LONG-TERM IMPLICATIONS OF CRITICAL INCIDENT STRESS AMONG EMERGENY RESPONDERS

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Dedication

To all those who give a part of themselves every day
so that others may have a better life

Abstract

Critical Incident Stress has the potential to affect emergency services personnel to the degree that it can change the way the responder acts and reacts in all facets of his or her life, including the job and his or her family. Research into these potential effects has produced a greater understanding of the responders experiences within a short period of time after the perceived critical incident. This study investigates the long-term effects of critical incident stress among emergency responders, including Firefighters, Paramedics, and Police Officers. Eleven emergency responders from two cities in the three emergency services professions were interviewed to determine what their experiences were at least six months post critical incident. A structured interview was utilized to gain knowledge about the impact that the critical incident had in three areas of the emergency responders lives: impact on job, impact on the individual responder, and perceived impact on emergency responders families. For participants, symptoms of Critical Incident Stress lasted between 6 months and 2 years after the perceived critical incident. Analysis of the data indicates that single responder critical incidents have the potential to negatively affect emergency responders resulting in the loss of enthusiasm and passion for their work, debilitating psychological distress, and isolation from valued support systems. Long-term effects of Critical Incident Stress change the perceptions that responders have about the job, about themselves, and the relationships with their families. The culture of emergency services, changing identities, and the lack of support from both within the system and outside of the system were seen as variables that contribute to the long-term effects of Critical Incident Stress.

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Chapter 1

Introduction

In 1988, the United States Surgeon General stated that if accidental death were not considered, 80 percent of the population would die from stress-related diseases (US Surgeon General, as cited in Mitchell & Bray, 1990). According to the International Association of Fire Fighters (IAFF) (1994, 1995, 1996, 1997, 1998), emergency services personnel are at higher risk for stress related disease and death than almost any other occupation in the world. In 2002 alone, 262 firefighters, police officers, and paramedics across North America died in the line of duty with hundreds more resigning and taking early retirement due to stress-related illness (Retrieved November 02, 2002, from http://www.usfa.fema.gov/dhtml/fire-service/health-pubs.cfm). Next to soldiers during wartime, few occupations in the world are as dangerous as that of emergency services (IAFF, 2002). It is because of the prevalence of this stress related disease and its effects particularly upon emergency services personnel that further research into Critical Incident Stress is warranted.

A critical incident is defined as an event that occurs in the life of individuals that ". . . causes them to experience unusually strong emotional reactions which have the potential to interfere with their ability to function either at the scene or later" (Mitchell, 1983). Critical Incident Stress (CIS) is defined as the consequential thoughts, emotions, and behaviors that the individuals may experience after a critical incident. Critical Incident Stress may be experienced by anyone, but the focus of this study will be on Critical Incident Stress that is experienced by emergency services personnel, including firefighters, paramedics, and police officers.

Symptoms of Critical Incident Stress may last only 30 days after a perceived critical incident, however, without intervention, and over time, symptoms may present as the more pervasive Post Traumatic Stress Disorder. Critical Incident Stress, then, may be a potential indicator for a diagnosis of Post Traumatic Stress Disorder. In this study, the term Critical Incident Stress is utilized only as an indicator and does not attempt to diagnose Critical Incident Stress or Post Traumatic Stress Disorder that may have been experienced by emergency services personnel that participated.

The study of stress and the stress response has a long history (see Lazarus, 1966; Lazarus and Folkman, 1984; Selye, 1956, 1974). The study of emergency mental health, however, is a fairly young paradigm in psychology, and it has only been in the past 20 years that research has focused on the effects of stress in the profession of emergency services (Blake, Albano, Keane, 1992; Everly, & Rosenfeld, 1981; Gibbs, 1989; Horowitz, 1991; Mitchell, 1983, 1985). To date, most of the research that investigates Critical Incident Stress is focused on stressors, critical incidents, and the response to critical incidents (Beaton & Murray, 1993; Dyregrov, 1998; Dyregrov & Mitchell, 1992; Everly, 1995; Hodgkinson & Shepard, 1994; Mitchell, 1983, 1995; Mitchell & Everly, 1995; Mitchell, Everly, & Mitchell, 1999) within a short time frame of the occurrence of the critical incident. There is a distinct lack of available research regarding the long-term effect of critical incident stress specifically with regards to emergency responders.

The American Psychiatric Association (APA) recognizes that exposure to traumatic events, whether directly (primary victims) or indirectly (secondary victims) experienced, can result in symptoms such as re-experiencing the traumatic event, numbing, avoidance, and increased arousal (APA, 2000). Depressive symptoms may

occur within the first few weeks of a critical incident and continue to affect emergency responders over a long period of time. Symptoms such as loss of energy, anhedonia, guilt, diminished focus, avoidance, and indecisiveness may affect a responder to such a degree that they are no longer able to directly confront life stressors and would rather walk away than attempt to resolve the issue.

Rationale

Even though the available research presents invaluable information into the area of long-term effects of Critical Incident Stress on emergency services personnel, the focus of the studies are on disasters, such as the Interstate 880 collapse (Marmar, Weiss, Meltzler, Ronfeldt, and Foreman, 1996) or South Australian bushfires (McFarlane, 1986). Disasters of this magnitude demand the deployment of perhaps hundreds of emergency service personnel and various immediate interventions attempt to mitigate possible negative stress reactions to these events. However, a critical incident does not always occur to a group nor does the incident have to be classified as a disaster. An individual may experience a critical incident at a structure fire, while others that he/she works with at the same scene are not affected; yet the symptoms of Critical Incident Stress may be as debilitating to this individual as it is to a group who work a disaster.

Few departments in emergency services experience large-scale operations on a regular basis and as such, the majority of emergency responders may experience the critical incident alone. There are various reasons why the responder may not access available resources. The most important reason being the fear that management or coworkers will find out and label them as weak and unable to do the job. While certain departments have acknowledged the potential for Critical Incident Stress among its

members, the implementation of programs to assist has been slow. An individual responder who experiences a critical incident may perceive that they do not have the same supports that are available to a group, leaving him or her to suffer in silence.

Over the past twenty years, various interventions such as Critical Incident Stress Management (CISM) (Mitchell, 1983; Mitchell & Everly, 1993, 1995, 1996, 1997) were created in order to minimize the potential for an incident to become a responder's critical incident. Most interventions, such as debriefing, attempt to mitigate the symptoms of CIS a short time after the incident has occurred. The programs adapt and change as needs change and are very effective in most circumstances. These interventions focus on a group process and work well when a group experiences an incident; however, Critical Incident Stress does not only occur if a group of responders are involved in the incident.

Critical Incident Stress Management is a comprehensive, multi-component long-term management program that assists individuals and groups of emergency responders, not just after a critical incident, but throughout their careers. Unfortunately, in many cases, the management aspect of CISM has been ignored, with CISM teams focusing solely on the debriefing component. Individual responders, who are affected by a critical incident when no other members are, are virtually left to find support by themselves. Responders may, consciously or unconsciously, deny symptoms of Critical Incident Stress if they perceive that there is no support, and these symptoms may become so pervasive that the responder is no longer able to do the job.

Research Method

In order to understand how an individual responder has been affected by his or her critical incident, it is necessary to hear the responder's own story. An individual

responder's experience is of primary importance to this study and the narrative by those having the experience is the best source to understand the experience (Chamaz, 2001). In order to best understand these experiences, the stories, told in the responder's own words, can then be used for the opportunity to explore and understand what the experiences are at least six months after the critical incident.

Research Question.

The present study will be conducted to determine if emergency responders, including fire fighters, paramedics, and police officers suffer any long-term effects after experiencing what they perceive to be a critical incident. Experiences are subjective and to understand the experience, thoughts, emotions and behaviors must be examined. Specifically, this study will explore what emergency services personnel are experiencing at least six months after the critical incident. In order to provide a deeper understanding of the impact of Critical Incident Stress, three areas of experience will be explored:

1. What impact did the critical incident have on the emergency responder's perception of his/her job?
2. What impact did the critical incident have on the individual emergency responder?
3. What is the perceived impact the critical incident has had on the emergency responder's family?

Goal

By exploring these three important areas of an emergency responder's life at least six months after the critical incident, the data collected from this study will promote understanding of the long-term implications of Critical Incident Stress. By understanding

what the long-term implications are, the development and implementation of appropriate interventions that care for emergency responders throughout their careers could only be of benefit to the emergency services professions.

Conclusion

The concept of trauma and the trauma response will be explored in detail in Chapter 2; first as it applies to the general population, then the focus will shift to Critical Incident Stress and why the affects of CIS may have such a devastating impact on emergency services personnel. A review of the literature into both short term and long-term effects of Critical Incident Stress among emergency responders will follow. In Chapter 3, the method of investigation used for this study will be explained as well as the process of access to the membership of fire/paramedic services and the police departments. Following is a detailed presentation of the process used for analysis of the interviews. Chapter 4 presents the results of the qualitative investigation using the emergency responders' own stories for confirmation of the results. In Chapter 5, a discussion of the results, limitations, implications for future research and counselling emergency responders are presented. Chapter 5 is followed by references and appendices.

Chapter 2

Literature Review

In order to understand the effects of Critical Incident Stress, it is first necessary to understand human trauma, the human trauma response, and how a trauma event may become, for an emergency responder, his or her critical incident. Once a basic understanding of human trauma is explained, the focus will change to how the human trauma response may affect an emergency responder both cognitively and behaviorally, which may result in Critical Incident Stress. Positive responses and outcomes will then be explored, which includes social support and family support. Short-term interventions will then be investigated with a focus on Critical Incident Stress Management (CISM). The chapter will end with an exploration into current research regarding the long-term implications of Critical Incident Stress among emergency responders and why it is important to continue research into this area.

Definition of Terms

In a field that is as new as trauma within the emergency services professions, the following definitions will be provided ". . . to promote some consistency in the use of several fundamental terms in the field of emergency mental health" (Everly, 1999, p. 77).

Crisis

Crisis is a heightened state of emotional vulnerability that produces an acute need to regain a sense of psychic control and mind-body equilibrium, that is, to reduce the profound tension and return the person to some pre-crisis level of adaptation. The event will overwhelm an individual's usual coping mechanisms and produce evidence of functional impairment.

Crisis Intervention

Crisis intervention is acute psychological first aid that reduces anxiety resulting from the crisis event. There are four standard principles for crisis intervention: immediacy, proximity, expectancy, and brevity. The goals of crisis intervention are to mitigate the impact that the crisis has had on the individual, facilitate recovery, and identify those who may need additional service.

Critical Incident

A critical incident is the stimulus or stressor event that is beyond the daily experiences of an emergency responder and has the potential to produce a crisis response. For the purposes of this paper, the terms "trauma event" and "critical incident" will be considered synonymous. Stimulus and stressor will also be considered synonymous. Trauma may be experienced by anyone, but the focus of this paper will be on emergency services personnel, including firefighters, paramedics, and police officers.

Critical Incident Stress

Critical Incident Stress is the psychological consequence of a critical incident that is perceived by the emergency responder to be outside the normal range of his or her daily experience. Critical Incident Stress can have a profound impact on the cognitive, emotional, and behavioral realms of an emergency responder, potentially resulting in long-term distress. Critical Incident Stress is a subspecialty of psychotraumatology.

Emergency Mental Health

Emergency Mental Health defines the field of mental health that deals specifically with emergency services personnel, including, but not restricted to, firefighters, paramedics, police officers, dispatchers, and disaster workers. Emergency Mental Health

also provides on-scene and off-scene prevention, crisis intervention, follow-up and referrals, emergency psychology and psychiatry, the re-establishment of mental health systems and Critical Incident Stress Management.

Psychotraumatology

Psychotraumatology is the study of "the processes and factors that lie a) antecedent to, b) concomitant with, and c) subsequent to psychological traumatization" (Everly, 1995a).

Trauma

Trauma is both physiological and psychological. Physiological trauma occurs when the body reacts to a situation involving intense fear, helplessness or horror. Psychological trauma occurs to an individual who is exposed to real or perceived danger that may result in an extreme set of psychological responses.

Human Trauma

Human trauma occurs when an individual is faced with an event that has the potential to cause harm to that individual (Janik, 1992). The event itself does not have to be of disastrous proportions, in fact, the event may be nothing out of the ordinary range of the individual's experience (Mitchell, 1983; Mitchell & Everly, 1993). It is the individual's response, or perception of the event that will determine if it is negative or not (Selye, 1956), but not all trauma events result in a negative outcome. An individual may perceive the event as negative but use the response as a positive growth motivator. Regardless of whether the outcome of the trauma event is positive or negative, the initial physiological reaction to the trauma event is the same.

Hans Selye (1956) first applied the term stress to human systems to describe "the sum of all nonspecific changes (within an organism) caused by function or damage" (p. 14). Selye believed that psychological and physiological changes occurred regardless of the stimuli. While recent research (Everly, 1995b) has argued that there may be specificity in the response when faced with certain stimuli, the nature of stress and the stress response is invariably the same: irrespective of timing, either we respond or we do not. The stress response, positive or negative, is designed to promote life. Positive stress, or eustress (Selye, 1974), assists individuals to make the positive changes needed to preserve life, which in turn promotes growth within the individual. Distress, or negative stress, may become destructive, causing changes in self-perception, work, and family (Janik, 1992; Ursano, Fullerton, & Norwood, 1995; Valent, 1998). In order to understand how stress can have negative consequences on an individual, it is necessary to look at how we respond to stress both physiologically and psychologically, and the impact that it can have on an individual's life.

Physiological Responses to Stress

The physiological response to stress begins with sensory stimuli which may be interpreted as a threat, which may place a high demand on the individual's resources. Information about the event is gathered by the cortex in the brain and then shared with the limbic system (van der Kolk, 1994). If together these two systems perceive that the stimulus may be a threat, physiological changes begin and the response shifts to a state of arousal (Gelhorn, 1965). The hypothalamus is then alerted and if the message is one of challenge or threat, the adrenal gland releases norepinephrine into the bloodstream. Norepinephrine in the bloodstream alerts the rest of the body to react and sends a

message back to the cortex and limbic system. Adrenocorticotrophic hormone (ACTH) then releases catecholamines which initiates the full body response (Davidson & Braum, 1986; Everly & Lating, 1995). The individual may perceive threat and a decision is made to either confront or avoid the threat. Only milliseconds have passed since the original stimulus or stressor was acknowledged. While this process can occur without conscious awareness, several bodily changes occur such as an increased heart rate, shortness of breath, muscle tension, and feelings of panic that alert us that the stimuli is a threat or challenge (Everly, 1995b).

The stressful stimulus raises a psychological reaction in the individual (Gelhorn, 1965). Effort is made to resist, or cope, with the high demands placed upon the individual. How the individual responds to the stressful event depends on how the individual perceives the event (Selye, 1956; Everly, 1995b). If the individual is able to cope with the high demands, he or she will use the event as a positive motivating force for change. If the individual perceives the event as negative, then he or she will react negatively. Either way, the stress reaction gives us what we need in order to defend ourselves or withdraw from the situation (Selye, 1956).

The stress response, then, is both physiological and psychological. It is a reciprocating system in that how the mind perceives the stressor will determine how the body will react. In extreme cases, the physical response will inhibit the cognitive response (Everly & Lating, 1995). If the physical response is extreme, the mind may shut down until it is capable of dealing with the stressor. In the majority of cases though, the mind and body will attempt to adjust to the stressor together.

General Cognitive Responses to Stress

Changes in cognitive functioning depend on the mind's ability to adapt to the stimulus. If the individual perceives the stressor as negative, he or she will attempt to adapt the stressor to his or her present cognitive schemas (Janoff-Bulman, 1992; Lazarus & Folkman, 1984), which are "knowledge structures that guide a person's perception, organization, and recall of information" (Yates, Axsom, Bickman, & Howe, 1989, p. 167). Schemas develop from experience and are influenced by the social environment and as new information is received, the individual attempts to adapt the new information to existing schemata. If the individual is not able to fit the new information into existing schemas, he or she will experience cognitive dissonance, or conflict. While schemas deal with the theories of categories of events, assumptions (Parkes, 1975) deal with how individuals perceive themselves and their world. Assumptions are built on years of experience that "guide our perceptions and actions" (Janoff-Bulman, 1995) and are not easily changed. When an individual experiences a trauma event, basic assumptions about his or her world may change.

As coping attempts are made, and if the distress level persists, individuals will continuously reassess both the problem and alternative coping strategies in an effort to reduce the level of distress (Yates, Axsom, Bickman, & Howe, 1989). Interpretation of a trauma event may create a state of painful cognitive distress. The experience may not fit with the individual's world view and can overwhelm his or her normal coping mechanisms, leaving the individual to feel that his or her world is out of control (Gibbs, 1989). Unable to process the event with customary coping strategies, individuals may react with a feeling of numbness and attempt to deny the reality of the situation (Janik,

1992). The perception of threat may become so strong that maladaptive thought patterns ensue (Markowitz, Gutterman, Link & Rivera, 1987).

An individual's ability to adapt to the stressor will depend on how rigid or flexible an individual's schemata or assumptions are. The greater the level of perceived distress, the more the perception of the stressor changes and the individual may lose mental efficiency (Mitchell & Bray, 1990). As the ability to retain new information decreases, tasks become more difficult that in turn causes an increase in the level of distress, and so on. As we become less flexible, coping strategies such as humor are also lost. According to Mitchell and Bray (1990), the loss of humor leaves us more vulnerable and unable to cope with stress. Another coping strategy that is lost is the ability to think clearly, which ". . . intensifies our vulnerability to additional stress" (p. 12).

As we become more rigid and humorless, the fear that no one can help us affects the trust we have for others (Figley, 1985b). Trust is one of our most basic needs, and with increased cognitive and or/perceptual rigidity, trust in others decreases. When we perceive that our primary supports cannot be trusted to help, individuals will become isolated from the people that could help them through the traumatic time (Jenkins, 1996). To the primary supports, the individual may appear more detached and not open to emotional support (Mitchell & Bray, 1990). This creates a cycle in which the individual perceives his or her major supports as insensitive while the supporting people perceive the individual as unapproachable. The more the supports withdraw because of the perception of inapproachability, the more the individual withdraws from seeking the supports.

Mitchell and Bray posit that the changes in cognitive function may actually assist the individual in functioning with "a minimum of distracting emotional energy during a period of intense stress" and that "lessening the chances of emotional overload allows a stressed person to concentrate on his or her energies in the physical fight or flight response" (p. 13), yet it is the cognitive ability to accept the stressor that will lessen any physical response. The emotional response triggers when the degree of cognitive distress becomes overwhelming to the individual.

General Emotional Responses to Stress

In the aftermath of an event that an individual perceives as traumatic, he or she may become more aware of the feeling of vulnerability and become overwhelmed by the scope of the emotion he or she is experiencing (Budd, 1997). The emotional aftereffect is a normal reaction given the intensity of the perceived traumatic event the individual has experienced, yet he or she may not perceive it to be normal at all and react with emotions that are unfamiliar to him or her (Figley, 1985a). Attempts may be made to hide the emotional symptoms of distress, and the individual may continue on as though nothing has occurred. If an individual does not attend to these cognitive and emotional symptoms of trauma, the symptoms may become more detrimental and intervention becomes difficult (Mitchell, Everly, & Mitchell, 1999).

The consequences of suppressing emotion can be devastating to the individual and result in symptoms such as depression, guilt, anxiety and excessive anger (Leonard & Alison, 1999). As symptoms become more intense, the individual may begin to behave in ways that affect his or her work and family. Relationships change with those whom the individual trusts and, as in cognitive responses, the individual could withdraw from those

who might be of support to him or her (Figley, 1985b; Jenkins, 1996). The individual may begin to behave in ways that are more aggressive, angry, and harmful, both to themselves and to others, which could result in further withdrawal and isolation.

In summary, an individual will react physiologically, cognitively, emotionally, and behaviorally to what is perceived as a challenging or life-threatening situation. Given both the physiological and psychological effects of the trauma experience, and given that emergency responders may face these challenging, if not potential life threatening experiences each shift, it is necessary to understand why the trauma experience is unique to emergency services personnel.

Crisis, the Crisis Response, and Crisis Intervention

Following Green (1982), three categories of studies will be reviewed for the type of information they provide:

1. Understanding different traumatic stress syndromes.
2. Identifying particular personality characteristics for possible vulnerability factors.
3. Interventions and potential long-term outcomes.

According to Everly (1999), crisis is defined as a response to a perceived stressor that overwhelms an individual's usual coping mechanisms, disrupts homeostasis, and may cause "functional impairment" (p. 77) within the individual. Crisis theory posits that significant threat or challenge to an individual that overwhelms that individual's coping resources may be construed as crisis (Caplan, 1969). There are two different types of crises, normative or situational (Caplan, 1990). Normative crisis is the loss or threat of

loss that can overwhelm an individual's coping mechanisms. Situational crisis may result in "the loss of oneself, in the safety of the world, and in the trust of others" (p. 19).

Crisis intervention calls for the reduction of tension or anxiety that results from the crisis event and restoration of the individual to a pre-crisis level of functioning (Aguilara, 1990; Mitchell & Everly, 1993; Robinson, 2000). Crisis interventions, according to Aguilera, "are designed to be effective for all members of a given group, rather than the unique differences of one individual" (p. 21). Morley, Messick, and Aguilera (1967) state that the objectives of crisis intervention should include immediacy of the intervention, cognitive understanding of the event, ventilation of emotion in order to reduce anxiety, exploration of alternative coping skills, and strategies and family/social support.

The intention of crisis intervention is stabilization of the individual, relief of acute distress and exploration of personal resources. Those who support early group crisis intervention (Caplan, 1964; Dyregrov, 1998; Everly, & Lating, 1995; Flannery, Hanson, Penk, Flannery, & Gallagher, 1998; Mitchell, 1983; Raphael, 1986; Wollman, 1993) after a critical incident strongly believe that if the goals mentioned above are reached, there is less chance that the symptoms of trauma will be long-term. An immediate decrease in the intensity of the emotional symptoms can assist the individual to put the incident into some perspective, allow for cognitive restructuring or reframing of the incident, and facilitate an eventual return to normalization.

Not all responders negatively react to the same incident at the same time and the way that each individual deals with crisis is unique to his or her own coping ability, the values that he or she holds, fears, expectations, beliefs, and antecedent conditions

(Mitchell, 1983; Mitchell & Bray, 1990; Mitchell & Everly, 1993, 1997; Raphael & Wilson, 2000; Spitzer and Neely, 1992; Werner, Bates, Bell, Murdoch, & Robinson, 1992). There is constant interplay between the incident, the stressor, the stress response, and the assumptions that an individual holds about the world. An individual may experience maladaptive thoughts and emotions that may be beyond his or her coping abilities, yet may not understand that what they are experiencing is normal given the circumstances. Traumatic stress reactions are the natural and consequent behaviors and emotions of the critical incident. Figley (1995), as well as Mitchell and Bray (1990), claim that there are consequent behaviors associated with both the event and the memories of the event. Both the response and the behaviors may place such a high demand on the individual's resources as to create pathology. The resulting pathologies may range from traumatic stress disorders to depression and anxiety disorders.

Wortman and Silver (as cited in Pennebaker, 2000) argue that approximately 50% of individuals who face a critical incident will have high levels of psychological distress in the weeks following the critical incident and that over half of the individuals will return to normal functioning within a year. One year is a long time in emergency services. During that year, emergency responders will experience more than one critical incident (Corneil, as cited in DeAngelis, 1995) and without incident resolution, a second or third critical incident could shift the emergency responder from suffering Critical Incident Stress to the more pervasive and detrimental Post Traumatic Stress Disorder or Acute Stress Disorder.

Post Traumatic Stress Disorder and Acute Stress Disorder

Without mitigation of the symptoms of Critical Incident Stress through early crisis intervention, it is possible that the symptoms may become more pervasive, potentially resulting in a diagnosable mental disorder. The American Psychiatric Association (1994, 2000) has characterized two primary psychological disorders in response to a traumatic stressor: Post Traumatic Stress Disorder (PTSD) and Acute Stress Disorder (ASD). Acute Stress Disorder was first included in the DSM-IV (1994) more as a time specific difference than a difference in diagnostic criteria. For a diagnosis of Acute Stress Disorder, the disturbance lasts for two days to a maximum of thirty days and occurs within a month of the event. Post Traumatic Stress Disorder, on the other hand, is diagnosed when the onset of symptoms is at least six months after the stressor has occurred and the distress lasts more than a month.

The main diagnostic criteria for both PTSD and ASD are as follows:

1. Exposure to a traumatic event through actual experience of the event, witnessing the event, or confrontation of actual threat or challenge to one's self or others;
2. The trauma is persistently re-experienced through intrusive recollections of the event, distressing dreams, sense of reliving the event, and psychological distress when exposed to cues resembling the event.
3. Persistent avoidance of the stimuli associated with the event such as effort to avoid thoughts or feelings, concerted effort to avoid places or situations that may be reminiscent of the event, lack of interest in pleasurable activities, and detachment.

4. Symptoms of increased arousal that were not present before the trauma such as hypervigilance, exaggerated startle response, difficulty falling or staying asleep, difficulty concentrating, and irritability and anger.
5. The duration of the symptoms for ASD are no more than 30 days, the duration for PTSD is more than a month.
6. The disturbance causes significant disruption and impairment in daily living.

Secondary Traumatic Stress Disorder

Primary trauma is trauma that occurs directly to an individual, such as personal violence. Secondary trauma is trauma that occurs when one is empathically engaged with victims of a traumatic event such as the police officer who investigates the personal violence. It should be noted here that the use of the terms primary and secondary stress is for operational definition only and is not meant to imply that the symptoms of secondary trauma are in any way less harmful than those of primary trauma.

Figley (1995) suggests that family, friends, and professionals are susceptible to developing traumatic stress symptoms. Learning about another's trauma and in the process experiencing traumatic stress is what Figley calls Secondary Traumatic Stress (STS). Secondary Traumatic Stress is defined as the "natural, consequent behaviors and emotions resulting from knowledge about a traumatizing event experienced by another person. . . . [it is] the stress resulting from helping or wanting to help a traumatized person" (p. 7).

Figley identifies specific types of secondary traumatic stress. One type of trauma is called simultaneous trauma, when all members of a group are directly affected by a single trauma, for example, a tornado touching down in a community. Another type is

vicarious trauma, a term most often used to refer to therapists whose clients experience direct trauma. The therapist is not directly involved with the trauma event, but may become traumatized after listening to his or her clients talk about their trauma events day after day. The last type of trauma that Figley identified is secondary trauma. Secondary trauma occurs when a traumatic event affects another indirectly. An example of this would be when firefighters are working a fire and there are serious injuries or death to the civilians in the fire. The firefighters may not be directly affected by the fire, but are affected by the primary trauma suffered by the civilian. Figley refers to this phenomenon both as Secondary Traumatic Stress and Secondary Traumatic Stress Disorder.

Secondary Traumatic Stress Disorder (STSD) is a "syndrome of symptoms nearly identical to Post Traumatic Stress Disorder except that exposure to knowledge about a traumatizing event is associated with a set of STSD symptoms" (Figley, 1995, p. 8). STS symptoms can occur, according to Figley, when an individual has been traumatized and another individual wants to help. Emergency responders face human suffering and the possible destruction of their communities; therefore, it would seem only logical that they are as vulnerable to trauma as those who suffer the primary trauma.

There are many different types of trauma that individuals may experience after a traumatic event, as well as other psychological disorders such as depression and anxiety. Depression and anxiety are both symptoms of more pervasive stress disorders as well as psychological diagnoses in and of themselves. Emergency responders may experience any of the stress disorders mentioned above but because of the unique experiences that emergency responders are exposed to, a subspecialty within the field of stress and trauma was developed to focus specifically on this population.

Critical Incident Stress

Cognitive, Emotional, and Behavioral Response

Research into adverse psychological reactions among emergency services personnel (c. f. DeAngelis, 1995; Mitchell, 1983, 1985; Mitchell & Everly, 1993, 1997; Raphael, Singh, Bradbury, & Lambert, 1983-1984; Ravenscroft, 1994; Schlenger, Kulka, Fairbank, Hough, et al., 1992) indicates that stress is a significant occupational hazard and that emergency responders can experience the same strong, pervasive symptoms as civilians given the same trauma event. The recognition that emergency services personnel can be potentially vulnerable to the effects of post-trauma stress is now referred to as Critical Incident Stress.

Everly and Lating (1995) call emergency services and other various public safety organizations the "lost generation" (p. 5) of psychotraumatology. Acknowledging that emergency responders may suffer Critical Incident Stress will be of benefit to the profession; recognizing that emergency services personnel are indeed human and have a human response to the suffering and loss of others will only ensure that responders have the opportunity to experience long and healthy careers. The role of helping others during a critical event may be accompanied by not only physical but psychological risk as well. According to Everly and Lating, "Those who choose to help others in the midst of, or in the wake of, crisis expose themselves to an increased risk of suffering some form of dysphoric reaction such as Post Traumatic Stress Disorder" (p. 65). Considering that each day emergency responders' primary goal is to protect and save lives and property, it is crucial to understand their reactions and the consequences of their reaction to critical incidents.

Critical Incident Stress is different than general daily stress, cumulative stress, or even distress (Mitchell, 1983; Mitchell & Everly, 1993, 1997; Raphael, 1986). Critical incident stress occurs outside the range of an emergency responders' everyday life experience that can have long-term consequences on victims, families, and the community. Mitchell (1983) defined Critical Incident Stress as "any situation faced by emergency services personnel that causes them to experience unusually strong emotional reactions which have the potential to interfere with their ability to function either at the scene or later" (p. 6).

Emergency responders exposed to trauma events may experience the same array of symptoms that civilians experience when exposed to a trauma event. It has generally been assumed that because of the nature of their work, emergency responders are somehow capable of absorbing exposure to events the general public would consider traumatic (Moran & Britton, 1994). The theory of habituation and desensitization after multiple exposures to traumatic events should promote appropriate coping skills needed to insulate the responder during future trauma events; however, according to Moran and Britton, research has not supported this assumption and it is unlikely that any coping skill can defend against continuous exposure to critical incidents. Responders that have been able to absorb the impact of trauma events in the past may begin to ". . . decompensate upon continued exposure to severe stress" (Mitchell, 1988a, p. 205).

The nature of the incident can have a profound effect on an emergency responder's world view, identity, and basic beliefs about self and others (Everly & Rosenfeld, 1981; Krupnick & Horowitz, 1980; Violanti & Patton, 1999). Pearlman and Saakvitne (1995) found that while helpers acknowledge the daily reality of trauma and

are fully aware of the potential for hurt and loss in their own lives, a particular incident may have such an impact on an individual as to create difficult images and thoughts about the incident. Each individual will react to stress in a unique way and most times, emergency responders will recover within days or weeks of the incident (Mitchell & Bray, 1990), however, responders may become so overwhelmed by the symptoms that their ability to function both on and off the job may be jeopardized (Patterson & Violanti, n.d.). In a study of 1,154 firefighters in an urban setting, Corneil (as cited in DeAngelis, 1995), found that compared to a 1 to 3% diagnosable rate of PTSD found in the general public, the diagnosable rate of PTSD in the fire service alone is 16.5%, so emergency services personnel are at a higher risk for primary and secondary trauma than the general population.

Society expects emergency responders to provide assistance to victims of traumatic events and the more emergency responders identify with those who need their help, the greater their vulnerability to Critical Incident Stress (Fullerton, McCarroll, Ursano, & Wright, 1992). Identification does not necessarily mean that the responder personally knows the victim, although that may occur. Identification, according to Fullerton, et al., is a process by which responders see themselves as being similar to those he or she is trying to save. For example, if a paramedic works a multi-vehicle accident and identifies with the children he or she is trying to save because the children remind him or her of their own children, identification then becomes a part of how the emergency responder perceives and reacts to the critical incident.

A number of studies have been undertaken to determine to what extent a perceived critical incident will affect emergency responders. Moran and Colless (1995),

surveyed Australian firefighters to determine firefighters' perception of work stress. Nearly 30% of firefighters responded that they had experienced incidents that were severe enough that they would seek help; however, just over a third of the firefighters, for reasons that are not clear, did not seek the help needed to work through the incident. Death, motor vehicle accidents, fire, and situations involving children were perceived as the most stressful incidents on the job, with over half of the respondents reporting that they had had no initial training to inoculate themselves against the response to perceived critical incidents. Better training, according to Alexander and Klein (2001), would "reinforce the individual's sense of control when faced with difficult and challenging situations, and are likely to help in the development of effective coping strategies" (p. 80).

Mistakes on scene need to be as close to zero as humanly possible given that mistakes in the emergency services profession may result in death of civilians and destruction of property. Unfortunately, tasks are not always completed to the satisfaction of the responder; for example, a firefighter/paramedic may be called to evacuate a building before it has been cleared; people may die or suffer serious injury. Marmar, Weiss, Metzler, Delucchi, et al. (1999) found that the threat of inability to complete the tasks, perception of threat during the incident, and perceived lack of control over the situation produced intrusive thoughts, nightmares, and behavioral reenactments. McFarlane (1993) found that if an individual perceives that he or she is unable to complete the task, the perception will have some effect on the use of avoidance behavior, which may carry over into all aspects of a responder's life.

Fullerton, McCarroll, Ursano, and Wright (1992) found that feelings of helplessness and guilt, when task completion is not possible, reflects the desire of victims wanting life to return to a pre-incident state where they had some perceived sense of control over life. For responders, the desired sense of control is to complete the task in order to continue protecting and saving lives and property.

Other sources of stress that may contribute to a responder's negative reaction to stress response include perceived support, or lack thereof, from administration. Beaton and Murphy (1993) investigated sources of occupational stress among firefighter/EMT's and firefighter/paramedics and found that sleep disturbances, management/labor conflicts and perceived personal safety are high sources of stress among both groups. In a study of ambulance personnel, Alexander and Klein (2001) found that nearly three-quarters of the respondents "viewed the ambulance service as never concerned about their staff" (p. 80), which confirms Neale's (1991) findings that administration may be out of touch with the needs of their members. Alexander (1993) found that ambulance personnel may not report any distress because of concerns about administration confidentiality. Robinson, Sigman, and Wilson (1997), in a study of suburban police officers, found that a significant number of police officers were hesitant to access their Employee Assistance Program (EAP) because of a lack of trust and the perceived connection of the EAP to their administration.

There are varying factors that precipitate the longevity and severity of the symptoms. Researchers have found a positive correlation between longevity of career, large numbers of emergency calls, increased contact with the victims and long work hours, and the longevity and severity of CIS symptoms (Beaton & Murphy, 1993;

Hodgkinson & Shepard, 1994; Marmar, Weiss, Meltzler, Ronfeldt, & Foreman, 1996; Moran & Britton, 1994). In a study of firefighters, police officers, and paramedics who responded to the Loma Prieta earthquake, Marmar, Weiss, Metzler, Delucchi, et al. (1999) found working long shifts, less experience with critical incidents, and external locus of control were associated with greater depersonalization, memory disturbances, rumination and difficulty mastering the incident. Responders continued to report distress eighteen months later.

Exposure to sustained stress may lead to a decreased resistance to stress (Moran & Briton, 1994), possible diminished work performance (Spitzer & Neely, 1992), an increase in risk-taking behaviors (Mitchell, 1986a), and impaired cognitive and emotional functioning (Gibbs, 1989). Emergency responders are more likely to suppress their emotions in order to complete the task, which may delay any further response. A delayed response or no response may ultimately result in self-destructive behaviors, and in the extreme, suicidal ideation and attempts (Mitchell, 1986b). The most reliable predictors of stress reactions are duration of exposure and the intensity of exposure (Green, Wilson, & Lindy, 1985). The intensity is of a subjective nature, and the critical incident may be the result of an accumulation of perceived stressors from numerous incidents in the responder's work history.

The consequences of intentionally suppressing thoughts and emotions may cause, in the responder, a wide range of emotional and behavioral symptomology (Table 1) and cognitive and physical symptomology (Table 2). It should be noted that these thought processes are expected and should be seen as normal reactions for emergency responders (McFarlane, 1993; Mitchell, 1983, 1985; Mitchell & Everly, 1993, 1995, 1997).

Table 1: Emotional and Behavioral Symptoms of Response to a Critical Incident

Emotional Symptoms			
Shock	Denial	Anger	Rage
Sadness	Confusion	Terror	Shame
Humiliation	Grief	Sorrow	Fear
Suicidal ideation	Guilt	Blame	Moodiness
Reactive depression	Nightmares	Hypervigilance	Anxiety
Phobic reactions	Exaggerated startle response	Emotional numbing	Depression

Behavioral Symptoms			
Dreams of event	Sadness	Mood swings	Work problems
Frustration	Motivational change	Personal risk	Helplessness
Irritability	Memory problems	Resentment	Loss of sexual desire
Fatigue and lethargy	Feelings of inadequacy	Need for team support	Altered sleep patterns
Bothered by publicity	Altered social activities	Difficulty concentrating	Repeated recollections of the event

Table 2: Cognitive and Physical Symptoms of Response to a Critical Incident

Cognitive Symptoms	
Confusion in thinking	Difficulty making decisions
Loss of attention span	Lowered concentration
Problems with abstract thinking	Calculation problems
Memory dysfunction	Lowering of all higher cognitive functions
Physical Symptoms	
Difficulty breathing	Cardiac arrest
Chest pain	Fatigue
Headaches	Dizzy spells
Light headedness	Thirst
Increased heart rate and blood pressure	Mania
Hunger	Excessive sweating

Durham, McCammon and Allison (1985) found that 70% of those who responded to the Kansas City Hyatt Regency Hotel collapse experienced intrusive, repetitive thoughts and images and used denial as a coping strategy to lessen the psychic intrusion. Yet avoidance of the stressor, according to Mitchell, Everly, and Mitchell (1999), may be seen as a necessity to the responder for fear of appearing weak. The general emotional response after the critical incident was withdrawal from other people. In a study of emergency responders in Australia, Werner, Bates, Bell, Murdoch and Robinson (1992) also found that withdrawal is a coping strategy to a critical incident, as well as vigilance over safety concerns, although it was not clear if the vigilance is carried over to any other aspect of a responder's life.

Personality Factors

It appears then, that the role of helping others may be accompanied by psychological risk. What makes an individual choose an occupation when mind, body, and spirit are at risk for potentially pervasive psychological trauma and perhaps death?

According to Coffey (T. Coffey, personal communication, January 18, 2002), there is no choice to make whether or not one will perhaps be a firefighter, police officer, or paramedic. It is a deep need within that has to be filled, says Coffey, a state of mind that either one has or does not have. If there is no choice, emergency services' is a vocation then, as opposed to an occupation, and the vocation of emergency services may define who responders are as people. Mitchell and Bray (1990) stated that individuals who work in a vocation ". . . with inherent powerful stressors have personalities that match them to the work or they would find it intolerable" (p. 19). Personality factors influence occupational choice and how responders react to occupational risk. If the world

view and basic beliefs about oneself and others change, an emergency responder's perception of who he or she is will change as well. Responders may no longer present themselves as "police officer" or "paramedic" or "firefighter," rather, they may be unsure of who they are both on the job and off.

Although the personality of each individual is unique, it would seem that there are certain characteristics that most emergency responders possess. Without these traits, including the high tolerance for stress, would it be possible, day after day to face 'abnormal' events? While each of us may possess certain personality traits or degrees of these personality traits, the traits are, as shown in Table 3, consistent in emergency responders (Mitchell, 1986a; Mitchell & Everly, 1993)

Table 3: Personality Factors of Emergency Services Personnel

Rescue personality	Control needs	Obsessive traits	Compulsive traits
Action-oriented	Risk takers	Internally motivated	Highly dedicated
Family-oriented	Difficulty saying no	High tolerance for Stress	A need to be Needed

Positive Outcomes of a Critical Incident

Personality characteristics of emergency responders may help them to cope in situations the general population would consider extreme. The various personality factors that are enmeshed within an individual responder may produce a negative response to a critical incident but the same various personality factors could, in fact, produce a very positive response as well. The following research explores the various factors and ways that emergency responders may employ to cope with a critical incident.

In a study of occupational stress and job satisfaction among California Fire Service personnel, Giatras (2000) measured personality hardiness to determine if this construct serves as a buffer against occupational stress and job satisfaction, defining hardiness as "a personality construct based in existential personality theory, which consists of a person's tendency toward control, commitment, and challenge in facing life strenuously and authentically" (p. 29). He found that firefighters who scored high on personality hardiness were less susceptible to job stressors, and more able to adapt and cope with new stressors compared to those who were low on personality hardiness.

The results of Giatras' (2000) study confirms the results of Tedeschi & Calhoun's (1996) research, who found that effective coping skills and a positive outlook are correlated to personal hardiness and resiliency. Hardiness was again measured by three traits: commitment, control, and challenge, and responders who are high in hardiness should be shielded against disturbing events. The participants in the study that scored high on hardiness perceived the incident as being under their control, as a challenge rather than threat, and as meaningful rather than pointless (commitment).

Violanti (2001) describes a method called scripting as a way to achieve a positive outcome of a critical incident. The use of scripting refocuses the individual from the pathology of the response to inner strengths and resources to work through the incident. An individual who has characteristics such as effective coping skills and a positive outlook may be more resilient and hardy to resist stress and will most likely use the incident as an opportunity to grow.

Alexander and Klein (2001) found hardiness to be correlated with less burnout in a survey of 160 paramedics and EMT's. Hardiness is not a trait of personality, according

to Alexander and Klein, but rather a result of personal development, which includes many factors such as past history and world view. They did notice, however, that if there was not sufficient recovery time between incidents in which to challenge and take control of the incident, the responders were less likely to adapt effectively. Positive coping skills that include flexibility, will assist the responder in developing new unique coping skills, become more resilient, and gain some mastery over future incidents as well as reduce the potential for more severe symptoms.

Fullerton, McCarroll, Ursano, and Wright (1992), found that the use of humor and rituals create a boundary around the responders, which is considered a supportive interaction and emotional sharing of the incident. Although it may be seen as an inappropriate method of coping to those who do not share in the experience or are not directly involved in the experience, shared humor can be seen as a way of achieving group closeness, which may promote other adaptive coping mechanisms such as rituals and talking about the experience with others. Rituals give meaning to incidents that may seem meaningless or preventable and promote "a feeling of safeness and confidence for the traumatized person in a situation of inner psychic chaos" (Lundin, 1994, p. 386). The opportunity to share in another's rituals, or beliefs, creates group cohesion and by sharing, a responder may feel more attached to the group rather than perceive that they face the incident alone.

Support

Social Support and Stress

Social support is viewed as a mediator in positive adaptation to stress. Jenkins (1996) found that strong social support among emergency medical workers decreased the

chance of Post Traumatic Stress symptoms and increased responders' ability to recover. Emergency medical workers who perceived less empathy and understanding from outsiders and kept their emotions hidden had increased acute stress symptoms and began to trust less, withdrawing further. This confirms Mitchell and Bray's (1990) assertion that trust is a most basic human need and if the responder perceives his or her social support as less than empathetic and unapproachable, the individual will continue to withdraw from those who may be able to best help. As a responder withdraws from contact with those around them, either at home or at work, responders may become quick to anger and more suspicious and distrustful of those around them.

In a review of social support and psychological trauma, Flannery (1990) concluded that there is a link between the perception of availability of positive social support and decreased symptoms of distress. Social support is not just a value for an opportunity for talking; rather, it is also the perception of connectedness to someone when a responder may feel most alone. Humor, rituals, and empathic support can assist responders in integrating the present incident with positive adaptive behaviors, lessening the chance of the negative aspects spilling into the other areas of his or her life such as family.

Family Support and Stress

There is concern among researchers that it is difficult for the main support outside of the service, for example, spouses and families, to provide the support needed in order to assist the responder after a critical incident (Bledin, 1994; McCubbin & McCubbin, 1989). Corneil (as cited in DeAngelis, 1995) found that if the individual responder perceived support from family and coworkers, he or she is 40% less likely to experience

PTSD symptoms. However, families may not be able to provide assistance because of their own fears about the incident or changes within the responder affected (Stein & Eisen, 1996).

When looking at coping patterns among emergency responders that attended the Hyatt Regency Hotel collapse, Wilkinson (1983) found that 20% of responders perceived their families as not helpful in the aftermath, while 79% perceived their friends as supportive and caring. In a different study, 35% of responders reported that the reaction of their families after a critical incident was neutral rather than supportive or non-supportive (Durham, McCammon, & Allison, 1985). It is unclear in either of these studies if emergency responders intentionally kept their families from knowing about the more gruesome aspects of their work or whether they perceived their families as unapproachable. However, responders who rated their spouses and families as supportive (Wilkinson, 1983) still have concerns that they are intentionally harming their families, but feel that in order to keep the stress from becoming harmful; they talk openly about their thoughts and feelings anyway.

Patterson and Violanti (n.d.) investigated police officers perception of stress spillover between work and home life and vice versa. The study showed that the majority of police officers perceived that spillover from work affected their home life, while 40% of the police officers perceived that home life spilled over into their work. The outcomes of the spillover are marital conflict, health problems, and an increase in alcoholism.

Families need to learn how to cope with the situations that emergency responders face. Gisa (as cited in Figley, 1985b) found that it was not the safety issue of the spouse who was in emergency response that was of concern, but the personality changes that

came with the job. The profession of emergency services tends to be clannish and spouses that work outside the profession may feel like an outsider and begin to isolate themselves (Besner & Robinson, 1982).

The extent of the impact of a critical incident on an emergency responder's family may be enormous. Stratton (1976) has identified six potential areas of impact: emotional suppression, overprotection of the family, displaced anger and frustration, fear, the need to be taken care of by family members, and ineffective coping mechanisms. Besner and Robinson (1982) include three more areas of impact that a critical incident may have on family members: restrictions on family freedom, increased use of alcohol and drugs, and an unwillingness to attend to the families needs.

It is clear that a critical incident that is perceived by the emergency responder to be a negative event does not only impact the emergency responder, but those around him as well, whether on the job or off.

Short-term Interventions

Critical Incident Stress Management

It is evident that when a responder experiences a critical incident, the aftermath is not limited only to the job but has the potential to permeate all areas of his or her life. To meet the demands of this high-risk population, early interventions have been developed in order to mitigate the effects of a critical incident and return emergency services personnel to normal functioning. Although there is some disagreement among researchers regarding the efficacy of early interventions such as Critical Incident Stress Management (CISM) (Mitchell, 1983; Mitchell & Everly, 1993), debriefing remains the most utilized early intervention with emergency responders.

The development of the Critical Incident Stress Management (CISM) program is a response to the effects of trauma and the need for appropriate interventions that focus specifically on emergency responders. Interventions such as CISM may, in times of crisis, promote a "powerful sense of group identity, and group cohesion" (Ørner, 1995, p. 515). This management program is a multi-component intervention that includes pre-incident training, debriefing, family and pastoral care, one-to-one crisis counselling, and follow-up for referral and possible further treatment. The following explanation of CISM is based on the Mitchell Model of CISM (Mitchell, 1983; Mitchell and Everly, 1993, 1995, 1997).

Pre-incident training is thought to be inoculation or pre-incident education about the effects and consequences of stress particularly as it pertains to emergency services. The more knowledge and understanding emergency responders have regarding both the positive and negative responses to stress, the more he or she will see the stress as a normal response to a stressor, rather than seeing the pathology of the response (Mitchell & Dyregrov, 1993).

Critical Incident Stress Debriefing (CISD) is perhaps the most well-known component of CISM. Debriefing is utilized when a homogenous group of emergency responders have experienced a critical incident, perhaps shootings, deadly fires, multi-vehicle accidents, or disasters, among other types of incidents. Debriefing is not psychotherapy; it is an opportunity for emergency responders to talk openly and honestly about their thoughts and feelings regarding the incident they experienced as a group. CISD teams are comprised of peer team members from various emergency response groups as well as mental health professionals. While a mental health professional

oversees the meetings, it is the peer team members that may be team leaders during the process of a debriefing. As with crisis intervention, CISD is based upon immediacy, proximity and expectancy. A formal debriefing may be implemented up to two weeks after the scene is cleared, however, in mass disaster situations, debriefings may be provided up to three weeks or more after the scene is cleared (Mitchell & Everly, 1997). Following the protocol in the Mitchell Model (1983) (Mitchell & Everly, 1993), debriefings usually last between two and four hours.

The intention of a debriefing is to normalize the stress response within the group by moving through a seven stage process intended to "achieve the goal of psychological closure subsequent to a critical incident or traumatic event" (Mitchell & Everly, 1997, p. 7), as well as cognitive reframing and normalization of thoughts and emotions. In a safe and secure environment, responders are encouraged to describe and talk about what happened during the incident, their thoughts during the incident, what the worst part of the incident was for them, and the emotions they are experiencing. The last stages provide more information about stress and stress reduction methods, as well as answering questions the responders may have regarding the process or further clarification about the process.

As stated earlier, the consequences of CIS have the ability to invade all aspects of a responder's life. The family of an emergency responder is not immune to the effects that CIS has on their spouse or partner. Family crisis intervention is another component of CISM meant to educate families about stress and the potential changes that may occur when the emergency responder experiences a critical incident. Family knowledge and

understanding about the impact of CIS creates a more proactive support system rather than a reactive system.

One-to-one counselling focuses on the individual rather than the group and may be accessed when an individual emergency responder perceives an incident to be critical. This is not psychotherapy; rather, it is the opportunity to discuss the incident with someone whom the effected responder trusts, whether it is a peer team member, a mental health professional or a chaplain.

Pastoral care is often available through the respective departments and the CISM program. Chaplains provide individual or family spiritual counselling rather than a focus on the psychological reaction and are an important component for long-term care of the responder who may question his or her faith after a critical incident, or needs spiritual support in addition to psychological support.

Follow-up services and referral services are available for those who may need more individualized interventions after the debriefing process if symptoms become more pervasive and ongoing and the responder is not able to return to a normal level of functioning. Follow-up services include referrals to qualified psychologists/therapists who are trained in trauma and the trauma response as it pertains to emergency services.

Just as no type of training will completely eliminate the potential for stress (Duffy, 1979) there are no interventions that will completely eliminate stress reactions, which are based on many factors such as personality and past trauma history, as discussed earlier. Recent research into the debriefing process in the field of trauma has created a debate of whether the intervention is efficacious (see Dyregrov, 1998; Everly & Boyd, 1999; Flannery, 1998; Larsson, Tedfelt, & Anderson, 1999; Mitchell, 2003;

Robinson & Mitchell, 1993; Wee, Mills, & Koelher, 1999, Wollman, 1993) or not (see Carlier, Voerman, & Gersons, 2000; Kenardy, Webster, Lewin, Carr, et al., 1996; McFarlane, 1988; Rose & Bisson, 1998; Rose, Bisson, & Wessely, 2002)[1] that should be expected with any new intervention if it is to be accepted as valid.

Although it is not within the scope of this paper to determine if the process of debriefing is efficacious or not, it is hard to ignore the literature on both sides of the debate. It is not easy to conduct studies regarding the efficacy of debriefing; ethical issues must take precedence over scientific study. For example, if emergency responders experience a critical incident, it would be ethically irresponsible to separate responders into a debriefed group and a non-debriefed group for a randomized controlled study just to determine if the process is efficacious or not. Those who support the process of debriefing rely on meta-analysis, anecdotal evidence, comparison studies, and responder self-report to determine the efficacy of the intervention with the population the intervention is intended for: emergency responders, disaster workers, and other *groups* [italics added] who experience a critical incident.

Those who oppose the process of debriefing support their conclusions based on studies that focus on populations the intervention of debriefing is not intended for: single primary trauma victims as opposed to group secondary trauma victims. As well, the interventions used in the studies by those who oppose debriefing were one-to one, one-time interventions (psychotherapy), which cannot be compared to group, long-term management programs.

Whether one believes the process of debriefing is efficacious or not, any intervention that deals with human life should undergo professional scrutiny as it is in the

[1] For an exhaustive list of research regarding the efficacy of debriefing, see Mitchell (2003).

best interest of the consumer for the profession to do so. The debate should continue using valid, scientifically and ethically sound methods that is demanded when determining the efficacy of any intervention.

While the focus of research has been on symptoms of short term effects and the development of immediate interventions that minimize and perhaps eliminate the effects, there has been a shortage of research into the area of long-term effects of CIS.

Long-Term Effects of Critical Incident Stress

For whatever reasons, whether it is ethical considerations or simply that the field is so new, few studies have investigated whether or not CIS has long-term effects on some responders and if it does what those effects might be. Recent research, in an attempt to determine what the long-term effects may be, focus on disaster studies where implementation of a group, short-term intervention has been applied. Few studies actually focus on single responder critical incidents. Considering that disasters are a rare occurrence, research into single responder critical incidents and the long-term effects of Critical Incident Stress resulting from single responder critical incidents would only serve to add to our knowledge and understanding of Critical Incident Stress.

At an average rate of approximately four critical incidents per year (Corneil, as cited in De Angelis, 1995), there may not be enough recovery time between incidents (Alexander & Klein, 2001). If the effects of one critical incident are not resolved, another critical incident will likely compound the first and the symptoms may become more invasive and debilitating. The long-term effects of trauma are "numerous and complicated" (van der Kolk, 1996, p. 184) which not only puts the individual responder at risk, but may put his or her crew or partner at risk as well. Understanding the potential

for long-term effects and what the effects are is essential to keeping emergency responders healthy, both psychologically and physically.

In a longitudinal study of emergency responders after the collapse of the double-decker Interstate 880 during the 1989 San Francisco Bay area earthquake, Marmar, et al., (1999) found that rescue workers, including fire, police and EMS personnel were at risk for continuing symptomatic distress approximately 18 months after exposure. Although it is rare that disasters of this magnitude occur, Marmar et al. found that individuals with less exposure to critical incidents, such as less experienced personnel, regardless of task, had a higher stress response, regardless of training. Those who were less experienced or had not been exposed to the severity of some scenes may have disconnected emotionally at the time of the trauma, perhaps because of the severity of the scene. The emergency responder may be able to complete his or her tasks, but at the price of long-term difficulties and mastery of the traumatic event. According to Marmar et al., some of the more intrusive experiences may express themselves as imagery of the scene or a particular victim, or affective states such as intrusive thoughts, and nightmares.

Fullerton, McCarroll, Ursano, and Wright (1992) found that 29 months after working bushfires in South Australia, 21% of fire, police, and EMS personnel were still experiencing recurring imagery that interfered with their lives. Emergency responders not only have to deal with being exposed to the stress of the event, but the stress of the role of rescuer. Repeated exposure to destruction, death, and life-threatening situations as well as the psychological and physical demands of the job leads to feelings of fear, resentment, and anger, which may then lead to interference with effective functioning. Markowitz, Gutterman, Link, & Rivera (1987) also found that firefighters who had been subjected to

chemical fires experienced high levels of threat to physical safety that resulted in extreme emotional reactions and maladaptive patterns of thought.

Raphael, Singh, Bradbury, and Lambert (1983) investigated the effects of a rail disaster on emergency responders. The findings suggested that fear of physical threat and longevity and severity of the scene caused emotional disturbances such as depression and anxiety. Raphael, et al. also found that support workers who did not work the scene had a higher level of feelings of helplessness and frustration, as well as higher levels of depressive symptoms. Raphael, et al. posit that off-scene support workers felt a higher level of helplessness because of the longer period of time that elapsed before they could help the victims, whereas on-scene rescue workers were able to assist immediately. Raphael, et al. considered frustration a result of support workers inability to help victims they were trained to help, rather than an inability to do a job they were not qualified to do. This confirms Figley's (1995) theory that those who are not directly involved in the initial rescue work, but are aware of the trauma occurring to others, may experience symptoms of Secondary Traumatic Stress.

Marmar, Weiss, Metzler, and Delucchi (1996) found that level of exposure at a critical incident is related to both immediate and long-term post-exposure response. If an individual has higher levels of perceived threat and uses avoidant coping strategies, the individual will have greater difficulty in confronting and disclosing their trauma. The more the individual avoids disclosing his or her thoughts and feelings about the trauma, the more internalized these thoughts and feelings will become. The more internalized the thoughts and feelings become, the greater the risk for developing symptomology of Acute

Stress Disorder and/or Post Traumatic Stress Disorder. Recovery then becomes a long term process.

Wee, Mills, and Koehler (1999), in a longitudinal study of emergency medical services personnel involved in the 1993 Los Angeles Civil Disturbance, found that at three months, EMS personnel experienced symptoms in the mild to mid range of PTSD. EMS workers reported feelings of fear for personal safety, distress at the longevity and severity of calls, and the number of calls during the riots as well as feeling overwhelmed generally by the riots. In a related study, Scott and Jordan (1993) found that nearly a third of firefighters that were exposed to the Los Angeles Civil Disturbance still experienced distress six months following the riots. Specific stress symptoms also included feeling overwhelmed by the severity of the calls and personal safety.

In a study of post-traumatic stress symptomology in police officers, Carlier, Voerman, and Gersons (2000) found that at one week after a critical incident, officers had a significantly higher rate of distress, including re-experiencing of the incident as well as avoidance behaviors. Six months after the critical incident, none of the officers met the criteria for a diagnosis of PTSD. However, it is possible the officers were experiencing symptomology corresponding to the diagnosis of Critical Incident Stress, rather than meeting the criteria for PTSD, which was the standard set for this study.

Werner, Bates, Bell, Murdoch, and Robinson (1992) found that numbing might delay any reaction to a critical incident. Sights, sounds, or smells that may be reminiscent of the critical incident can trigger delayed responses. Studying Victoria State emergency responders, Werner et al., found that two to six months after a critical incident, 20% of emergency responders reported triggers of the critical incident and 44% reported weekly

to monthly triggering of the incident. Responses were varied, including negative thought avoidance, sleep and appetite disturbances, agitation and depression, awareness of one's own mortality, duty avoidance, and withdrawal.

In a two-year follow up after the crash of an air ambulance, Macnab, Russell, Lowe, and Gagnon (1999) reported that many of the paramedics were still negatively affected by the events of the crash. The most commonly reported symptoms of Critical Incident Stress were grief and sleep patterns. However, in emergency services, disturbed sleep patterns are part of the norm for shift work and should be expected.

Critical incidents are unexpected and time-limited (Flannery, 1999; Wollman, 1993), but the consequences of the critical incident on emergency responders are not time-limited. Flannery found that most emergency responders positively cope with critical incidents with few disruptions in their lives, and that CISD can help emergency responders address the initial incident. However, Flannery states that some individuals may have a difficult time processing the event and become anxious, depressed, and physically ill.

The Center for Disease Control (1999) has researched the impact of Critical Incident Stress and found that after six months, 20% of emergency services personnel who experienced either the death of a coworker on the job (line of duty death) or a disaster, still suffered from severe Critical Incident Stress. Out of this twenty percent, 3% continued to experience permanent profound distress, and 3% suffered from Post Traumatic Stress Disorder.

It is possible that the effects of Critical Incident Stress are cumulative, and that over time, issues from past incidents that are not fully resolved may become critical at the

next incident. According to Moran and Briton (1994), time does not necessarily mitigate the reactions generated by emergency responders. They state that there are many variables that may cause an individual to react more negatively at one incident even though it may not be an incident that is particularly challenging, life-threatening or gruesome. The incident will only have to produce intense reactions such as fear or anger to make the incident critical for that one individual. It is difficult to study long-term effects of Critical Incident Stress, according to Moran and Briton; simply because of the unique nature of the trauma response for each individual that has experienced an incident he or she perceives is critical.

Conclusion

Protocols for debriefing within the multi-component CISM program demand that the process be utilized with groups of emergency responders. If only one individual experiences a particular situation that he or she perceives to be a critical incident, this individual may not have the opportunity to discuss the event, since no other crew member, partner, or supervisor has experienced the situation as a critical incident. If the individual suffering stress does not have any outward symptoms, it may not be visibly apparent that they are experiencing Critical Incident Stress. If there are no supports in place for the individual to deal with the critical incident, the symptoms may become severe enough to result in possible suspension, forced leave, and in the extreme, suicidal ideation and attempts. In certain occupations, the reported rate of long-term reactions of Critical Incident Stress may not seem all that high. In emergency services, however, the very nature of their work demands emergency responders be psychologically able to cope

with the demands of their job. Therefore, it is not only necessary to understand the short-term effects a critical incident may have on a responder, but the long-term effects as well.

The review of literature has shown that emergency responders may be affected by symptoms of Critical Incident Stress after a critical incident occurs. The incident may be perceived as critical by groups of responders, or by a single responder, depending on each responder's perception of the incident. Various factors such as perceptions of their jobs, perceptions of themselves, and levels of administration, coworker, and family support will also determine how the responder will respond to the incident. Short-term interventions as well as strong support from administration, coworkers, and family may help responders cope with the incident. The results of research that explores long-term effects have found that some responders continue to experience pervasive effects of Critical Incident Stress for months after the critical incident. This study focuses on responders who continue to experience Critical Incident Stress at least six months post critical incident and the perceptions they have regarding their jobs, themselves, and perceived support from family, coworkers, and administration.

Chapter 3 will explore the method chosen for this study as well as participant demographics, the protocol followed to gain access to the pool of participants, interview question development, data analysis, researcher validity, and ethical considerations.

Chapter 3

Method

The experiences of emergency responders are of primary importance to this study, and in-depth reports by responders are needed to gain an understanding of their experiences. Their experiences cannot be removed from their contexts. Qualitative research seeks to identify the deeper structures and common elements in experiences while valuing the uniqueness of each responder's experience.

Qualitative research was chosen for this project because of the lack of research and understanding in the area of long-term effects of Critical Incident Stress among emergency responders. As well, most research into the area of Critical Incident Stress is of a quantitative nature, focusing on a specific research question, such as "Did you experience nightmares?" or "Do you feel supported by administration?" or "How bothered are you by [particular] stressors on the job?" Quantitative research has done much toward the understanding of specific stressors and specific reactions to stressors within the emergency services professions. However, in order to understand what the experiences of emergency responders are, a qualitative research approach gives a deeper understanding of the perceptions and emotions an individual responder may still be experiencing after his or her critical incident. This qualitative study, as opposed to quantitative research, gave responders the opportunity to tell their own stories, in their own words, which in turn helps to understand responders and the social and cultural contexts within which they live, from their point of view, which is largely lost when textual data are quantified (Kaplan & Maxwell, 1994).

All good scientific research attempts to avoid personal bias and dogma, regardless of philosophical stance. The major argument against human science research and qualitative methods is that qualitative methods lack rigor and therefore are open to bias. Ragin (1987) argues that since all research is guided by one's paradigms and beliefs about nature or reality and research, there is always an element of one's own bias in all research, whether qualitative or quantitative. The issue comes to the fore when researchers from both philosophies fail to recognize that there is a potential for bias in all research dealing with human science and neglect to preserve researcher and method integrity.

While there are many methods of qualitative research, the approach utilized for this specific study is grounded theory. Grounded theory begins by focusing on an area of interest and gathers data from a variety of sources such as interviews, case studies, or observation, and seeks to develop theory that is grounded in data systematically gathered and analyzed (Glaser & Strauss, 1967). While quantitative methods start with theories and end in generalizations, the general goals of grounded theory is to construct theories from a question in order to understand the phenomenon, such as in this study, "What are the experiences of emergency responders at least six months post critical incident?" Chamaz (2001) posits that the purpose of grounded theory is to understand and describe participants' life experiences by understanding the common themes that emerge when participants describe their experiences in their own words.

The goal in this study is to understand the common themes to produce an account of an emergency responder's experience that is faithful to what he has reported. According to Lee (1999), good grounded theory should inductively derive theories from

data while simultaneously grounding the account into empirical observations. From the observations, theory can be built by making comparisons. For example, if a paramedic states that he always checks a scene for potential dangers before moving to the patient, the question arises: "Do all paramedics check the scene for dangers before approaching the patient?" New data arises through each individual's experience and suggests future observation with other participants. Questions were developed to address the responders concerns and were constantly revised in order to learn of and understand their experiences.

Qualitative research into emergency responders' experiences is a difficult and complex process. The ethical considerations must always take precedent. Yet, there is a need to explore and describe the phenomenon of single responder critical incidents and qualitative methodology would permit that exploration and description. For this study, quantitative methodology would have produced another set of numbers that would not have been able to describe the depth of thought and emotion that emergency responders' may experience after a critical incident. A quantitative method would ask "How much did that incident bother you?" rather than "Can you describe, in your own words, that incident for me?"

With the implementation of immediate crisis interventions such as CISM, it is possible that the effects of Critical Incident Stress are mitigated. The question is then, "What are emergency responders' experiences six months post critical incident?" and, "Are the effects of Critical Incident Stress mitigated by early intervention?" If immediate crisis intervention is not available or the incident is a single responder critical incident, it

was also important to determine "Are emergency responders continuing to experience negative effects of Critical Incident Stress at least six months post critical incident?"

Participants

Method of Securing Access to Participants

The nature of this study involved asking emergency responders about the critical incident that they have experienced and their experiences at least six months post critical incident. Therefore, it was necessary to contact and discuss the nature of the study with Fire/Paramedic and Police Service administrations and association representatives by phone and letter.

Five departments in two cities were initially contacted by telephone: two police services, one fire department, one fire/paramedic department and one ambulance service. The administration of the ambulance service as well as the corresponding ambulance association declined to participate. Letters were then sent to the departments and associations that agreed to consider participation outlining the study with a request for approval to access the members of their respective departments (Appendix A). Approval for this study and access to members was granted in writing by the following departments and associations (Appendix B):

1. Medicine Hat Local 263 of the International Association of Fire Fighters (IAFF).
2. Medicine Hat Fire Department Deputy Fire Chief.
3. Lethbridge Local 237 of the International Association of Fire Fighters (IAFF).
4. Lethbridge Fire Department Deputy Fire Chief.
5. Medicine Hat Police Association.
6. Medicine Hat Police Service.

7. Lethbridge Police Association.
8. Lethbridge Police Service.

Establishing and Validating Interview Questions

A working relationship was developed with the two Association members with whom initial contact had been made after concerns were expressed that the interview questions may elicit troubling reactions for the participants. Initial questions developed for the interview protocol were sent to Medicine Hat IAFF Local 263 and the Medicine Hat Police Association for suggestions and input. As suggestions and changes were received from the two Association representatives, appropriate changes were made without loss of integrity to the study. The changes were then sent back to the two Association representatives and further suggestions were made. Telephone discussions regarding the suggestions were held and final interview questions were sent back to the two Association representatives for approval. The final interview questions were accepted and approved by the two Associations. The final interview questions were also sent to the Lethbridge Fire Department and Lethbridge IAFF Local 237 for validation, and approval was received. These guiding questions were used to ensure that all relevant topics were covered (Appendix C).

Method of Inviting the Participants

Members of the departments were initially contacted by email through their respective Associations requesting participation in the study. A brief description of the study was sent to the members with the request for participation and assurances of confidentiality (Appendix D). Posters with the same request and assurances of confidentiality were then printed and mailed to Medicine Hat Local 263 and the Medicine

Hat Police Association and were placed in the stations and Associations halls. Copies of the posters were dropped off at Lethbridge Local 237 and the Lethbridge Police Service to be placed in the departments and Association halls (Appendix E). A request for demographic information such as age, sex, and years of services was included in both the email and the posters.

Method for Selection

The criteria for participation in this study were as follows:

1. The responder must have experienced a critical incident while on the job before April 1, 2002, which was chosen as the cut off date to provide the minimum requirement to determine what the emergency responders experiences were at least six months post critical incident.
2. The responder must be male. Participants were limited to male only because of the potential for confounding variables in the results of the study. It is unclear from available research whether female responders react differently than male responders after a critical incident.
3. The responder must have been living with his family at the time of the critical incident. The interaction between the responder and his family during and after the critical incident is crucial to understanding the impact the critical incident may have had on the family, as well as the changes in the relationship between the responder and his family.

Demographic information was obtained from each potential participant that included age, sex, and years of service. The intention was to split the years of service into two categories: novice (between 2 and 5 years) and experienced (5 years and up) to determine

if the experiences between the two groups of responders were different because of years of service. One possible factor that may influence coping response could be years of service. It may be that more experienced personnel are better able to handle high stress demands. However, only experienced personnel responded (e.g., 11 plus years of service). Therefore, it was not possible to explore this factor.

Participants from each service in the City of Lethbridge and the City of Medicine Hat were invited to participate. Two police officers from Medicine Hat and two police officers from Lethbridge who fit the criteria were interviewed. One police officer, during initial contact, stated that he fit the criteria but, in fact, had not experienced a critical incident on the job; rather, his traumatic event occurred during childhood. Although the incident he experienced as a child may certainly have influenced the way he conducts himself as a police officer, the criteria set out for this study were adhered to and his interview was not included in the study. Another police officer who fit the criteria was interviewed, bringing the total number of police officers to four.

Lethbridge is amalgamated with both Fire and Paramedic Services, as opposed to Medicine Hat, which is Fire Service only. Since the ambulance service in Medicine Hat declined to participate, it was necessary to make up the loss by interviewing four primary trained paramedics in Lethbridge. Four primary trained paramedics were interviewed, but no primary trained firefighters had contacted the interviewer. A second request for participation was then sent out through email with the additional criteria for primary trained firefighters only (Appendix F). Two primary trained firefighters from Medicine Hat, as well as two primary trained firefighters from Lethbridge who fit the criteria were interviewed. One primary trained firefighter, who upon initial contact stated that he had

experienced a critical incident while on the job, actually experienced his critical incident as a result of leaving the floor of the Fire Service and moving to a different position within the Fire Service. The incident itself that he experienced was as a result of leaving a job that he had worked for over 20 years, and once he was no longer in a rescuer position, the change forced him to redefine who he was. It was thought that since it was more of an accumulation of his years of service rather than one specific critical incident, this participant would not be included in the final data. Due to time constraints, it was decided that the number of primary trained firefighters interviewed would remain at three. A summary of the final distribution of participants is presented in Table 4.

Table 4: Participant Representation

City	Firefighters		Police Officers		Paramedics	
	Novice	Experienced	Novice	Experienced	Novice	Experienced
Lethbridge	0	1	0	2	0	4
Medicine Hat n=11	0	2	0	2	0	0

Interview Format

Letters of consent were read and signed by each participant and the interviewer before each interview. Each participant was informed of the process of the interview before the interview began: they were free to take breaks whenever they wanted to and that if at any time they wanted to stop the interview, there would be no repercussions or penalties for doing so. Interviews were conducted using the interview protocol that was developed with and validated by participating emergency services (Appendix C). Additional questions arose but the framework of the interview protocol was consulted.

Open-ended questions were added as they arose in order to get the emergency responder to talk openly about his particular incident.

Given the research topic, it was necessary to provide a safe environment for the emergency responder. This was accomplished in two ways. First, in order to ensure that the responders felt safe and comfortable during the interviews, the responders decided where they would prefer to be interviewed. Interviews in Lethbridge were held in the home of the researcher. After individual discussion and agreement with the participants in Medicine Hat, a church in Medicine Hat was contacted and the interviews were held in a private room at the church. Second, during the interviews, appropriate listening skills, prompts, and probes were used to encourage the responder to talk openly. The goal was to allow the responder to openly describe his experience regarding the critical incident and the impact it had on his job, on the individual responder, and the perceived impact on his family.

Notes were taken to refer to non-verbal communication and aspects of the participant's responses that needed clarification. For example, if a responder began to show some anxiousness through body language, a note about the subject that was eliciting the emotion was made in order to a) monitor the responder's emotions; b) to refer back with the responder at a less anxious time if necessary and; c) for a reference point for other interviews. After the interview was over, responders were asked if there were any thoughts or emotions that had come up during the interview that they would like to talk about. Referral services were available, and are discussed in the section on ethical considerations however; no responder interviewed requested a referral.

Data Recording and Analysis

Interviews were held between November, 2002 and March, 2003. All interviews were audio taped and lasted between 1.5 and 4 hours. Interviews were then transcribed. The intention had been to conduct the interviews until data saturation (i.e., until no new themes emerged). However, the experiences of the responders were unique not just from the perspective of the individual responder, but from within each service as well (fire, paramedic, and police) so that the total number of interviews reached was eleven (Table 3). Within two hours of each interview, a summary of the interview was written along with the interviewer's thoughts and feelings regarding the interview.

Once the interviews were transcribed, three copies of each transcript were made, with one copy held intact. A transcript was randomly selected and read while listening to the taped interview, noting emotions and reactions in one margin. The transcript was separated into four sections:

1. Impact on the job.
2. Impact on the individual.
3. Perceived impact on the family.
4. Other comments.

Responses were coded in each section by interview question. The interview transcription was then cut into sections by question. Using a constant comparison method, responses were compared within each section and between sections, noting emerging concepts. For example, if it was noticed that a police officer had not spoken to his colleagues about the emotions he was experiencing regarding his critical incident, this response was compared to see if the officer kept silent outside of the job and/or with his

family. Silence was then noted on an index card as an emerging concept. The constant comparison method was used within sections and between sections until no new concepts emerged, including the "other comments" section. The third copy of the transcript was cut into coded sections to compare with other transcripts.

A second interview was randomly chosen and cut, separated into the same sections and coded in the same manner as the first transcript, by interview question. Responses within and between sections were compared and emerging concepts were noted on a separate index card. Again, the third copy of the second transcript was cut into coded sections and each section was compared to the first transcript to search for connections and emerging themes. The themes that appeared as possible major themes were written on separated index cards that were prepared to document the categories and search for connections and major themes. The transcripts were often reexamined to ensure that the actual data remained the basis of the themes.

The remaining nine transcripts were then prepared and analyzed in the same manner for their appearance of main themes and connections between the themes. As new themes emerged, they were used to analyze all other data. By constantly comparing the data, categories were raised to concepts in the emerging theory and an index of themes was created.

When the index of themes was created, accounts were constructed of what the responder's experiences were. Importance came from the high frequency of being reported or for having a particularly powerful or meaningful impact on the responder. A theory or the identification of the deeper structure or common elements in experience emerged, explaining the uniqueness of each responder's experience. When this procedure

was completed, the categories and themes were checked with selected colleagues in order to preserve researcher integrity, which is discussed below in ethical considerations.

Ethical Considerations

Ethical considerations during this process were emphasized. The general plan of the study, as well as possible known risks were explained to each participant before the interview began. The known risks may have been negative reactions such as anxiety, frustration, and anger. All participants signed an informed consent before the interview (Appendix G). Both the participant and the interviewer determined the length of time that the participant continued in the interview. If at any time the interviewer sensed anxiety, confirmation was sought and then a decision about what the participant wanted to do was decided. The following options were to be given to the participant: to continue, continue after a break, continue at another time, or withdraw from the process completely. If the participant had, at any time, wanted to end the interview, it would have ended immediately. At no time did any participant request to end the interview, with three participants requesting short breaks before continuing with the interview.

Referral Process

Due to the potential implications of discussing the responder's critical incident, a referral protocol was put in place. Two referral sources were available to the participants. Before the letter of request for participation had been sent to potential participants, the interviewer contacted CISM trained peer team members within each department and explained the study. The purpose of this step was to inform the peer team member that the study was taking place and to request the peer team member be available if needed or requested. Confidentiality was also discussed. Unless the responder requested access to

the peer team member, the peer team member would not know who was participating in the study. A peer team member from each of the four participating departments agreed to the request. A qualified psychologist from each of the participating departments Employee Assistance Program (EAP) was notified of the study. Again, confidentiality was stressed and the EAP psychologist would not know who was participating in the study unless the responder requested referral to this source. One EAP psychologist from each of the participating cities agreed to the request.

Again, due to the potential implications of discussing a responder's critical incident, a referral protocol was also put in place for the interviewer. A CISM trained peer team member from the Medicine Hat Fire Department was contacted by telephone and a process to discuss the interviews was jointly agreed upon. Confidentiality was strictly maintained. When an interview was scheduled with an emergency responder, the peer team member would be notified. When the interview was completed, the peer team member was contacted and if necessary, the interviewer was given the opportunity to discuss her experience, or the peer team member would be informed that no discussion was necessary.

Researcher Integrity

In order to ensure the integrity of the research, it was necessary to look at two domains. To preserve researcher integrity, it was important to be aware of interviewer biases before data analysis began so the data did not become skewed. This was accomplished by laying out, or bracketing, any biases before data analysis began. The biases that the interviewer needed to be aware of are:

1. Having several close friends in the Fire/Paramedic Service who are aware of this study and may influence the interviewer's perception of those in emergency services.
2. Admiration for those in emergency services as they make a difference each time they leave the station to help someone. The interviewer has the perception that a making a difference was not always possible in the lives of those she worked with.
3. The ability of emergency responders to not allow emotion to prevent them from completing their tasks. The interviewer's emotions could not always be hidden when working with families in crisis and it is unclear if the tasks were completed because of the emotions experienced.

During the process of data analysis, thoughts and feelings were tracked and recorded so that there was an awareness of any further biases that may have influenced the choice of themes and sub-themes. These thoughts and feelings helped the interviewer to become more aware of further biases as the data was analyzed.

The second domain of research integrity was the integrity of the themes. Grounded theory demands a constant comparison method that was used to compare themes as they arose. Confirmation by colleagues was utilized as a reality check to see if the themes discovered were indeed there.

Maintenance of Confidentiality

The interviews were held where the responder believed he was most comfortable in order to maintain confidentiality. The interviewer protected the participant by removing any identifying information such as names, cities, and telephone numbers from

the interview transcriptions and assigned the interview a number. Both the data and identifying information are locked in a fire-safe cabinet in the interviewer's home to be held for one year after publication of this thesis. The data is to be used for this thesis only and possible submission for publication with the author's permission only. Results of the study will be available to the participants upon request. The general findings of this study may be presented to the participating Fire, Police, and Paramedic Associations and Departments.

Conclusion

The results of the analysis are reported in Chapter 4. The main themes produced by the analysis are explained, followed by a discussion of the sub-themes and their components.

Chapter 4

Results

This study investigated the impact of a critical incident on three areas of an emergency responder's life: the job, on the individual responder, and the perceived impact that the critical incident has had on the responder's family. After analysis of the transcripts, five main themes have emerged: pervasive service culture, changes in responder identity within the service, role confusion, isolation from valued support relationships, and reconstruction and assimilation of experience. Several other sub-themes, such as culture of emergency services, communication, and perceived support emerged as threads through each main theme, reinforcing the idea that these are not limited to one area of an emergency responder's life but carry over into all aspects of the emergency responder's life. However, even though these sub-themes are central threads throughout, the components of the threads, in each of the three areas of an emergency responder's life were different and demanded further exploration.

Even though five of the emergency responders work within the same department with seven of the responders working within the same city, no responder from any department reported experiencing the same incident as any other participant. This confirms previous research that has found that an emergency responder's critical incident is unique to him or her and that how the responder perceives the incident will determine if it is critical or not. Six of the eleven participants, all from the fire and paramedic service, reported that their critical incidents involved children. Five of the seven responders from the fire and paramedic service worked incidents that involved the death of children, with the one remaining incident involving the successful rescue of children.

The four police officers who participated in the study reported their incidents involved shootings, with one responder describing having to take the life of another individual.

Each responder, including the police officer involved in the fatal shooting, experienced symptoms of Critical Incident Stress for a long period of time after the incident. Some of the individuals began experiencing symptoms within days of the incident. For others, symptoms did not appear until months after the incident. All responders who participated in this study still experience some residual effects of Critical Incident Stress although nine of the eleven responders have, for the most part, successfully resolved the incident within 18 months after the critical incident. The remaining two responders, both police officers, still experience severe symptoms of Critical Incident Stress two years after their critical incident.

The question of whether or not the responders had participated in a debriefing after their critical incident was asked to determine what kind of an impact the process had on the responder. All responders involved in the study commented on the process of debriefing and the need for a complete management program, which is further discussed in Chapter Five.

Pervasive Service Culture

The experiences of the responders working within the emergency services culture are presented in Table 5. Under the main theme of pervasive service culture, there were four sub-themes with a number of components in each sub-theme that address emergency responders' long-term experiences.

Table 5: Pervasive Service Culture: Sub-themes and their components

Sub-themes	Components
Emergency Responder Insight into Identity	State of mind
	Avoid appearing weak
Systemic Cultural Perception	Recognition of the need for change
	Responders frustrations
	Risking the lives of responders
Idealized Community Perception	The idol
	Fear of loss of image
The Brotherhood	Family of the brothers
	False perception of isolation

Emergency Responder Insight into Role Identity

The sub-theme of emergency responder insight into role identity produced two components of identity on the job: by state of mind and avoid appearing weak.

State of mind. The culture of emergency response has been seen as a way to insulate each emergency response profession from the community in which they serve. Slogans such as "to serve and protect" and "saving lives and property" create a natural boundary around emergency services, setting them apart from occupations that the majority of community members hold. This boundary is seen as both positive and negative by those in the emergency service professions: positive in that it brings closeness between members that is needed in order to continue to do the job that they do, and negative in that it was a boundary created before the participants time and is now considered systemic and perpetuating and difficult to change. The culture of emergency services does not just encompass the job but the individual responder's ability to do the job as well. As one responder stated:

> If you don't have the state of mind, then you can't do the job. If you can't do the job, there is no trust. If there is no trust, you can't watch my back. If you can't watch my back, then I won't go through a door with you. If I can't go through a door with you, then I don't want you working the scene with me. If you can't work the scene with me, then get the hell out of the service because one of us will die because you don't have the state of mind to do the job.

Another responder related how the state of mind defines the responder:

> To be a [responder], it takes a certain frame of mind to be in. It's not just a job, its life and death and how you define yourself around that possibility. You may have

> different roles in your life but the sum total of all those roles is who you are as a [responder]. It encompasses your life and it is your way of looking at the world. It's not easy to explain if you aren't in the service.

Avoid appearing weak. The role of an emergency responder is unique in that few professions demand their members potentially put their own lives on the line each shift the responder works. The need for the state of mind, according to the participants, is a necessary evil; it keeps them alive but does not allow for the emotion that affects all humans in the face of tragedy. Emotion is seen as a weakness, both from the perspective of the individual responder and the system as well. Anyone who is seen as emotional is perceived as weak and the relationships between responders will begin to change. As one responder vehemently stated:

> Are you kidding? Just mentioning that you are affected by a particular fire or whatever you are labeled as weak and no one, I mean, no one, would want to work with you. There is a state of mind that we have to maintain between us all that keeps us alive, keeps us kicking. Anyone sees you respond with emotion then you can see the rest begin to shift away from you, they don't know if they can trust you anymore. It's easier to maintain the toughness and the state of mind than it is to try to change our perceptions. We're very hard on one another, we sometimes eat our young.

A second responder had a more global perspective in how he perceived his coworkers may react to someone who they thought was weak, "You know as well as I do that you have got to have 200 percent confidence in the guys you go through a door with. If they perceive you to be weak, you can't do your job."

Systemic Cultural Perception

The perceptions that emergency responders hold regarding the culture within the service produced three distinct views: recognition of the need for change, responder frustrations, and risking the lives of responders.

Recognition of the need for change. As difficult as it is to get into emergency services, it is just as difficult to stay within the profession if one does not have the state of mind, even though the participants know that it is not healthy and can, in the long run, cost the responder his job or life. The participants acknowledge the need for change, but see little change occurring within the system. The participants believe that the change must come from within the system, both verbally and a physical show of support from administration, although some responders continue to believe that the culture is so embedded within the profession that any real change will not occur.

> We tell administration nothing. Even if all the guys were like I was [experiencing Critical Incident Stress], we'd never let admin know. They would actually have to acknowledge that their members suffer from stress because then they will have to change from the good old boys days and that would kill who they are [as individuals]. Sure they pay lip service and have gotten good at it too. Until they show more support to us than they have, both verbally and in a physical way by actually showing up after a particular incident to make sure their members are all okay and to give assistance because they truly care, nothing about the culture of emergency services will change.

Responder frustrations. Responders, even though they want change, on the whole do not believe that the system is set up for change, and that administration, for whatever

reason, is not willing to take the risk to take on the task of change. The cost of maintaining the culture far outweighs the cost of caring for the members throughout their careers. The responders themselves are beginning to become more educated about stress and stress responses only because they are more educated now than even twenty years ago. Police officers are more likely to have degrees, paramedics are in school for up to four years before signing on with departments, and career firefighters, now more often than not, are likely to have degrees and are constantly trained to stay up to date in fire technology. The more knowledgeable they have become, the more they have chosen to stay away from lifestyles that could affect their abilities as responders, such as alcohol and drugs, which in the past has ended careers and lives. As members become more aware of the potential for stress, they have also become more aware of the costs, "divorce rates were high, we lost our children, our physical health deteriorated, and we drank more to shove all of our pain deeper inside . . . it is all going to come out. God help those who are at the receiving end."

Risking the lives of the responders. The cost of ignoring the needs of the responders in order to perpetuate the culture (purposefully or not) is not, according to one responder, good business. The long-term implications that occur can be debilitating to responders and end their careers and lives far sooner than is necessary. As one responder stated:

> It costs more to keep unhealthy responders on the job than if administration had implemented programs that made it acceptable to experience the emotion that is a natural human response to trauma. We have had to teach ourselves about the negative responses through experience with incident after incident. And yet we

> still suffer psychologically, take longer leave, take more sick days, and are not necessarily always 100% on the job. Bad things can happen when we aren't 100% on the job, and we potentially put others at risk, not just the community, but our coworkers as well. The more they ignore our needs, the more we have to retire before our time and the more they have to train new guys to take our place. It becomes more costly to keep up the façade, but that is the chance they are willing to take, I guess, in order to protect the perception of who they think we are.

It is unclear if the administration of emergency services are unaware of their responders needs because of the perception of the prevalence of the culture, or if the resistance to breaking down the barriers of the culture is due to the fact that it is so pervasive within each service that it seems to be an overwhelming task. Most responders agree that it can only be done slowly, over time, as new police officers, paramedics, and firefighters are trained and educated in the potential for stress-related outcomes of their professions.

Idealized Community Perception

There are two separate components that appeared when responders spoke to how they perceive the community views the culture of emergency services and the possible reaction to responders that experience Critical Incident Stress: the idol and fear of loss of image.

The idol. Other responders believe another reason for the lack of change is because of the community's perception of those who work in emergency services, and that change can only come when all the groups are willing to work at the change. Participants stated that the community perception of those who work in emergency

services is that they have to be able to handle, physically and mentally, whatever is asked of them, whether it be crime, fire, or medical calls. The community depends on emergency responders to protect them and save their lives and property and move onto the next call as well as show up for various community events to help raise money. Responders find it very hard to say no, especially when there are children involved in the charities that they donate their time to, "Most of the time it is just a thrill to see the look on the little ones faces. . . . They see us and have their own perception of who we are." The perception that children in the community have of responders has to be maintained, according to one responder, "They need to see that we are strong, that we can do the job and nothing will prevent us from doing everything we can to save them. We can't let them see the other side."

Fear of loss of image. One responder looked at community work as something one just does, as an extension of being in the department they work for. He states, "It's not for glory or satisfaction, rather, it is a part of who we are, a continuation of what we do." Several responders said that the amount of self-fulfillment that they gain from continuing the image, or culture, is enormous. "It's a chance to be proactive in the community rather than reactive." But the longer the participants experience critical incident stress, the more they turn away from the involvement in community work. The interest that they once had in continuing to give their time and effort towards the community is lost.

> I felt like all the kids would have to do is look into my eyes and they would know that the spark isn't there. It would be a betrayal to them I think, to see that I am not who they perceive me to be.

The Brotherhood

Responders spoke to the culture of the brotherhood of emergency services in two distinct ways: family of brothers and false perception of isolation.

Family of brothers. While the culture may be seen by responders as antiquated and self-perpetuated, as well as an added stressor when they are experiencing long-term stress, the participants also spoke of culture in a positive way. Responders are dependent on one another not only on scene, but during down time and personal time as well. They naturally gravitate to one another because, as one responder put it, "No one else seems to understand who it is that we are as people. So we hang out together, give of our time to each other and each other's families. Our experiences can't be shared with anyone else." Coworkers are referred to as brothers and sisters, not just as a result of spending an enormous amount of time together, but because they are dependent on each other in all facets of their lives. Responders spoke of how important the culture of the brotherhood was to them to keep them alive, and how, during the time that they were experiencing Critical Incident Stress, their perception of the brotherhood changed.

The brotherhood is not easily explained. The participants spoke of the brotherhood often and how integral a part it plays in their lives, but it was difficult to get any real sense of what it was, perhaps because the researcher is not in emergency services and does not have the state of mind. The concept of the state of mind can be understood, yet it is difficult to experience the depth to which the responders feel this bond with those they work with.

> When you meet someone in the profession, you know how they think, you know how they feel, you know they can do the job, it doesn't change. One minute a guy

> can be talking about his baby getting their first tooth and the next you'll be standing at a closed door next to the guy with your guns drawn with shooters on the other side. You spend so much time together, you share everything, you laugh, you cry, you feel the other guy's pain, you are connected to them on a level that most people can't understand. You know that he is going to risk his life to save you and he knows that you will risk your life to save his. What other profession is like that?

Another responder stated that it is not just within a particular city or station that the brotherhood occurs, but all over the world as well.

> The brotherhood of a firefighter means where ever you are and no matter what the circumstances are, a fellow firefighter will willingly stop what they are doing to help a fellow firefighter out. We work in an occupation that tomorrow we may be attending a complete stranger's funeral in a place miles from home, or even a continent away for no other reason than we are firefighters and we respect each other that way.

False perception of isolation. The culture of emergency services creates a boundary around those who work within the profession, and while it may be perceived as a perpetuation of the macho myth that may no longer fit with what we know about Critical Incident Stress, it is also inherently positive. No matter how isolated the responders perceived themselves to be when they were experiencing long-term effects of Critical Incident Stress, for those who participated in this study, knowing that they were still a part of the brotherhood was seen as an anchor. To this, one responder eloquently used this analogy:

> It was . . . a rope to help me pull myself back to where I wanted and needed to be. No matter how alone and desperate I felt, I *knew* that the rope was being held by my brothers and they wouldn't let it go.

The same culture that isolates the responders is perceived to be their saving grace as well. Yet it was the individual's perception of how the brothers will react to what they were experiencing, rather than knowing with any surety of how their brothers would actually react, that caused the perceived break in the bond, which in turn caused the responder to isolate himself. The isolation the responder experienced began to change the way he reacted to situations and interacted with those whom he depends on the most.

Changes in Responder Identity within the Service

Responders who experienced a critical incident spoke to how, over time, the effects of Critical Incident Stress began to change the way they perceived their work. The changes were unexpected and frightening, as the responders in this study identify themselves by the work that they do. Under the main theme of changes in responder identity within the service, there are ten sub-themes that explore these changes as presented below in Table 6.

It's Not just a Job

There were two distinct but related ways of viewing the work emergency responders do. Both views spoke to the level of excitement and passion they held for the job. The two views are: the adventure and the calling.

Table 6: Changes in Responder Identity within the Service: Sub-themes and their Components

Sub-themes	Components
Its Not Just a Job	The adventure
	The calling
Painful Emotions of the Critical Incident	Senselessness and helplessness
	Anger
	Impending sense of doom
Perception of the Outcome of the Critical Incident	False sense of the outcome
	Loss of enthusiasm
	Lost passion
Inappropriate Behavioral Reactions	Alarming behaviors
	Denial of hesitation
Cognitive Meltdown	Inability to make instant decisions
	Inability to shake intrusive thoughts of CI
	Fear of confronting similar scenes
	Extreme exaggeration of regular duties
	Amplification of minor hassles
	Dehumanization
The Fallout for Accessing Support	Driving force behind refusal to access support
	The perception of the need for silence

Table 6: Cont'

Sub-themes	Components
The Fallout for Accessing Support cont'	Overwhelming sense of responsibility
	Fear of appearing weak
Perception of Administration Support	Lack of faith in administration
	Perception that administration is unapproachable
Perception of Employee Assistance Programs	Lack of trust in rules of confidentiality
	Let us tell our story
Refusal to Consider Career Changes	Born to do the job
	Degree of the identification with the job

The adventure. The level of enthusiasm that all participants have for the job was not static when responders were experiencing long-term effects of Critical Incident Stress. The responders spoke of their experiences before their critical incident and the passion that they had for their job. The perception of one responder about the work that he does was summed up this way: "My job, I don't know that I look at it like a job. I think that it's something that I've always known I would do. Sort of like it's not just a job, it's an adventure."

The calling: Several of the responders that participated in this study spoke of occupations that they had before moving into emergency services. They stated that they had also volunteered with emergency departments while others talked about working with private organizations such as security. Once they had the opportunity to "get a taste," they knew that they had found the career that would give them great satisfaction. "It's a clan you know, we all experience the same thing, we hang out together. It is a constant rather than a job." One responder, while once working in a civilian profession, spoke to the enthusiasm he had for the job, "I felt like I had won the lottery. . . . Took my EMT course and got pretty jacked about that . . . I never had so much fun." For other responders, they had known since childhood that they were going to become emergency responders although they don't specifically remember that "ah hah" moment. "It's not easily explained, I guess. I just knew that this was what I was going to do [police officer] for the rest of my life."

After a critical incident, responders don't necessarily lose the level of enthusiasm for the job that they begin the job with. "It is what I do. I am a firefighter . . . I don't think of it as a job. I think of it as my life" One paramedic stated that as soon as he knew what

it was he wanted to do, he focused his life on becoming a paramedic and never wavered in that focus.

> It all comes back to the state of mind. When I was young I saw a guy being tossed into an ambo (ambulance) they just slid him in there, all cut up and bleeding, both guys get into the front leaving the guy in the back alone. I think those were the guys that were the glorified taxi drivers. But I remember so clearly saying to myself that yes, this was what I was going to do. And it seems that from that moment on, I worked towards being a Paramedic. There was nothing, and I mean nothing, that I wouldn't have done in order to be a Paramedic.

Painful Emotions of the Critical Incident

The emotions that the responders experienced during the incident they perceived as critical were viewed in three ways: senselessness and helplessness, anger, and impending sense of doom.

Senselessness and helplessness. All of the participants in this study stated that the perception they had of the job was extremely positive before their critical incident. Some spoke of the stressors that were difficult to deal with, such as changes in administration, but the added stressors were tolerable and they never lost their passion for the job. Responders spoke openly about the incident that they perceived as critical and their immediate reactions while working the scene. One responder spoke to his reaction while working the scene:

> . . . the sadness at the senselessness, the loss of two innocent children, for no reason. You do your job and hope that you do it well enough to not let anyone

else die. But it's hurting you inside and it was all I could do not to beat the father. The sadness I felt was so heavy.

Anger. A second responder reflects on his initial emotional reaction which was a feeling of intense anger that overrode any feeling of helplessness he felt:

> I'm looking at this kid, maybe she's 7 and she's looking back at me, she's just kind of staring at me, these big blue eyes. It was like looking into death, she knew she was going to die. The anger that I felt at that moment, it was all I could do not to go at her [the mother] and suddenly the girl dies and I move on to help someone else because I know it's not my job to pass judgment on the mother. God will do that quite nicely.

Impending sense of doom. One responder spoke to the feelings he experienced even before reaching the scene that would eventually be perceived as critical:

> So I'm on the rescue truck and I can't explain it. I had this sense of foreboding when tones went off. I knew that something was going to happen. I had this gut feeling and tightness in my heart, like I knew something was going to happen. . . . It was insanity . . . never had I felt anything so terrible. . . . But it all changed. In that one moment, it all changed.

The response to the incident can also affect the way a responder reacts during the incident causing an internal struggle during the operation that is not easy to deal with:

> My first instinct is that I want to kill the guy. . . . I've never wanted to kill somebody just because . . . but I think it would have been an execution, not self-defense. . . . It was like it all instantly became clear to me and I questioned myself

what I was doing. I used a taser on him and we took him into custody. The anger I felt was crippling.

Perception of the Outcome of the Critical Incident

The majority of participants experienced positive outcomes for the incidents that they later identified as their critical incidents. Most of the incidents involved the death of civilians, however, the responders were still able to save others, and given the intensity of some of the incidents, that they were able to save anyone can be seen as positive. All of the responders spoke to the feelings of sadness and helplessness that they felt while working the scene, not necessarily because there was death, rather, because their fellow human beings had suffered. Anger, sadness, anxiety, and helplessness, were feelings most often experienced on scene. According to one responder, "we often have those kinds of reactions when we are working a scene. But it doesn't keep us from doing our job. What surprised me was that usually I can swallow it and move on. This time I couldn't." This was a sentiment often spoken by the participants:

> These are reactions we expect to have when we are working. You can't help but experience them. Normally I can let them go and get on with it. And I thought I had. But I guess I didn't. Eight months later I knew I hadn't. I had really thought that this incident had a positive outcome. Sure I had the regular emotion from the scene, how can you not, there are humans involved, people who no longer have a home, or may have to spend time in the hospital, how can you not experience some emotion. I thought that I was happy with the way the scene was resolved, I guess that I wasn't. Look at what happened.

There were three distinct but related views of the perception of the outcome of the critical incident that responders had: false sense of the outcome, loss of enthusiasm, and lost passion.

False sense of the outcome. Some of the responders reacted within days of the incident they perceived to be critical, others experienced delayed reactions, with symptoms appearing within a couple of weeks after the incident. One responder did not acknowledge that he was experiencing any stress symptoms until 8 months after the incident, but he now realizes that it was a coping mechanism of denial of the stress symptoms rather than any delayed reaction. As responders began to experience stress symptoms after their critical incident, their perceptions about their job began to change as well. "Lack of enthusiasm, didn't care, lost my ability to be compassionate to the people that I am supposed to save . . . that scared the hell out of me."

> I wasn't prepared for this. All I've gone through, all I've seen during my career, all the training. I was honestly not prepared. I was blindsided by this. . . . I started to struggle with things that I thought I enjoyed, but I wasn't enjoying it, in fact I was wallowing in it, I was walking the walk, but I'm not really there, not really into it.

Loss of enthusiasm. A second responder talked about the importance of doing the job, no matter how his perception of the job changed after the critical incident. The level of enthusiasm that they once felt for the job, however, effected how much they did on scene. Individuals who describe themselves as keeners on scene would step off once they had completed their tasks, "I wasn't getting in the thick of things like I used to . . . I did my task and stepped off. . . . You can't ever stop doing your job."

Lost passion. Loss of passion for the job was perhaps the term used most often by responders when asked if the perception of their job changed after their critical incident. Others spoke about how surreal it felt, "For about 9 months after it was like I was looking through this haze. You know that mosquito netting? It was like looking through that . . . nothing was clear to me. I felt like I was working through water."

Another responder stated that he had lost what he valued most about the job and how the lost passion affected the way he looked at his life:

> I lost the passion that I felt for the job. That all encompassing excitement I still had for the job after 16 years. It was gone, it became a job rather than my life. It was drudgery, and I didn't feel whole anymore, who I was disappeared. Did my perception of the job change? The perception of my whole life changed. How much worse can that be for someone who gave everything they had to the department?

Inappropriate Behavioral Reactions

Responders spoke to two separate behavioral reactions that occurred on the job: alarming behaviors and denial of hesitation.

Alarming behaviors. The attachment to the service that the responders had before their critical incidents was "all encompassing." In addition to the change of their perception of the job, the responders acknowledged that the critical incident caused behavioral changes as well. Shortly after the incident, the behavioral changes were minimal, but as time passed, and the symptoms became more severe, for some responders, the behaviors became more extreme and damaging.

> It was maybe 10 days after it . . . I knew that I was very angry and I knew I was very hurt and I felt like I just hurt a bunch and wanted to be left alone. But I didn't know why. There was one guy in the locker room that was in my row of lockers that would see this and I called him [name] you have to see if this still fits and I turn my gun around and point it at my mouth and . . . I knew it couldn't fire because I didn't have the magazine inserted so there was no question it was just being black humor or stupid.

Denial of hesitation. None of the participants in the Fire and Paramedic Service admitted to hesitating while on task. This may be because denial that the incident affected them was a coping mechanism or it could simply be that the consequences of hesitating could have far reaching implications. "You do what you have to do no matter how you feel. It's unacceptable when someone hesitates. Lives can be lost in a split second." "Absolutely not. Never. We are in the biz of saving lives and property. Somehow that's bigger than all of us put together. If we hesitate, people die." Others in the Fire and Paramedic Service admitted to hesitating before they began their shift, but this is seen as a result of the change of perception of the job, rather than a change of behavior on the job. "There has been a time when I've hesitated to go to work, but never, ever on the job." Another related the hesitation to go to work was a result of the anxiety he felt as a result of the critical incident.

> It was only after the incident that I couldn't bear the thought of going to work. But once I was there I was okay, I never hesitated on the job. I just found that going to work got tougher and tougher. I would stand on my steps and look at my

> truck and wonder if I could actually make it there. Hesitation is kind of an understatement. I just couldn't face getting into my truck and going to work.

While those in the Fire and Paramedic Service denied hesitation, the majority of those in the Police Service did admit to hesitating:

> Sure I hesitated. I'd get to a situation and I'd stop. I would have to stop and think about what was happening. I'd have to give it too much thought. The thoughts would race in my head and I couldn't get a sense of where I was or what I was doing. Guys would be looking at me, waiting for me to do something and I would just stop. I had to get it all straight in my head before I'd make a move. I didn't want the same thing to happen on this scene as the other scene.

Cognitive Meltdown

Responders spoke to six distinct views of their cognitive experiences after their critical incident. They are inability to make instant decisions, fear of confronting similar scenes, inability to shake intrusive thoughts of the critical incident, extreme exaggeration of regular duties, amplification of minor hassles, and dehumanization.

Inability to make instant decisions. Police officers that admitted to hesitating on scene also admitted to hesitating when they had to make instant decisions. "I couldn't make the decisions I needed to make which resulted in hesitation. It was a horrible feeling, knowing that someone could get hurt before I made up my mind. But I still hesitated." "I suddenly had this need to know everything before I could make a decision. But I didn't care. I truly don't think I cared because it was more important that I know everything, no matter how trivial." The police officer who stated that he did not hesitate is the officer who took another man's life. He spoke to the level of knowledge that he has

regarding Critical Incident Stress previous to his critical incident and how it helped him to stay level:

> I tried to focus hard and come back and be as effective as I was before [the shooting]. I had to be careful that I wasn't engaging in risk taking behaviors and started to feel bullet proof. But I had to guard against going too far because I felt myself almost wanting to go that way, almost to overcompensate. I did a lot of self-monitoring which helped me. I could see how a person could be very rough one way or the other.

Another officer that was involved in a shooting reported flashbacks to his critical incident:

> The logistics were the same as the first incident, I could see the corridors and the exit, the same as the other incident. Images of where I was in the first scene kept flashing into my head and I had to stop, rethink where I was, try to swallow the old images, but they came back. The sights and sounds in the building, the intensity of the situation, it was like a little movie playing in my head.

Fear of confronting similar scenes. Even though there was little hesitation on scene, most of the responders spoke to the thoughts they had of their critical incident while going to a scene they thought might be similar. "The potential for it to be almost identical was there. . . . I thought oh shit, what happens if this happens again. How is this going to look happening twice in a year, like a cowboy."

Others experienced thoughts and images on the way to a scene they thought may be similar to the one they perceived as critical:

> I only think about the incident on the way to the scene. I always stayed completely focused on task once I got there. But that's all I would think about on the way to a car wreck. That there were going to be dead children and those blue eyes would appear and it was all I could do not to bail off the truck.

Inability to shake intrusive thoughts of critical incident. Most of the responders were able to put the incident out of their minds before they reached the scene, however, several responders talked about the fear they felt at being confronted with the same scene.

> For a long time, when I heard the code that there was a car wreck, I'd think about it. Took about a year before the really intrusive thoughts quit and I'd panic all the way to the scene. I didn't want to see children dead, I couldn't handle that at all. I remember [coworker] saying to me, why am I green. I didn't realize that the thoughts were changing me physically. I thought the panic was just in my head.

The reactions to the potential for the same type of scene also brought up some feelings of anxiety and panic for some of the responders that could have prevented them from completing their tasks. However, the majority of responders were able to "swallow" the anxiety and do what they needed to do.

> The thoughts were fairly intrusive, haunting. We'd be called to a house fire and it was like you could see the anxiety rising in me. Even when the family was safe, I was anxious. Going to a car wreck wouldn't bother me, but a fire? It was bad. It was a long time before I could keep a clear head on my way to a fire.

Extreme exaggeration of regular duties. Responders also talked about how exaggerated everything seemed on the job after their critical incident. Situations that had never bothered the responders before the incident became huge to them, particularly with

their coworkers. A responder spoke to his fear of not being able to ever put anything into perspective because everything seemed so overwhelming to him.

> For a long time the little things pissed me off. Like if they [coworkers] couldn't get the generator going to work the jaws. It was my task. Before it was what's another ten seconds. But for a while I'd snap. I'd wonder what the fuck the guys were doing. Stuff is going to happen, and when it does, you can't get upset because there is nothing you can do. But I felt like they were trying to screw me up.

Amplification of minor hassles. For others, amplification of minor hassles occurred when attending scenes that they perceived as a waste of time, particularly when there was concern, because of the weather or a holiday, that "legitimate" calls would come in and they were busy being "glorified taxi-drivers" instead of doing "what I trained hard to do." Those who use the paramedic service for nothing more than a free ride were the worst for the responders after their critical incident. Worried that they would miss legitimate calls because of having to drive someone to the hospital because ". . . they had a relative that lived nearby was huge. I'd get them in the back and not speak, I spent a lot of my energy on being angry with them [patients]."

Dehumanization. One responder spoke to how he felt about the people he had tried to be fair with throughout his whole career and how the perception of them changed after his critical incident.

> I no longer felt that I was dealing with people. I was dealing with assholes and shitheads. I was dehumanizing them. No matter how small or innocent they were, I was dehumanizing them. It was the only way that I could respond, it didn't

> matter what they did. They had to prove to me that they were human and deserved my compassion rather than show any compassion first. I was getting way too serious about things that don't matter. I felt my training was way over what I was dealing with.

The Fallout for Accessing Support

A number of variables have been examined to explain the differences in how responders perceived their job both before and after their critical incident. All of the participants' perceptions of their jobs changed after the critical incident, not only the job itself but of the people that the responders deal with on a daily basis. For many of the participants, these changes continued for up to two years after their critical incident. The majority of responders were consciously aware of how their perceptions had changed after the incident, and that their reaction was negative, however, very few felt that they could access any kind of support to get the help they needed to move past the incident.

Driving force behind refusal to access support. Many of the responses from participants referred back to the culture of emergency services and how the culture does not allow for responders to admit that they need help.

> It all goes back to the culture. You know that you are experiencing something bad and that your perspective is changing. You can't help but notice the anger that you have inside of you, and that the way you are interacting is changing as well. . . . I thought at the time that if I said anything to anyone about how I was feeling, they would change the way they interacted with me. . . . If they found out I would be stigmatized so I decided it was best not to access any type of support at all.

The perception of what others may think of them was a driving force behind the refusal to access services which may have prevented long-term implications of Critical Incident Stress that they experienced. "To hear that the fallout from accessing support through the system can end your career, you shut yourself off more."

If other responders did not seem affected by the incident, or were simply not talking about it, responders tended to keep quiet because, ". . . over time you've heard little stories about guys who are no longer in the service who have tried to get help for some issues and the fallout from that," and ". . . whether that's real or not, it was something I believed at that time and accessing support is not something that you do."

The perception of the need for silence. More often than not responders didn't attempt to talk about what they were experiencing with their coworkers; rightly or wrongly, they all assumed that their coworkers would react negatively to their concerns. "Perception or truth, if your brother won't go through the door with you then you're fucked to begin with. Why take the chance?"

> Suck it up, deal with it, that's what they would have said in general I think. . . . Your platoon chief expects you to be strong when he gives you an order. . . . But if he knows you're weak, in a sense, is he going to give you that order? He may bypass you and go to someone else. You don't think the officers talk? Of course they do. They are a clan among themselves.

Overwhelming sense of responsibility. Another responder spoke to being in the service long enough that he was in the middle of the hierarchy and had senior officers looking down at him and junior officers looking up at him, both needing for the responder who is experiencing Critical Incident Stress to be able to deal with everything

that comes his way. "It's an awesome responsibility. Your senior officers are looking at you to carry your weight. The junior officers are looking at you as though you can't do the job. The pressure just adds to an already stressful situation."

Other responders spoke to how their perception changed towards the coworkers they had considered friends: "Some of the guys, they were close friends. I talked to them, they let me spew but after some time I noticed that they were staying away from me. It was like guilt by association."

Fear of appearing weak. The thought of isolation and the fear of appearing weak from those who the responder believes are his close brothers more often than not prevents a responder from talking to those who may be able to get him through the situation he is experiencing. For those responders who did try to talk to their coworkers, the experience was seen as extremely negative and they wished they had never approached their coworkers to begin with. For the police officer who dehumanized the people in the community, this process carried over to his coworkers as well:

> You are always watching how others are coping. There is one guy in the department I told that I was stressed about the incident. I told him I was drinking like a fish and couldn't sleep. He told me I should see [psychologist]. That was it. I had worked with this guy for close to 15 years and he tells me he doesn't want to hear about it. So I thought yup, you're a shithead and asshole too and you need to now prove to me you are worthy of being a human being again. The rage I felt at his response was terrifying.

Another responder spoke about his coworker's response when he approached him after several months had passed since the incident:

> He told me I was whacked. That the incident wasn't that big of a deal and thought maybe I had a screw or two loose if I thought that that [the incident] was anything close to critical. I felt as though he had hung me out to dry. If ever I felt alone, it was at that very moment. I withdrew even further.

Perception of Administration Support

Another dilemma appeared when responders perceived that the very service "we dedicate our lives to" was not aware of the responders needs during a critical time in their careers. For the responder involved in the shooting, even though administration made an initial show of support, it was too little, too late.

> Any sort of lame branch they passed out to me was basically for rhetoric and I viewed it as such so I didn't take much support from the administration.... The Chief called me that night but I told him it didn't mean much to me because I have no faith in you that you will do what you say.

Lack of faith in administration. Lack of faith in administration is a common thread with all of the responders that participated in this study. In three of the services that participated, new administrations have been put in place since the critical incidents had occurred and two of the groups of responders have a "wait and see" attitude toward the new administration. However, the perceptions they had with their old administration during the time that they were looking for support were negative.

> The administration that was in place while I was going through this was still what we see as the old boys club. Macho, tough it out, don't do anything that would be perceived by the community as a weakness. I don't think they cared if you drank

> yourself to death or beat your wife or got hooked on drugs. They just didn't want you tainting the service. . . . You kept silent.

Perception that administration is unapproachable. Two responders experienced their critical incident when the new administration was in place. While they acknowledged that administration is changing the way they think about the needs of their members, during the time that they were experiencing their critical incident, they would not have approached the administration for support anyway.

> I had this perception that in the service as soon as you approach administration, any hope you have of moving up in the ranks is gone. It is my goal to move up, to spend my life here. The perception I had at that time, rightly or wrongly, was as soon as I said anything to administration my chances of moving up were gone.

Perception of Employee Assistance Programs

Perceptions are changing within the service regarding the needs of emergency responders; however, responders continue to suffer needlessly because of the preconceived idea of the culture. However, in the last decade or so, administration has begun to put in place programs that can benefit members who are in need. Debriefing teams have sprung up in various departments as well as Employee Assistance Programs that offer help to responders.

Lack of trust in rules of confidentiality. Responders, for whatever reason, rarely access their EAP. Those who did access their EAP quit soon after beginning and found someone outside of the city in which they live. "I don't know if I trust them enough yet to access them. I still have this idea that they are somehow attached to administration and that administration will find out about those who seek help." Some responders didn't

even think about accessing their local EAP psychologist. In order to ensure that there was anonymity and confidentiality, a number of responders went outside of the city to access support but had to pay for it themselves. "I still have the idea that they [local EAP psychologist] are connected to the department and . . . I won't take that chance when we are talking about my life."

Let us tell our story. Two of the responders accessed their local EAP psychologists and had differing opinions of the process.

> They told me that it was a lack of sleep. I had just gone through a period of not sleeping well and he attributed it to that. I wasn't comfortable. He didn't seem to want to relate it to a critical incident. He didn't seem to understand that I knew that I had experienced a critical incident and was beginning to experience some pretty severe symptoms from it. It was like he was avoiding going there, like he didn't believe that it could happen. I needed confirmation from him. I needed to know that I wasn't being judged and that he took what I said very seriously and would work with what I told him. But he kept going back to the sleep thing.

While the responder felt that he couldn't make clear to the EAP psychologist why he was feeling the way he was feeling, the second responder had a very positive experience. "I was being guided, not bullied through the process. There came a point in time when I needed to take some responsibility to get better and she has helped me to do that." Yet this same responder believes that he was very lucky to have found someone he could talk to, "I've heard from guys that they have had really horrible experiences."

Refusal to Consider Career Changes

The degree to which responders identify themselves through their job produced two related views of changing careers: born to do the job and degree of identification to do the job.

Born to do the job. One of the most interesting things to have come out of the exploration of the participants systemic experiences was the reaction to the idea of quitting their jobs. When asked if they had ever thought about quitting their jobs at any time when they were experiencing Critical Incident Stress, the responses ranged from seriously offended by the question to humorous. "If you understood the service and who we are, you wouldn't have asked that question." Others were a little less forceful in their answers. "Many times during the time I wasn't well I thought about quitting. I wanted to quit it all." "I honestly love my job . . . [but] this is who I am. I could never, ever leave what I do. I was born for this. I will die for it as well."

Degree of the identification to do the job. Others never considered quitting. "No, I can't think of a time when I wanted to quit," or "The only time I will even consider quitting is when my heart stops beating and then one of my brothers better be there to get it going again." Most all the responders felt the same way, preferring to move up through the ranks rather than finding something else to do in their lives. The degree to which the responders identify themselves as firefighters, paramedics, or police officers may very well prevent them from leaving the service, preferring to teach or move into administration rather than leave the service completely. Most responders accept the idea that they will continue to do the job "I was born to do" until they are no longer able to physically do so, with one firefighter expressing the love for his job in a most eloquent

way. "I was born with a hose in my mouth and an axe in my hand. It's the way I'm going out."

The concept of culture and how it invades the systemic experiences of emergency responders is quite clear. The culture of emergency services does, in some way, formulate the reactions to the job both before and after the perceived critical incident. The idea that culture also determines if a responder seeks assistance, whether it is from coworkers, administration or through their EAP, is very real. What is also very real is how the responder's perception of the critical incident can begin to affect other aspects of his life.

Role Confusion

Under the main theme of role confusion, responders addressed a number of sub-themes such as changes of role of emergency responder, world view, reactions to life stressors, persistent and intrusive thoughts and images, and debilitating psychological sequelae as shown below in Table 7.

Changes of Role as an Emergency Responder

Responders spoke to the changes that occurred within themselves after the critical incident in four ways: all roles are guided by job identification, chaos in role identification, fear of vulnerability, and awareness of misrepresentation.

All roles are guided by job identification. The responders that participated in this study spoke to the issue of identification. All of the responders stated that they identify themselves as their role as an emergency responder. "I am a police officer. I don't identify myself as a husband or father. I am a police officer." Unlike other professions that generally are left at the office, it is very difficult for an emergency responder to leave his role after his shift.

Table 7: Role Confusion: Sub-themes and the Components

Sub-themes	Components
Changes of Role as an Emergency Responder	All Roles are guided by job identification
	Chaos in role identification
	Fear of vulnerability
	Awareness of misrepresentation
Changes in How Responders View the World	Loss of faith in humanity
	World doesn't fit with beliefs
	Loss of control
Reaction to Life Stressors	Lack of will to challenge stressors
	Inability to fix anything
Persistent and Intrusive Thoughts and Images	Strongly self-critical about performance
	Thoughts are on overdrive
	Haunting images
	Self-condemnation
Debilitating Psychological Sequelae	Extreme depressive symptoms
	Twisted reality
	Loss of interest in activities
	Runaway train
	Suicidal ideation and attempts

> It is who I am. I take that wherever I go. People say there's [name], he's a Paramedic. Not husband or father. Paramedic. But I see myself that way as well. I am always aware of what is happening around me, in ways that I don't think most people are. I have never seen myself as anything more than that. The rest of my roles are guided by me as a Paramedic.

Another responder defends the way he perceives himself because of the state of mind that is necessary for emergency work. According to the responders, the state of mind is not shut off when they finish a shift, rather, it is their global perception of how they see the world.

> How I act and react at work is the same way that I act and react in other settings. How I define myself defines who I am as a firefighter. The same characteristics that make me good at what I do also make me good at my other roles.

When the responders began to experience long-term effects of Critical Incident Stress and their perception of themselves as responders began to change, the roles they engage in, in other areas of their lives changed as well. A lifetime of how they identified who they perceived themselves to be as people had to change and for many of the responders, the change was frightening. "It was more terrifying than anything I'd been faced with in my career. . . . You start to lose sight of who you are, you begin to question everything."

Chaos in role identification. As the responders began to question their perceptions of who they were, they also began to question their other roles as well. As emergency responders, their lives were ordered, for good reason. Every responder spoke of the need for order, that the obsessive and compulsive traits they have help them to do their job.

Chaos was a common thread between the responders and the reaction they had to their changing roles.

> My world was perfect before the critical incident. . . . I felt as though it was gone. My world became chaotic, I had no idea why I felt that it was falling around me, that what I had before was now in ruins. . . . The order that I've always needed in order to do what I do was gone.

Fear of vulnerability. As difficult as it was for the responders to talk about their perception of who they were within the relationship with their wives, it was very painful for them to talk about how they perceived the change to have affected their children.

> I had always been so strong for my children. I was the one that they could rely on to be there. They were proud of who I was. When I started to question who I was, I tried to hide it, to be the person that they thought I was. They always said, 'daddy can fix it' but I couldn't fix it anymore. I didn't know how to fix it anymore.

Another responder spoke to how well he thought he had hidden the change in him, and how it damaged his relationship with his children, however temporarily.

> They could see through me. I kept trying to be the father that they thought I was. But they knew and resented that I wouldn't be honest with them. But there were reasons for that, I thought I was doing the right thing, they are children for God's sake. They were angry for a very long time, even when I quit trying to hide what was happening to me.

Awareness of misrepresentation. Others that relied on the responders were people that they had worked with in the community for years. Before the critical incident and for

a short time afterwards, the responders continued to do what they could, although the effort wasn't there. Others quit working in the community because they didn't have the energy or the focus to do the work they once had. As symptoms became more intrusive, most of the responders quit working in the community altogether. "I felt like I was a fraud. I couldn't represent myself because I didn't know who I was."

Changes in How Responders View the World.

There were three distinct reactions to changes in the responders view of the world: loss of faith in humanity, world doesn't fit with beliefs, and loss of control.

Loss of faith in humanity. There was no question that as responders began to question their identities; they also began to question their view of the world. Responders have deep faith in the innate goodness of the people that they serve, but their critical incident changed that. As their worlds became more chaotic, the faith they had was lost.

> Maybe it was naïve, but I always thought the world was basically good, even after what has happened over the past couple of years. This incident . . . it blew me away. Suddenly I didn't think the world was so good anymore. . . . I wasn't so sure about anything I once believed in. I lost my faith in humanity, in God, in the world in general. It made me very bitter and I am not a bitter man.

World doesn't fit with beliefs. Suspicion of others was a result of the change in the responders' perception of the world. One responder stated that he became suspicious of everyone he came in contact with, both at work and outside of work. "I didn't trust anyone for who they said they were. For a long time I was suspicious of people's motives. I couldn't get a handle on the world and that scared the hell out of me." Another spoke to what he felt he had lost after the critical incident:

> . . . I felt like the innocence was gone. It was just gone. And once the innocence was gone, it was a cold place to be. I didn't belong. Nothing I was thinking belonged with the world. It didn't fit anymore with what I believed in. Then I realized that the world hadn't changed it was me that had changed. The world was still the same. It was me that didn't fit with the world.

Most other responders felt the same, but stressed the struggle to find some place in the world where they could find the peace they once had had. The harder they struggled to find the peace, the more elusive it became.

> My world had become nothing but chaos and I could find no peace within the world . . . I couldn't figure out why I wasn't seeing things the way I used to see them. I would go to work, find no peace, go home, find no peace. I seemed to have to fight to fit in where I had always been. The world had changed and I was no longer a part of it. . . . I was overwhelmed.

Loss of control. The responders spoke to the need for control, which helps them to do their job, but is also a part of their world view. When responders felt they had lost control, they also felt that they had lost a part of who they were:

> Control is a necessary part of who I am. If I didn't have control, I certainly couldn't do the job. It can't help but be the way I am outside of the job as well. The fact that I had lost control of my world was a very terrifying thing for me to realize. The harder I tried to regain some sort of control over my life, the less control I had.

Another responder spoke to his need for control in his life and that when his world view began to change, his sense of control changed as well. "When I no longer saw

the world as a good place to be, I knew I had lost control not only of the world and my job, but who I was as a human being. That just about killed me."

Responders who have been unable to resolve the incident continue to see the consequences of the incident as out of their control. One responder attributed his loss of control directly to external forces rather than attempting to take any responsibility for his own reaction. His emotions towards those he perceives put him in this situation are extremely intense:

> I was very angry that some son of a bitch could control me like that and after about a week or ten days I found myself getting angrier. If those kids hadn't put me into that situation none of this would have been happening to me. I couldn't believe that this punk-assed kid could have such control over me, over my life.

Reaction to Life Stressors

The reaction to life stressors after the critical incident elicited two different views from responders: lack of will to challenge stressors and inability to fix anything.

Lack of will to challenge stressors. Changes in the way that participants responded to life stressors varied, although the majority of responders stated that they preferred to walk away rather than see the stressors as a challenge. The reaction to stressors outside of the job is much the same as the reactions that many of the responders stated were typical throughout their lives during the period of time when symptoms of Critical Incident Stress were prevalent.

> I think that stressors of different kinds, I generally would have taken face on, taken the full brunt challenge and make it happen. . . . take the karate kid approach. Now the best approach is to not be there, to get out of it, to get away

from it. Plus I'm taking a much more passive view which doesn't seem to be helping. Ongoing, cumulative stressors I avoid. I'm not dealing with them anymore, I'm done. Over. I'm not dealing with it is my first reaction.

Inability to fix anything. The inability to fix anything after their critical incident was something that the responders found difficult to accept. Before their critical incident, responders took care of what had to be done, to ensure that their brothers and their families were cared for. After the critical incident, they found it easier to try to escape from any problems that came up, stating that "It was all too much and I wasn't going to deal with anything." The perception was "nothing I did was right anyway so why bother trying to fix anything? The world became unfixable."

Persistent and Intrusive Thoughts and Images

There were four views of the thoughts and images that responders had after the critical incident that were both persistent and intrusive: strongly self-critical about performance, thoughts are on overdrive, haunting images, and self-condemnation.

Strongly self-critical about performance. Responders stated that one of the reasons they felt they couldn't deal with life stressors was because they were also dealing with fairly intrusive thoughts for a long period of time after the critical incident. Within a short period of time after the critical incident, responders reported that the thoughts were more self-critical about their performance than anything else, regardless of the outcome of the incident. "What was going on in my mind that I wasn't looking more closely? I'm a useless firefighter, how could I think that I've been made for this job?"

Thoughts are on overdrive. As time passed and the responders did not seek any help for the symptoms they were experiencing, the thoughts could become more intrusive and intense.

> I could get from looking at a flower to they all know I'm crazy in seconds. My thoughts were on overdrive. I beat myself up a lot, cognitively I mean. . . . The thoughts were intrusive and time-consuming and emotionally I was drained. Sometimes they [thoughts] would become so intrusive I thought my mind was going to explode. I couldn't think sometimes. . . . I was in such pain.

Another responder reported that the thoughts weren't time-consuming and emotionally draining, rather, he perceived the thoughts to be more on-going, "For the whole year I thought about it all the time. It was always lingering, always there . . . the thoughts prevented my life from being orderly and structured."

Haunting images. Responders also reported that after time, with the intrusive thoughts came images. The images would not necessarily be about the incident directly: ". . . thoughts and images, dreams or sometimes while doing the dishes, cleaning a knife. . . . So almost all the time it would bring me back, not like it was terror, but a quick image and that's it."

Yet the majority of responders did have images from their incidents that were "haunting. I couldn't get away from them." Many of the images would come to the mind of the responder at any time and many suffered nightmares because of the images. "Nightmares, I still see her big blue eyes looking at me and the bodies of the kids in the back seat." The longer the responder suffered, the worse the images were, sometimes becoming animated.

> The kids mostly, after a while I had this image in my mind of the girl turning her head and looking at me with big brown eyes, big tears in them, knowing she was going to die. I could hear her asking me why I wasn't there sooner to help her. I could hear her asking me why I let this happen to her. I couldn't get that out of my mind. I didn't sleep much until I finally went to the doctor and went on meds.

Self-condemnation. The majority of responders eventually went to see their physicians regarding their inability to sleep, however, the time line was over four months after their critical incident. Two of the responders were diagnosed with depression and referred to a psychologist, while the remaining responders who saw a physician were either referred by the doctor to a psychologist or were encouraged to see a psychologist by others, such as a trusted peer team member.

> Guilt, shame, like I hadn't done enough. I remember standing in front of the mirror looking at myself thinking what a useless fuck I was. Like I had no business being in the business. That I had fooled myself all those years into thinking I could do the job. I hated everyone, everything, there was one time when I even said that I hated God and that scared the hell out of me. I have always had faith, always been spiritual, and here I was hating God. I think that was the defining moment for me. I knew I was in trouble. I went to see the doctor and he sent me to see [psychologist].

Debilitating Psychological Sequelae

Responders experienced a wide range of psychological symptoms after their critical incident with five main views of the symptoms being: extreme depressive

symptoms, twisted reality, loss of interest in activities, runaway train, suicidal ideation and attempts.

Extreme depressive symptoms. Six months after their perceived critical incident, ten of the eleven responders were still experiencing psychological symptoms that interfered with their lives.

> Depression, extremely alert to sights and sounds, I've panicked a little, had extreme anxiety, the suicide thing was a big thing. One thing I never expected, a lack of sex drive. I've always been very sexual and I couldn't stand the thought of touching anyone or them touching me. A very real sense of helplessness and aloneness. Extremely lethargic. The guilt for feeling the way I was. I was angry because I didn't think the world was such a good place to be.

Twisted reality. Other responders also spoke to their symptoms that continued over a long period of time, even after they had begun to see a psychologist. So much had changed in their world that responders felt the reality they had lived in for so long had disappeared and they were unable to get any sense of balance.

> I began to wonder how I could do that [the job]. It was like my ability to deal with the crisis of everyday life was no longer there. And as soon as I realized that my umbilical cord to crisis had been cut, I was no longer able to cope with anything. I was living in an alien world. There was so much unconscious thought to doing what I was doing that reality now seemed different or twisted or something. As soon as I cognitively acknowledged that something was wrong, I had to face that different or twisted.

Loss of interest in activities. Activities that they had once enjoyed were no longer of interest to the responders and were seen as an added to the stressor. Several responders talked about how the need for risk didn't stop at the door at work and carried over to the other areas of their lives but surprisingly, the result of long-term effects of Critical Incident Stress was anhedonia rather than an increase in the degree of risk-taking behaviors.

> I realize now that it was because of the symptoms I was experiencing, but I found absolutely no pleasure in anything. The greatest joys of my life were no longer of any concern to me. I lost the passion of life. I could take it or leave just about anything. This is just not me, its just not.

Runaway train. For some responders, suicidal ideation was a result of the psychological symptoms of Critical Incident Stress, as well as the perceived loss of control and lack of support. Responders became hypervigilant and defensive, and were unable to find any strength within them to work their way out of the darkness.

> I was looking at life as though it were the worst thing that ever happened to me. I felt like the world was directing my life, I had no control over anything. I felt like a runaway train and couldn't stop myself. But the anger was the worst. And the guilt. Death looked good to me. I began to think that it would be a welcome relief to the pain I was feeling.

Suicidal Ideation and Attempts. Three other responders, who reported experiencing Critical Incident Stress for the longest period of time, spoke about their suicidal ideation, with one responder reporting that he had attempted suicide three times.

"I thought about suicide all the time. I just couldn't get my thoughts together enough to actually formulate a plan."

> At times I would become so anxious that I thought that if I had a gun I would use it. I remember calling in and getting someone to replace me on my shift. I went to bed and didn't get out for a long time. Probably the next day, afternoon, I think the whole time I was thinking I'd commit. And I knew that if I attempted I would be successful.

Two years after his critical incident, one responder still suffers from such extreme symptoms that attempting suicide has become normalized behavior. His explanation of the three attempts was spread out through his interview, but the explanations of his attempts have been compressed into one paragraph, leaving out the more graphic details. His words convey the desperation and pain he continues to feel:

> First time, I tried to do it by going out of the city, I didn't want my coworkers to be the ones that clean up the mess. I thought that I'd just gun the engine and drive directly into a truck. I chose a quiet traffic night I guess. The second time I tried I locked myself in the garage and ran the car. I thought if I could just go to sleep. So I went to sleep but my watch was set to alarm at 5 in the morning and it woke me up. The third time I attempted I drove out of the city again with my gun but [coworker] was concerned and called me on my cell and talked me out of it.

Even though this responder has been seeing a psychologist for the past year, he admits to not attending on a regular basis and has not told the psychologist about his suicidal ideation or attempts. This responder also admits that his administration is not

aware of his suicidal ideation or attempts, stating that they would simply "use it as an attempt to get me out of the service."

How responders identify themselves is through their role as an emergency responder. When role confusion becomes chaotic and the negative psychological symptoms become more extreme, their roles in other areas of their lives become confused as well. Responders need to have their lives ordered and when this order becomes chaotic, their perceptions of other aspects of their lives become just as chaotic.

Isolation from Valued Support Relationships

The thoughts, emotions, and behaviors that resulted from the critical incident also began to affect the responders' support systems. It is thought that family and friends can be the single most important source of support for a responder after they have experienced a critical incident (See Chapter 2). Under the main theme of isolation from valued support relationships, responders spoke to the changes in their support network within the family as shown in Table 8.

Renegotiation and/or Dissolution of Spousal Relationships

There were four distinct views of the renegotiation and/or dissolution of the relationship with their spouse. They are: hiding from spouse, spousal fears, spouse's integration of service culture and integrating negative reaction into critical incident.

Table 8: Isolation from Valued Support Relationships: Sub-themes and their Components

Sub-themes	Components
Renegotiation and/or Dissolution of Spousal Relationships	Hiding from spouse
	Spousal fears
	Spouse's integration of service culture
	Integrating negative reaction into the CI
Loss of Attachment with Children	Silence caused break with children
	Fear of relationship changes with children
	Strength found within relationship with children
Unwavering Extended Family Support	Positive motivating force for change
	The defining moment

Hiding from spouse. Before their critical incident, responders perceived that they had strong support from their immediate family. They described the relationship as "loving . . . supportive . . . caring about each other's lives." "You have to have that support in your marriage or you won't survive." Several responders stated that when their critical incident occurred, they thought they would receive the same level of support that they had received from their spouse in the past. However, their initial response to the critical incident determined when or if they told their spouse about the incident.

Several responders could not talk about the incident immediately, others talked about it right away, but regardless of when they spoke about it, the responders had thought that their spouse would respond positively to what they were experiencing. Three responders were correct in this assumption, however, the majority of the responders talked about how their initial reaction to the critical incident and their inability to talk about it determined how their spouses reacted.

> It was probably two months before I could talk about it [the incident]. I wasn't prepared to talk about it before, I had to process it within myself first. When I finally did talk about it, she [wife] told me that she didn't want to talk about it. My moods were erratic. She didn't understand that I needed to be in my own head and by the time I was ready to talk, she had shut down.

Spousal fears. Responders who talked to their wives about their incidents found that their behavioral responses began to affect their spouses. There were no reported incidents of any physical abuse between the responder and his family, although some responders reported being "more verbal than I normally am. Before I never yelled. Now I did." Unused to the change in the responder's, spouses were more than likely to be silent

themselves to avoid any issue that may cause a change in the responder's mood. For the following responder, it did not take much to turn a simple drive downtown into a terrifying event for his wife.

> One time, we were driving down the street and she's like watch out for the kid on the curb and I think watch out for himself and it got progressively worse to the point where she told me what to do when I was driving . . . I would go absolutely livid. I could feel myself, my heart rate went up, my face turned bright red. I could have choked her . . . so I tell her I do not need your help in telling me how to drive or what to do to run my life I think that I can figure it out on my own. She got the point where she was afraid to tell me anything.

Spouse's integration of service culture. A minority of spouses reacted in a positive way, with the majority of spouses in this group being in a field that is similar to emergency services. "The only thing that she is ever concerned about is the danger. She is related to the service so she has a little more intuition about things. She understands what I go through." One responder spoke directly to the fact that his spouse is not in emergency services and how the incident seemed to affect their relationship even though before the incident, the responders felt like their spouses understood.

> I still seek out answers for why we are where we are. I had thought, when we first married, that this was it. She seemed open to understanding emergency services. She listened to me. But now, no. She doesn't want to know. It's like I betrayed her or something. At first I thought I had in some way betrayed us. But I don't think so now. I think that she fell in love with the ideal of my job.

Another responder spoke of how his spouse not being in emergency services was a detriment to their relationship, as well as to his behaviors with his spouse and children before he even attempted to talk about the incident:

> I was no longer the person that they knew. I had never been angry before. Now I was yelling at my kids, my wife. I didn't care about any aspect of their lives, nothing. There was nothing about them that interested me in the least. They were people that lived in the same house as I did. They were people whom I didn't know and didn't care to know . . . but she's not in emergency services. She doesn't quite get it as much as she has tried to understand. I guess she had her own perception of who I was and it doesn't include weakness.

Integrating spousal reaction into the critical incident. If responders did not receive the level of support they needed after their critical incident, responders reacted by integrating the perceived negative relationship with their wives into the critical incident:

> I saw her as a part of the critical incident. I couldn't think about the incident without thinking about her as well. She became enmeshed with the incident because of the way she responded to the incident. The anger and helplessness that I felt because of the critical incident was projected onto her as well. She was the critical incident in addition to the actual incident.

Loss of Attachment with Children

Responders had three distinct views of how responders saw the changes in the relationship that occurred after the critical incident: silence causes break with children, fear of relationship changes with children, and strength found within the relationship.

Silence causes break with children. A number of responders also talked about how the relationship with their wives initially prevented them from talking to their children about what they were experiencing.

> My kids, this I think, really hurt them. When [wife] and I began to have trouble, the kids couldn't help but be effected. Maybe it was the perception I had of who I was to them as well, but I turned from the kids too. It cost me in the long run.

A second responder said that he tried to talk to his children about what was happening to him and why their parents were yelling at each other all the time. The negative relationship that he was experiencing with his wife initially prevented him from doing so and when he finally felt that he could be open with his children, they were no longer there for him.

> I tried to tell them what was happening. Maybe they were too young to understand what was happening but they didn't get it. By then [wife] was very suspicious of everything and I got the idea that she didn't want the kids to know the truth. I don't know if she talked about it when I wasn't there but I didn't seem to be able to get through to the kids that I would be able to work through it and I would really like their support. They didn't seem to be able to give it for whatever reason.

Fear of relationship changes with children. Some of the responders had children that they felt were too young to understand at the time they experienced their critical incident. They spoke to how it was easier for them knowing that their children were too young to understand the changes that were happening, but these particular responders are also the ones that had good support from their spouses as well. A couple of the

responders had children who were out of the house at the time of the incident and admitted to not having good relationships with the children to begin with.

> I think that if I had had a solid relationship with my kids before the incident, they would have been good support for me. But they had moved away to go to university and . . . they really didn't care that much. My wife and children turned their back on me during the worst time of my life. . . . I could deal with the department and my coworkers turning away. I couldn't deal with my family turning away.

Strength found within the relationship. One responder who talked to his kids did so when he felt that he couldn't survive without someone in his immediate family giving him the support he needed. Responders admit that they didn't give their children enough credit for understanding that something was occurring with their father and their parents relationship was beginning to break down.

> They knew something was happening and it scared them. So finally, one day when she [wife] had gone out, when I was on leave, my kids came to me and we talked about it. Big tears, very emotional. They understood and told me that whenever I wanted to talk about it they were there for me. They became my supports although I tried very hard not to say anything to them that might upset them. But from this, we have a very close relationship. I'm glad I took the chance to talk to them.

A responder who initially spoke about his children's perception that he could fix everything, once again spoke to the perception that his children had of him when he talked to them about the critical incident. "They were way more forgiving than their

mother was. Now, I was human and I think that they liked knowing that. And I am still dealing with the guilt of how I treated them."

Another responder talked about his children's concern about him going to work after he had talked to them about the incident. "My boy told me that he was concerned because of the state of mind that I was in might put me into a dangerous situation."

Unwavering Extended Family Support

The responders who accessed extended family support spoke to two distinct but related views: positive motivating force for change and the defining moment.

Positive motivating force for change. Responders who did not receive the support they needed from their spouse went outside of the immediate family to extended family members for the support.

> My parents were great. My brothers were great. When I finally got it through my head that [wife] wasn't going to be any support, I turned to them. They listened to everything I had to talk about. They drove me to [city] twice a week when I began to see [psychologist]. They stood by me and tried to involve the kids as much as they could. They supported me without question. Without their help I'm not sure where I would have ended up.

The defining moment. For several responders, the support that they received from their extended family was a positive motivating force for seeking help.

> My family, we have always been close. They walked me through my life every step of the way, they have never not been there. My father, he wasn't in the best of health at the time. But he stood strong for me the whole time. My brother was amazing and of course my mother thought I should eat more. I remember one

> night I sat in my parents living room after [wife] and I had had a fight. The three of them, for I don't know how long, listened as I walked through the incident once again, let me cry, held my hand, told me that they loved me. It was perhaps a defining moment for me. The moment that I didn't feel so alone. The moment when I knew that I could make it through. I knew the power of family then.

Although responders believed they had positive support from their spouses before the critical incident, a number of variables such as timing or behavior contributed to how the spouse responded to this particular incident. The support of extended family produced a defining moment for the responders, a moment when they realized that they were not alone. This support enabled the responders to begin the process of putting their lives back together.

Reconstruction and Assimilation of the Experience

Almost all the responders that participated in this study have managed to make it past the critical incident and begin the rebuilding process in all areas of their lives. Under the main theme of reconstruction and assimilation of the experience, responders talked about growth and change as well as re-engagement with their children, redefining identity on the job and enthusiasm for community involvement with several components in each sub-theme (Table 9).

Growth and Change

There were four main views of growth and change the responders spoke to as they began to access support: redefining of the individual responder, positive integration of roles, regaining control, and learned adaptive behaviors.

Table 9: Reconstruction and Assimilation of the Experience: Sub-themes and the Components

Sub-themes	Components
Growth and Change	Redefining of the Individual Responder
	Positive Integration of Roles
	Regaining Control
	Learned Adaptive Behaviors
Re-engagement with Spouse and Children	Dissolution of Spousal Relationships
	Struggle to Rebuild Relationships with Children
Redefining Identity on the Job	Growth of Empathy and Compassion
	Deeper Level of Awareness
Enthusiasm for Community Involvement	A Need to Give Back
	Teachable Moments

Redefining of the individual responder. Growth and change occurred when responders began to get some sense of how their reactions were beginning to affect the people in their lives. Once they had found a psychologist that they felt safe with, the majority of responders found strengths within them to make positive changes. The responders found the process challenging, and for some, the process is one they will continue for some time. "I finally realized I could continue on the way I was or I could use this as a learning experience and move on." For others, who have no interest in participating in the process, it would take an inordinate amount of strength and courage to simply find the faith that someone would be able to help them. The majority of responders found the experience as a catalyst for changes in the way they define themselves.

> I am still a Paramedic, first, last, and always. It continues to define who I am. It is my personality to be a rescuer. Seeing a psychologist that I trusted allowed me to take the perception I have always had of myself, which wasn't such a bad thing, and build from there. But also see myself as the sum of all my roles in my life, father, son, brother, Paramedic, not in that order, but a sum of it all. Before, I would see Paramedic as all-encompassing. Now I see Paramedic as a part of who I am in all of my life roles. I learned that with [psychologist]. I can accept myself as human now.

Others spoke to how their world view changed back from negative to a more positive outlook, but only after they had gained some control of their lives, through the therapeutic process. " . . . I started to gain some control. . . . I was able to accept myself as a firefighter, but I was also able to accept that it was okay to define myself that way."

Positive integration of roles. The process of redefining who the responder perceived themselves to be also included accepting that they didn't have to change the perception of who they are:

> I had thought of myself one way for most of my life. I can accept that too, though. I'm not sure that I wanted to change who I was, rather, I wanted to enhance who I am. I wanted to learn how to become a better person than I was, but my perception of who I was, is still who I think that I am.

One responder spoke to learning to like himself again and how difficult that process was for him:

> By the time I sought help, I hated everything about me. I couldn't find one positive thing to say about myself when [psychologist] asked me. Nothing. Even during therapy, when [psychologist] would point out the positives, I couldn't believe him. It was terribly painful to know how I felt about myself. I think the first thing that I accepted as positive was that I kept attending therapy. It wasn't always easy to see myself in a positive way, it was at times very painful. But over time, it got easier. The more I accepted what was good within me, the harder I worked at getting better.

Regaining control. One of the challenges that the responders faced was learning new coping styles and skills. "I learned a more flexible style of coping, I think. I was no longer rigid in the way I saw the world, so when something occurs now, I am more able to adapt to it."

> I learned the tools that I need in order to deal with this type of situation again. I'm still working on it though, I think it's a life-long process that I'll have to go

> through. But then, it should be a process that all of us go through, know, and understand, have the ability to introduce new information and adapt our coping styles to the new information. We also need to know when we need help. I learned that I need to take responsibility for myself.

Another responder spoke to the coping skills he has gained through the therapeutic process: ". . . I needed to relearn positive coping skills. I needed to learn how to think quickly, think cognitively, react positively and sometimes it gets a little tricky in the rest of your life, but it's just how it is."

Learned adaptive behaviors. Other than a positive outlook on life, responders spoke to learning how to laugh again, and how their humor has been of benefit in the process of change. "I knew that when I was laughing that I was going to survive this. It was an incredible moment for me." Other learned adaptive behaviors have been in the manner of self-care and finding the balance between a healthy lifestyle and obsession:

> Before the critical incident, I was working out at the gym three times a week and I was happy with that . . . after . . . five, six times a week . . . three, four hours, five, six times a week. I wanted to work the pain out, but it only made it worse. Now, I am back to three times a week. . . . I try to channel the negative energy I feel into a positive workout.

For responders who have been able to make positive changes in their lives, exercise, a healthy diet and good sleeping patterns have become priorities:

> I feel better. I exercise regularly, I eat well, and my sleep, though sometimes I wake up in the night or day, depending on my shift. For me, to stay healthy,

physically and mentally has become very important. Not just for me but for my kids as well.

As responders began to heal, the activities they had once enjoyed became appealing to them again. It was not always easy, many had to relearn how to take time for themselves and appreciate the simple things they had once found interesting.

I took my bike out the first time since this all began a few months ago. It was fall. I remember sitting on it, thinking that I had passed through a whole lifetime the past year, so many changes. It was like coming home when I fired her up.

Re-engagement with Spouse and Children

The re-engagement with their spouse and children was also seen as a positive step in responders' attempts for renewal. However negatively the relationships ended with their spouses, the attempts to begin communication was seen as positive. There were two main views of the re-engagement: dissolution of spousal relationships and struggle to rebuild relationships with children.

Dissolution of spousal relationships. For the responders who had begun healing, a part of the process was renegotiating relationships with those they cared about most. A majority of responders who participated are in the process of separating, are separated, or have divorced their spouses. Those who remain with their spouses, with the exception of two responders, continue to have healthy relationships with their wives. The two exceptions are the responders who have not taken any active role in a healing process. The responders who maintained positive relationships with their spouse, spoke to the changes they have made as a family. "I have had lots of changes. I was aware of the

changes within me and the support my wife gave me. I was very lucky to be where I was at and how positive the experience has been for me."

Struggle to rebuild relationships with children. Those who have been able to rebuild their relationships with their children admit that it has not been an easy process. For some responders, the unconditional love of their children made the process a little easier, for others; it took more time to build the trust between them. The remaining responders spoke to the relationship they now have with their children:

> The kids never wavered in their support of me once they got over the anger of what had happened to me. I worked twice as hard to get better for them. We have a great relationship now, we are open in the way we communicate, we've even taken some classes together, communication classes, they've gone to support group for kids, they are wonderful people. I am as proud of them for coming this far as they are of me for finding a way back to them.

One responder said that it was still a struggle to rebuild the relationship with his children, but he takes it one day at a time and spends more time with them now than he ever did before, "I think that since the divorce, my children have become more proud of me for what I do. There are times when we all get very frustrated. And they still get angry. But we are dedicated to making it better."

Redefining Identity on the Job

The responders spoke to two very distinct and powerful views of redefining themselves on the job: growth of empathy and compassion, and deeper level of awareness.

Growth of empathy and compassion. The responders perceived that they also needed to rebuild relationships with their coworkers, even though their coworkers didn't seem to be aware of what was occurring in their lives. The skills that helped the responders to redefine themselves and to rebuild familial relationships also helped the responder to become a better person on the job as well.

> I have learned that I can survive. And I am not invincible. That was a big positive to come out of this. I think that it's made me a more compassionate person. I'm not as quick to judge as I was before, you know, people whining about trivial stuff that's happening in their lives. I listen to what they say now and see their pain. I don't trivialize stuff anymore. I think, that because of the growth of my compassion and empathy, I am a better person in all aspects of my life. I know that I can go through something like this and survive. I know this has made the relationship with my coworkers very healthy.

Deeper level of awareness. Another responder also spoke to how his growth as a person helped to improve his relationships with his coworkers:

> I am more open and honest about my feelings and what I think about certain incidents that we go to. I listen to the guys more than I did before. I hear what they say and I think that some of them trust me more than they did before. Trust is not automatic, it has to be earned. I don't mean on scene or something. I mean as brothers.

During the time when the responders felt the most alone, and no matter how they perceived their co-workers would react, each responder believed that they were still a part of the brotherhood, that when they needed it most, their brothers would be there. One

responder, who went back to work after an extended leave and feared returning, eloquently spoke about the true essence of the word brother.

> When I came back, my old partner was working with someone new, so one of the guy's who knew why I was on leave jumped in and said he'd work with me. I think that saved me, his willingness to work with me. . . . When I asked him why he was willing to work with me, he said he'd been through it, knew how scary it was to come back, knowing people would think you weak and unable to do the job. I can understand why they would think that. He helped me to prove that I was reliable. And by him so willing to work with me, it told the other guys that I was okay. It's been great ever since.

This same responder has taken what he has learned from his experience and now tries to help his coworkers if he sees that they are reacting in any similar way. It is important to responders that have suffered long-term effects of Critical Incident Stress to try to assist those who may experience something similar. Not only does this help their own healing process, but it helps to build stronger bonds with those he may need to rely on in the future.

> I try to pay attention to their reactions and actions. If I see something out of the ordinary then I'll approach and ask them how they are doing. I am willing to share my experience with them if need be, to let them know that they aren't alone. If they tell me they are okay, I back off, but I still watch. It's easier to deal with when you know that you aren't alone. By my willingness to share, I hope that they know they aren't alone and will come and talk to me when they need to.

Enthusiasm of Community Involvement

As the responders began to rebuild their lives, the interest in community involvement grew as well. The responders spoke to two differing views of this interest: a need to give back and teachable moments.

A need to give back. In addition to rebuilding relationships with their families and coworkers, responders felt it was important to rebuild relationships with the community:

> I knew that I had to start to give back to the community again. When I started to redefine myself, there never was a second thought about getting back into community work. It continues to be a part of who I am. Now, I spend time and effort in the community not just because I am a firefighter, but because I am a human being. We always need to give back. I'm just doing it in a different way than I was.

Teachable moments. Other responders echoed these sentiments; how important it was to start to rebuild the relationship with the community, but also used it as a bonding moment with their children:

> I felt it was important to get back into community work, but I also felt it just as important that I include my children for several reasons. One is so that I could spend more time with them and another was that they need to see how important it is to give back to the community. Another reason is that it is because it is who I am, not just as an emergency responder, but because it is who I have grown to be as a person.

Conclusion

Responders who participated in this study have spoken about their experiences in their respective service before and after their perceived critical incident. The consequences of their experiences have been pervasive, far-reaching, and long-term and have impacted three areas of the emergency responder's life: the job, the individual responder, and the responder's family. All of the responders in this study spoke of the isolation and the perception of being cut off from the very culture in which they identified most with and how that perception changed the way in which they interacted with family, coworkers, administration, and the community.

A discussion of the results of the long-term implications of Critical Incident Stress in the three areas explored follows in Chapter 5, as well as a look at responders' thoughts on debriefing, the limitations and implications of this and future research, and the implications for counselling emergency responders.

Chapter 5

Discussion and Conclusion

The purpose of this study was to explore the experiences of emergency responders at least six months after a critical incident in three areas of an emergency responder's life: impact on job, impact on the individual responder, and perceived impact on family. The results show that rarely are responders able to keep the consequences of the critical incident from invading other areas of their lives. The responders who participated in this study had the opportunity to tell their stories about their critical incident and the effects it had on the three areas explored. These results, the implications the results have for counselling emergency responders, and responders' thoughts on the process of debriefing will be discussed. The limitations and reliability of the present research and implications for future research will then be discussed.

Any pre-intervention training regarding Critical Incident Stress that responders have received left them with the idea that a critical incident only occurs when it is experienced as a group. Responders who participated in this study perceived that they experienced the critical incident alone; reinforcing an idea that the consequences of the critical incident were caused by personal weakness rather than being a normal reaction to an event outside of their daily experiences. The results of this study show that single responder critical incidents occur more often than has been noted in previous research and that the consequences of Critical Incident Stress can be pervasive and long-term and can severely impact an individual even when the incident is not large-scale.

Long-term Implications of Critical Incident Stress on the Job

Responders that participated in this study experienced long-term, pervasive symptoms of Critical Incident Stress. Thoughts and images were intrusive, behaviors were extreme, and the perceptions of how they looked at their work changed radically from their perceptions before the critical incident. In order to do the job, emergency responders must be able to deal with situations that the majority of the population cannot or would not want to deal with. There is a certain state of mind responders have that enable them to enter into a profession that most people avoid. Emergency services, no matter how one ends up in the profession, is not seen by responders as just a job; it is a calling, something that responders know they have to do in order to find fulfillment in their lives. Although some responders think about leaving the service when they are experiencing Critical Incident Stress, the degree to which they identify themselves with their work prevents them from quitting.

The initial emotions the responders experienced at the incident they identify as critical are considered to be normal reactions within the profession of emergency services. Frustration, anger, helplessness, and sadness are among the most common emotions responders experience and should be expected given that responders encounter events that are outside of normal daily experiences. Responders feel an enormous sense of responsibility to those they serve in the community, and any emotion they experience on scene may be acknowledged by the responders but set aside in order to complete their tasks.

There is no identifiable timeline between when the critical incident occurs and when responders begin to experience symptoms of Critical Incident Stress. Responders

may perceive the outcome of the incident itself to be positive and continue to do their work as though nothing out of the ordinary has happened. Some responders recognize immediately that the incident has had some affect on them but for others, it could be weeks, or even months before they realize that they are experiencing symptoms of CIS. Regardless of the timeline, it appears that responders only acknowledge that they are experiencing changes when they realize they have lost the passion and enthusiasm they once held for their work, even though they may have experienced other cognitive and behavioral reactions during this time. Whether it is because of the culture of emergency services or because denial is used as a coping mechanism, responders attempt to normalize their reactions to the critical incident.

Emergency responders feel that after their critical incident, the "umbilical cord to crisis" has been severed. This goes back to the idea that responders have a calling to work in emergency services; that somehow, responders need the constant level of crisis in their work in order to be fulfilled as firefighters or paramedics or police officers. What others may consider a trauma event, emergency responders consider normal; everything is a crisis so there is no crisis. However, when that umbilical cord is cut by means of their critical incident, the driving force behind the passion and enthusiasm they once had for their work is lost as well. The new reality of their lives looks different or twisted from the reality of how they had perceived their lives to be.

When responders perceive that no one else is affected by the critical incident, they begin to isolate themselves from their coworkers. Responders spend an enormous amount of time and energy trying to keep up the façade that nothing has changed. However, they have little tolerance for minor mistakes, station duties seem insurmountable, and non-

emergent calls are an irritant. The more frustrated responders become with themselves for the negative reactions they are experiencing, the more frustrated and fearful they become with those they work with and the work that they do.

When tones or codes are sounded sending responders to scenes that may be similar, thoughts and images of their critical incident invariably come to mind. Feelings of anxiety and panic can be overwhelming and difficult to set aside in order to work the present scene. For those in the Fire/Paramedic Service, assigned tasks are completed automatically. In the Police Service, however, flashbacks occurred more often if the scenes are similar to their critical incident and will cause some hesitation before the tasks are completed.

As thoughts and images become more intrusive, responders begin to isolate themselves from their coworkers and perceive that they have no control over their lives. They rarely talk to their coworkers about what they are experiencing for fear their coworkers will see them as being weak. Weakness is a responder's greatest fear; if their coworkers perceive them as being weak, the trust between coworkers that is needed to do the job and keep the other person alive is gone. If the responder is perceived as untrustworthy, they may be put on light duty, or to the extreme, on leave, which to some responders, is a punishment worse than anything they can imagine.

Behaviors that are extreme are exhibited and the fallout from these behaviors can be enormous. When responders are healthy, behaviors such as aiming an unloaded gun at their mouths is understood to be completely inappropriate and would most likely never occur. When responders aren't provided with interventions to deal with the long-term effects of Critical Incident Stress, their behaviors often spiral out of control and others are

put at risk. This complicates the intensity of thoughts and emotions as responders perceive they are betraying the trust of the brotherhood or breaking the code by potentially putting their coworkers at risk.

The perception responders have of the culture of emergency services forces this extreme way of thinking. Responders do not believe there is any middle ground when they are experiencing CIS. In departments that have not fully acknowledged the potential for CIS among their members, responders prefer to suffer in silence because of the belief that they either do the work or they get fired. The level to which responders identify themselves with their work and the culture in which they work promotes the need to keep silent. Without their work, and without resolution, responders begin to lose the perception of who they are as individuals.

Long-term Implications of Critical Incident Stress on the Individual Responder

The degree to which responders identify themselves by their work influences the way in which they identify themselves in other areas of their lives. As responders begin to lose sight of who they are as responders, the perception of whom they are as individuals' change. Responders may be able to deal with the chaos and tragedy in other peoples lives, however, without intervention, their own world becomes chaotic.

Generally, the various roles that individuals have in their lives, such as teacher, father, husband, friend, community member, all influence who the person is as an individual. The degree to which one role influences the other roles may shift and change depending on which role the individual is engaged in at that moment. For those in emergency services, the perception of who they are as emergency responders guides all the other roles in their lives.

Responders perceive the world and humanity as basically good. The intensity with which they react to their critical incident changes the way they view the world and the perception that the world is perhaps not so good does not fit with their beliefs. The critical incident they experience changes their faith in humanity, in God, and their world. As the symptoms of Critical Incident Stress became more intrusive, the conflict that they experience forces responders to change their view of the world in an attempt to fit with how they currently perceive the world to be; the world is no longer good.

Responders perceive that they lose control, not only on the job but within themselves as well. The need for control cannot be seen as negative in the world of emergency services; rather, it is a necessary personality characteristic that helps responders do the job. The need for control outside of work is not seen as a need to be controlling in the negative sense as much as it is viewed as a having control over who they are and how they perceive their world. As their world view begins to change and the lack of control over their lives diminishes, responders perceive that their world is becoming more chaotic. The more chaotic responders perceive their world to be, the less control they perceive they have.

As their lives become more chaotic, responders find it extremely difficult to handle the daily stressors they are faced with. Before their critical incident, responders took stressors as a challenge to be met head on. After the critical incident, and as their world is perceived as spiraling out of control, responders find that they lack the strength and will to challenge anything in their world. Responders have the perception that they are not able to fix anything anyway so they prefer to walk away from stressors rather than face something that may add to the strain they are already feeling.

The prolonged period of time without intervention intensifies the symptoms of Critical Incident Stress. Thoughts and images of the critical incident become so intrusive that it is difficult for responders to focus on anything but the critical incident. Initial thoughts about the event are self-critical about their performance on the job, but as time passes, thoughts about the outcome of the incident turn towards their performance in all roles of their lives. The intrusive thoughts become time-consuming and emotionally draining for responders that in turn reduces their ability to gain any sort of control over what is occurring within them.

Images of the critical incident haunt emergency responders and initially, the images are fairly close to what the responders remember from the incident. However, over time, the images often take on a life of their own. In the minds of some responders, it is almost as if the victims of the incident began to verbally condemn the responders. The images seem to produce a life-feeding cycle: as the images intensify, responders take on a level of blame for the incident, which produces more haunting images. The more haunting the images become, responders take more responsibility and ownership of an incident that they could not have prevented in the first place. The responders react with self-condemnation of both their incident performance and of themselves as human beings, which seems to feed the imagery, which in turn feeds the self-condemnation.

The psychological symptoms of Critical Incident Stress that emergency responders experience after a critical incident has been well documented (Mitchell & Everly, 1993). Symptoms such as anxiety and panic, anhedonia, guilt, hypervigilance, and anger are experienced by the responders who participated in this study. The reality they have lived in for so long suddenly seems alien to them and they are unable to cope

with the changes that are occurring. Over time, the symptoms become debilitating and painful for the responders.

As symptoms became more extreme and as responders struggle to understand what is occurring to them, thoughts of suicide become a regular occurrence. The symptoms that responders experience become so overwhelming that they feel suicide is the only way to ease the pain. For some responders, suicidal ideation becomes a catalyst for seeking help but for other responders, suicide is perceived as the only means to end their pain.

The devastating impact of long-term Critical Incident Stress alters the way in which responders perceive their world. What was once structured and ordered is now chaotic and out of their control. Thoughts and images of the critical incident are intrusive and emotionally exhausting resulting in further isolation from the world and over time become potentially life-threatening. For responders who experience Critical Incident Stress and are married with children, the relationships with those they value as their primary supports are altered as well.

Perceived Impact of Long-term Critical Incident Stress on the Family

Before the critical incident, responders perceived that their spouses provided the support that they needed, and that the support was unconditional. Responders value their support systems; when they are not able to talk about their thoughts and emotions with anyone else, responders rely upon their spouse to listen and to understand what they are experiencing. When responders experience a critical incident, whether the initial reaction is acknowledged or not, they need time to process their thoughts and emotions. Whether

they spoke to their spouse immediately or after some time, responders had faith that the support they would receive from their spouses would be positive and helpful.

Regardless of the time frame of when responders spoke with their spouse about their critical incident, spouses are unprepared for the intensity of the responders' emotional and behavioral reactions. By the time they are able to talk to their spouse about their thoughts and feelings, responders perceive that their spouse is no longer interested in listening and have emotionally shut down from their husband. As the silence ensues between the responder and their spouse and negative behaviors are exhibited, spouses become fearful of any interaction with the responder. The responder isolates himself further and basic trust between the responder and his spouse is lost.

Responders are not unaware of how their spouses perceive them to be both as emergency responders and as husbands. Responders acknowledge that within their marital relationship, their spouses depend on them to be as strong at home as they are on the job, that they will be able to handle all of the stress and fix the situations that need fixing without losing control. When responders can no longer live up to this ideal, they experience an overwhelming sense of failure. This sense of failure is then projected onto the person that responders rely on the most to support them during this critical time. Their spouses are then perceived as responsible for the relationship breakdown, which causes responders to integrate the negative relationship with their spouse into their critical incident.

The overwhelming sense of vulnerability that responders feel is an emotion they have rarely experienced before. Responders constantly put themselves into vulnerable situations on the job, which they are trained to handle. However, when responders feel

that they are vulnerable within their family relationship, they perceive the vulnerability as a weakness and begin to use avoidance as a coping mechanism. The more vulnerable responders feel, the more they avoid taking care of the responsibilities they had automatically taken care of before the critical incident. This perceived vulnerability and avoidance of responsibility carries over into the relationship that responders have with their children.

Responders fear that any outward expression of emotion they show will change the perception their children have of them, so responders hesitate to talk to their children about the critical incident. They prefer to keep silent and avoid their children in order to preserve what they think is their children's perception of them. Responders acknowledge that perhaps this is not the best tactic to employ. Their children are able to see the emotional and behavioral changes occurring with their father, as well as the change in the relationship between their parents. Unlike the consequences of opening up to their wives about their critical incident, once responders speak to their children about what had occurred and why they were seeing changes in behavior, the children often become a powerful support for their fathers.

Without the support of their children and their extended family, it is difficult for responders to take the next step towards seeking help. The realization that they had the unwavering support of their parents, siblings, and children is viewed as a defining moment for them. Responders no longer feel isolated from the world; rather, their family is a connection they can hold on to that they know will not be severed. This connection gives them the strength they need to take the next step towards rebuilding their lives.

Synthesis of Findings across Three Areas of Impact of CIS

Given the theory of habituation and desensitization (Thompson, 1993), it should follow that the high numbers of years of service (11+) of those who participated in this study would contribute to their development of appropriate coping skills needed to insulate the responders from traumatic events. As in the work of Moran and Britton (1994), this study found that it is unlikely that any coping mechanisms that the participants have developed over the years to defend against a barrage of trauma events could totally insulate the responders all of the time. Eventually, responders begin to decompensate, creating a vulnerability in their coping strategies that cannot prepare them for their reaction to the critical incident they experience.

The reaction to the critical incident that responders experience challenge who responders believe they are as individuals, the culture and brotherhood of emergency services, and the perception of their families. This challenge creates a major source of cognitive dissonance and reappraisal for the responders, which confirms the work of Everly and Rosenfeld (1981), who found that the response to a critical incident can have such an impact on emergency responders that their basic beliefs about the world, themselves and others may be compromised.

It is not the incident itself that creates the difficulties that emergency responders experience but the inability to assimilate the experience of the incident into their schemata, a finding that is not in concert with Green, Wilson, and Lindy (1985) in that the most reliable predictors of stress reactions are duration and intensity of exposure to the trauma event. This study found that the responders perceive the incident to be no more intense or severe than usual but that the longer responders were unable to assimilate

the experience, the greater the risk became for development of symptoms of Critical Incident Stress, which leads to decreased resistance to further stress.

Mitchell (1986b) asserts that if responders have a delayed response or no response to a critical incident, there is potential for self-destructive behaviors and in the extreme, suicidal ideation and attempts. The participants in this study had either immediate or delayed responses to their critical incident, which leaves the door open for the assumption that no matter when the response occurs, if a responder cannot integrate the experience into his existing schemata, behaviors will become self-destructive.

The reactions of the responders who participated in this study were severe. Denial is initially used as a coping mechanism because of the responders' perception that the incident itself was not out of the ordinary. When responders perceive they are the only ones who experience the incident as critical, they begin a process of isolating themselves from their support systems, retreating and reliving their own experience, reinforcing their own beliefs that they are weak and unable to do the job, or accomplish anything else in their lives. Their sense of identity is threatened, they perceive their world is crashing down around them, and the thoughts and images become so overwhelming that suicide seems the only way out. Given the extreme psychological distress and the amount of loss that the participants in this study experienced, it is a wonder that the majority of responders have managed to rebuild their lives.

The findings of this study suggest that the response to a critical incident is extremely unique for each emergency responder. The numbers of variables that will determine if a responder will react to a certain incident are numerous and have been widely researched. We have a good understanding about the personalities of responders,

possible antecedent conditions, cognitive and behavioral reactions, and the numerous responses and experiences of emergency responders. However, because of the idiosyncratic nature of each experience, it is necessary to remember that while we may have a solid foundation for understanding the psychology of emergency services and Critical Incident Stress it will be the emergency responder that defines the experience, rather than the foundation.

Implications for Counselling Psychology

There appears to be several specific, interrelated consequences to the incident that emergency responders experience: the event creates cognitive dissonance which shatter responders assumptions about the world and who they are as responders, individuals, and family members. Over a period of time, as responders are unsuccessful in their attempt to adapt to the new experience, they begin to experience psychological symptoms of Critical Incident Stress. The more extreme the symptoms of CIS became, the harder it is for responders to adapt the new experience into their schemata. As the cognitive conflict grows, responders grow more anxious, depressed, and so on.

First, responders perceive their particular incident as critical. Whether immediate or delayed, responders' perceptions of the critical incident are negative and so overwhelm their usual coping mechanisms that they find it difficult to adapt the experience into their cognitive schemata. The inability to adapt to the experience creates cognitive dissonance, and as the high stress levels continue, responders attempt to reassess both the incident and their coping mechanisms in an attempt to adapt. This study reflects the findings of Janoff-Bulman (1992) who stated that schemas are influenced by the social environment. In the profession of emergency services, responders are influenced by the culture so that

when an incident is perceived to be critical, the reaction is based on the perception of who responders perceive themselves to be within the culture.

When the dissonance creates a new challenge to the responders and they are unable to adapt the experience into their schemata, the assumptions that they held about themselves and their world becomes conflicted as well. Responders' assumptions are experienced through the culture of emergency services and are built on years of service within the culture. As Janoff-Bulman (1992) states, these assumptions are not easily changed. The responders feel that they have lost control and the basic assumptions about their world change dramatically. They no longer fit with how they now perceive the world to be. The experience does not fit with the assumptions that responders have about themselves and their culture, and they are cognitively challenged not only by their role as a responder, but by their role as an individual and as a family member. The experiences of the responders in this study echo the conclusions made by Mitchell and Bray (1990) when they state that as responders begin to lose the ability to gain some control over their world and their lives, those who are closest to the responders are negatively affected as well. Responders react by isolating themselves and withdrawing further from the world they perceive had sustained them for so many years.

Over a prolonged period of time, as responders continue to struggle to gain control and make some sense of their world, symptoms of Critical Incident Stress develop that further inhibits attempts at recovery. The psychological sequelae reported by the responders are similar to the findings of Mitchell and Everly (1993, 1995, 1997). The symptoms that are experienced include anger, anxiety, helplessness, depression, blame, fear, suicidal ideation, suicide attempts, and sadness, etc. The inability of the responders

to adapt and assimilate to the new experience as well as the psychological symptoms of CIS, the perception of isolation from the brotherhood and other support systems all contributed to the awareness that they have lost their sense of identity, a perception which only serves to isolate them more.

The perception of the culture of emergency services from both within the profession and from those they serve perpetuates the myth of the 'hero,' however, the responses of emergency services personnel to a critical incident are typical of people who are faced with a traumatic event. The culture, right or wrong, changing or not changing, is still a culture in which the responders live, both on the job and off. Individuals who do emergency work define themselves by the work they do, the system in which they work, and of how their families and communities perceive them to be. The culture of emergency services does not stop at the door at work; it carries over into all aspects of the emergency responder's life. It is the way they think, the way they act and interact, and the way that they view the world. When responders are affected by a particular incident, the symptoms need to be treated within the context of the culture in which they live. The culture cannot be ignored and attempts at changing the responder's perception of the culture should not be a goal in therapy.

Cultural perspectives of emergency services notwithstanding, the idiosyncratic nature of the individual responder and his or her experience demand counselling interventions that are just as unique as the responder who attends counselling. Interventions must be based on responder need rather than on counsellor goals and motives. While it is acknowledged that emergency responders are cognitive individuals and that the reaction to the critical incident has fundamentally changed the responder,

counsellors should also utilize basic counselling goals and outcomes (Magnusson, 1991; 1992) in order for responder needs to be fully met.

If responders believe that the source of their problems lie with the critical incident, then it is necessary for the counsellor to affirm the responder's sense of self-worth by attempting to normalize the critical incident and the responder's reaction to the critical incident. This can be accomplished in two ways: by providing a therapeutic environment where the responder feels safe in order to talk about the incident, and by consistently reflecting back to the responder that his or her perceptions of the critical incident are real and are understood to be real by the counsellor.

Responders who experience long-term effects of Critical Incident Stress have found that the need to be silent about their experiences is necessary for self-preservation both on the job and off. The culture of emergency services promotes the need to be silent about the responses to their critical incident which causes the responders to isolate themselves from the people closest to them. In order for the counsellor to understand both the incident and the response to the incident, responders should be encouraged to talk openly and honestly about their experiences. Responders will only do so when they feel safe within the counselling setting. They must have the sense that they are being heard by the counsellor and that their experiences are important. By denying the responder the opportunity to tell his or her story, counsellors deny the reality of the response to the experience and the responder is apt to walk away from the therapeutic process, once again feeling that judgment has been passed without being heard. A feeling of safety can only be reached when responders comprehend that they can tell their story without judgment, in their own time, and in their own words.

By helping to reconstruct meaning, hope, and trust, the responder should find within himself the life-sustaining power of human resilience to achieve emotional stability, peace of mind, and some semblance of control over his life again. Emotions and perceptions are validated as the barriers to recovery are explored to encourage the responder to take an active role in taking charge of his or her life.

In order to fully explore the issues presented, the experiences of emergency responders and their reaction to their critical incident must be integrated into the recovery process. Time must be spent in understanding the incident, the response to the incident, and in developing new schemata that is as unique to the individual responder as the incident he experienced. In other words, counsellor goals are to assist each emergency responder reconstruct themselves within the culture in which they live without attempting to change the responder's perception of the culture or of who he is.

Following Beck (1995), six specific goals of counselling should include: 1) a method of crisis intervention that eases the acute process of psychological deterioration that is affecting the responder cognitively, emotionally, and behaviorally; 2) the stabilization and development of cognitive and affective processes; 3) management of the symptoms of psychological distress; 4) restoration of adaptive functioning; 5) self-care techniques and; 6) the reduction of stress through the development of new coping skills and a return to normalization.

Cognitive strategies that are utilized within the therapeutic process cannot ignore responders' experiences or the perception that responders have about the culture of emergency services. Responders identify themselves through their role in emergency services. If this perception is not included in the intervention, the responder denies an

important part of who he or she is. Ignoring the culture sets the responder outside of the very culture in which they work. By validating the culture of emergency services as an important part of the responder's life, and guiding the responder to positive mental health through cognitive restructuring, the outcomes of the counselling process cannot help but be positive for the responder.

Responders' Perceptions of the Process of Debriefing

The majority of responders that participated in this study have experienced the process of debriefing and found it to be extremely beneficial when it was utilized and run by peer team members. Any negative opinions that responders have are more to do with who presently runs the program and how it has been implemented in their service rather than the program itself. As responders become more educated about Critical Incident Stress and CISM, the less tolerant they have become with those who they perceive to have "hijacked" the process for "their own motives rather than our needs." The majority of responders had an opinion as to what the process would look like if they had the opportunity to develop and implement their own program.

The most important recommendations that responders made during their interviews to improve the process are to implement a full city service-wide CISM team that is developed with trained firefighters, paramedics and police officers as the group leaders; qualified mental health professionals would be on the team but only in the capacity of consultant rather than as a leader. Peer team members should provide pre-incident training, debriefing, family support training, and one-to-one counselling that is supported and promoted by administration. Follow-up care, including referrals to qualified psychologists should also be provided by peer team members.

Emergency responders support a full management program that focuses on their needs rather than "what the mental health guys tell us our needs are." It should be noted that the responders recommendations follow the philosophy of the Critical Incident Stress Management program, but that the program set up within their service does not follow this philosophy. A process that is purely peer-driven would be more efficacious than a mental-health driven process, and holds great potential but only with training and support from all levels within their particular service. Responders understand the need for taking responsibility for what is happening to them, but are not convinced the program that is in place is confidential and hesitate to make the initial call for help. Responders, if convinced that the process is confidential, would be more apt to open up to a trained peer team member than anyone outside of the service.

Implications for Future Research and Research Integrity

The results of this study should encourage future research into the long-term effects of Critical Incident Stress for single responder critical incidents. It is clear that responders are affected by long-term Critical Incident Stress after single responder critical incidents more often than has been acknowledged in the past. Understanding responders experiences through qualitative study is difficult and time-consuming; however, quantitative studies do not capture the power and emotions behind the stories of emergency responders. By understanding the depth to which responders experience long-term Critical Incident Stress, the knowledge base to develop appropriate interventions for emergency responders can only grow.

Future research should include the experiences of female emergency responders and the experiences of the families of emergency responders to determine their needs

after their spouse/partner experiences a critical incident. As was stated in Chapter 4, even though seven of the responders lived within the same geographical location, no one experienced the same incident as critical. An interesting study then would be to not only examine the experiences between Fire/Paramedic and Police Services, but the difference in the experiences of responders between events.

Quantitative studies could explore the prevalence rates of single responder critical incidents. By understanding how often single responder critical incidents occur, the prolonged emotions, behaviors, and thoughts experienced, as well as different coping mechanisms utilized by emergency responders, an intensity/risk scale could be developed to assess Critical Incident Stress.

Longitudinal studies could examine the experiences of novice responders who have been trained in Critical Incident Stress throughout their career and compare those experiences with responders who are not trained in CIS. The knowledge and understanding from any future research regarding long-term implications of Critical Incident Stress for those responders who experience single responder critical incidents can only be of benefit to all responders in order to have long, healthy, active careers and lives.

The power of any research is a function of the integrity of the research: being true to the process and the experience. In addition to researcher integrity laid out in Chapter 3, integrity of this research was further achieved on three levels. The first level of integrity is the responders' experience. This research provided space for each responder to tell his story and the stories were recorded verbatim. The second level of research integrity was to check the analysis to ensure there was consistency of integrity between responders

stories. Verification with the responders regarding their experiences ensured that the researcher's reflection was a reflection of their true experiences. The third level of researcher integrity was the description of the experiences within the context to provide a framework for the novice reader to understand what the experiences of emergency responders were all about.

Limitations of this Research

The qualitative method of this study was designed to explore responders experiences at least six months post critical incident. The interview protocol was developed in order to understand the impact that a critical incident had on three areas of an emergency responder's life that were deemed by the researcher as the most important: the job, the individual responder, and the responder's family. The data from the interviews are a reflection of the perceptions of responders in that one moment when they were interviewed and are not a complete representation of all the complexities of their experiences.

Although it was apparent early in the interview process that those in the Police Service have a completely different state of mind than those in the Fire and Fire/Paramedic Service, it was not within the scope of this research to separate and compare the two services. While the experiences of those in both services are similar, there are enough differences between the two services to warrant a comparison.

Another limitation with this research was the exclusion of the female population within emergency services. The exclusion was not meant to imply that the experiences of women in the service are any less important however; in this investigation, females were deliberately excluded in order to prevent any confounding variables. .

The sample size of this research does not necessarily allow for generalization across all emergency service professions in all cities. Other limitations include the lack of consideration for any antecedent conditions that may have contributed to the responders reactions to their critical incident and the experiences of those who are considered novice responders.

Concluding Comments

This study has reported the experiences of emergency responders at least six months post critical incident. Long-term effects of Critical Incident Stress have the potential to debilitate emergency responders, change their perceptions about their work, themselves, and their families. Silence continues to be the key word. No responder wants to appear weak and unable to do their job, so they keep silent. The need for silence carries over into other areas of their lives as well; they would rather not talk to their wives and children about how they are feeling, again, because of the perception of appearing weak.

The reaction to the silence is deadly. Separation from their wives and children, debilitating psychological symptoms, and suicidal ideation and attempts are all results of long-term effects of Critical Incident Stress. It is clear that the consequences of both silence and the stigma of mental health issues have the potential to end careers and lives. It is not only good business but best practice as well if emergency responders, administration, and mental health professionals work together to provide programs that take care of firefighters, paramedics, and police officers throughout their careers and lives.

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Appendix A
Sample Letter Requesting Approval for Access to Members

Deb E. Beaton

[Association or Administration Address] April 18, 2002

Dear [Association or Administration Representative],

I am a graduate student at the University of Lethbridge beginning work on my Masters thesis. I am investigating the long-term effects of critical incident stress on emergency responders, including Fire Fighters, EMT/Paramedic and Police. There is much anecdotal evidence that the process of Critical Incident Stress Debriefing is helpful to emergency responders. Unfortunately, for whatever reason, to date there is little research on the long-term effects that a critical incident may have on emergency responders. This research is timely and may bring about results that can be of benefit to the personnel.

My research question is: What are the experiences of emergency services personnel post critical incident? Specifically, I am looking at three areas, impact of the critical incident on the individual, the impact of the critical incident on their job, and perceived impact on their family. The criterion for possible participants are: the individual has to have experienced a critical incident, undergone the debriefing process, and the time frame is at least six months post critical incident.

At this time, I am seeking the approval of the executive of [Association or Administration] to approach your members after my proposal has passed the University of Lethbridge Ethics Committee. All participant identities will be kept confidential, that is, names and identifying information will not be used. I would be pleased to present my research proposal to the executive at your convenience. I will contact you by phone in the next week to see if you have any questions. In the meantime, please feel free to contact me with any questions that you may have.

I look forward to hearing from you regarding my request.

Respectfully Yours,

Deb E. Beaton BA (Psy)

Appendix B
Letters of Approval

Medicine Hat Fire Fighters Assoc.
International Association Of Fire Fighters Local 263
Affiliated With: Alberta Fire Fighters Association
Alberta Federation Of Labour
Canadian Labour Congress
440 Maple Ave. S.E. Medicine Hat AB T1A 7S3
Phone / Fax: (403) 528-3541

May 22, 2002

Ms. Deb Beaton
303 7a Ave. S.
Lethbridge, Ab.
T1J-1N3

Dear Ms. Beaton;

In response to the letter sent to me dated April 18, 2002 requesting permission to work with our members in studying the long term affects of stress and its relationship to emergency responders.

Our executive believes that research of this nature will help emergency agencies such as ours in helping to provide long active healthy careers to it's membership. In saying this it would be our pleasure to help you with you research in developing your thesis. Please keep in mind, and I stress the need for complete confidentiality in all matters pertaining to our membership and their cooperation in this endeavor.

Please feel free to contact me at your earliest convenience in order for us to set up the start of your project. I can be reach at (403) 548-0713.

Respectfully Yours,

Tom Coffey
President
Medicine Hat Firefighters Association
Local 263 of IAFF

Medicine Hat
The Gas City

FIRE SERVICE

440 Maple Avenue S.E.
Medicine Hat, Alberta
T1A 7S3
Telephone: (403) 529-8282 Fax: (403) 502-8557

May 15th, 2002

Deb E. Beaton
303 7 A Avenue, South
Lethbridge, Alberta
T1J 1N3

Dear Ms. Beaton:

Subject: Critical Incident Stress

I am responding to your letter addressed to Fire Chief Gary Mauch requesting permission to work with our Department to study the long-term effects of stress on emergency services responders.

Please consider this letter as you permission to proceed with this project with the understanding that all interviews and information shared with you be held in strictest confidence in terms of names, locations, and events.

As I understand, your first point of contact will be Fire Fighter Tom Coffey. Tom is well versed in critical incident stress issues as he has helped to organize our Critical Incident Stress Debriefing Team and has conducted a number of training sessions and consultations.

I would like to wish you every success with your study and would look forward to receiving a copy of your report when it is completed.

Sincerely yours,

Allan C. Guest
Deputy Fire Chief

c: Chief Garry Mauch
Fire Fighter Tom Coffey

LETHBRIDGE FIREFIGHTERS
LOCAL 237

LETHBRIDGE
City Fire Fighters' Union No. 237

AFFILIATED WITH
INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS, AFL-CIO
ALBERTA FIRE FIGHTERS ASSOCIATION
ALBERTA FEDERATION OF LABOUR, CLC
LETHBRIDGE & DISTRICT LABOUR COUNCIL

Deb E. Beaton
303 7 "A" Ave. South
Lethbridge AB.
T1J 1N3

May 24, 2002

Dear Deb Beaton:

The Executive and members of IAFF local 237 do support and approve your work on your Masters thesis. We feel the long-term effects of critical incident stress in our job need to be dealt with for us to live healthy and productive lives. Our understanding is all participation will be on a voluntary basis and will be kept confidential.

Please do not hesitate to call me if you require some assistance.

Respectfully Yours,

Rob Chollak

Rob Chollak
Secretary
IAFF Local 237

232 - 12 "C" ST. N., LETHBRIDGE, ALBERTA T1H 2M7 • PH: (403) 329-9088 • FAX: (403) 329-9290

City of Lethbridge

OFFICE OF
THE FIRE CHIEF

June 19, 2002

To Deb Beaton:

I am pleased to have Lethbridge Fire and Emergency Services participate in your study. Evaluating the impact of critical incident stress is a priority for management and staff, and as a result, we are anxious to participate in this project and see the results. Any information that helps us to understand the issues surrounding critical incident stress and assist our staff in dealing with those issues will benefit our Department and our industry as a whole.

Respectfully;

Richard Hildebrand
Deputy Chief-Emergency Medical Services
Lethbridge Fire and Emergency Services

RH

FIRE HEADQUARTERS – 2825 - 5th AVENUE NORTH – LETHBRIDGE, ALBERTA T1H 0P2
TELEPHONE (403) 320-3800 FAX NO. (403) 327-3503

Medicine Hat City Police Association

ADDRESS ALL COMMUNICATIONS
TO THE SECRETARY

AN AFFILIATE OF THE ALBERTA FEDERATION OF POLICE ASSOCIATIONS
AND OF THE CANADIAN POLICE ASSOCIATION

Deb E. Beaton BA (Psy)
303-7A Ave. South
Lethbridge, Alberta
T1J 1N3

Dear Deb E. Beaton BA (Psy)

The Executive Board of the Medicine Hat Police Association reviewed your request to interview our members at our Board meeting, April 30th, 2002.

The Board does not object to your request with the understanding that all personal information obtained remains confidential. We have advised our membership of your upcoming survey and have stated it is on a volunteer basis only.

Good luck with your study. If we can be of further assistance don't hesitate to me personally at 403-529-8498.

Sincerely

Lindsay Fraser
President
Medicine Hat Police Association

Medicine Hat Police Service

"Serving and Protecting Our Community With Pride"

June 6, 2002

Deb E. Beaton, BA (Psy)
303-7A Ave. South
Lethbridge, AB T1J 1N3

Dear Ms. Beaton:

The Executive Team of the Medicine Hat Police Service reviewed your request to interview our members.

The Medicine Hat Police Service does not object to your request with the understanding that all personal information obtained remains confidential and is on a voluntary basis.

For further assistance, please feel free to contact Sgt. Lindsay Fraser, Training Unit, at 403/529-8498.

Good luck with your survey!

Sincerely

Gordon Earl
Inspector i/c Administrative Services

Address all correspondence to the Chief of Police
884 - 2nd Street S.E., Medicine Hat, Alberta T1A 8H2 – Tel. (403) 529-8400 Fax: (403) 529-8444

LETHBRIDGE POLICE ASSOCIATION

MAILING ADDRESS:
BOX 1476
LETHBRIDGE, ALBERTA
T1J 4K2

AN AFFILIATE OF THE CANADIAN POLICE ASSOCIATION
A MEMBER OF THE ALBERTA FEDERATION OF POLICE ASSOCIATIONS

OFFICE ADDRESS
C/O LETHBRIDGE POLICE SERVICE
135 - 1 ' AVE. SOUTH
LETHBRIDGE, ALBERTA
T1J OA1

June 11, 2002,

Deb Beaton
303 7A Ave South
Lethbridge, Alberta
T1J 1N3

Dear Miss Beaton,

SUBJECT: LONG TERM EFFECTS OF CRITICAL INCIDENT STRESS

The Lethbridge Police Association has received your letter seeking approval to interview our members in relation to researching the long-term effects of critical incident stress. The Association has approved your request to approach our members to participate in your research as per your correspondence. If you require additional assistance please advise.

Sincerely,

Tom Kramer
President
Lethbridge Police Association

LETHBRIDGE POLICE SERVICE

"In partnership, proudly serving our community"

May 6, 2002

Deb E. Beaton
303 - 7A Avenue South
Lethbridge, Alberta T1J 1N3

Dear Ms. Beaton:

This letter is further to our meeting of April 22nd and your letter dated April 24th, 2002.

To reiterate our discussion and your letter, you are a graduate student at the University of Lethbridge working on your Masters thesis under the supervision of Dr. Kris Magnusson. You are investigating the long term effects of critical incident stress on emergency responders as part of your Masters thesis. At this time you are seeking approval from the Lethbridge Police Service to approach our members to seek their participation in your study. You have indicated that all participant identities will be kept confidential, that is names and identifying information will not be used and that participation in this study will be totally voluntary. Further, that your study will be looking at the physical and emotional impact of the critical incident on the members rather than focusing on the incident itself.

I believe you have already contacted and spoken to Sergeant Darcy Murray of the Lethbridge Police Association, who will be assisting you in your study and research in providing you with volunteers for your study.

At this time the Leadership Team of the Lethbridge Police Service is giving you approval to approach our officers to seek their voluntary participation in your study and bearing in mind that all participant identities and identifying information regarding the incidents will be kept confidential.

If you have any further questions or concerns, please advise.

Yours truly,

K. Mielke, Inspector
i/c C.I.S. / Support Services
for: I.B. Cameron, Chief of Police
Lethbridge Police Service

KM:me

cc: Chief Cameron
Constable Kramer, President Lethbridge Police Association

Address all correspondence to "Chief of Police"
135 - 1 Avenue South • Lethbridge, Alberta • T1J 0A1
(403) 327-2210 • Fax (403) 329-4245

AN ACCREDITED POLICE SERVICE

Appendix C

Interview Questions

1. Critical Incident

1.1. When you hear the term critical incident, what does it mean to you?
1.2. Describe for me, in your own words, the critical incident that you experienced.

2. Debriefing

2.1. After your critical incident, were you taken through a process of debriefing?
2.2. What time frame expired between the critical incident and the debriefing?
2.3. Describe what the process of debriefing was like for you.
2.4. In what ways did the debriefing process have an impact on you?
  2.4.1. In what ways, if any, did CISD help your recovery?
  2.4.2. In what ways, if any, did CISD hinder your recovery?
  2.4.3. What effect did debriefing have on any negative thoughts or feelings you had?
  2.4.4. How did debriefing provide you with the tools necessary to positively deal with occupation and life stressors that followed this particular incident?

3. Post Critical Incident – Impact on Job

3.1. How did you look at your job before the incident?
  3.1.1. How has the way you look at your job changed since the incident?
  3.1.2. How has the way you looked at your job changed if there was an extended period of time between the incident and the debriefing?
  3.1.3. How has this incident interfered with your work?
  3.1.4. Has there ever been a time since the incident when you've hesitated with your tasks?
  3.1.5. In what ways have you found that your reactions to situations that once seemed minor are now exaggerated?
3.2. When you are called to a similar scene, do you think about the critical incident?
  3.2.1. What is your reaction if you are called to a similar scene?
  3.2.2. Do you think about the incident while working the scene?
3.3. What kind of support have you received from your coworkers since the critical incident?
3.4. What kind of support have you received from administration since the critical incident?
3.5. In what ways, if any, has your relationship with your coworkers changed?
3.6. In what ways, if any, has your relationship with administration changed since the critical incident?
3.7. Have you at any time since the critical incident, thought about quitting work?
  3.7.1. If you thought about it, what was happening at that time?
  3.7.2. What prevented you from quitting?

4. Post Critical Incident – Impact on Individual

4.1. What are some of the thoughts you have regarding the critical incident when you are off shift?
  4.1.1. What negative thoughts are you still experiencing regarding the critical incident?
  4.1.2. How has this incident changed the way you think about your life outside of work?
4.2. What are some of the continuing symptoms of stress that you are experiencing since the critical incident?
  4.2.1. Have you noticed any physical changes in yourself since the critical incident?
    4.2.1.1.How are your sleeping patterns? Do you experience nightmares?
    4.2.1.2.How are your eating patterns?
    4.2.1.3.Are you exercising more or less now than you were before the critical incident?
  4.2.2. Have you noticed any psychological changes in yourself since the critical incident?
    4.2.2.1.Do you experience any anxiety, depression, agitation, or increased anger?
  4.2.3. In what ways do you react differently to stressors now than before the critical incident?
  4.2.4. In what ways do you react differently to stressors now than before the critical incident?
4.3. In what ways has the critical incident influenced the way you make decisions about your life?
4.4. In what ways has this incident changed the way you think about your life outside of work?
4.5. What are some of the strengths that you found within yourself since the critical incident?
4.6. Have you sought out further intervention since the critical incident?
  4.6.1. Have you accessed your peer team member?
  4.6.2. Have you accessed a mental health professional?

5. Post Critical Incident – Perceived Impact on Family

5.1. In what ways do you believe that this experience has had an impact on your family?
5.2. Did you talk to your spouse/partner about the critical incident?
5.3. Has your spouse/partner shown any concern about you going to work?
  5.3.1. If they have, in what ways did you react?
  5.3.2. Have you been able to resolve this issue with your spouse/partner?
5.4. Has your spouse/partner indicated, since the incident, that they would like you to change occupations?
  5.4.1. If they have, in what ways did you react?
  5.4.2. Has this issue been resolved?
5.5. Did you talk to your children about the critical incident?

5.5.1. If you talked to your children about the incident, in what ways has your relationship with them changed?

5.5.1.1.Do you believe that the incident has made you more protective of your children? If it has, in what ways?

5.5.1.2.Do you believe that this incident has made you less caring? If it has, in what ways?

5.5.1.3.In what ways do your children verbalize any concerns they have about you going to work?

5.5.2. If you did not talk to your children about the incident, is there a particular reason why you did not talk to them?

6. Conclusion

6.1. Is there anything you believe you need at this time to assist you in dealing with any of the issues that have come up during the interview?

Appendix D
Email Invitation to Participate

Deb E. Beaton, Department of Graduate Studies, University of Lethbridge, is conducting a study into the long-term implications of Critical Incident Stress among emergency responders. The purpose of this study is to investigate if there are any long term implications that a critical incident may have on three areas of an emergency responders' life: impact on the individual, impact on job, and perceived impact on family. I believe that not only is this study timely, but it will help your Associations and Departments understand what the long term implications of critical incident stress are in order to better the lives of all emergency responders, both on the job and off.

The only criterion necessary to participate in this study is that the emergency responder must have experienced what they perceive to be a critical incident on the job at least six months prior to August 1, 2002. As part of this research, I am requesting an audio taped interview that will take approximately one hour. This study is completely voluntary and all information received will be dealt with in a professional manner. Only the principal investigator will have access to the data. Each interview is strictly confidential. All names and identifying information will be removed from the data and will not be present or included in any discussion of the results. You have the right to withdraw from this study at any time without prejudice or penalty.

Due to the nature of this research, all necessary precautions have been taken to ensure the participant's emotional well-being. However, you must be aware that discussion of your critical incident may bring up memories and emotions that may cause some anxiousness. Two referral options are available: referral to a peer team member and, if requested by the participant and the peer team member, referral to a qualified psychologist. All necessary precautions have been taken to ensure your emotional well-being.

I would very much appreciate your participation in this study. If you choose to participate, or if you have any questions regarding your participation in this study, please contact me at [researcher email address and phone number]. Please leave a message if necessary and I will contact you as soon as possible. You may also contact my supervisor, Dr. Kris Magnusson at [phone number]. Your Association is also aware of the study and, if you prefer, you may have your Association contact me. You are also free to contact Dr. Cathy Campbell, Human Research Committee, at [phone number].

Respectfully Yours,

Deb E. Beaton

Appendix E
Poster Invitation to Participate

Deb E. Beaton, Department of Graduate Studies, University of Lethbridge, is conducting a study into the long-term implications of Critical Incident Stress among emergency responders. The purpose of this study is to investigate if there are any long term implications that a critical incident may have on three areas of an emergency responders' life: impact on the individual, impact on job, and perceived impact on family. It is hoped that the results of this study will help Associations, Departments, and mental health agencies understand what the long term implications of critical incident stress are in order to better the lives of all emergency responders, both on the job and off. Your respective Associations and Departments are aware of, and have approved this study.
The criteria necessary to participate in this study is the following:

- The emergency responder must have experienced what they perceive to be a critical incident on the job before April, 2002.
- The emergency responder must be male.
- The emergency responder must have been living with his family at the time of the critical incident.

As part of this research, I am requesting an audio taped interview that will take approximately two hours. This study is completely voluntary and all information received will be dealt with in a professional manner. Only the principal investigator will have access to the data. Each interview is strictly confidential. All names and identifying information will be removed from the data and will not be present or included in any discussion of the results. You have the right to withdraw from this study at any time without prejudice or penalty.

I would very much appreciate your participation in this study. If you choose to participate, or if you have any questions regarding your participation in this study, please contact me at [researcher email address and phone number]. Please leave a message if necessary and I will contact you as soon as possible. You may also contact my supervisor, Dr. Kris Magnusson at [phone number] or your Association representative if you have further questions. You are also free to contact Dr. Cathy Campbell, Human Research Committee, at [phone number].

Respectfully Yours,

Deb E. Beaton

Appendix F
Second Letter of Invitation to Participate - Firefighter Trained

Deb E. Beaton, Department of Graduate Studies, University of Lethbridge, is once again requesting participants to be interviewed for the study into the long-term effects of Critical Incident Stress on Emergency Responders. The purpose of this study is to investigate if there are any long term implications that a critical incident may have on three areas of an emergency responder's life: impact on self, impact on job, and perceived impact on family. I believe that not only is this study timely, but it will help Associations and Departments understand what the long term implications of critical incident stress are in order to better the lives of all emergency responders.

It is very important that the story of the fire fighter be included in this study, therefore, I ask that individuals who fit the following criteria contact me if you are interested in participating:

- The participant should be trained originally as a firefighter.
- The firefighter must have experienced what they perceive to be a critical incident on the job at least six months prior to April 1, 2002.
- The firefighter must be male.

As part of this research, I am requesting an audio taped interview that will take approximately two hours. This study is completely voluntary and all information received will be dealt with in a professional manner. Only the principal investigator will have access to the data. Each interview is strictly confidential. All names and identifying information will be removed from the data and will not be present in any discussion of the results. You have the right to withdraw from this study at any time without prejudice or penalty.

Due to the nature of this research, all necessary precautions have been taken to ensure the participant's emotional well-being. However, you must be aware that discussion of your critical incident may bring up memories and emotions that may cause some anxiousness. A referral process will be in place if the participant agrees: referral to a peer team member and, if requested by the participant and the peer team member, referral to a qualified psychologist.

I would very much appreciate your participation in this study. If you choose to participate, or if you have any questions regarding your participation in this study, please contact me at [researcher email address and phone number]. Please leave a message if necessary and I will contact you as soon as possible. You may also contact my supervisor, Dr. Kris Magnusson at [phone number]. Your Association is also aware of the study and, if you prefer, you may have your Association contact me. You are also free to contact Dr. Cathy Campbell, Human Research Committee, at [phone number].

Deb Beaton

Appendix G
Consent for Research Participation

I hereby give consent to participate as a subject in the research project entitled "Long Term Implications of Critical Incident Stress Among Emergency Responders" conducted by Deb E. Beaton under the supervision of Dr. Kris Magnusson, of the School of Graduate Studies, at the University of Lethbridge. The research project is expected to identify what the long term effects a critical incident may have on three areas of an emergency responder's life: impact of the critical incident on the responder's job, impact of the critical incident on the individual emergency responder, and the perceived impact that the critical incident has had upon the family of the responder.

- I understand that the study will involve my cooperation in completing a confidential audio-taped interview.
- I understand that my participation is completely voluntary, and I am free to withdraw from the study at any time I choose, without penalty.
- The general plan of this study has been outlined to me, including any possible known risks. I understand that it is not possible to identify all potential risks in any procedure but that all reasonable safeguards have been taken to minimize the potential risks. Due to the nature of this study, I am aware that during the interview, some memories and emotions may arise. I am aware that should this occur, a referral will be made to a peer team member, and if it is deemed necessary, a referral to a qualified psychologist will occur.
- I understand that the general results of this project will be coded in such a way that any identifying information will not be physically attached to the final data that is produced. The key listing my identity will be kept separate from the data in a fire safe locked file accessible only to the principal investigator, and it will be physically destroyed at the conclusion of the project. The remaining data will be kept in a separate fire safe locked cabinet in the principal investigator's home for one year after the thesis is in print.
- I understand that the results of this study will be made available to participants upon request. I also understand that the data used in this study will be for the purpose of the research project only and possible submission for publication with the author's permission only. Furthermore, the general findings may be presented to the appropriate Associations and Departments
- I understand that if at any time I have questions, I can contact Deb E. Beaton at [phone number] or the thesis supervisor, Dr. Kris Magnusson, at [phone number].

_____

Date

_____

Participant's Signature

_____

Participant's Name, Printed

_____

Investigator's Signature

_____

Investigator's Name, Printed