mitchel & Everly (1996) on the effects and treatment of stress reactions in emergency workers. These studies identified the negative effects of traumatic events on the physical and emotional states of rescuers. The researchers empirically identified ten circumstances that caused stress reactions in EMS providers. McSwain commented that "these circumstances, which became known as critical incidents, included:

> (1) Responding to a serious illness or injury and the patient is know to the rescuer, (2) Serious injury or death of a coworker, (3) Disaster or mass casualty events, (4) Threat or attack on the rescuer, (5) Involvement in a fatal collision while responding to an emergency, (6) The death of a patient due to a failed medical procedure or rescue, (7)Witnessing infant, child, elder, or

3

spousal abuse, (8) Witnessing homicide or suicide scenes, (9) Facing an accident scene with mutilated bodies, and (10) The death, injury or serious illness of a child." (p. 177)

According to Mitchell (1981) a critical incident was defined as any event or circumstance that overwhelms the rescuers natural ability to cope with the psychological impact of the event. EMS personnel face these events on almost a daily basis.

Raphael's (1986) research identified that those EMS workers who suppressed their emotions after exposure to a critical incident may develop Post-Traumatic Stress Disorder (PTSD). Post-Traumatic Stress Disorder, as defined in the DSM IV-TR is a serious condition that involves somatic illness, personality changes, and self-destructive behavior (APA, 2000). In fact, PTSD can interfere with every aspect of an individual's life including, relationships, work, educational activities, sleep, or rest. More importantly, PTSD has been known to affect an individual's physical health. Emergency Medical Service personnel, because of their job duties, are exposed to critical incidents on a daily basis (Lanning, 1987). According to McSwain (2003), rescue providers who suppress their emotions or refuse to speak about their experiences with critical incidents develop unhealthy psychological approaches to deal with the traumatic event, which can lead to Post-Traumatic Stress Disorder. In the Mitchell and Everly (1996) study, EMS personnel were found to be five times more likely to develop PTSD than the average population. Furthermore, specific patterns have been identified as precursors of PTSD in emergency workers. "This characteristically involves the following patterns:

(1) The rescue worker is exposed to a critical incident or disturbing event,

(2) The EMS provider avoids and blocks thinking about, talking about, or

being reminded about the incident, (3) Despite the attempts at avoidance, the

rescue worker relives the event in their thoughts, dreams, or real life, (4) Signs

of emotional, behavioral, cognitive, or physical change are noted that were not

present before the incident (5) The changes are dramatic and noticed by

coworkers, friends and family of the EMS provider and last longer than one

month .(p.130)

In recent years, PTSD among EMS workers has also been linked to 'burn-out.' A

catch phrase used in EMS during the 1980s and early 1990s was "She or He is burned

out." Burn-out is roughly defined as the build up of distress until the individual is no

longer productive in emergency services (Mitchell, 1981). In a National Highway

Transportation and Public Safety Administration Report (NHTSA 2002) presented to

congress, burn-out was attributed to causing a national shortage of medical rescue

workers, such as paramedics and emergency medical technicians. Burn-out has also been

attributed to other negative factors such as excessive sick time use, poor performance in

the line of duty and greater job accident rates (Brown & Campbell, 1991). More

importantly, burnout may also be a sign of deeper existential issues such as

dissatisfaction with the way his/her career has turned out, loss of faith in the emergency

service system by its care givers and feelings of helplessness, as well as, a lack of

confidence during emergency situations (Brown and Campbell, 1991).

NHTSA, the federal agency that regulates EMS training in America, has made

attempts at addressing PTSD and burn-out among emergency health workers. Critical

Incident Stress Debriefing (CISD) was introduced in the 1980s to assist emergency

personnel, who had been exposed to critical incidents (Mitchell, 1983). Since then, CISD

has been expanded to a broader based management approach that provides assistance to anyone, who may have been in a particularly stressful event. This new process called, Critical Incident Stress Management (CISM), involves a team-based partnership between mental health professionals and a peer support group. Therefore, the team helps the affected individual express their feelings toward an event or situation that had a strong emotional effect for them (Mitchell & Brae, 1990). CISM is an open discussion group that relies on helping participants overcome the stress brought about by a particular event (Mitchell & Everly,1997). Everly et al.., (1990) reported that CISM programs consistently yield very positive comments in surveys and studies. Even studies that cited evidence for the lack of efficacy of CISM still reported high perceived helpfulness of the debriefing process by participants. (Hytten & Hasle, 1989; Dyregrov, 1989; Kenardy, et al., 1996).

Several doctoral dissertations indicated positive results of CISM process (Lanning, 1987; Rogers, 1983; Hanneman, 1994). These analyses suggested that CISM was helpful in reducing psychosocial stress by allowing the rescuers to feel in control of one's reactions to a critical incident. CISM has been identified as a process for the management of Critical Incident Stress but there is a lack of information about cumulative stress and its effects on EMS workers. In fact, this researcher could find no studies on cumulative stress reactions among emergency providers that have been conducted.

In summary, CISM commonly is used in day to day high stress incidents, but not for low or moderate impact incidents. Unfortunately, cumulative stress continues to be a significant problem for emergency workers.

The Problem

For several years, burn-out and the associated problems of poor job retention and low job satisfaction have plagued Emergency Medical Services in America. Issues such as low salaries, better job opportunities in other health care occupations, negative societal perceptions of EMS work, a lack of autonomy in the rescue professions, high levels of job stress, and personal safety threats have all been reported as factors influencing the burnout problem.

In addition, the lack of formal education on mental health issues also has been listed as a contributory factor to burnout. Numerous studies have been conducted, and are reviewed in Chapter II, which describes the effects of Post-Traumatic Stress on EMS workers and its contribution to burnout. Everly & Mitchell (1997) outlines a comprehensive program, also referred to as Critical Incident Stress Management, which has been widely accepted in the medical community for addressing post traumatic stress both as a prevention and treatment for PTSD.

An area that has been overlooked is how cumulative stress affects the capacity of rescue workers to perform their life saving duties in recovery operations from a natural disaster. Another aspect of this research that has been overlooked is the rescue workers who respond weeks after the initial impact of a horrific event. Consequently, there is a lack of discussion on whether cumulative stress from disaster recovery influences burnout among EMS workers. A review of the current literature revealed limited research concerning the impact of cumulative stress on emergency personnel and its relationship to job satisfaction and retention. Finally, no formal educational plan exists in the National

Standard Curriculum of Emergency Medical Technician Paramedics that addresses cumulative stress from disaster recovery operations.

Research Questions

Several research questions are posed, in order to answer the guiding question: How does cumulative stress affect the lived experience of EMS workers after a horrific disaster? Research questions include: (a) To what degree does cumulative stress have an impact on the EMS workers ability to perform their duties? (b) How does perception change or influence job satisfaction, job retention and burnout in rescue workers after disaster recovery duties? (c) To what extent does cumulative stress from disaster recovery work have an impact on the EMS provider's mental health?

Significance of the Study

There are several significant issues which drive this qualitative study. These issues include training standards for EMS personnel, treatment protocols after exposure to horrific incidents and information for professional counselors on how to deal with EMS workers psychological issues. However, the primary issue that is being addressed in this study includes discussion on the effects of cumulative stress on EMS workers. By adequately addressing the effects of cumulative stress, EMS managers may better be able to improve job satisfaction, job retention, reduce burn-out, and improve the mental health of EMS workers.

Mental health workers such as counselors, psychologists, and social workers are charged with the task of helping rescue workers deal with psychological trauma experienced on the job. Many formal models of psycho education, crisis intervention and psychological debriefment exists dealing with the impact of critical incidents. However,

these treatment strategies do not address the affects of cumulative stress. Typically, counselors use the same intervention strategies for both types of stress. By understanding the lived experience of EMS workers to a horrific disaster, and its associated cumulative stress, the counseling sciences may be able to adequately assess and address the mental health needs of emergency workers.

Finally, this study could impact the way counselor educators train mental health professionals to work with emergency service personnel. Many special populations of psychological trauma victims exist in counseling literature such as rape victims, incest survivors, and domestic violence clients. EMS personnel, based on their exposure to both critical incident and cumulative stress, also present as a special population of trauma victims. Counselor educators and researchers need to begin to understand the affects of cumulative stress within rescue workers so that the helping sciences can better train its practitioners in valid and reliable techniques for dealing with this phenomena.

The Study

In order to determine whether or not cumulative stress from disaster recovery work effects EMS workers, a qualitative research design was used. The collection of data involved review of two audio taped focus groups and sixteen one-to-one interviews with the EMS providers and supervisors, who worked in the Hurricane Katrina Recovery Operation (HKRO). In addition to reviewing this information, I took field notes after each focus group and individual interview. Finally, I took into consideration a variety of documents pertaining to cumulative stress on EMS workers.

Based on the research findings, this study recommend changes to the primary and continuing education systems in order to reduce the impact of cumulative stress on EMS

providers and provide better assistance that will help them prepare for future disaster

recovery operations. These recommendations are discussed in Chapter V.

Overview of the Dissertation

In Chapter I, I have described the need for this research and presented an overview

of the study. Chapter II focuses on the history of stress reactions, the relationship between

stress reactions and Post Traumatic Stress Disorder, and the effects of natural disaster

response on the emergency service personnel. In summation of chapter II, I also discuss

methods of psychological debriefment for emergency service personnel.

Chapter III discusses the design of the study including the rationale for the study,

the theoretical framework for this qualitative investigation and the research design. A

description of the ethics and study protocol is offered. Chapter IV is a presentation of my

research findings from the focus group and key informant interviews. Chapter V offers

my conclusions and recommendations about stress reactions among the emergency

workers who responded to the Hurricane Katrina Recovery Operation. My

recommendations also include discussion on the ways professional counselors and

counselor educators can help the specialized EMS population deal with cumulative stress.

Future research possibilities are also suggested. Finally, the appendixes include copies of

consent documents, probe questions, group and individual data sheets and study

definitions.

CHAPTER II

REVIEW OF THE LITERATURE

Chapter II highlights the methods of stress reactions in emergency workers and a history of the treatment approaches. Because these reactions are based on theories of psychological traumatization, a discussion of trauma, its inclusion in the *Diagnostic and Statistical Manual,* and research findings about Post Traumatic Disorder in emergency workers will also be discussed. Additionally, the inclusion of the rescue workers who participated in the Hurricane Katrina Disaster Recovery operation will provide further insight and overview of the psychological responses available to these individuals.

Psychological Trauma and Emergency Workers

The traumatic experience as a result of horrific disasters does not recognize human boundaries of age, culture, gender, religion, socioeconomic status, or political party. Many with a pessimistic view of life events typically wonder when it will happen to them. For paramedics and other emergency workers, they know that they will be the first to respond to these horrific live events on a daily basis. As a consequence of their heroic professions, they often experience the emotional and physical effects of these disasters. The reality of encountering extremely physical and emotional traumatic situations, especially those involving disasters and major emergency responses, is their profession and as such recognized for many years the job responsibilities of emergency medical service (EMS) workers (Rapheal, 1977; Mitchell, 1981). As a result, the first responders to medical emergencies and traumatic injury experience an intense release of emotions because of these catastrophic events.

Mitchell, in his ground breaking work on stress reactions among EMS personnel, listed events that would likely cause stress reactions in EMS responders. The list included a death of a fellow EMS worker, death of a child, gruesome accidents, exposure to domestic violence, natural disasters with widespread damage, injury, and death (Mitchell, 1981). He also listed additional some scenarios as exposure to suicide and homicide crime scenes, terrorist attacks, and failed procedures by rescuers as also contributing to causing stress reactions in emergency medical providers (Everly & Mitchell, 1997).

In addition to psychological research, medical literature has described the stressors that EMS rescue workers encounter as impacting their physical and emotional well being. For instance, empirical evidence has indicated that the negative effects of frequent ongoing stressors know as cumulative stresses as attributing to the illness, injury, and job dissatisfaction among EMS personnel. Numerous studies (Neil, 1974; Mitchel, 1981, 1983, 1987; Mitchel & Everly 1996) describe the effects and treatment of stress reactions in emergency workers. These studies identified the negative effects of traumatic events on the physical and emotional states of rescuers. These researchers empirically identified ten circumstances that caused stress reactions in EMS providers. The circumstances also known as critical incidents included: responding to a serious illness or injury when the rescuer knows the patient; serious injury or death of a coworker; disaster or mass casualty events; threat or attack on the rescuer; involvement in a fatal collision while responding to an emergency; the death of a patient due to a failed medical procedure or rescue; witnessing infant, child, elder, or spousal abuse; witnessing homicide or suicide scenes; encountering an accident scene with mutilated bodies; and the death, injury, or serious illness of a child. In summary, a critical incident can be defined as any event or

circumstance that overwhelms the rescuers natural ability to cope with the psychological impact of the event (Mitchell, 1981).

Early research identified that EMS workers who suppressed their emotions after exposure to a critical incident may develop a serious stress reaction called posttraumatic stress disorder (PTSD) (Raphael, 1986). PTSD, as defined in the DSM IV, can be a serious condition that involves somatic illness, personality changes, and self-destructive behavior (APA, 2000). PTSD can interfere with every aspect of an individuals' life including relationships, work, educational activities, sleep, rest, and most importantly, physical health. Further discussion of PTSD and the DSM will be forthcoming.

Because of their job duties, EMS personnel are exposed to critical incidents on a daily basis (Mitchell, 1987). Rescue providers who suppress their emotions or refuse to talk about their extreme incident experiences can develop an unnatural and unhealthy psychological compensation in dealing with traumatic events that can lead to posttraumatic stress disorder (McSwain, 2004).

In the Raphael (1977) study, EMS personnel were found to be five times more likely to develop PTSD than the average population. Specific patterns have been identified as precursors of PTSD in emergency workers. First, characteristically of rescue workers, they can be exposed to a critical incident or disturbing event. The EMS provider attempts to avoid and block thinking, discussing, or being reminded about the incident. Despite attempts of avoidance, the rescue worker will next relive the events of the horrific event repeatedly in their thoughts, dreams, or real life. Next, there will be evident signs of emotional, behavioral, cognitive, or physical change that were not present before the incident. Finally, the changes will begin to be dramatically noticeable

that even coworkers, friends, and family of the EMS provider will be concerned for them because especially if these changes have lasted longer than one month.

PTSD and Burnout

PTSD among EMS workers has also been linked to 'burnout.' A catch phrase during the 1980s and early 1990s was 'she or he is burned out.' The concept of burnout can be roughly defined as the build up of distress until the individual is no longer productive as an emergency services professional (ACEP, 2000). In a National Highway Transportation and Public Safety Administration Report (NHTSA, 2002) to Congress, burnout was attributed to causing a national shortage of medical rescue workers such as paramedics and emergency medical technicians. Burnout has also been attributed to other negative factors such as excessive sick time use, poor performance in the line of duty, and greater job accident rates (Brown & Campbell, 1991). Burnout may also be a sign of deeper psychological issues such as dissatisfaction with the way their career has turned out, loss of faith in the emergency service system by its care givers, and feelings of helplessness and lack of confidence during emergency situations (Brown & Campbell, 1991).

PTSD is characterized by reexperiencing recollections of the intrusive event, emotional numbing and hyperarousal. A family and personal history of emotional disorder, limited cognitive ability and the absence of a strong social support system have been shown to be risk factors for the development of PTSD (Smith & Bryant, 2000). North et al. (2002) suggested in a study among fire fighters that there is a link between burnout and PTSD symptom development.   A history of PTSD in the DSM is offered later in the literature review.

Treatment of Traumatic Stress in Emergency Workers

A process to treat and prevent stress reactions, called Critical Incident Stress Debriefing (CISD), was introduced to emergency personnel by Mitchell in 1983. CISD became a widely accepted protocol for use by emergency service agencies such as law enforcement, fire department, paramedical and rescue teams, and emergency room staff (Wilson, 1995). Over time, CISD evolved to become a more comprehensive process involving multi-componential work based system approach to assisting EMS workers to effectively deal with the traumatic and highly stressful components of their work.

Eventually, the CISD process evolved and was renamed, Critical Incident Stress Management (CISM) (Mitchell & Everly, 1997). In 2000, CISM was adopted by the National Transportation and Highway Safety Administration as a key concept of the national curriculum for Emergency Medical Technicians and Paramedics to train future rescue workers in learning how to handle stress reactions and as a result promote the well being of EMS providers. NHTSA, the federal agency that regulates EMS training in America, has made attempts at addressing PTSD and burnout among emergency health workers. Critical Incident Stress Debriefing (CISD) was identified by the federal government as the primary treatment for stress reactions in EMS workers (ACEP, 2000). Since, CISD has evolved to a broader management based approach that provides assistance to anyone who may have had a particularly stressful event. Critical Incident Stress Management (CISM) can be defined as a process that involves a team approach and inclusion of a partnership between mental health professionals and a peer support group. The team assists the rescue workers with expressing their feelings toward a particular event or situation that may have caused a strong emotional response (Mitchell

& Brae, 1990). CISM creates open discussions that rely on group support for helping participants overcome the stress brought about by a particular event (Mitchell & Everly, 1997).

The five core components of CISM include: (1) early intervention treatments for EMS providers exposed to critical incidents; (2) provision of psychosocial support to rescuers in need; (3) an opportunity for expression of thoughts and feelings; (4) crisis education; and (5) assistance in the development of coping mechanisms. Mitchell dictates "that of all these components should be administered with cultural understanding and sensitivity" (p.116). Furthermore, he describes that "disruption in one of these components can exacerbate stress reactions, PTSD and can grossly impact the way a care giver functions with their patients and peers" (p.117).

The core components of CISM come together in a specific protocol.   Early intervention treatments generally begin during the rescuers initial training. The trainee medic receives psycho education about stress reactions and what to expect emotionally after exposure to horrific incidents.   Next psychosocial support is provided through a group process that involves experienced peers who have been trained in the CISM model. The EMS provides who were exposed to the critical incident have an opportunity through group process to disclose the feelings, images and emotions that were stirred up during the emergency response.

Crisis education and referral material is distributed after group member disclosures. Referral materials contain a list of mental health agencies that offer crisis counseling services. A detailed review of the signs and symptoms of psychological crisis is provided to the participants. Finally another psycho educational review on appropriate stress

coping mechanisms is conducted. The peer members of the CISM panel provide

feedback on their experiences with critical incidents and suggest further coping strategies.

The CISM protocol is followed without much deviation and is used within the EMS, Fire

and law enforcement systems.

CISM programs consistently yield very positive comments in surveys and studies

(Everly et. al., 1999). Studies that even indicated the lack of evidence for efficacy of the

program continued to report that participants highly perceived the debriefing process to

be of extreme value and helpfulness. (Hytten & Hasle, 1989; Rogers, 1996; Kennedy &

et al.., 1996) Because, "CISM involves a partnership between mental health

professionals and a peer support group of emergency workers, the team participants have

an opportunity to express their feelings toward situations that had a strong emotional

effect and as a result create a mainstay for EMS provider wellness" (ACEP, 2004).

Although CISM as a psychological debriefing process is widely used throughout

the world to prevent PTSD, there is no convincing evidence that it does so. In fact, some

evidence suggests that it may impede natural recovery (McNally, Bryant & Ehlers, 2003).

Raphael and Dobson (2001) recommended that early psychological debriefing attempts

focus on survivors' individual needs in a nonprescriptive, flexible way rather than the

rigid step by step approach of CISM.

While CISM has been identified as a process for the management of Critical

Incident Stress, there still remains minimal research on cumulative stress and its effects

on EMS workers. In fact, this researcher found no studies on cumulative stress reactions

among emergency providers. CISM can be identified as commonly utilized on routine

high impact incidents and typically not on low impact incidents. As such, cumulative

stress will continue to be a significant problem for emergency workers that have not been addressed.

Trauma and the DSM IV

In 1928, Sigmund Freud published his book *Beyond the Pleasure Principle* in which he addressed the topic of trauma (1958). Using a time tested metaphor; he described a 'protective shield of the ego' as a defense mechanism for traumatic experiences. Freud described traumatic events as possessing enough power to break through the protective shield of the ego. In this text, Freud also elaborates on the idea of external trauma by describing it as provoking a disturbance on a large scale of an organism's functioning energy; and as a result the organism will set in motion every possible defense measure. At the same time, the pleasure principle is also put out of action. Finally, there can be no longer any possibility of preventing the mental apparatus from being flooded with large amounts of stimulus. Additionally, other problems arise in site of the initial problem of mastering the amounts of stimulus that is typically broken in and binding them in a psychical sense and ultimately disposed (1928/1956, p.56-57).

Building upon the framework of understanding traumatic response as described by Freud, a more obvious connection to the development for diagnostic criteria of post traumatic stress disorder can be discussed. In 1952, the American Psychiatric Association (APA) published its first Diagnostic and Statistical Manual of Mental Disorders (DSM). The initial DSM described a diagnostic category known as Transient Situational Personality Disorder (TSPD). TSPD contained a subcategory disorder termed Gross Stress Reaction (GSR). GSR was used to address psychological symptoms exhibited by

combat or civilian populations after exposure to a catastrophe (American Psychiatric

Association, 1952).

In 1968, APA published its second edition of the DSM and renamed GSR as an

Adjustment Reaction of Adult Life (DSM-II, 1968). In this edition, the APA listed many

events as possible triggers to disorder such as car, boat, and airplane accidents in addition

to natural disasters such as tornadoes, hurricanes, and floods. From 1968 thru 1980

numerous syndromes emerged such as rape trauma syndrome, battered woman syndrome

and Vietnam veteran syndrome (van der Kolk et al.., 1996). In these texts, the

"syndromes were merged into a new diagnostic label called posttraumatic stress disorder

(PTSD)" (p. 16.) In 1980, the DSM-III finally incorporated the new official diagnosis of

PTSD and listed it among the anxiety disorders. In its label for PTSD, the DSM III

described affective reactions (i.e. anxiety, emotional distress and somatic complaints) that

occur from exposure to an extreme traumatic event (Rapport & Ismound, 1996).

In 1987, the next revision to the DSM III occurred because of the clinical research

gained from victims of traumatic events. As such, the DSMIII became the DSM-III-R

and had a new classification for trauma. The new classification identified three major

symptom clusters known as re-experiencing the traumatic event, avoidance of stimuli

associated with the traumatic event, and increased physiological arousal. Wilson (1995)

reported that the revisions attempted to provide clarity, meaning, specific vocabulary, and

specificity of reactions to horrific events (Wilson, 1995). The horrific reactions

experienced by individuals were defined as "any external event outside the usual range of

daily hassles that would be distressing to almost anyone (Wilson, p.22).

In 1994, APA published the DSM IV with only minor changes to PTSD diagnostic information. An APA subcommittee added Acute Stress Disorder (ASD) along with PTSD. ASD was defined as "those immediate reactions such as overwhelming anxiety, dissociation and physical illness that occurred acutely within one month of exposure to an extreme traumatic event (Rapport & Ismond, 1996). The resulting minor changes published in 2000 were not significant enough to alter or add to the discussion regarding PTSD and ASD (APA, 2000).

Retrospectively reflecting on initial mental health classifications and publications as early as 1952, the stress reactions have since emerged belong within the clinical sub-specialty (Everly, 1995). Theoretical writings and empirical studies bombarded psychiatric, psychological, and counseling journals. Everly defined psychotraumatology "as a broad based knowledge on the processes, factors, consequences and treatments associated with psychological trauma" (Everly, 1995, p. 284). Furthermore, Everly suggested that "EMS providers are at the high risk group for the anxiety disorders outlined in the DSM-IV because of their frequent exposures to traumatic events" (Everly, 1995, p. 278).

Eventually, while considerable research was based from traumatology, this researcher found no specific studies on effects of the work in disaster recovery operations, which expose rescuers to a consistent horrific event over an extended period of time. Therefore, discussion will follow to explore the concept of secondary traumatization experienced by those who witness others suffering.

Secondary Traumatization

Jankoski, in a 2002 doctoral dissertation, described the emotional cost of caring (Jankoski, 2002). Jankoski stated "individuals who care for others often undergo a pain as a consequence of their exposure to others traumatic material. Many studies also support this claim of secondary or vicarious traumatization on emergency workers such as emergency medical technicians, firefighters, and law enforcement (McCann & Pearlman, 1990; Raphael, Singh, Bradbury & Lambert, 1984; & Mitchell, 1992). Similarly, the experience of vicarious traumatization occurs in the emergency personnel after working with individuals who had undergone traumatic events.

Figley (1998) described a process called compassion fatigue in which traumatic symptoms can develop in individuals who are 'empathetically engaged' with others who have experienced traumatic events. Figley listed two factors that have a causal relationship to compassion fatigue, "first, is that an exposure to another's traumatic experiences must occur; and second is an empathetic engagement with that individual must take place" (Figley, 1995 p. 7). Compassion fatigue contends that trauma stress reactions are contagious and create effects in those individuals who work with psychological trauma victims. Dyregrov and Mitchell (1992) clarify that "the same traumatic stress symptoms that effect victims of psychological trauma also impact the professionals who work with them. These symptoms include sleep disturbances, flashbacks, nightmares, irritability, anxiety and depression."

As such, vicarious traumatization continues to be a concern for the rescue worker. Discussed next is the impact of disaster recovery operations on emergency health professionals.

Psychological Effects of Disaster Response

On average, natural disasters, such as earthquakes, hurricanes or tornadoes happen somewhere on the earth each day. What these horrific natural events have in common is the ability to affect many people at the same time but in different ways. Disaster workers can be both directly and indirectly affected by their work in these events. Lundin and Bodegard (1993) reported that the impact of the disaster on emergency workers is dependant upon several factors. First, the impact involves the harshness of the environment of the rescue operation. The harshness can be defined as the weather conditions, travel distance of the rescue teams, and the amount of victims. Another aspect is the demography of the victims that the disaster workers are trying to aid. "Examples of this includes whether the victims have the same language, ethnic, religious or cultural background, have the same interests or; are members of an occasional group, such as plant or office workers" (Lundin & Bodegard, 1993. p. 131). Finally, McFarlane (1987) writes, "personal factors of the rescue workers such as maturity, level of education, amount of emergency service training, and earlier experiences in disaster response strongly influence the reactions of disaster workers" (p.367).

EMS personnel deal with the socio-cultural consequences of disaster at interpersonal levels. Not only do they experience the loss of life and physical disability of disaster victims, but the financial, interpersonal, and spiritual losses within the survivors (Raphael, Singh, Bradbury, & Lambert, 1983).

When rescue personal work in disaster areas, they can experience immediate psychological distress but the psychological consequences are generally transient. (McFarlane, 1987). Additionally, novice rescue workers may experience during the

"early months, somatic complaints, PTSD and travel anxiety are frequently described. Long term depressive symptoms emerge. Many individuals with early difficulties rapidly improve while a few develop substantial long term psychiatric problems" (McFarlane, 198, p. 365). McFarlane also suggested that early intervention and education on both the social and psychological impact of disaster may help to predict those who are high risk for long term problems. Numerous studies (Dyregrov, 1989; Mitchell & Bray, 1990; Hodgkinson & Stewart, 1991; Schnyder, 1997) concluded that prevention programs may also help to limit the amount of high risk groups. Many surveys and studies that ask recipients about their opinions surrounding the effectiveness of mental health services during disaster response report favorable findings. (Robinson, R. & Mitchell, J. 1993) For example, a 1997 study in Australia found that police and fire brigade workers rated professional mental health services as 95% effective; peer support services as 93% effective and debriefing/defusing as 91% effective in helping them cope with disaster response (Robinson, 1997). In that same study, 95 % of respondents (n=755, 60% response rate) supported the perceived importance of continuing long term professional mental health service for rescue workers after a disaster.

Therefore, awareness and knowledge about recovery from psychological trauma is growing. One aspect of recovery involves the importance of talking about ones experiences (van der Kolk et al.., 1996). This belief dictates an individual's need to express their thoughts in some way. Furthermore, it has been suggested that people resist acknowledging, validating, and deliberating on those aspects of our existence that are emotionally difficult to comprehend. The horrific images of a natural disaster would serve as an example of such an event (Herman, 1992). Herman further believed that an

23

individual over time experiences waves of acknowledgement followed by periods of denial of their experienced event. Herman argued that the episodic nature of trauma requires continuous support for those exposed to it.

Long term outcomes after trauma are influenced by the nature of post-trauma environment (Rapheal & Wilson, 1993). The repetition of traumatization and enduring traumatic stress responses are thought to synergize subsequent traumatic events. As such, the less traumatic an event, the greater stress responses can occur. As the people experiences traumatic events, specifically in the case of the rescue worker, the ability to cope becomes compromised. Therefore, Rapheal and Wilson (1993) recommend the need for long term support for those who experience disaster directly. Overarching continued system wide support is a necessity for all EMS workers to assist them with coping and handling their emotional and cognitive distortions provoked by exposure to stressful events. Instead, negative and distorted attitudes of acknowledging the role of mental health professionals as providers of vocabulary (Gist & Lubin, 1999) who simply give labels to what individuals think and feel must be prevented. In its place, the view of mental health workers to create a sense of normalcy for rescuers when dealing with their emotional reactions is a necessity. Furthermore, with the addition of group process, emergency health providers can naturally and spontaneously engage in healing from emotional trauma (p. 39).

Other factors that impacts the psychological response to disaster include the degree an individual perceives events that may be labeled as uncontrollable vs. preventable. Gist & Lubin (1999) suggest that individuals' sense of time will return to normal faster when natural events such as a flash flood or hurricane strike occur. In contrast to when

horrible events occur that are man made, and perceived preventable, psychological

responses linger (p. 143). Baum also argued that victims of technological disasters (such

as Chernobyl) are at greater risk for developing stress reactions because technology

systems can be assumed to be controllable (Baum, 1987). Likewise, incompetence and

failure of socio-political systems in a disaster can increase the risk for stress reactions and

psychological disorder (p.37).

Summary

This chapter provided a review of the available literature on stress reactions in

emergency workers and a history of the treatment approaches. Because these reactions

are based on theories of psychological traumatization, a review of trauma, its inclusion in

the *Diagnostic and Statistical Manual* also occurred. Additionally, research findings

about Post Traumatic Disorder in emergency workers were discussed. Since this study

involved rescue workers who participated in the Hurricane Katrina Disaster Recovery

operation, a review of psychological responses in disasters was offered. Overall, this

researcher's intent was to through the use of the literature review help frame the problem

of cumulative stress from disaster response.

CHAPTER III:

RESEARCH METHODOLOGY

Overview

To examine, observe, and study the stress reactions experienced by emergency medical service workers, a qualitative research design was conducted. The advantage of using this type of design is that the researcher, as an instrument in the process, can approach field-work without being constrained by pre-determined categories of analysis typically found in quantitative studies (Patton, 2002). As such, the research method utilized encouraged varying perspectives and experiences of EMS workers to be expressed and thus incorporated in the study. Within this chapter, I will describe the rationale, theoretical framework, methodology, research questions, and analysis procedures used in this qualitative, participatory-action research analysis.

The research conducted January, 2006 through February, 2006 involved determining the effects of cumulative stress on Emergency Medical Service workers. For the purpose of this study, Emergency Medical Service (EMS) workers are defined as certified Emergency Medical Technicians or Paramedics. All of these individuals are nationally registered and have at least one year experience working with 911 response calls. Additionally, cumulative stress will be defined as repeated and long term exposure to work-related psychosocial stressors, such as system disorganization and incompetence, incompatibility with a partner, hospital and other allied health professionals particularly those whom may not respect EMS workers, conflicts with supervisors, and lack of support from the socio-political system.

Rationale

For twenty six years prior to this study, I served as a paramedic in a variety of volunteer and paid roles, including twelve years as a flight paramedic for one of the nation's busiest air medical services. During that time, I felt the emotional roller coaster of the highs and lows of rescue work. I had first-hand experience realizing how fragile thus precious life can be and how in a brief moment it could all be taken away. I observed many qualified and dedicated professionals leave the field for other occupations and careers all the while struggling with the question: Why do good practitioners leave this important life saving field for much less exciting occupations?

After reading many studies on the effects of Critical Incident Stress and PTSD on rescue workers, I became certified in Critical Incident Stress Debriefing as a way to deter the migration of EMS providers away from this public service profession; however, despite my best efforts, the migration continued and something seemed to be missing. In my opinion, CISD seemed to ignore the bigger problem of the daily stressors that EMS workers had to face. In fact, the diagnosis seemed to ignore the mounting cumulative stress experienced by workers. When I began my doctoral studies, I knew I wanted to conduct research with EMS workers and in some way help shed light on the mental health issues that they face.

Theoretical Framework

As such, this qualitative study was grounded in Critical Incident Stress Management Theory (CISM) (Mitchell& Everly, 1996; Everly & Mitchell, 1999). Focusing and supporting the concept of CISM is Constructivist Self Development Theory (CSDT) as described by Lisa McCann and Laurie Pearlman (1990). Lastly Van

Maanen's (1990) perspectives on the representation of lived experiences in human

science are used to ground this study. Next the theoretical framework is explored to get a

better understanding of the importance of these approaches in relation to rescue work.

Critical Incident Stress Management Theory

As previously mentioned the realization that EMS workers experience traumatic

situations as a side effect of their occupation was established many years ago. To aid

these individuals, CISM was created as a comprehensive, multi-component program

based upon group counseling principals and peer support processes designed to assist

emergency health professionals' when dealing effectively with the stressful components

of their work. CISM may also be described as a trauma management and psychological

support program for emergency allied health professionals (Robinson, 2000).

As described by Everly & Mitchell (1997), the premise of CISM can be defined

as utilizing a peer supported process, during an early intervention stage that aids EMS

providers with reducing their acute stress reactions following critical incidents. This

program was designed to be a psychological debriefing process allowing the exposed

individual to become educated about stress reactions and understand the thoughts,

feelings, and actions that they hold about a particular event. In other words, the process

facilitates rescue workers 'coming to terms' with a stressful event and as a result,

mobilizes the individual mobilize to utilize their own resources and social support

systems. Critical Incident Stress Management also teaches the participants how to

develop coping skills, so that they may be able to better process stress reactions in the

future. The premise of CISM theory when applied as a program in the work place,

reduces stress, lowers anxiety and depression, and increases work-place morale. (Everly, et al., 1997).

The Mitchell & Everly (1997) model remains one of the most widely practiced processes for stress management in EMS. I, however, believe the phenomena of stress reactions in EMS workers can also be explained by an additional theory known as Constructivist Self Development Theory (CSDT)

Constructivist Self Development Theory

CSDT was developed by Lisa McCann and Laurie Pearlman (1990) and focused on the developmental approach to psychological trauma. The approach was designed to better explain the long-term effects of the daily stressors faced by EMS workers. CSDT subscribes to the belief that psychological trauma can be an individualized response to a series of events. Furthermore, this response can cause the immobilization of thoughts and feelings. In addition, it may cause a person to withdraw socially, depersonalize, and develop disorganized thinking patterns. McCann and Pearlman (1990) noted that psychological trauma affects helpers as much as victims and coined the term vicarious traumatization to describe this particular type of trauma.

According to CSDT, vicarious traumatization can be defined as a change that occurs within helpers as a result of their empathic engagement with one or more of the victims of a traumatic experience. For the purpose of this study, I believe vicarious traumatization explains the psychological adaptation EMS workers experience as a result of their daily stressors. CSDT followers believe that this theory subscribes to the idea that individuals possess the inherent capacity to construct their own realities as they interact with their environment. For instance, while studying for a six grade science exam, my

29

son reminded me that the definition of environment can include anything that surrounds a living thing. With that concept in mind, the environment of EMS workers would be considered fast paced, violent, and typically there can be a lot of injury, illness, and death. Clearly, that environmental condition can have negative effects on an emergency worker's psyche.

Therefore, the CSDT theory had identified five aspects known as a frame of reference, self capacity, ego resources, psychological needs and cognitive schemas, memory and perception to assist with coping with such hazardous environments. Consequently, McCann and Pearlman (1990) believed that disruptions in any of these five aspects could point an individual toward traumatic reactions. Such reactions could be personal; however, typically in the case of EMS workers, vicarious in nature. A more detailed description of CSDT can be found in Chapter II.

Study of Lived Experience

Van Mannen (1990) describes a phenomenological based approach as a reference for investigating the lived experience of humans. The idea of lived experiences suggests that when people prompt questions, gather data, or describe phenomena; they take on the persona of a researcher and become sensitive to the context of the people being studied. For Van Mannen (1990), this type of phenomenological research includes (1) the study of a lived experience, (2) the report of phenomena as it presents to a researchers consciousness, (3) a discussion of the essence of the phenomena (4) a description of the meaning as individuals lived them and (5) a scientific study done in a thoughtful way.

According to Van Mannen (1990), this pedagogy of study requires a reflective orientation to life. In reference to this particular study, Van Mannen's approach would

manifest itself as a critical reflection of the effects of a horrific natural disaster on the EMS workers who lived that experience. Mental health professionals, counselors, and educators must be able to understand the experiences of EMS workers in order to help them in an empathic way. In my previous career as a flight paramedic, I had a pedagogical view of stress responses for nearly twenty years of practice. Hopefully, this experience will allow me to better report the essence and meaning of the lived experience of Hurricane Katrina workers. Overall, I can conclude that a disciplined, thoughtful, and reflective inquiry, as suggested by Van Mannen (1990), will create the basis of analyzing through remembering my lived experiences as a paramedic and professional counselor, an appropriate mode of inquiry for this study.

Research Design

For this study, a participatory-action research focus was used to complete the qualitative research conducted. Exploring the subjective world of EMS workers, I quickly discovered that the majority of the research centered on naturalistic inquiry designed to encourage participants to become empowered and engage in change to improve the mental health of EMS workers. One research process described by Berg (2001) includes two main tasks. The first is to reveal information to the participants through an educational task. Second, based on the information provided, the participant group may then engage in a process of change (Berg, 2001). When conducting research for this study, I chose to use stakeholder focus group within the EMS community to gather data for analysis. The focus group will be comprised of EMS educators and senior emergency health providers, all of whom have extensive first-hand experience in understanding the stressful challenges that our rescue workers face daily.

Since, Patton (2002) described that the most important goal of designing a research sample is information wealthy; I know that these individuals would be overly sufficient for my purposes. In fact, Patton states, "random probability sampling, typically often used in qualitative research, cannot accomplish what in-depth, purposeful samples accomplish" (Patton, 2002, p. 245). Thus, the carefully selected and purposeful sample can ensure greater insight into the research ideals especially from a group of individuals that have actual real life experience. Levers (2003) states, "knowledgeable stakeholders are in a key position to apply new information, in concert with and informed by their expertise and experience, to problem resolution. Therefore, I will use a sampling technique called 'opportunistic sampling' to answer my research inquires.

The actual process of developing an opportunistic sampling involves following leads that occur during field-work to identify participants with rich sources of information (Aanstoos, 1984). As a member of the regional disaster team for Western Pennsylvania, I was able to obtain a team of informants who were dispatched on October, 2005 by FEMA to Hurricane Katrina disaster areas. This researchers experience in EMS created unprecedented entrée into the rescue team's world for study of this phenomenon. The team, composed of 24 members, worked the disaster area six weeks after the initial impact. The realization that this delayed response provided me with informants who could report the effects of the cumulative stress reactions that were described in Chapter I was a once in a lifetime opportunity. Overall, these key informants became my opportunistic population and provided me with the occasion to conduct my qualitative study.

Additionally, Patton (2002) contends that there are no rules regarding sample size in qualitative study. Rather, sample size depends on the issues that the researcher wants to know for the inquiry. As such, a small sample of only 24 members of the response team could provide the most insightful information and research data. Therefore, I conducted two focus groups of 8 individuals which provided 16 participants for the study. Eight of those were individually interviewed. Ultimately, 2/3 of the total possible population was studied.

The main mode of data collection involved gathering information utilizing qualitative interviewing. Berg (2001) describes this technique of interviewing between the researcher and study participants as one that occurs in a focus group format. The goal with using this type of format would be to allow participants to feed off of one another allowing for an increase in the depth and breadth of responses (Rubin & Rubin, 1995). In addition, this technique encourages more opportunities for interview answers to be socially-constructed. Based on these theories, Patton (2002) reports a need to keep questions informal in nature and lists several advantages of focus group formats that including cost effectiveness, simplicity of increasing sample size, participant's interactions enhance the quality of data collection, commonly shared views or different opinions can be quickly assessed, and participants tend to weed out false views increasing study validity. Since humans can be identified as social creatures, group formats tend to be enjoyable for participants; thus reducing the likelihood of false or rushed responses.

However, qualitative researchers are more concerned with the reliability and validity of their work. Several methods by which qualitative researchers can enhance the internal validity of their work are described by Mirriam (2001). These methods include

peer examination, checking with the informant group to clarify interpretations, and listing

the researcher's biases at the onset of the study. In qualitative research, reliability can be

viewed as dependability or consistency of the results (Mirram, 2001). Therefore,

strategies used to check for validity of research results can be used also for establishing

reliability. This researcher's extensive training in emergency services along with a deep

sense of trustworthiness and social connectedness and to the study group supports the

reliability and validity of this qualitative design. While I am concerned about the

reliability and validity of my investigation, a major assumption of qualitative research as

described by Mirram (2001) can be upheld in that research utilizing multidimensional,

dynamic, and holistic, ultimately cannot ensure that every single objective event was

analyzed.

Ethics and Protocol

 Navigating in dangerous waters, I quickly realized that this study had the potential

to reawaken past traumatic incidents experience by the participants. Therefore, I

informed the participants of the nature of the inquiry and the subject matter to be

discussed, as well as the potential risk of flashbacks and reliving traumatic emotional

experiences. If the informants appeared to be upset, I stopped the group process to check

in with the participants. By monitoring the non-verbal behaviors, (i.e. signs of stress or

distress) I was able to give verbal prompts such as "how are you?";"do you need to

stop?"; or "would you like to stop?" with each participant.

    Furthermore, my clinical experience as a Nationally Certified Counselor and a

licensed professional counselor in the Commonwealth of Pennsylvania in conjunction

with my extensive training in crisis assessment and intervention was a further safeguard.

In addition, I am certified in Critical Incident Stress Management and have presented at numerous local, state and national EMS conferences. Finally, I am a Nationally Registered Paramedic Instructor with 25 years of field experience in both cumulative and acute stress reactions of emergency workers.

Each volunteer participant completed an informed consent before participating in the study, in addition to each individual debriefed on the risks and benefits of this research. All participants' identities were kept anonymous. Participant responses were listed by an assigned number rather than a name to maintain confidentiality. Field notes and audio tapes will be kept locked in my private office for further protection. The subjects were told that they may withdraw themselves from the individual interview and focus group at any time in the study.

Research Questions

There were several research questions being investigated to determine the relationship of cumulative stress to burnout among EMS workers. The questions included: (a) To what degree does cumulative stress have an impact on the EMS workers' ability to perform their duties? (b) How does perception change or influence job satisfaction, job retention and burnout in rescue workers? (c) To what extent does cumulative stress from disaster recovery work have an impact on the EMS provider's mental health?

Analysis

A recursive process was utilized when analyzing the data was a recursive and constant examination of the approach utilized for analysis. Furthermore, I carefully reviewed the manner in which I asked questions during both the individual interview and

focus groups identifying questions that provoked the most powerful interactions and

emotions among the study subjects. I also listened to the audio tapes, reviewed my field

notes, and engaged in personal reflection as the research instrument was affected by the

group process.

Overall, the process of inductive analysis (Patton, 2002) will be utilized. As I

listened to each of the taped interviews and focus groups, I recorded in my field notes the

themes revealed by the participants. Individual interviews and focus groups content were

transcribed for ease of data analysis. Themes surrounding group dynamics, affective

expression, individual vs. shared group experience, and cognitive intensity were

identified. All research findings are reported in Chapter IV with recommendations and

conclusions being discussed in Chapter V.

Summary

In conclusion, the researcher, utilized as an instrument, during the analysis of in

the qualitative research process, attempted to identify the sole intention for this

dissertation as understanding the phenomenon of cumulative stress as it relates to EMS

workers personal experiences. As such, this study will focus on the personal experiences

of rescue workers as they were deployed to provide aid during the aftermath of a

catastrophic event that happened in the United States of America during the beginning of

the 21st century by examining lived experience interviews and focus groups. In essence, it

will be a naturalistic, discovery oriented inquiry.

CHAPTER IV

RESEARCH FINDINGS

Introduction

A total of 16 individuals participated in this research study. All of these participants were Emergency Medical Technician-Paramedics (EMT-P). In addition, some of the medics were EMS system supervisors. All 16 participated in focus groups, while eight of the 16 subjects also participated in one-on-one interviews. Finally, 10 of the 16 subjects returned post focus group response letters.

The demographic overview of the participants was collected and summarized in Table 1. For example, the average age of 12 male and 4 female participants was 30 years-old. The number of participants identifying they were married or divorced was 9; while, 6 of the participants identified as being single. A home situation of one or more children was true for 7 of the participants. None of the 16 participants in the study were college graduates. The average length of professional service time was 8 years.

A personal history was obtained from each participant regarding their past experiences with responding to natural disaster areas. Only 3 of the subjects reported a previous experience of disaster work. The past natural disaster experience as identified by 2 participants being involved with was the Monongahela River Election Day Flood of 1986 and one other participant responded to Hurricane Andrew Recovery Operation in 1992. The remainder of the participants had no natural disaster related experience; however, all reported frequent contact with small scale disasters such as large structure fires, motor vehicle accidents with multiple injuries, and violent crime incidents were typical of the small scale disasters reported by the participants.

Table 1

Demographic Analysis of Individual Interviews

Participant	Gender	Level of Training	Age	Years of Service	Martial Status	Previous Disaster Work	Children
1	M	Medic	53	16	Married	No	3
2	F	EMT	39	8	Single	No	0
3	M	Medic	20	2	Single	No	0
4	M	Medic	40	11	Divorced	Yes	2
5	F	EMT	28	10	Divorced	No	1
6	M	Medic	22	2	Single	No	0
7	M	Medic	40	11	Divorced	Yes	2
8	M	EMT	26	7	Single	No	0
9	M	EMT	37	9	Married	No	1
10	F	Medic	24	4	Single	No	0
11	M	EMT	39	12	Married	No	2
12	M	EMT	20	2	Single	No	0
13	M	EMT	39	14	Married	No	2
14	M	Medic	37	9	Married	Yes	1
15	F	Medic	30	6	Divorced	No	0
16	M	Medic	26	6	single	No	0

While the analysis of the data began with the focus group, it continued as a

recursive process for me. During the focus groups and individual interviews, I took

copious field notes. The following day after each videotaped focus group, I reviewed the

tapes, my field notes and reflected upon how I, as the research instrument, was affected

by the group process. One week after concluding the two focus groups, I began the eight

individual interviews. Ultimately, through this process, I became aware that the after the

eighth individual interviews, no additional themes were being reported therefore, I had

reached a point of saturation. I became fascinated how each participant used different

words to illustrate similar lived experiences of their work during a horrific natural

disaster.

After the field research concluded, individual interview audio tapes were transcribed and analyzed. I constantly examined my approach and analyzed the manner in which I asked questions and determined which questions elicited the most powerful reactions among the study participants. After each individual interview, I would listen to the tape, review my field notes, and engage in a personal reflection process about how my role as a research instrument affected the participant's individual responses.

I continued the analysis by listening to each of the eight individual interviews tapes. I took notes and identified the most obvious themes. Analysis of the focus group tapes involved the identification of themes, the verbal intensity of participant's responses, and a description of the overall dynamics of the group process (i.e. whether one individual directed the conversation or if it was a shared group experience). This process, known as inductive analysis, is described by Patton (2002) and can be recognized as commonly used in qualitative studies.

For example, many of the individual interviews were used by the participants as an opportunity to vent overall concerns including stress related issues surrounding work in a natural disaster area. Rich and powerful information was shared by many participants expressing frustration and anger towards Federal Emergency Management and local government officials. The respondents in the focus groups and individual interviews quickly focused on the main point of discussion being the Katrina Disaster Recovery Operation especially regarding its the poor coordination, disorganization, and the ineffective decisions being made.

While the individual interviews revealed considerable content, the rich interactions with each participant during the focus groups allowed me to experience the powerful

nonverbal communications that could not be noticed in one-on-one interviews. The group dynamics also provided a powerful synergistic effect in which participants fed off one another and built upon common themes with increased emotional energy. Overall, this particular group dynamic provided subjects the opportunity to explain, explore, and validate their lived experiences (Aantoos, 1984). Offered next is a discussion of the findings.

<center>Findings</center>

The findings will include a report of the information from (a) a narrative analysis of the two focus groups, (b) a narrative analysis of the eight individual interviews, and (c) a cross-case analysis of the eight focus groups and individual interviews within Critical Incident Stress Management Theory. Following each narrative, a table will be used to summarize the identified themes. The focus groups and individual interviews will be reported in chronological fashion. Above all, the findings were reported with particular respect to maintain anonymity of the subjects. In addition to themes of Critical Incident Stress Management Theory, discussion includes on training issues for EMS workers including the implications of the role of professional counselors assisting EMS workers with coping skills.

Narrative Analysis of Focus Group 1

The first focus group was held at a local ambulance base also known as a disaster response team training site. I arrived one hour prior to the start of the focus group and the team members were finishing a training session and milling around the quarters. As I entered through the only door to the training room, I noticed that my presence created a sense of excitement. I felt all eyes on me and heard one member say, "the shrink is here."

<center>40</center>

This comment generated a great deal of laughter in the room. The team's coordinator greeted me with a smile and warm welcome. Each team member introduced themselves with a handshake and the name of the local EMS service where they are employed. The atmosphere was open, jovial, and professional. Overall, I sensed that the group was willing to share their stories and were anxious to begin the discussion.

The session began by introducing the purpose of the study, consent to participate, audiotape and transcribe, and issues related to their voluntary participation in the study. I also discussed how they may obtain a copy of the study's results and the use of Duquesne University's IRB procedures to file a complaint against me. Finally, I spent considerable amount of time explaining how to stop the process due to emotional discomfort. Their conversations were lively and jovial, almost to an extreme of joke making during the discussion of how to stop the process. I collected their completed paperwork and informed them that I was going to turn on the tape recorder.

At that point the tone of the group changed to a professional quietness. The group maintained eye contact with me and one another, but their barbing jokes back and forth ended. I felt tenseness in my own affect that was uncomfortable. I knew that the group was indicating to me that it was time to get serious. I asked each participant to tell me some basic information about them. Next, I asked members to teach me about their experiences in the Hurricane Katrina Recovery Operation.

The team leader spoke first and quickly asked, "How much time do you have?" Everyone laughed and he continued by telling his version of the story from the first day of their arrival. He stated, "We first arrived at the FEMA processing center at LSU. It was also a shelter. There was a long line of rescue workers that was getting processed.

They told us not to begin any activity with the refugees until we were processed. I thought to myself, God refugees? I could see thru the fence on the football field the thousands of people on cots, just lying around. There was one elderly black lady wheezing badly just across the fence from where we were standing. It was obvious she was having an asthma attack so I started toward her and a National Guard trooper stopped me, again saying, you need processed first. I thought to myself this is fucked up."

The floodgates opened and another medic added to the story reporting that they (FEMA) released one team before the second was in place. There was a time in which there was no medical care available at the shelter because of processing. He said "I thought what kind of an idiot sends help home before relief arrives." Immediately responding to this account, another medic interrupted"…ya then once they got us processed, they had no idea of what to do with us, where to go or who to help…" A forth team member quipped, "I said how about these people right over here, you know, next to where we are standing." Amazingly, this group took turns almost in a choreographed fashion expressing stories of powerlessness and disorganization of their experience during the first day of their arrival in the recovery area.

The group's expressions were vented with a flattened affect. I thought this to be a bit strange considering the emotional charge to their stories. I shared this observation with the group and waited for responses. One of the participants, who to this point had been relatively quiet, said "…look you can be angry and want to hit somebody or get sad and cry, but that doesn't change a thing." I thought to myself how powerful that statement was in the process of helping me understand how this group of rescue workers

processed their experience. Other group members offered similar statements and suddenly a theme of repressed anger and sadness became evident.

The surge of shared feelings was overwhelming present during this focus group as each participant reported times they felt the pains of anger and frustration. Surprisingly, they were able to identify targets for these feelings and this target was not a Hurricane named Katrina, but specific federal officials preventing them from completing their mission. When I shared my perceptions of their anger toward government official's one team member quickly corrected me. He said, "don't get me wrong, I'm not mad at the person (federal representative). They were only trying their best and most of the feds were nice. We hung out had lunch and coffee together. It's the damn plan. There was none. I could talk home to me kids easier than I could contact another rescue worker. There was no communication and no way to coordinate. I told one of their agents the problems we were having and he said I know, but I can't do anything about it. I asked him, who can? He said I don't know that either, if I did don't you think I would have fixed it." Every participant in the focus group echoed shared feeling of anger and sadness toward incompetents of the recovery operation and not any individual.

While a great of deal of the groups energy focused on the first few hours of their arrival in the recovery zone other experiences were also discussed. One participant summed his feelings up by saying how angry he was the entire time he was there. "… as if the devastation wasn't bad enough to think people in America could be treated that way." I probed with an open ended question and he explained to me, while involving the entire group in the conversation, about images of human suffering.

43

He reported witnessing seeing human feces, vomit and urine in the shelters because the port-a-johns were overall filled. He also commented that "Most sewage systems were not operational and the public had to rely on port-a-johns and anywhere they could find to let it out," I observed his face becoming red and his muscles tense as he and other group members shared their shock at the conditions Americans had to face weeks after the Katrina landfall. "It was so depressing," said the only female member of this focus group. She reported how awful it was for the female survivors to meet their feminine needs. This medic stated, "they (FEMA) finally figured out how to get water and food to everyone but not tampons. Gross everywhere, that's all I can say. I thought it remarkable the only female member in this group noticed the specific needs that went unmet for woman in the recovery operation. When I illuminated this point, she said in a terse tone, "well most of the FEMA and local government officials were men, what you would expect?"

Overall, the group members expressed a shared sarcasm and complaints about the mental health debriefing. A senior medic in the group said, "debriefing was great as long as you didn't have a problem. If you told the Gestapo you had any feelings at all, bang you were pulled from duty. None of us wanted that. So, we just debriefed each other." The group collectively shook their heads in agreement. For that instance, I was ashamed to be a counselor.

Identified Themes

The most evident theme was the anger experienced towards the disorganized federal response and treatment of the displaced citizens and sadness involving the human suffering within the HKRA was present throughout the first focus group. Also, members

44

discussed disruptions in all of the components of CISM theory. Additionally, PTSD

symptoms were identified as being present by some group members. Overall, the most

predominant themes that emerged during the first focus group are identified in Table 2.

Table 2

Focus Group One Theme Summary

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	Confusion, poor communication
Expression of Thought and Feeling	Afraid to speak, distrust of counselors
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	
PTSD Factors	Relives incidents, irritable, not as happy, poor sleep, overeating
Socio-cultural issues	Government was disorganized, poor coordination of human resources; FEMA would not listen to locals, poor planning for women's needs.
Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers, and family

Narrative Analysis Focus Group 2

The second focus group occurred at a rural ambulance base and involved another

eight members of the regional FEMA response team. There were some striking

similarities to the first groups meeting room as they both appeared rather small with one

primary entrance. Team members were milling around drinking coffee and there was a

great deal of laughter. The room did have connecting offices for supervisors and

administrators who work for the local EMS agency. Shortly after my arrival a few

minutes behind schedule, the team's supervisor came out of his office and announced,

"Skippy is here to tell us we are all crazy." After that another member said, you are not

from FEMA are you? The room burst out into laughter. This focus group consisted of three females and five males.

I began the session as I did the first by explaining their rights as study subjects. When I turned the tape recorder on it malfunctioned due to a jam. One male participant said, "this guy is definitely from FEMA and the room erupted with laughter. After fixing the recorder, I began by asking how their experiences to a horrific natural disaster affected them. One woman responded immediately "…it affects you physically, emotionally, and mentally. It was all I thought about for weeks. It was hard for me to return to work and even harder to be a mother and wife. All I wanted to do was stay at home and hug my kids. It was awful. People, families, children lost everything. Losing everything wasn't even the worst. How they all had to live in the shelters was unbelievable. I can still smell the urine, feces, and that muddy rotten smell. It just won't leave me."

A second and third subject also shared the memory of the smell, but interestingly it wasn't the smell in the disaster area, it was the smell in the shelters. Another participant said he witnessed a news report in which a local county official were encouraging people to stay put in the shelter. The subject reported thinking to himself, "Hell anyone that stays in this shit hole is in more danger than if they were out in the streets." Several other participants agreed and echoed a similar theme of shock at the living conditions and repeated the question of how could this happen in America, in the 21st century? The discussion of the living conditions changed the tone of the group. There was no longer laughter. One by one, participants told the story of the images that were most figural for them. Again, with striking similarity to the first group, their stories surrounded issues of

loss, human suffering, and the impact of poor decision making by government official on the Katrina victims; a similar theme between both focus groups.

The members of this second focus group specifically engaged in a long critique centered on the specific reasons for the poor decision making by disaster recovery officials. Team members agreed that sufficient human and consumer resources existed in the recovery operation area, but they reported no way to effectively coordinating the utilization of resources. A summary quote was offered by one subject, "I had a worker who needed debriefed by a mental health worker. He saw several bodies, all elderly from a personal care home. There were dogs eating the remains. This guy worked in EMS for twenty years and was really messed up by seeing all this. The debriefing team was present at a check point, but the supervisor that authorizes the debriefing was over in the next parish, probably learning how to authorize debriefings. The fucking idiot mental health people from the Red Cross wouldn't talk to him because they did not yet have authorization."

After a pause, I asked what happened to the medic who experienced that horrific image of death. The group member said "we talked to him. In fact we talked to him most of the night." Participants collectively reported most rescue workers did not get debriefed and when they did it wasn't very helpful. Reasons such as, it was more of a hassle, it wasted too much time, I would rather be out in the field than stuck in the shelter were most often cited by the focus group members.

A strong socio-cultural theme immerged from this group. Specific references were made to the high degree of suffering African-American (AA) elderly residents experienced. In actuality, several group members eyes welled up with tears and their

faces become flushed as this all white group related images of horror and despair that elderly African-American's experienced in the HKRA. One rescuer stated simply, "it was forget about the old black people, their dying anyway." A female participant, who was the most visibly moved during the discussion, reported that the care of the elderly African-Americans most often was placed on black emergency workers. "Most of the AA rescue personal were from the HKRA so they experienced their own personal tragedies on top of dealing with all of those who everyone else forgot about," she added. The group all nodded their heads in agreement at the conclusion of her statement.

The two female members shared comments about a lack of attention to feminine needs that was similar to the issue raised by the only female member during the first focus group. One of the female rescuers described that "no one ever thought that if you put a bunch of women in a shelter for over a month some of them might just have a period." The other female subject quipped, "Yah, they needed female supervisors who were also on their period in the trenches. I'll bet we would have gotten tampons then." The men of the group sat silently as the woman ended their discussion.

Finally, I asked how they have changed since their work in HKRA. The oldest male and most experienced member of the group spoke, "This changed me for life. I don't trust any federal official. I really distaste bureaucracy and I used to part of it. Bureaucracy was a late night talk show joke before this hurricane. I saw how it killed people, lots of innocent, poor, and dumb people. People that we were always trained to protect, got let down. It just wasn't right.

Another male member stated he was drinking more now to take the edge off and forget about what he saw. Another male, who was a father and husband, said "You really

48

didn't have time to take care of yourself. It was back to the real world. I know that now I

am overeating." Others shared similar urges for comfort foods as a coping mechanism.

The medic continued with his venting, "its funny there were counselors all over us giving

information on what kind of reactions we might have, then we leave and its see ya! I

didn't get one phone call to see how I was doing. All members again shared a description

of the smells within the HKRA as lasting memories of their disaster work."

At the end of the focus group, participants thanked me for listening. A few of the

team members stated they felt better having had the opportunity to share what they

experienced. Many said this was their first chance to debrief. Several from this group

experienced interest in the individual interview phase of the study.

Identified Themes

Similar themes from the first focus group, festered to the forefront including

anger towards the disorganized federal response, treatment of the displaced citizens, and

sadness involving the human suffering within the HKRA was present throughout the

second focus group. Additional socio-political themes were also enmeshed in this group's

discussion of their experiences in a horrific natural disaster. Finally, themes consistent

with factors of Critical Incident Stress Management Theory and PTSD symptoms also

emerged. The themes for focus group 2 are identified in Table 3.

Table 3

Focus Group Two Theme Summary

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No one to talk to who we could trust Confusion, poor communication FEMA unaware of our needs Families don't realize what we went through

Expression of Thought and Feeling	Afraid to speak, distrust of counselors Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	
PTSD Factors	Relives incidents, irritable, not as happy, poor sleep, overeating
Socio-cultural issues	AA and elderly grossly affected, government was disorganized, poor coordination of human resources, FEMA would not listen to locals, poor planning for women's needs.
Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers, and family

Individual Interview Narrative and Themes

The eight individual interviews being reported in this study were conducted at the

on-site training centers. They were thirty minutes to one hour in length. The salient

information will be reported in a descriptive manner. All of the individual interviewees

were members of a focus group described above. All individual interviews began with a

discussion of the purpose of the study, my intended use of audio taped conversation and

how to stop the process at any time. After this conversation, all individual interviewees

signed the study consent form. Demographic information regarding the eight focus group

members provided below in table 4.

Table 4

Demographic Analysis of Individual Interviews

Participant	Sex	Level of Training	Age	Years of Service	Martial Status	Previous Disaster Work	Children
1	M	Medic	53	16	Married	Yes	3
2	M	Medic	20	2	Single	No	0
3	M	Medic	40	11	Divorced	Yes	2

4	F	Medic	24	4	Single	No	0
5	M	EMT	20	2	Single	No	0
6	M	EMT	39	12	Married	No	2
7	M	Medic	37	9	Married	Yes	1
8	F	Medic	30	6	Divorced	No	0

Individual Interview 1(S1)

Subject 1 was a 53 year-old married male, who was a father of three children. He

has been a paramedic supervisor for 16 years. I started the interview by asking him to

share some of his thoughts from the focus group and answer the question of how we can

better prepare EMS providers for the effects of work during a horrific disaster. S1 took a

sip of his coffee and began to speak. His facial expressions were stoic and his responses

seemed guarded due to his lack of emotion. He relayed that more control needs to be

placed on local officials in disasters. S1 said, "The Feds come in and take over but they

don't know the people, the topography and the history. What worked in Pennsylvania

during the Johnstown Flood doesn't work in the Gulf coast. FEMA officials thought that

everyone would evacuate because that's what they did in Florida. Just like they said in

the Wizard of Oz 'You ain't in Kansas anymore.'

In general, he commented that he spoke with the AA medics who worked with us

and they knew none of those people would evacuate. That is something in that area you

just don't do. You stay, no matter what. All of a sudden FEMA had hundreds of

thousands of refugees instead of a few thousand. By then it was too late. Also, none of

their advanced computer models predicted people staying, they all predicted people

leaving. I'll bet that's something CNN didn't cover. Overall, he reported that the most

upsetting feeling he had was how people criticized the rescue workers. He indicated a

feeling of being betrayed by the public.

This experienced provider facial tone changed and his mood became filled with grim when he discussed how he felt when hearing all the jokes back home about the botched rescues, missing people and the local medics who walked off the job. S1 said, "Hell they didn't walk away from their job, their ambulances, bases and towns were washed away. They all were working, still saving lives, just not at their assigned location because their assigned location was gone!"

S1 reported symptoms of general fatigue, racing thoughts and images of the HKRA, trouble concentrating and a feeling of irritability upon his return home. S1 paused for a moment and said, "I thought I got some brain disease and was going crazy. Things got better and I don't have those feelings as often, but out of nowhere comes that smell."

Identified Themes

Table 5 summarizes the themes discussed by S1 in during the individual interview. The emerged themes were consistent with factors of Critical Incident Stress Management Theory along with PTSD symptoms.

Table 5
Individual Interview 1

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No to talk to who we could trust Confusion, poor communication Families don't realize what we went through
Expression of Thought and Feeling	Afraid to speak Counselors didn't seem trained Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms

Other Components	
PTSD Factors	Relives smells and sounds from HKRA, irritable, not as happy, poor sleep, overeating
Socio-cultural issues	Government was disorganized, poor coordination of human resources, FEMA would not listen to locals, AA grossly affected as victims.
Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers, and family

Individual Interview 2 (S2)

The second subject was a 20 year-old male medic who laughed and joked throughout most of the first focus group. His open and friendly personality seemed different to me at the start of the individual interview. I began by asking S2 how he was different now. In a grim tone, he said, "well I'm single now." I sat silently and he told the story of how he couldn't get the images of suffering and destruction out of his head. S-2 reported things with his girlfriend just weren't the same. 'Nothing was fun, sex, pool, even drinking. I just wanted to sit around. My supervisor noticed it. All I could think about was Baton Rouge and all of the evacuees who needed help. It was strange how close I got to some of them. I never went into the field. My assignment was to stay in the shelter and care for the evacuees. I really did get close to some of them. In fact, when I said to my girlfriend I want to go back she said it was them or me and I said bye bitch." S2 shared a reflection about how he always had believed that racism didn't exist in American anymore and that the minority was really the white man. S2 made eye contact with me and blurted, "boy was I wrong. Old Black folks down there were left to die," S2 said. I asked him about the treatment of women in the HKRA hoping to expand on comments from the female members during the focus group. I was surprised when S2

said that they were treated very well. "No doubt about it. Black men were treated the worst," he said. I stopped for a second to allow the impact of his statement to set in and then asked what could have done to help him prepare for the emotional toll of work in HKRA. S2 felt it would have helped if would have known what to expect. He commented, that "there was no warning given to us about the living conditions (especially the sanitation problems) inside of the shelters. Hell they told us about the destruction in the villages, all the dead bodies, but not about people lying in shit in a shelter." S2 continued, "funny part about it was that I didn't see one dead body. I didn't even see a dead animal, just people lying in shit. He paused looked at me and said "so you tell me what the fuck that is all about." While I did not offer him an answer, he seemed to calm after I expressed empathy and thanked him for his work.

Identified Themes.

Table 6 summarizes the themes discussed by S2 in during the individual interview. The emerged themes were consistent with factors of Critical Incident Stress Management Theory along with PTSD symptoms. Interestingly, powerful content surrounding the cultural issues within the HKRA also emerged.

Table 6

Individual Interview 2

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No to talk to who we could trust Confusion, poor communication Families don't realize what we went through
Expression of Thought and Feeling	Afraid to speak Counselors didn't seem trained Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms

Development of Coping Mechanisms	No follow-up No information on how to develop
Other Components	
PTSD Factors	Decreased libido, irritable, not as happy, poor sleep, reliving smells from HKRA
Socio-cultural issues	Government was disorganized FEMA would not listen to locals, AA grossly affected as victims.
Effects on Relationships	No longer with significant other

Individual Interview 3 (S3)

S3 was a 40 year-old senior paramedic and a divorced male. I asked, "How has HKRO work affected you, if at all?" He responded, "huh, well it's hard for me maintain relationships since I retuned." I asked for clarification. He elaborated, " our family relationships suffer because of this job anyway. I wasn't ever very good at relationships in the first place, but lately it's gotten worse." S3 continued, "You can't give them (my kids and girlfriend) what they want emotionally. I am just drained. I think I gave everything I had to my team and to the evacuees in Louisiana. I have always heard that you don't run out of emotion, but the truth is you do. I haven't figured out how to fill back up. My family notices it and my coworkers notice it. This previous statement caused his head to shake from left to right and he paused after each word. Visually, the impacts of his words were very figural for me.

Next, I asked if the recovery work impacted him in any other ways. He said he lost his appetite and laughed suggesting in a witty manner that maybe that's the best part of the experience as he grabbed his stomach. S3 without prompt continued, "Two can things happen. You either lose your appetite, and that's what happened to most of us. After smelling the urine, feces, and whatever else was growing in those shelters, you really didn't want to dig into any food. I remember eating a hamburger at Wendy's on the

way home and had to stop because it reminded me of those awful smells." S3 stopped for

minute to take a sip of water. His hand was slightly trembling as he drank before

continuing, "Some gained and appetite. I mean they gulped food down like they just

came in from the desert." I asked S3 how he interpreted the overeating and he said, "They

didn't eat because they were hungry. They ate because there was nothing else to do. You

know nervous energy. I know a guy who gained twenty pounds since we have been back.

He tells me he just can't control his appetite anymore and nothing satisfies it."

S3 then redirected me back to the relationship problems he was discussing. He said

in a sarcastic tone, "my girlfriend wants to have sex, but I can't sleep, have irritable bowl

every time I eat and constant tension headaches. It's hard to get hard if your head is

pounding." I further probed this rescue worker wondering if he sought professional

counseling. S3 became tense and angry as he said, "Well let me tell you something. All

they did down there was tell us what we were going to feel like after our mission was

done. So, basically a mental health counselor said to us you are going to feel like shit but

there is nothing that can be done about it." S3 paused again for water and continued, "So

I got up here and went to the team's psychologist and she said again told me I was going

to feel like, but didn't offer any suggestions on how to stop it." Finally, my primary care

doctor, after he sent me for a CAT scan and GI series, said I was depressed and put me on

Zoloft. First, that made the problem with my dick worse. Second, it didn't get rid of my

headaches. And third, a social worker told me I had an adjustment disorder and

medication won't help that."

Wanting further to help this man, I asked if he continued to see the social worker

and if he was currently receiving any help. S3 perked up a bit in the tone and pace of his

voice as described some improvements in his somatic complaints and responded that

"She listens and I do feel better. I think she understands what we went thru and doesn't

try and down play what we saw. I feel like a tea kettle that has left off steam after our

session. Oh, and by the way, I flushed the Zoloft down the toilet."

Identified Themes

Table 7 summarizes the themes discussed by S3 during the individual interview.

The emerged themes were consistent with factors of Critical Incident Stress Management

Theory along with PTSD symptoms. Particularly powerful were the themes of somatic

complaint associated with PTSD and their impact on his personal relationships.

Table 7

Individual Interview 3

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No to talk to who we could trust Confusion, poor communication I had to find my own counselor when I got back
Expression of Thought and Feeling	Afraid to speak Counselors didn't seem trained and not helpful Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	
PTSD Factors	Relives smells and sounds from HKRA, frequent headaches, poor sleep, poor appetite
Socio-cultural issues	Government was disorganized, poor coordination of human resources; FEMA would not listen to locals, AA grossly affected as victims.
Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers and family.

Individual Interview 4 (S4)

S-4 was a 24 year-old single female. S-4 has been a medic for three years and is currently enrolled in a nursing program. I asked to S4 to talk about her experiences in the HKRA and with nervous energy in her voice as she said, "where do you want me to begin." Before I could reply S4 began to talk, stating, "I am so ashamed and confused. It was horrible how all of those evacuees were treated. I can't believe FEMA is that disorganized. All of our team training surrounded organization and structure in disaster operations. That is what we are supposed to do. Disaster teams are suppose to end chaos not start it."

I asked what the most frustrating images were for her. Without thought S4 stated, the poor uneducated people in the outer parishes were better organized than we (federal government) were, so FEMA comes in and disrupts that order. We (FEMA) literally moved people from clean make-shift shelters where there was food and water into large disorganized, chaotic, and ill supplied 'refugee centers.' Opps, I said a bad word. We weren't allowed to use the word refugee. I am supposed to say evacuee. That was the first order I got from FEMA. Not get food, water or medical help into an area. It was do not use the word refugee.

Next, I prompted S4 to share any feelings that have been stirred up because of her work in HKRA. S4 said, "I cried every night I was there. The Red Cross counselor said it was because I was home sick. Yes, I was homesick but not sad. My tears were from anger. I was so frustrated. We were making things worse, not better for those poor people. What made me cry most was that the victims didn't seem to complain. All I heard

about was how the blacks were rioting, looting and blaming the rescue workers, but not

one person complained to me. Most were thankful we were there. I bit you didn't see any

of those people on TV." S4 added that if the news reporters would have spent half as

much time reporting stories rather than looking for problems maybe the people of the

Gulf Coast would have gotten help sooner.

I asked her to clarify and S4 explained, "media reports had everyone so scared of

bad cops, rioters, rapists and looters FEMA kept us out of areas until they were swept by

the national guard. That just delayed help into the remote regions. The reality was, during

my entire assignment, I did not see one act of violence." S4 continued her emotional

criticism of the media by saying, "Reporters needed to report about all the sickness,

displacement and crowded shelters and the boredom of being in a shelter. Not that

sensational stuff which was rare."

What could have been done, I asked. S4 then piped into dialogue, "We need to be

much more sensitive. There was nothing in place for us to help others, and ourselves as

EMT's, deal with the extent of human pain suffering that occurred along the Gulf on a

daily basis. We didn't need tools or resources, we needed people who cared and could

stop the bullshit red tape that slowed everything down." Another familiar theme returned

when S4 discussed the ease at which she could talk to relatives at home or receive text

messages, but EMS personnel could not communicate with teams in a neighboring town

to coordinate resources.

After being prompted, S4 talked about how she changed since HKRO. S4 told me

she broke up with her boyfriend. "He was so immature," she said. S4 related that all she

wanted was someone to listen and all her significant other wanted was to make up for lost

time. "It wasn't worth it for me to be in a relationship anymore," S4 added. S4 described

some psychological effects lingering after her return. They included trouble sleeping at

night, reduced libido, and feeling run down. Symptoms abated after a couple of weeks

and she is currently busy working and going to school. S4 concluded by saying, "It

changed my life but I don't think it will make me crazy. I am too busy to be crazy."

Identified Themes.

Table 8 summarizes the themes discussed by S4 during the individual interview.

The emerged themes were consistent with factors of Critical Incident Stress Management

Theory along with PTSD symptoms. The continued themes of government

disorganization during the response again emerged along with issues of relationship

problems and sleep disturbance consistent with stress reactions. Emergence of

transgression issues by news media were reported by S4. The focus groups participants

reported similar feelings toward news reports but this was the only individual interview

that identified that theme.

Table 8

Individual Interview 4

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No one who we could trust Confusion, poor communication Families don't realize what we went through
Expression of Thought and Feeling	Counselors didn't seem trained Poor techniques by counselors I Felt in a daze and no one knew why.
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	

PTSD Factors	Unresolved anger, relives events in shelters, remembers smells from HKRA not as happy, poor sleep.
Socio-cultural issues	Women's needs were not met, government was disorganized, poor coordination of human resources, FEMA would not listen to locals, AA grossly affected as victims.
Effects on Relationships	No longer with significant other

Individual Interview 5 (S5)

S5 was the youngest member of the team being only 20 years-old. S5 is an EMT and has been working in emergency services for two years. S5 and I engaged in small talk for a few minutes. He seemed a little uncomfortable and fidgeted in his seat. The interview began and S5 began to tell me about his experiences in the HKRO. The first statement made by S5, "I haven't had a good night sleep since then." I asked S5 to elaborate and he glanced away, avoided eye contact and said, "All I hear are kids crying. That is what is what like in the shelter. Kids crying, all day and all night. There was never a break. It's so bad now that when I am alone and trying to sleep I can hear a kid crying." S5 offered that other team members have described a similar remembrance of kids crying.

S5 also elaborated on the vivid sensory memories that involved the sounds and smells of the HKRA. S5 engaged in a fixated15 minute discussion, without break or pause, about specific stimuli that include the smell of human urine and feces in the evacuee shelters and of human remains in the outlying villages. Visual images were also recalled. An example of an image illustrated by S5 included a discussion around a personal care home. He stated, "We were doing recovery work in a personal care home. We found all of the bodies, six in total I think, lying in their beds. They drown. No

chance of escape. They just drown in their beds. It was kind of surreal. The smell was awful but I felt kind of at peace. They (the bodies) looked at peace. It's funny now because I can't remember that smell as much as I can the odors from Tiger stadium."

When questioned about how he has changed since his return to Pennsylvania, S5 reported a decrease in pleasurable activities. "It seems like all I want to talk about is Katrina" he said. This young EMT admits to spending hours watching television specials on the disaster. "I can't get enough of it," he said. This researcher was shocked when, without any leading question, S5 uttered the classic PTSD phrase, "Its like I am reliving the operation over and over again."

Furthermore, S5 validated previous subject's opinions of a disorganized federal response and the need for better communication. S5 also felt that if federal officials would have listened to local emergency management staff much of the confusion surrounding the recovery operation would not have occurred. S5 angrily added, "State, Federal and Parish administrators spent more time blaming each other rather than just fixing the problem." This subject shared a brief story about a focus group that was organized at the command post. "FEMA got everyone together to find out what went wrong. The gab session went on for about two hours. When the sandwich tray was empty they left. Didn't write one damn thing down," he said. S5 looked at me sarcastically and blurted, "When I was told last week volunteer were needed for a focus group, I thought to myself, oh good sandwiches. At least you have a pen and paper." In a confrontational voice F5 told me he was tired of people asking what went wrong. "Who cares what went wrong, a massive hurricane hit, that's what went wrong. Just fix it. That's all I could say to these focus groups and to you too. Just fix it."

When prompted with a leading question of how to fix it, S5 quickly responded with a one word answer of "listen." He elaborated by describing a need for government politicians, FEMA officials, and EMS supervisors let the teams in the trenches tell them what needs to be done. He also indicated that most problems could be solved by letting the evacuees decide what is needed in returning things to normal along the Gulf Coast. He shared some simple logic with me when he said, "after all it's their home."

I directed him to give me some thoughts on how counselors could rescue workers who have experience such a horrific disaster. S5 reiterated the importance of listening. He shared with me a belief that the counselors were focused on teaching what to expect rather than dealing with what the rescue workers was experiencing.

Identified Themes

Table 9 summarizes the themes discussed by S5 during the individual interview. The emerged themes were consistent with factors of Critical Incident Stress Management Theory along with PTSD symptoms. Themes of government disorganization during the response again emerged. Frustration with mental health counselors was also clearly communicated, in particular, a belief that the rescue workers need to vent was suppressed. Focus groups participants reported similar feelings toward mental health counselors and this subject provide rich information on that theme.

Table 9

Individual Interview 5

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No one who we could trust
	I needed someone to talk to me.
	They (supervisors) wouldn't let us talk
Expression of Thought and Feeling	Counselors didn't seem trained
	I Felt in a daze and no one knew why.

Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	
PTSD Factors	Relives events in shelters, remembers smells and visions and sounds from HKRA, not as happy, poor sleep.
Socio-cultural issues	Women's needs were not met, government was disorganized, poor coordination of human resources, FEMA would not listen to locals, AA grossly affected as victims.
Effects on Relationships	No longer with significant other

Individual Interview 6 (S6)

Interviewee 6 was a 39 year-old married male, who was a father of 2 children. He has been a paramedic supervisor for 12 years. I started the interview by asking him to share some of his thoughts from the focus group and answer the question of how we can better prepare EMS providers for the effects of work during a horrific disaster. S6 began to speak with sarcasm and said, "You only have one hour for that question." He relayed that more control needs to be placed on local officials in disasters. S6 said, "the Feds come in and take over but they don't know the needs of the people, the needs of the rescue workers, or their own needs." In a similar theme to S1, he also spoke about the African American medics who worked in the area and understood the people. "They (AA medics) knew none of those locals would evacuate, but no one at FEMA would listen." He reported that the most upsetting feeling for him was the conditions in the shelters. Again and again he revisited the horrific smells, sounds and sights within the relocation shelters. He admitted to some lingering psychological effects with symptoms of general fatigue, racing thoughts and recall of images in HKRA. "My kids said I'm different," he

complained. As he muttered those words I noticed his eyes becoming glassy and tearful.

Additionally S6 reports some trouble upon his both at work and home. After I questioned

him about his need for debriefing S5 said, "Things got better slowly. The smell is the

only thing that seems to pop back now. I tried that debriefing thing down their but it

wasn't very helpful. It just kept us from being in the field was we could do some good.

Most of us we weren't having any stress reactions just so we could get back to work."

Identified Themes

Table 10 summarizes the themes discussed by S6 during the individual interview.

The emerged themes were consistent with factors of Critical Incident Stress Management

Theory and the presence of PTSD symptoms. Frustration with government response and

disorganization continued to emerge with this subject.

Table 10
Individual Interview 6

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	Confusion, poor communication Families don't realize what we went through No way to call home Not with usual team members
Expression of Thought and Feeling	Counselors didn't seem trained Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	
PTSD Factors	Relives smells and sounds from HKRA, irritable, not as happy, poor sleep, frequent headaches
Socio-cultural issues	Government was disorganized, poor coordination of human resources; FEMA would not listen to locals, AA grossly affected as victims. May not return to duty.

Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers, and family

Individual Interview 7

A 37 year-old male and a paramedic supervisor for 9 years, this subject talked at length about his experiences in disaster response. S7 offered the richest expert testimony of events in disaster recovery areas. S7 began, "Katrina was different because of its size. Disasters typically occur over an area but not a region. You had rural, suburban, and metropolitan all impacted. Each one of those areas has a culture to itself and with Katrina you had to know all three. What New Orleans needed wasn't a concern in a rural parish. The greatest frustration for me was that I knew this. I don't have a college education, but I have common sense. That's what we needed in our disaster leadership team, we needed common sense."

When asked to talk about how this experience changed him he looked down and said, "Well it my last." After a pause he continued with "I am retired. I have probably 12 or so natural disasters, including Somerset on 9/11. I don't feel like doing it anymore. It's too depressing and I am afraid it will ruin me. I have a wife and two kids. I noticed with Katrina it was harder for me to be a husband and dad after I got back. These things just numb you. It won't be so bad if it numbed you to the bad stuff. But it seems to hurt all the good stuff like holidays and birthdays." S-7 gave an example of watching CNN on Christmas obsessed with the images of those in the Gulf not having a Christmas.

He admitted he was depressed and was undergoing psychotherapy. I thought it interesting that his therapist was not trained in CISM or referred by the response team. He related to me that his counselor is helping him deal with letting the past go and focusing

on what is around him today. This subject talked openly about psychotherapy and how it

has helped him. For instance, S7 reported working in session on making meaning of his

disaster work. S7 said this about his therapist, "She said I am a sponge and was

absorbing the emotions of other around me. I think she was right, so now I am trying to

be a rock. It helps, I sleep at night now," he concluded.

Identified Themes

Table 11 summarizes the themes discussed by S7 during the individual interview.

The emerged themes were consistent with factors of Critical Incident Stress Management

Theory and the presence of PTSD symptoms. While it was clear that saturation of

information was occurring, S7 provide for the first time that a mental health therapist,

presumably using a Gestalt or an existential approach, seemed to be helpful in resolving

stress reactions.

Table 11

Individual Interview 7

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	No to talk to who we could trust Confusion, poor communication I started having trouble on the first day
Expression of Thought and Feeling	Afraid to speak Didn't want to be pulled from duty Counselors didn't seem trained Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms No referral, Team's psychologist not helpful.
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms or how to obtain help once they return to local community.

Other Components	
PTSD Factors	Relives smells and sounds from HKRA, irritable, not as happy, poor sleep, depression, being treated by private therapist.
Socio-cultural issues	Government was disorganized, poor coordination of human resources, FEMA would not listen to locals, elderly grossly affected as victims.
Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers, and family

Individual Interview 8 (S8)

The final interviewee was a 30 year-old divorced female who had been employed as a paramedic for nine years. Her smile lit up the room and was a stark contrast to the precious seven individual interviews. After the opening lead question, S8 recalled sharp sensory experiences that involved the sounds and smells of the HKRA. S8 also vented anger at the lack of preparation for female evacuees, which was theme from the focus groups. S8 said, "I brought my own tampons because I knew. Men never think that far ahead. Me and some of the girls laughed because they had cases of toothbrushes, mouthwash and deodorant, but no tampons

Similar to the other subject's, specific stimuli that include in the smells of human urine and feces in the evacuee shelters were discussed. Visual images of sick and elderly evacuees seemed to provoke the greatest emotional response from this disaster worker. She lost her smile and her voice quivered as she discussed events surrounding the death of an elderly African American woman in one of the shelters. She stated, "A coast guard rescued her from her home, but her family stayed behind. She contracted aspiration pneumonia and died alone" S8 said with a sorrowful tone, "I think she would have done better if we left her with family." S8 did not report any lasting effects other than a need to

talk frequently about her work in HKRA. Additionally, S8 discussed many issues identified by S5. Discussion centered on the sounds and smells of the HKRA. The described stimuli included the smell of human urine and feces in the evacuee shelters and of decaying corpses in the outlying villages.

When questioned about how she has changed since his return to Pennsylvania, S8 reported a decrease in pleasurable activities. "It seems like all I want to talk about is Katrina" she said. This young medic admits to spending hours watching television, reading newspaper and magazine articles, and talking about the HKDA with anyone who would listen. Oddly, she said that the only people who wouldn't listen were her FEMA supervisors. She shared the observation, "I think they are in denial." S8 validated previous subject's opinions of a disorganized federal response and the need for better communication. S8 also felt that if federal officials would have listened to local emergency management staff and the local population. Much of the confusion surrounding the recovery operation would not have occurred.

Identified Themes

S8 reports supported that saturation of information had occurred and as such themes from this interview are summarized in table 12. S8 validated themes of CISM Theory and PTSD symptoms. Like all of her co-rescuers, sensory images had the most impact along with frustration towards the government response and support of HKRO.

Table 12

Individual Interview 8

CISM Components	Disruptions
Early intervention	None offered
Provision of Psychosocial Support	Confusion, poor communication FEMA wouldn't listen Counselors not trained

Expression of Thought and Feeling	Afraid to speak, distrust of counselors Poor techniques by counselors
Crisis intervention	No intervention, just information on symptoms
Development of Coping Mechanisms	No follow-up No information on how to develop coping mechanisms
Other Components	
PTSD Factors	Relives incidents, smells come back to me, poor sleep, diminished pleasure.
Socio-cultural issues	poor coordination of human resources, FEMA would not listen to locals, elderly, poor and AA grossly affected as victims, poor planning for women's needs.
Effects on Relationships	Doesn't feel the same, withdrawn, different as noticed by coworkers, and family

Cross Case Comparison

Similarities

As I review the two focus group case studies, I found resounding common themes that were interwoven in the two groups and summarized in table 11. The two groups were similar in each of the five areas of CISM Theory. Additionally, members in both groups reported PTSD symptoms. Concerns about government support of the rescue operation, misrepresentative media reports and lack of effective mental health counseling were also reported in both groups.

Differences

There was only one area in which a different theme emerged between the two focus groups. The second focus group reported that cultural, specifically treatment of elderly African Americans, issues affected their emotional response from the stress of disaster recovery work. A summary of the difference can be also be viewed in Table 13.

Table 13

Cross Case Comparison

CISM Components	Disruptions
Early intervention	Same
Provision of Psychosocial Support	Same
Expression of Thought and Feeling	Same
Crisis intervention	Same
Development of Coping Mechanisms	Same
Other Components	
PTSD Factors	Same
Socio-cultural issues	Different
Effects on Relationships	Same

Intra-Case Comparison

Similarities

The similarities and differences between the responses of the eight individual

interviews are summarized in Table 14. Remarkably, all eight individual interviews

reported the five components of CISM Theory. All eight subjects also reported

PTSD symptoms and discussed the effects of those symptoms on their personal lives. All

of the interviewees felt that their lives were negatively impacted by their work in the

KCRA.

Differences

Two areas differed between the eight focus group participants. Three of the eight

participants reported they were impacted by cultural issues during their disaster recovery

work in HKRA. Two of the eight subjects reported that misrepresentation of news media

reports effected their emotional reactions during the HKRO. These two areas fall into the

socio-cultural component and are consistent with group results for differences.

Table 14

Intra- Case Comparison

CISM Components	Disruptions
Early intervention	Same
Provision of Psychosocial Support	Same
Expression of Thought and Feeling	Same
Crisis intervention	Same
Development of Coping Mechanisms	Same
Other Components	
PTSD Factors	Same
Socio-cultural issues	Different
Effects on Relationships	Same

Existential Theme Comparison

Significant existential themes also emerged during both the individual and group

interviews. As the researcher, these existential themes had the greatest impact and

became the most lasting memory from the study. Study participants vented statements of

disruption of faith, government leadership and their subjective established worldview.

Participants described a difficult time making meaning out of the suffering they

witnessed. These statements surrounded a sense of loss and disbelief that American

citizens at this time in history could be exposed to such horrific events. This study

precipitants all reported, with deep emotion, that their perception of American

government had changed.

Summary

I facilitated two focus groups and conducted eight individual interviews with

federal emergency medical response team members who participated in HKRO. Audio

tapes of the two focus groups and eight individual interviews were transcribed for

analysis. Overall, clearly observed from the transcription analysis, I arrived at a point of

information saturation and no new themes were emerging. I systemically listed all the

themes that were identified in the focus groups and individual interviews. Both groups

and all individual interview participants listed disruptions in all five components of CISM

theory. Both groups and all individual participants exhibited many PTSD symptoms such

as intrusive images and sensory recall, cognitive reliving of events, disrupted

relationships, decrease in pleasure, reduced libido, and sleep disturbances. All individual

participants and both focus groups expressed concern over the federal government's

management of the disaster recovery and the negative impact on the residents of the Gulf

Coast. Finally, the impact of the HKRO changed the subjective worldview of the study

participants in an unhealthy way.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Overview of the Study

For many years, many people have recognized that Emergency Medical Service (EMS) workers can encounter psychologically stressful situations in the course of their jobs, especially those involving disaster and major emergency responses. These professionals known as first responders to medical emergencies experience an intense release of emotions, as a result of sudden sad and catastrophic events. Mitchell, in his ground breaking work on Critical Incident Stress Management, listed events that were most likely to cause stress reactions in EMS responders such as emergencies involving the death of a coworker in the line of duty, death of a child, gruesome accidents, exposure to domestic violence, and natural disasters with widespread damage, injury and death. Other scenarios, such as exposure to suicide and homicide crime scenes, terrorist attacks and failed procedures by rescuers have also been attributed to causing stress reactions in emergency medical providers. Medical literature has described these stress reactions as having an impact on both the physical and emotional well-being of rescue workers.

As a flight paramedic and EMS educator with twenty years of field experience, I knew that emotional reactions occurred from more than just critical incidents. I often felt the emotional highs and lows of rescue work as described by Mitchell, but I also experienced anger and frustration towards political systems appearing to not support the life saving mission of EMS workers. Sleepless nights, bad headaches, and depression, seemed to occur often for me not after a critical event, but from a build up of emotions

after a major incident. I became interested in cumulative stress and how it impact EMS workers.

Some empirical evidence suggested that the negative effects of frequent ongoing stressors, also referred to as "cumulative stress, are possible reasons for attrition, illness, injury, and job dissatisfaction among EMS personnel. After a literature review and analysis, my interest continued to grow. I could find no models for the management of this cumulative stress; however, CISM was widely accepted and had long term treatment implications. For that reason, CISM was used to as the basis of analysis for this study.

Additionally, Critical Incident Stress Debriefing (CISD) was introduced to emergency personnel by Mitchell in 1983. CISD became a widely accepted protocol for use by emergency service agencies, such as law enforcement, fire department, paramedical and rescue teams, and emergency room staff. CISD evolved into a more comprehensive process, known as CISM, involving a Multi-Component Work-Based Systems Approach to assist EMS workers deal effectively with highly traumatic and stressful work-related situations.

CISM was adopted in 2000 by the National Transportation and Highway Safety Administration as part of the National Curriculum for Emergency Medical Technicians and Paramedics, in order to deal with the stress reactions and the well being of the EMS provider. The four core process goals for this curriculum, as adapted from CISM, included: (1) early intervention treatments for EMS providers exposed to critical incidents, (2) provision of psychosocial support to rescuers in need, (3) an opportunity for expression of thoughts and feelings, and (4) crisis education and development of coping mechanisms in all EMS providers.

Although, emergency workers had a mechanism that addressed both the prevention and treatment of stress reactions, researchers found that these techniques applied only to critical incidents and not to the cumulative stress conditions of disaster recovery work. Additionally, while there was a plethora of information on EMS personnel, this researcher found that there was no research on the effects of stress in relation to recovery operations.

An opportunity presented itself on Monday, August 29, 2005 Hurricane Katrina made landfall along the Louisiana and Alabama coastlines. The storm was recorded by the Federal Emergency Management agency (FEMA) as the greatest natural disaster to strike the United States. Emergency Medical Service (EMS) workers from around the nation were dispatched to the disaster area to aid in the recovery operation.

A small squad of volunteers from a regional response team from Southwestern Pennsylvania was dispatched in October, 2005 by FEMA to the Hurricane Katrina disaster areas. The team, composed of 24 members, worked the disaster area six weeks after the initial impact. As such, their delayed response provided me with informants available to report the effects of the cumulative stress reactions that were described in Chapter I of this dissertation. The team worked in some of the most decimated areas of the Katrina disaster region from October 1, 2005 until October 14, 2005. Typically, recovery operations last for several weeks. However, in the case of Hurricane Katrina relief efforts lasted several months. During the Katrina Recovery, workers from unaffected regions responded into the disaster zones to aid in the recovery efforts.

In addition, hundreds of professional counselors were present along the Gulf coast to help emergency workers deal with the stress of the recovery operation. This team,

through mandatory FEMA procedures participated in debriefing with professional

counselors and as such a research connection presented itself. I could study the

cumulative affect of disaster response and inform the question of how professional

counselors can help rescue workers deal with their emotional reactions.

Evidence and Conclusions

Moved to be an agent of change for how both counselors and EMS personnel deal

with cumulative stress, I have had the honor to hear the stories of the lived experience of

these disaster workers and their stories must be told. Upon analysis of these interviews, I

can safely assert that professional counselors, EMS administrators, and the American

political system can do better at helping our nations rescuers. Furthermore, from evidence

collected through this study, I can conclude that cost of caring does not mean the sacrifice

of emotional well being for our EMS providers. Instead, the guiding question for

everyone and this study: How does cumulative stress affect the lived experience of EMS

workers after a horrific natural disaster? Presented next is a discussion of evidence and

conclusions to inform that question. Suggestions for future research on helping rescue

personnel achieve emotional and physical well-being are also offered.

Research Question One

To what degree does cumulative stress have an impact on the EMS workers' ability

to perform their duties? Based on the information obtained in the two focus groups and

individual interviews, the cumulative answer emerged and identified as grossly impacting

their ability to care for the ill and injured. Evidence collected indicated that all of the

participants felt that cumulative stress affected their care giving skills. All of the

participants also reported that the effects of stress from HKRA continued long after their

release from duty. Many of the participants concluded that after these experiences they were not the same medic as before.

The evidence that supports this conclusion is that all of the participants reported disruption in each of the five areas of CISM. The five components of CISM reported as disrupted were early intervention treatments for EMS providers exposed to critical incident stress, provision of psychosocial support to rescuers in need, an opportunity for expression of thoughts and feelings, crisis education, development of coping mechanisms in all EMS providers.

Exposure to critical incident stress refers to an actual exposure to a horrific incident. All of the participants reported exposure to extreme conditions of human suffering, of those it can be identified as important to note that all of these subjects reported contact with dying individuals and exposure to ill and injured. Most remarkably, for the most part, these exposures occurred in the FEMA disaster evacuee shelters.

A large disruption was reported by the participants in the provision of psychosocial support to rescuers in need. Most participants had contact with mental health teams but consistently reported that the professional counselors did not understand or were unable to offer psychosocial support. Many of the subjects verbalized that the mental health workers did not understand what they had experienced and were skeptical of whether the counselors could offer meaningful help. Most important to note would be that the counseling typically took place at command centers monitored by FEMA officials. As one subject reported, "mental health seemed cautious in their work."

Moreover, disruption was unanimously reported in the opportunity of expression of thoughts and feelings. These subjects reported many factors impacting disruption, but the

chief example involved a team member showing too much emotion and as such, they would be perceived as being out of control by the mental health workers. The mental health workers would then pull the team member from duty. The removal from duty was something that didn't seem acceptable to these disaster workers. As one subject-rescuer said, "…hell that would have really sent me over the edge."

Receiving psycho-education on stress is listed as an important goal in CISM. Mitchell believes that this phase of CISM helps to desensitize stress responses. Interestingly, all of the subjects reported that they received education about potential crisis reactions but no information following through on treatment.   For this reason alone, the subjects felt that this area of CISM was grossly disrupted. As a one subject reported during an individual interview, "…they would tell us all the bad things we would feel but not what to do about it."

The development of coping mechanisms was reported as being negatively impacted by all of the participants, a theme that also transcended among both the group and individual interviews. Generally, participants felt discouraged by government incompetence but were suppressed from discussing it. Women in this study unanimously complained about the lack of preparation for feminine needs. Once home, many participants reported no follow-up on their emotional status. Finally, and most importantly, family members and significant others did not seem to empathize with these subjects. All of the studies participants reported problems with relationships upon their return. As one subject said, "I was told to return to my family to get things back to normal, but my family didn't understand what I went through."

Collectively, both through focus group analysis and individual interviews, all of the CISM component areas were significantly impacted. One obvious conclusion can result as disaster relief work negatively affecting a rescuers ability to perform their duties in each of the five areas of CISM Theory.

Research Question Two

How does perception change or influence job satisfaction, job retention, and burnout in rescue workers? Based on the information obtained during this study, it is apparent that stress from disaster work effects job satisfaction. The theme of decreased job satisfaction emerged in both focus groups. Lack of support from government officials, EMS system administrators, and media misrepresentations of rescue workers were reported in both focus groups and in several individual interviews as reasons for a reduced perception of job satisfaction.

These rescue workers have preformed heroically, yet they are not respected. In essence, the subjects have told me they were suppressed by government officials, criticized by the media, and not understood by mental health workers. While job satisfaction was impacted, only one of the sixteen individual discussed leaving the EMS profession. Most of the subjects reported they have experienced burnout since HKRO, but that they would serve again in another disaster relief operation. The one individual who reported leaving the EMS occupation had served in several disaster operations and discussed repeated burnout episodes. As such, this repeated disaster service factor warrants further study.

Based on the discussions of the participant's, job satisfaction was impaired after disaster recovery work. Job retention was not a common theme, but may be impacted by repeated exposure to disaster areas.

Research Question Three

To what extent does cumulative stress from disaster recovery work have an impact on the EMS provider's mental health? The mental health of study subjects were affected in several areas. All of the individual interviewees admitted to experiencing PTSD symptoms. Additionally, subjects reported that relationships with significant others, family, friends, and coworkers had eroded since HKRO. Many study participants felt disconnected and had difficulty getting back to normal upon their return. Specific stress symptoms that were repeated by many individual included, decreased libido, sleep disturbances and lack of concentration. All of these symptoms emerged either during or shortly after arrival in the HKRA.

Most remarkably were consistent expressions of feelings of detachment from their pre-Katrina lives. Only one of the participants reported having these feelings before work in HKRA. This participant was the only one with extensive experience in disaster operations.

Collectively, these disclosures by the subjects pointed to significant disruption in the mental health of the studies subjects. Thus, cumulative stress has a negative impact on EMS provider's mental health and produces symptoms consistent with PTSD.

Recommendations and Suggestions for Future Research

From the time I watched Johnny Gage and Roy DeSoto save lives on the hit 1970s television show "Emergency," I have wanted and have lived the experience of

Emergency Medical Service workers. My professional EMS career has spanned the spectrum from volunteer EMT to a flight paramedic for one of the nation's busiest med-evacuation services. My deep commitment to the professionals who risk their lives and place themselves into harms way on a daily basis has spurred into action to help rescue the rescuers. Based on my research and personal experience, I make the following recommendations.

First, the disbursement of the message of how cumulative stress impacts EMS workers must be acknowledged as a critical component of the profession throughout the emergency management community. Everyone affiliated with emergency providers such as, the Federal Emergency Management Agency, state EMS offices, emergency medical physicians, and paramedic and rescue squad supervisors must have an increased knowledge of how cumulative stress affects both the mental health and job performance of rescue personnel. Mandatory training must occur to make those who direct and supervise our care givers to learn to recognize and mange cumulative stress. These intervention steps should specifically address how to better communicate with the disaster team members. Training should be focus on a long term 'psychological trauma' based approach rather than the short term interventions of current CISM protocols. Finally, training on socio-cultural issues is needed within this leadership group. Our emergency management leaders must understand the diversity within the American culture and the diversity within the ranks of the emergency medical providers.

Second, training on cumulative stress, and stress management in general, must be expanded in the current emergency medical technician and paramedic curriculums. One three hour class during the rescuers initial training cannot be deemed adequate.

Furthermore, stress management techniques and addressing specific issues unique to emergency workers should be integrated through-out the entire emergency medical training program. Additionally, frequent mandatory continuing education should be implemented for emergency providers with the intent of focusing on effective stress reduction and prevention of stress reactions.

Thirdly, professional counselors must be made aware of the unique psycho-social, physical, and emotional stressor of rescue and disaster team workers. Also, the helping sciences need to realize that in addition to initial disaster response, recovery work also impacts the mental health of rescuers. Mental health workers who deal with EMS providers should use a trauma based approaches for treatment. Specific intervention protocols for cumulative stress should be developed. As noted in the literature review, the average EMS workers only average six years on the job. Professional counselors using individually based intervention strategies may improve the service longevity of our nation's emergency providers. Professional counselors need to work with families of emergency workers. Counseling and psycho educational services should focus on helping family members understand the stresses of emergency work; and helping their loved employ effective coping strategies for management of job related stress. Most importantly, frequent referral and follow-up of EMS workers exposed to cumulative stress must occur. For these reasons, working with EMS personnel should become a counseling specialty.

Fourth, more independent decision making power needs to be given to the disaster team workers. Frustrations from disorganization, poor communication, and lack of coordination grossly impact the rescue workers ability to carry out duties. Furthermore, it

places the field duty personnel in a failure oriented role which negatively impact public opinion of rescue workers. This negative opinion and subsequent media misrepresentations creates cumulative stress in rescue workers. Quicker decision making and specific action oriented responses would likely improve public opinion and reduce cumulative stress within disaster areas.

Overall, these recommendations lead to further research possibilities such as, discovering beyond the specific disaster teams to find if it's a problem found across other regions. While it is evident that cumulative stress affects EMS providers, future research could focus on determining additional levels of stress reactions as present with disaster workers as compared to other emergency medical providers. Subjects in this study also reported intense sensory memories from the HKRA, thus reliving of smells and sounds was reported frequently by participants. As such, this sensory phenomenon warrants further inquiry. Finally, I have suggested that professional counselors should be trained to understand the subjective world of EMS providers; and that they should use a trauma focused treatment approach when dealing with treating stress reactions within this population. Therefore, potential investigation could be performed to identify which counseling techniques were most effective with the EMS population.

References

Aanstoos, C. (1984). *Exploring the Lived World.* Atlanta, GA: Durby Printing.

American College of Emergency Physicians. (2000). *Emergency medical technician basic field care.*(2nd. Ed). New York: Mosby

American Psychiatric Association. (1952). *Diagnostic and statistical manual of mental disorders*. Washington, DC: Author.

American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders*. (2nd. ed.) Washington, DC: Author.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd. ed.). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Baun, A. (1987) Toxins, technology, & natural disasters. In G.R. VandenBos & BK Bryant (Eds.) *Cataclysms. Crises and catastrophes: Vol 6 Psychology in Action* (pp. 5-33) Washington DC: American Psychological Association

Berg, B.L. (2001). *Qualitative research methods for the social sciences* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Brown, C., & Campbell, K (1991). Understanding stress and burnout in shelter workers.

Professional Psychology Research and Practice, 29(4), 383-385.

Dyregrov, A. (1989). Caring for helpers in disaster situations: psychological debriefing.

Disaster Management, 2, 25-30.

Dyregrov, A., & Mitchell, J. (1992). Work with traumatized children: Psychological

effects and coping strategies. *Journal of Traumatic Stress, 5*(1), 5-17.

Everly, G.S. (1990). *A clinical guide to the treatment of human stress response.*

Phelem: Press.

Everly, G.S. (1995) The role of critical incident stress debriefing (CISD) process in

disaster counseling *Journal of Mental Health Counseling, 17*, 278-290.

Everly, G.S.,& et. al. (1999). Critical Incident Stress Management: a review of the

literature. *Aggression and Violent Behavior, 1*, 17-29.

Everly, G.S. & Mitchell, J.T. (1997) Critical incident stress management: a new era and

standard of care in crisis intervention. Elliot City, MD. Chevron Publishing.

Everly, G.S., & Mitchell, J.T. (1999). *Critical incident stress management: a new era*

and standard of care in crisis intervention (2nd ed). Elliot City, MD.: Chevron

Publishing.

Figley, C.R. (1998). *Burnout in Families: The costs of caring.* Boca Raton, FL: CRC

Press.

Freud, S. (1956). *Beyond the pleasure principal.* New York: Liveright (original work

published in 1928).

Gist, R., & Lubin, B. (1999). *Response to Disaster: Psychosocial, community and*

ecological approaches. Philadelphia, PA: Taylor Francis.

Hanneman, J.F. (1994). Evaluation of critical incident stress debriefing in Nova Scotia

Ann Arbor, MI: UMI Dissertation Services.

Herman, J.L. (1992). *Trauma and Recovery*. New York: Basic Books.

Hodgkinson, P.E. & Stewart, M. (1991*) Coping with Catastrophe: A handbook of Disaster Management.* London: Routledge.

Hutten, L. & Hasle, A. (1989). Fire fighters: A study of stress and coping. *Acta Pschuatrica., 80.*(355),50-55.

Jankoski, J.A. (2002). *Vicarious Traumatization and its impact on the child welfare System.* Ed.D dissertation. Ann Arbor, MI: UMI Dissertation Services.

Kenardy, J.A., & et al. (1996) Stress debriefing and patterns of recovery following a natural disaster. *Journal of Traumatic Stress,* 9**,** 37-49.

Lanning, J.K. (1987). *Post trauma recovery of public safety workers for the delta 191 crash: debriefing, personal characteristics and social systems.* PhD dissertation. Ann Arbor, MI: UMI Dissertation Services.

Levers, L. L. (2003). The Consultative Workshop as a Qualitative Method of Inquiry: The Case of Teachers and Counselors Working with AIDS Orphans in Botswana. A Paper Presented at *The15ᵗʰ Annual Ethnographic & Qualitative Research in Education Conference, June 6 2003.* Pittsburgh, PA.

Lundin, T., & Bodegard, M. (1993). The psychological impact of an earthquake on rescue workers: a follow-up study of the Swedish group of rescue workers in Armenia, 1988. *Journal of Traumatic Stress*, *6*, 129-39.

McCann, I.L., & Pearlman, L.A.(1990). Vicarious Traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3*(1), 131-149.

McFarlane, A.C. (1987). Life events and psychiatric disorder: The role of a natural

        disaster. *British Journal of Psychiatry*, *151*, 362-7.

McNally, R., Brandt, R, & Ehlers, A. (2003). Does early psychological intervention

        Promote recovery from posttraumatic stress? *Psychological Science in the Public*

        Interest, 4, 45-79.

McSwain, N. (2003). *Basic Emergency Medical Technician.* Englewood, CA: Mosby.

Mirriam, S.B. (2001). *Qualitative research and case study applications in education.*

        San Francisco: Josey-Bass.

Mitchell, J.T. (1981). Acute stress reactions and burnout in pre-hospital emergency

        medical services personnel. Paper presented at the First National Conference on

        Burnout, November, Philidelphia, PA.

Mitchell, J. T. (1983). When disaster strikes: the critical incident stress debriefing

        process. *Journal of Emergency Medical Services*, *8*, 36-9.

Mitchell, J.T. (1987). The history status and future of critical incident stress debriefings.

        Journal of Emergency Medical Services. 13(11), 49-52

Mitchell, J., & Bray, G. (1990)*. Emergency services stress: Guidelines for preserving the*

        health and careers of emergency service personnel. Englewood, Cliffs, NJ:

        Prentice Hall.

Mitchell, J., & Everly, G. (1996). *Critical incident stress debriefing: An operations*

        manual for the prevention of stress among emergency service and disaster

        workers. Elicott City, MD: Chevron Publishing.

Mitchell, J., & Everly, G. (1997). The scientific evidence for critical incident stress

        management. *Journal of Emergency Medical Services, 22,* 86-93.

National Transportation and Highway Safety Administration, (2002). National

     Curriculum for Emergency First Responders. Retrieved December 16, 2006,

     from http:www.nhtsa.dot.gov/people/injury/ems/pub/frnsc/.pdf

Neil, T.(1974). *Emotional first aid.* Louisville, KY: Kempher Sciences.

North, C.S. & et al. (2002) Psychiatric Disorders in Rescue Workers. *American Journal*

     of Psychiatry, 159, 857-859.

Patton, M.Q. (2002). *Qualitative research & evaluation methods* (3rd ed.) Thousand Oaks

     CA: Sage Publications.

Rapheal, B. (1977). The Greenville train disaster: psychological needs and their

     management. *Medical Journal of Australia,* 1303-05.

Rapheal, B. (1986). *When disaster strikes: A handbook for the caring professions.*

     Sydney: Hutchinson.

Rapheal, B. & Dobson, M. (2001) Acute posttraumatic stress interventions. In J.P.

     Wilson& M. J. Friedman (Eds.) Treating *psychological trauma and PTSD.*

     (pp. 139-158). New York: Guilford Press.

Raphael, B., Singh, B., Bradbury, L., & Lambert, F. (1983). Who helps the helpers? The

     effects of a disaster on rescue workers. *Omega,* 14, 9-20.

Rapheal, &Wilson. (1993). *Theoretical and interventional considerations in working*

     with victims of disaster. New York: Pheleum Press.

Rapoport, J.L., & Ismound, D.R. (1996). *DSM IV training guide for childhood disorders.*

     Levitttown, PA: Brunner Printing.

Rapoport, J.L. (1965). The state of crisis: some theoretical considerations. *In Crisis*

     Interventions: Selected Readings (pp.22-31) New York: Family Service

Association.

Robinson, R. (1997). *Evaluation of the Victorian ambulance service crisis counseling unit, 1997.* Melbourne: Victorian Ambulance Crisis Counseling Unit.

Robinson, R., & Mitchell, J. (1993). Evaluation of psychological debriefing, *Journal of Traumatic Stress*, *6*, 367-82.

Rogers, O.W. (1996) An examination of critical incident stress debriefing for emergency services providers: a quasi-experimental filed study. Ph.D. thesis Ann Arbor, MI: UMI Dissertation Services.

Rubin, H.J. (1995). *Qualitative interviewing: the art of hearing data.* Thousand Oaks, CA: Sage Publications.

Smith, K & Bryant, R. (2000) The generality of cognitive bias in acute stress disorder. *Behavior Research and Therapy, 38, 709-715.*

Schnyder, U. (1997). Crisis intervention in outpatients. *International Medical Journal, 4*, 11-17.

van der Kolk, B. (1996). *Traumatic stress: The overwhelming experience on mind body body and soul.* Boston, Gilliford Press.

van Mannen, M. (1990). *Researching lived experience: human science for an active sensitive pedagogy.* New York: State University of New York Press.

Wilson, J.P. (1995). The historical evolution of PTSD diagnostic criteria: From Freud to DSM-IV. In G.S.Everly & J.M. Lating (Eds.), *Psychotraumatology: Key papers and core concepts in posttraumatic stress.* (pp. 9-26). New York: Plenum Press.

APPENDIX **A**

Consent to Participate in a Research Study Form

DUQUESNE UNIVERSITY

600 Forbes Avenue   Pittsburgh, PA 15282

CONSENT TO PARICIPATE IN RESEARCH STUDY

TITLE: How Cumulative Stress Affected the Lived Experience of Emergency Medical Service Workers after a Horrific Natural Disaster: Implications for Professional Counselors.

INVESTIGATOR: Scott Lee Tracy M.Ed., LPC
Department of Counseling Psychology
Chatham College
Woodland Road Pittsburgh, PA 15232
412-365-2715/ stracy@chatham.edu

ADVISOR: Dr. Lisa Lopez-Levers
School of Education, Department of Counseling,
Psychology & Special Education, Duquesne University
412-396-1871 levers@duq.edu

SOURCE OF SUPPORT: This study is being performed as partial fulfillment of the requirements for the doctoral degree in Counselor Education and Supervision at Duquesne University.

PURPOSE: You are being asked to participate in a peer focus group as part of a research project that seeks to investigate the effects of cumulative stress on emergency workers. Additionally, you will be asked to write a brief handwritten reflection of your experiences and may be invited to participate in an individual interview with the researcher. The focus group and your individual interview will be taped and transcribed. The focus group will be from ninety minutes to two hours in length. The individual interview will last approximately one hour. It should take about thirty minutes to complete the handwritten reflection. These are the only requests that will be made of you.

RISKS AND BENEFITS: There is a risk that participation in this study could awaken past traumatic experiences and stress that accumulated during the Hurricane Katrina Recovery Operation. These reactions can include excessive worry, sleep disturbances such as nightmares, a feeling of fatigue, headaches, an reoccurring unwanted negative thoughts. In the event that you experience negative or unwanted thoughts a referral, at your request, can be made to the regional Critical Incident Stress Debriefing Team operated through the Western Psychiatric Institute for counseling. During the focus group session, you will be given a flier with the CISD contact information in the event you want to contact them directly. You should keep this flier for later reference. Information obtained from this study may help EMS educators and professional counselors develop better ways to help emergency workers deal with the stress associated with their occupation. The researcher will review the risks, benefits, and answer any questions about the study prior to beginning the focus groups.

COMPENSATION: Participants will not be compensated, also participation in the project will require no monetary cost to you.

CONFIDENTIALITY: Your name, or any other identifying information will never appear on any survey, or research instrument. Results will be released only as summaries in which no individual responses can be identified. All written materials, consent forms, audio and visual tapes will be stored in a locked file in the investigator's home. All materials will be retained for a period of five years, after which all materials will be destroyed.

RIGHT TO WITHDRAW: You are under no obligation to participate in this study. Your participation is voluntary and you may withdraw your consent to participate at any time. If you withdraw, your data will not be used in the study.

SUMMARY OF RESULTS: A summary of the results of this research will be provided to you at no cost upon request.

VOLUNTARY CONSENT: I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. On these terms, I certify that I am willing to participate in this research project.

I understand that should I have any further questions about my participation in this study, I may call this researcher, his faculty advisor, or Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board (412-396-6326).

_____   _____

Participant's Signature   Date

_____   _____

Researcher's Signature   Date

APPENDIX B

Approved Institutional Research Board Abstract

Institutional Review Board Abstract for a Qualitative Study on the Effects of Cumulative

Stress on the Lived Experiences of Emergency Medical Service Workers after a Horrific

Natural Disaster: Implications for Professional Counselors.

Scott Tracy

Duquesne University

Statement of the Research Question

The guiding question for this qualitative study is; How does cumulative stress effect

the lived experience of Emergency Medical System (EMS) workers after a horrific

natural disaster? Several subsidiary questions serve to inform the guiding question, and

these include the following: (a) To what degree does cumulative stress have an impact

on the EMS workers ability to perform their duties? (b) How does cumulative stress

affect job satisfaction, job retention and burnout rates in rescue workers? and, (c) What

are the affects of cumulative stress from disaster recovery work on the EMS provider's

mental health?

Purpose and Significance of the Study

Several significant issues drive this qualitative study. These issues involve the

nations Emergency Medical Services system in terms of pre-service curricula (i.e. how

Paramedics are trained) and in the day-to- day performance of rescue duties. By

adequately addressing the effects of cumulative stress, we may better be able to improve

job satisfaction, job retention, reduce burnout and improve the mental health of EMS

workers. Additionally, mental health workers such as counselors, psychologists and

social workers, are charged with the task of helping rescue workers deal with

psychological trauma that they experience in the performance of their jobs. By

understanding the lived experience of EMS workers when responding to a horrific natural disaster, the counseling sciences may be better able to assess and address the mental health needs of emergency workers. Finally, this study could have an impact on the way counselor educators train mental health professionals in working with emergency service personnel.

Research Design

The research design for this proposed qualitative study is phenomenological and existential in its orientation. This study will be theoretically grounded in the work of Mitchell (1981) who describes stress responses and treatments for emergency workers after traumatic incidents. I plan to use multiple methods to inform the guiding question; these methods include focus groups, key informant interviews, and post-focus group written reflections. On October 1, 2005, FEMA dispatched a team of Western Pennsylvania EMS providers to the Katrina Disaster Region (KDR). This dispatch group, having extensive first-hand experiences in dealing with the stressful challenges of recovery from one of the greatest natural disasters in American history, provided me with a collection of opportunistic informants for the study.

The Disaster Response Team leadership will allow me to address all team members during a training session. I will describe the type of study being conducted and ask for volunteers to serve as potential subjects. The potential subjects will then be given a copy of the Consent to Participate in a Research Study Form for review. After reviewing the details on the consent form and answering questions from the team members, I will ask for volunteers to participate in this research project. Potential subjects (volunteers) will

again be advised that they may decline participation in the study. Those members who agree to volunteer will sign the consent form to become a participant in a focus group.

Each focus group will be comprised of eight EMS workers, and each focus group will last approximately one-and-a-half hours. I plan to ask each participant to write a brief one-to-two pages reflection on their and thoughts and reactions after the focus groups. I will provide each participant with a stamped/self addressed envelope to mail the reflection to me. After a preliminary analysis of the focus group data, I will interview four to eight participants individually, in order to seek more in-depth information.

Instrumentation

As is typical in qualitative research, the researcher is the instrument in relationship to interviewing and interacting with participants. The protocol for focus group and key informant interviews is semi-structured and will include questions related to the lived experiences of the participants during the Hurricane Katrina recovery operation. Included in Appendix A are samples of questions I will use to help guide the focus groups.

Sample Size and Selection

Participation is limited to Western Pennsylvania EMS workers who were dispatched into the Hurricane Recovery Operation on October 1, 2005. I will obtain permission to attend a training meeting of the Western Pennsylvania Federal Emergency Response Team members. After briefing team members on the nature of this inquiry, I will ask for volunteers to serve as study participants. Those team members how express an interest in participation will be requested to sign a list for potential volunteers. The *Informed Consent to Participate in a Research Study* form will be distributed to the individuals who sign the volunteer list for completion. Subjects will again be reminded

that participation is voluntary and they may withdraw from serving in the study at any time. Two focus groups of eight participants will be conducted. Four to eight participants will be asked of they are willing to be individually interviewed. The focus groups will be video taped and the key informant interviews will be audio taped.

Recruitment of Subjects

Potential participants will be identified and recruited by the researcher from a list of Western Pennsylvania EMS workers who responded to the Hurricane Katrina Disaster Recovery Operation and are in attendance at a team. They will be informed that there is no fiduciary remuneration for participation in the study.

Informed Consent Procedures

The volunteer participants will complete an *Informed Consent to Participate in a Research Study* form. Subjects will have had copies of the form distributed to them at the FEMS team training meeting. I will verbally review each section of the consent form with the participants. I will provide detailed information and answer any questions especially on issues such as the risks, benefits and nature of the informed consent for this study.

Data Analysis

Analysis of this data will employ standard methods for analyzing interview data. Individual interviews and focus groups content will be taped and transcribed. All identifiers, including references to self and others, will be removed to maintain confidentiality of participants. Transcriptions will be coded for units-of-meaning pertinent to the phenomenon being explored. The units-of-meaning will then be analyzed for patterns of thematic content.

Issues relating to Interactions with Subjects

I understand as a researcher that this study has the potential to reawaken a past traumatic incident in the participants. Therefore, I will inform the participants of the nature of the inquiry and the subject matter to be discussed, as well as the potential risk of flashbacks and reliving traumatic emotional experiences. I will stop the group process often and check in with participants. I also will monitor nonverbal behavior for signs of distress. I will give verbal prompts such as "how are you," "do you need to stop," or "would you like to stop."

In the event an individual experiences reactions consistent with post traumatic stress disorder (PTSD), I will ask them if they would like a referral for psychological debriefing. The referral will be made to the regional Critical Incident Stress Debriefing Team (CISD) which is operated through the Western Psychiatric Institute of the University of Pittsburgh Medical Center. Participants will also be told and given a flier on how to contact the CISD team. This information would include the team's dispatch and referral which can be accessed by calling 1-800-633-7828 twenty four hours a day, seven days per week. I will also advise subjects that they may contact the CISD directly without any referral if they experience any negative psychological symptoms or disturbing thoughts. The flier with the CISD contact information can be used by participants for later reference if needed.

I will maintain confidentially of participants and their responses at all times. All data including video and audio tapes will be kept locked in my private office for further protection. The subjects may withdraw themselves from the individual interview and

focus group at any time. The data of subjects who withdraw from the study will not be

used for research purposes.

APPENDIX C

Leading Question Protocol

Listed are 7 questions that were used to provide structure, open discussion and inform the guiding question of the study:

1.) Describe some of the most horrific images that you recall from your work during the Hurricane Katrina Recovery Operation.

2.) Can you talk about what you are feeling here and now as you discuss those images?

3.) Can you share what was helpful or harmful during your debriefing with mental health workers in the recovery zone?

4.) What things would you do differently to help rescuers prepare for disaster recovery work?

5.) How have you changed since your work in Hurricane Katrina Recovery Area?

6.) Can you talk about any physical, intellectual, or emotional things you are experiencing now that you did not prior to your recovery work?

7.) We have discussed some of the horrific aspects of the recovery operation, can you now describe any images of hope that you recall?

APPENDIX D

Definitions

1. Cumulative Stress - Personal, psychosocial, or environmental events, which have low emotional impact, but build stress over an extended period of time.

2. Critical Incident Stress - Personal, psychosocial or environmental events, which have high emotional impact, but build stress over a short period of time.

3. Hurricane Katrina Recovery Operation (HKRO) - Designated Federal Emergency Management Agency relief operation along the Gulf Coast during the Fall, 2005 after Hurricane Katrina landfall.

4. Hurricane Katrina Recovery Area (HKRA) - the Federal Emergency Management Agency designated disaster area during the Fall, 2005 after Hurricane Katrina landfall.

5. Emergency Services Personnel - Trained rescue workers, paramedics, and emergency and emergency medical technicians, who are members of the Federal Emergency Management Agency's disaster response team that worked during the Hurricane Katrina Recovery Operation during the Fall, 2005.