Psychological Trauma Experienced by Emergency Medical Service Personnel and its Effects on Marital Satisfaction in Capricorn District.

By

Ramulwela Takalani Vincent

[redacted]

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Department of Psychology

School of Social Sciences

Faculty of Humanities

University of Limpopo

Turfloop Campus

Supervisor : Dr Ramokgopa I.M.

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DECLARATION

I, Takalani Vincent Ramulwela, declare that the mini-dissertation hereby submitted to the University of Limpopo (Turfloop campus), in partial fulfillment for a degree of Masters of Arts in Clinical Psychology has not been previously submitted for a degree in any other University or institution. It is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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SIGNATURE DATE

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DEDICATION

This dissertation is dedicated to all Emergency Medical Personnel who are working in Limpopo Province, Capricorn District.

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ABSTRACT

This study investigates the psychological trauma (Posttraumatic Stress Disorder, Secondary Traumatic Stress and Burnout) that is experienced by EMS personnel in their working environment and its effects on marital satisfaction. It is hypothesized that EMS personnel experience psychological trauma at their workplace and these trauma has a negative effects on marital satisfaction. The study was conducted in Capricorn district – Limpopo Province (South Africa). A total of 200 participants Male=152, Female=48, aged between 19 to 65 years and who are working with traumatized people. The measuring instruments that are utilized to measure psychological trauma and marital satisfaction are PTSD Checklist-Civilian Version (PCL-C), Professional Quality of Life (ProQOL-R III) and Marital Satisfaction Questionnaire for Older Persons (MSOFOP). The findings indicate that the majority of EMS personnel incur Secondary Traumatic Stress and Posttraumatic Stress Disorder as a result of their work. The findings also indicate that EMS personnel do not experience burnout at their workplace. Findings further show significant positive correlation between psychological trauma (secondary traumatic stress and posttraumatic stress disorder) and marital satisfaction. This implies that EMS personnel who are traumatized by helping as part of their work are dissatisfied with their marriage. The theoretical and clinical implications of these results were discussed.

Table of content

Chapter 5

CHAPTER 1

OVERVIEW OF THE STUDY

1.1. INTRODUCTION

The role of Emergency Medical Service (EMS) personnel is to render Emergency Medical Services. EMS personnel are expected to cope with a variety of duty related stressors, including the exposure to traumatic incidents. Louria (2004) states that EMS personnel provide expert and highly specialized medical care to a number of people in critical and often life threatening situation. In helping those who are traumatized, it leads to what Figley (1995) coined “the cost to caring” which is Secondary Traumatic Stress, Vicarious Traumatization and Burnout. Herman (1997) adds that trauma is contagious and those who help traumatized individuals experiences to a lesser degree, the same rage, terror, and despair.

According to McFarlane and Bookless (2001) exposure to stress is an inevitable part of daily life on EMS personnel. Although EMS personnel experience stress, some stress has the positive effect of increasing arousal and attention while preparing the body for action. However, repeated exposure to stress may lead to stress which can become harmful. Mitchell and Bray (1990) state that the workplace for EMS personnel is often an environment where repeated or long-term exposure to stressors occurs. Stress reactions such as burnout or other illness are commonly seen in EMS personnel.

Palm, Polusny, and Follette (2004) state that most often, EMS personnel are directly and indirectly exposed to disasters and therefore are likely to encounter incidents of severe injuries, life-threatening illnesses and contagious disease. Being an EMS personnel is a powerful and often altruistic motive for individuals to take on roles such as belonging to emergency service organizations to protect the well-being of society. McFarlane and Bookless (2001) believe that, the

potential costs and consequences of such altruism, in terms of individual relationships, is an issue which has received relatively little attention. Palm, Polusny and Follette (2004) mention that in major disasters some peculiar tensions and conflicts of loyalties often emerge between families and the role of the individual involved in rescue or disaster management

Studies have examined the psychological effects of exposure to critical incidents. Findings vary from non-harmful outcome to a full development of Posttraumatic Stress Disorder (PTSD) (Baum, Gathchel, & Schaeffer, 1983; Freedy, Shaw, & Jarrell, 1992; McFarlane & Papay, 1992). This means that EMS personnel may find themselves having to work in a hazardous or awkward environment where they are physically and emotionally at risk. The above mentioned risk involves exposure to psychological trauma which amongst others includes Posttraumatic Stress Disorder (PTSD), Secondary Traumatic Stress (STS) and Burnout (BO).

1.2. BACKGROUND OF THE STUDY

Until recently, occupational health within the emergency medical services has received relatively little attention from researchers. In the past few years, researchers have become increasingly aware that EMS personnel may be at risk of developing work-related health problems (Sterud, Ekeberg, & Hem, 2006). Research on health in the emergency medical services has been based on the assumption that such work is inherently stressful.

Louria (2004) states that EMS personnel frequently have to take rapid action and provide medical care under life-and-death circumstances in unfamiliar and inconvenient circumstances while at times being scrutinized by bystanders. EMS personnel often have to deal with unpredictable and non-specific threats, such as the possibility of contracting diseases from patients or being attacked by mentally unstable or violent patients (Louria, 2004). This service imposes different

emotional demands and which might be experienced as more emotionally exhausting than more sensational events (Sterud, Ekeberg & Hem, 2006).

There might be factors that affect EMS personnel at their work and these factors in turn affect their marriage. This study aims to explore on sources of stress on EMS personnel, such as working environment and how these factors affect marital satisfaction.

1.3. PROBLEM STATEMENT

Northwood (2000) mentions that the effects of secondary traumatic stress can have detrimental effects on physical, cognitive, emotional, physiological, and interpersonal functioning. McFarlane and Bookless (2001) indicate that traumatic events can have a major impact on attachment behavior. In addition, to the detrimental effects of post-trauma symptomatology, the traumatic experience can become embedded in the memory structure of the individual causing a progressive avoidance of interpersonal triggers (McFarlane & Bookless, 2001).

Volkmann (2003) mentions that self-care for EMS providers is a concept that needs more attention. The evolution of critical incident stress management (CISM) began in the mid 1980's and has now become an internationally recognized standard of care in the mitigation of critical incident stress within EMS (Kriek, 2008). Carrington, Stark, Bluechardt and Shymkiw (1999) state that number of studies have shown that CISM has little effect, or that it actually worsens the trauma symptoms. Concerns about the effectiveness of critical incident stress debriefing in ameliorating stress reactions has been raising.

EMS personnel also face daily forms of occupational related hazards and are repeatedly, continuously exposed to violence and traumatic events that may have secondary-traumatic effects (Carrington, et al. 1999). However, not much is known about the effects of stress experienced by EMS personnel on their marital relationship. The question that needs to be addressed is whether the exposure to

trauma by EMS personnel leads to marital dissatisfaction. Research in this area shows that there is consistent evidence of violence in the workplace resulting in a traumatic stress response and the onset of PTSD in employees victims (Ortlepp & friedman, 2002). The question that needs to be addressed is whether the exposure to trauma by EMS personnel at their workplace leads to marital dissatisfaction.

1.4. AIMS OF THE STUDY

The aim of the study is to investigate the psychological effects of work-related trauma on EMS personnel and how these effects impact marital satisfaction.

1.5. OBJECTIVES OF THE STUDY

- To investigate whether EMS personnel experience psychological trauma in their working environment.
- To explore if psychological trauma experienced has a negative effect in marital satisfaction.

1.6. HYPOTHESES

- EMS personnel experience psychological trauma in their working environment.
- Psychological trauma experienced by EMS personnel at their workplace has a negative impact on marital satisfaction.

1.7. SIGNIFICANCE OF THE STUDY

The current study will focus on how secondary trauma, burnout and psychological trauma experienced at work and how it affects marital satisfaction. The importance of this study was to investigate the traumatic working environment of EMS personnel and its psychological effects on marital satisfaction. This is the systematic review to address the health status, including

their marital satisfaction amongst personnel in the emergency medical services in Capricorn district Limpopo province.

The researcher became motivated to undertake the study as a result of his practical and professional experience in the field of psychological trauma. It is important for the researcher to conduct this study because there are no effective services that are meant to assist EMS personnel to cope with the stress at work and home. The absences of these services are because of lack of research on their personal and professional well-being in Limpopo Province.

1.8. OPERATIONAL DEFINITION

1.8.1. Psychological trauma

According to Oxford English Dictionary (2002), the English word “trauma” is derived from a Greek term meaning “wound”. Oluwu and Ilesanmi (2009) define psychological trauma as a type of damage to the psyche that occurs as a result of a traumatic event. Idemudia (2009) defines it as a psychological injury or an event leading to emotional wound that causes great distress. In this study, psychological trauma is any experience/event that either involves direct or indirect severe threat or harm to oneself or others that causes overwhelming negative emotions, such as fear, helplessness and rage.

1.8.2. Marital Satisfaction (MS)

According to Advanced Oxford Dictionary (2005), marital is a concept relating to the state marriage. Satisfaction refers to the fulfillment or gratification of a desire or the act of being satisfies, it also refers to a pleasure or contentment derived from such gratification. According to Catherral (2004), Marital Satisfaction refers to an individual’s subjective experience of the marriage. Therefore, Marital Satisfaction is how individuals perceive their entire marriage and the feeling of being satisfied about it. The degree to which individual’s needs, expectations, and desires are being satisfied in their marriage.

1.8.3. Emergency Medical Service (EMS)

Is a system of services coordinated to provide pre hospital medical care and interventions from primary response to definitive care and which in South Africa are performed by advanced, intermediate, and basic life support practitioners (Holland, 2008).

1.8.4. Emergency Medical Service (EMS) personnel

Louria (2004) refers to emergency medical service personnel as individuals who provide emergency medical care to victims who have experienced a life threatening trauma emergency or medical related incident. Sanders (1994) defines EMS personnel as individuals who receive nationally standardized education and practicum experience in rescue operations, medical stabilization intervention, transportation procedures and advanced treatment of traumatic and medical emergencies. In this study, EMS personnel refer to highly trained professionals who provide primary to victims who have experienced life threatening event or traumatic event.

1.9. KEY CONCEPTS

1.9.1. Traumatic event

It is defined by Kaneshiro (2009) as an experience that causes physical, emotional, psychological distress, or harm. It is an event that is perceived and experienced as a threat to one's safety or to the stability of one's world. In this study, traumatic event refers to an event or series of events that causes moderate to severe stress reaction.

1.9.2. Stress

Stress is a negative emotional experience accompanied by predictable biochemical, physiological, cognitive, behavioural changes, directed either towards altering the stressful event or accommodating to its effects (Taylor, 2009). Ottenstein (2003) defines stress as a psychological condition occurring

when individual feel unable to cope with the demands being made on them. According to Keil (2004) stress is a psychological condition occurring when individuals perceive a substantial imbalance between demands being made on them and their ability to meet those demands, where failure to do so has important consequences.

1.9.3. Posttraumatic stress disorder

Ezeokana, Nnedum and Madu (1999) define Posttraumatic stress disorder as a psychiatric disorder that can occur following the experience or witnessing of life threatening events such as natural disaster, serious accidents or personal assaults.

It is classified by the Diagnostic and Statistical Manual of Mental Disorders (APA, 2000), as the progression of explicit symptomatology after exposure to an serious traumatic event inclusive of one or more of the following: (a) specific personal occurrence of an incident that consists of actual or perceived death, serious injury or threat to the physical status; (b) witnessing an event that entails death, injury, or threat to personal safety of another person; (c) being made aware of an unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close partner. Specific personal reactions to the incident include horror, helplessness, and fear. DSM IV-TR delineates well-defined symptomatology experienced as a result of exposure to the significant traumatic event. These symptoms include: (a) intrusive memories, (b) avoidance, withdrawal, (c) unrelenting physiological stress arousal symptoms. All of the above mentioned symptoms must be present for more than 30 days and include disturbances within occupational, social, or other prominent spheres of normal functioning.

1.9.4. Burnout

According to Pines and Aronson (1988), burnout is a state of physical, emotional and mental exhaustion caused by long-term involvement in emotionally demanding situations. Fothergill, Edwards and Burnard (2004) define burnout as a psychological term for the experience of long-term exhaustion and diminished interest. Maslach (1982) defines burnout as ‘‘a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment’’ characterized by cynicism, psychological distress, feelings of dissatisfaction, impaired interpersonal functioning, emotional numbing, and physiological problems. In this study, burnout refers to a state of physical, emotional and mental exhaustion resulting of long-term involvement in an emotionally demanding situation which is characterized by cynicism, feeling of dissatisfaction, distress as well as interpersonal functioning.

1.9.5. Secondary Traumatic Stress (STS)

Jenkins and Baird (2002) define Secondary traumatic stress as the emotional duress experienced by persons having close contact with a trauma survivor, especially concerned family, a natural response to a survivor’s traumatic material with which helpers may identify and empathize. In Figley (1995) secondary traumatic stress is defined as the presence of PTSD symptoms in a caregiver, which are more likely tied to the patient than the caregiver’s. Shah, Garland and Katz (2007) define secondary traumatic stress as a result of indirect exposure to trauma through a firsthand account or narrative of a traumatic event.

In this study, secondary traumatic stress can be defined as psychological risk or stress that is incurred when helping or wanting to help empathically individuals who are traumatized or in critical conditions.

1.10. CONCLUSIONS

This chapter outlined the background to, rationale for, and the purpose, objectives and significance of the study. Key terms and basic assumptions are also defined.

CHAPTER 2

LITERATURE REVIEW

2.1. INTRODUCTORY REMARKS

Jonas (2003) indicates that helpers of trauma victims may experience some symptoms of Secondary Traumatic Stress as a result of exposure to traumatic events or working with trauma victims over an extended period of time. Boundrex, Mandry and Brantley (1997) studied stress, job satisfaction, coping, and psychological distress on emergency services providers from a large, urban, public emergency medical system. They found that job-related stressors were significant predictors for more severe symptoms of anxiety, lack of sympathy, and universal psychological distress. Pearlman and Saakvitne (1995) identify the potential for disruptions in EMS personnel's experiences of safety, trust, power, esteem, intimacy, independence and control.

There seem to be inadequate literature or sources describing the psychological trauma experienced by EMS personnel and its effects on Marital Satisfaction in Limpopo Province. Therefore, in order to put the study into perspective, the researcher searched for data on the above mentioned topic nationally (South Africa) and globally.

This section will focus on exploration of issues around the working environment of EMS personnel and how their experience affects their intimate relationship (marital satisfaction). The following aspects will be examined; secondary traumatic stress, burnout on EMS personnel, compassion satisfaction, PTSD on EMS personnel, marital satisfaction, the working environment of the EMS personnel and Families of EMS personnel.

2.2. SECONDARY TRAUMATIC STRESS (STS) ON EMS PERSONNEL

STS is defined by Figley (1995) as the natural consequent behaviours and emotions resulting from knowing about a traumatizing event experienced by a significant others-the stress resulting from helping or wanting to help a traumatized or suffering person. According to Jonas (2003), STS refers to posttraumatic events or a process that effectively re-traumatizes the person involved. STS is the presence of posttraumatic stress disorder symptoms experienced by caregivers, such symptoms are as a result of helping those patient who are survivors of trauma (Figley, 1995; Pearlman & Saakvitne, 1995; Stamm, 1995). For an example, EMS personnel who attend a person or colleague who have been involved in a fatal accident may be traumatized during the process. STS can be defined as psychological risk or stress that is incurred when helping or wanting to help empathically individuals who are traumatized or in critical conditions.

In the study conducted by Shah, Garland and Katz (2007) it was found that EMS personnel experience STS because at times, in the context of mass disaster or traumatic event, they may push themselves to work excessively possibly to pay for the fact that they were fortunate enough to survive. They may not feel as though they deserve to live, but they may continue to work harder in order to pay homage to the casualties. Abendroth (2005) mentions that it is not uncommon for helping professionals to experience secondary traumatic stress. Approximately 79 percent of the sample was in moderate to high risk category for secondary traumatic stress in their study.

Northwood (2000) states that the effects of STS are cumulative and inevitable. This implies that the effects of STS are often slow and they gradually increase. EMS personnel may hardly notice that they are experiencing some form of stress. However, as the stress accumulates over time, it gradually begins to interfere with their work performance and their personal lives. Gradually, secondary traumatic stress wears them down. Eventually, if STS is not addressed, it can leave them

exhausted. Northwood (2000) further states that once they are exhausted, they are unable to listen well, to make sound judgments, to think clearly, or to help others. In addition, qualities such as cynicism, disillusionment, and despair can become a permanent part of their identities. Fortunately, such consequences can be avoided by taking an active role in reducing trauma-related stress.

Northwood (2000) further mentions that STS is a normal, inevitable part of working with individuals and groups of people who have suffered major losses or experienced terrible events. It cannot be avoided or eliminated, though its effects can be modified or reduced. This implies that STS is often a slow and it increases its effect gradually. This process occurs over the course of hearing or witnessing many personal stories or events of tragedy, loss, and pain.

Many use STS and vicarious trauma interchangeable. However, Figley (1995) mentions that although both are associated with the “cost of caring” and have similar symptoms, these constructs are conceptually different. Vicarious trauma refers to the cumulative transformative effect upon the trauma therapist of working with survivors of traumatic life events; it is a process through which the therapist’s inner experience is negatively transformed through empathic engagement with client’s trauma material (Pearlman & Saakvitne, 1995). STS is the presence of posttraumatic stress disorder symptoms experienced by caregivers, such symptoms are as a result of rescuing those patient who are survivors of trauma (Figley, 1995). STS is a lack of strength, lack of energy and vitality as a result of working with individuals who are traumatized, whereas vicarious trauma is the emotional impairment in the therapist’s part as a result of repeatedly helping individuals therapeutically in an empathic manner. Therefore, the defining factor of these two constructs is their origin, i.e. STS for trauma workers in general and vicarious trauma for therapist.

2.2.1. Signs and Symptoms of STS

Northwood (2000) states that often, helping professionals do not realize that they are suffering from STS until it is too late and they are already "burned out." The effects of STS, like the effects of trauma itself, can be quite serious and permanent. At a minimum, it interferes with our ability to do our jobs effectively. Therefore, it is very important to learn how to recognize, monitor, arid minimize the impact of secondary traumatic stress on our lives. The following are the signs and symptoms of STS:-

2.2.1.1. Physical and physiological symptoms. Studies have found that trauma workers complain of terrible headache, nose-bleeding condition, muscle tremors, vomiting, diarhoea and fatigue (Jonas, 2003; Shotheli, 2004). Northwood (2000) adds that STS can manifest itself through physical and physiological complaints such as headaches, abdominal discomfort, joint pain and frequent illness.

2.2.1.2. Emotional symptoms. (McCann & Pearlman, 1990; Harbert & Hunsinger, 1991; Clark & Gioro, 1998) mention that the indicators of psychological distress or dysfunction include distressing emotions such sadness, depression, anxiety, guilt, shame and rage. Shotheli (2004) adds symptoms such as irritability, despair, emptiness, agitation and disconnection with significant others. Northwood (2000) also adds that some presents with withdrawal, indifference, emotional numbness, inability to have strong feelings, “turning out” while listening to traumatic events, demoralization and disillusionment. Difficulty in containing emotions, loss of emotional control, strong emotional reactions to minor events, irritability, intolerance, anger, feeling alone, isolated, alienated and feeling like others cannot understand one is not understood by others.

2.2.1.3. Behavioural symptoms. Dutton and Rubinstein (1995) mention symptoms such as difficulty in relaxing, increased sensitivity to violence, addictive or compulsive behaviours such as substance abuse, workaholism and compulsive eating.

Northwood (2000) highlights loss of creativity, loss of problem-solving skills, loss of sense of humor or playfulness and loss of capacity to fell joy and lack of control over your life and future. Other behavioural symptoms include sleep disturbance, nightmares related to trauma as well as exaggerated startled response, taking greater amounts of time to complete the same amount of work as well as loss of efficiency.

2.2.1.4. Cognitive symptoms. McCann and Pearlman (1990) explain the shift in the beliefs, expectations and assumptions that caregivers holds. They indicate that these shifts include changes along the dimensions of dependence/trust to reveal a chronic suspicion of others, extreme sense of helplessness, hopelessness and independence to a loss of personal control and freedom. Northwood (2000) includes symptoms such as holding unrealistically high expectations of oneself, denying or downplaying one's pain and/or difficulty, forgetfulness, confusion, difficulty in making decision, difficulty in concentrating. Other cognitive symptoms include cynicism, discouragement, loss of compassion, loss of faith/trust in humanity, use of negative stereotypes to form quick judgment, disbelief and denial of others experience, especially trauma. Another symptom includes preoccupation with safety of self and loved ones. This means that EMS personnel experience a variety of symptoms ranging from physical to cognitive as a result of helping those who are survivors of life threatening events or trauma victims. However, for an individual to have secondary traumatic stress does not necessarily mean that he/she must present with symptoms for each category.

2.2.2. Factors that exacerbates STS

Northwood (2000) states that there are factors in the work environment that can worsen STS and such factors can be social and political in nature. The work environment includes not only job setting but also the society in which people live. Social and political forces such as blaming the victim, increased tolerance of violence, and ignorance work to increase STS. Factors that worsen STS in the

specific job setting, includes inadequate job training, inadequate resources and equipment, work overload, inadequate job supervision, lack of choice or control on the job, inadequate vacation and health benefits, isolation from other coworkers, lack of administrative support for employee's needs to address job stress, and lack of places to refer refugees who have additional or special needs.

Sterud, Ekeberg and Hem (2006) state that EMS personnel have a higher standardized mortality rate, higher level of fatal accidents, higher level of accident injuries and a higher standardized early retirement on medical grounds than the general working population and workers in other health occupations. EMS personnel frequently have to take rapid action and provide medical care under life-and-death circumstances in unfamiliar and inconvenient circumstances while being scrutinized by bystanders and relatives. Moreover, they often have to deal with unpredictable and non-specific threats, such as the possibility of contracting diseases from patients or being attacked by mentally unstable or violent patients. EMS personnel also must attend to non-emergency work, such as transporting and providing appropriate care to chronically and terminally ill patients, which imposes different emotional demands and which might be experienced as more emotionally exhausting than more sensational events.

Therefore, EMS personnel who find themselves working in the environment where there is lack of adequate supervision, workshops for career development and work under a huge pressure because of excessive workload, are likely to suffer from STS.

2.3. BURNOUT ON EMS PERSONNEL

According to Pines and Aronson (1988), burnout is a state of physical, emotional and mental exhaustion caused by long-term involvement in emotional demanding situations. Mitchell and Bray (1990) refer to burnout as a syndrome of emotional exhaustion, depersonalization and sense of diminished personal accomplishment,

which often accompany working in highly stressful settings. Maslach (1982) proposes that if this state of exhaustion continues, workers may detach themselves from emotional involvement with the clients with whom they work, as a way of coping. Additionally, workers may develop a feeling that they are not accomplishing anything in their as well as feelings of inadequacy. Therefore burnout can be conceptualized as a defensive response to prolonged occupational exposure to demanding interpersonal situations that produce psychological strain and provide inadequate support.

Burnout is a pattern of emotional overload and subsequent emotional exhaustion is at the heart of burnout syndrome. An individual gets overly involved emotionally, overextends him/herself, and feels overwhelmed by the emotional demands imposed by other people (Mitchell & Bray, 1990). The over-involvement and emotional exhaustion then leads to withdrawal into depersonalization of clients and poor service delivery which, along with problematic work conditions such as work overload and lack of social support, may reduce job satisfaction from personal accomplishment by producing feelings of inadequacy toward the job and clients and a sense of failure that lowers self-esteem.

Burnout's etiology is not significantly associated with worker counter transference or reactions to traumatic client material but is associated with other workplace characteristics, such as caseload size and institutional stress (Stamm, 1997). Burnout is frequently associated with excessive workplace expectations; lack of appreciation for services rendered, and limited employee input into the organizational processes (Maslach & Lieter, 1997). Often by the time cumulative stress is identified, individuals have experienced physiological, relational, and occupational problems (Flannery, 1987). Therefore, EMS personnel who has excessive work expectations and not getting enough time to rest run a risk of developing burnout.

2.4. COMPASSION SATISFACTION

Stamm (2002) argues that not all trauma workers succumb to secondary trauma. This means that some workers must have protective mechanism that helps maintain their well-being. The motivation of trauma workers to help is shaped, in part, by the satisfaction derived from the work of helping others. Thus, compassion satisfaction plays a vital role in the equation of working in the human services. The paradox remains, however, that helping people who have been traumatized can have a deleterious effect on workers and can also be viewed as an act of compassion. The consequences of this human paradox can be viewed as an act of compassion. The consequences of this human paradox can be heroic, tragic, or even dangerous (Figley, 1995; Pearlman & Saakvitne, 1995; Stamm, 1997).

Despite the risks associated with working with trauma, which can include direct personal exposure and the risk of work-related secondary exposure, it would seem that human spirit, while clearly breakable, is remarkably resilient. According to Kessler, Sonnega, Bromet, Hughes and Nelson (1995), being exposed to traumatic stressors does not necessarily mean that individuals will develop prolonged psychological difficulties. Collins and Long (2003) asks what is it that protects humans as they steer the path between helping people heal following a traumatic event and developing prolonged psychological difficulties themselves?. King, King, Fairbank and Adams (1998) mention that it is hardiness (resilience) and social support. Findings from king study showed a correlation among hardiness (resilience), good social support (functional and structural) and hardiness, whereby hardiness (resilience) and good social support were associated with fewer psychological problems.

King et al. (1998) claim that hardiness (resilience) is characterized by feeling of control, commitment and change as a challenge. This supports findings by from a previous study, which found that caregivers are at risk of developing negative

reactions to their patient's difficulties when their competency and control are at risk (Stamm & Pearce, 1995). These researchers suggested that question of competency, at least in part; arise from the professional's feelings of lack of control of traumatic material. Moreover, Stamm and Pearce (1995) propose that these factors could be alleviated by positive collegiate support system, which is an important element of structural and functional social support.

Therefore, EMS personnel are likely to effectively deal with the psychological pressure from work. Given the fact that psychological trauma among EMS personnel is inevitable, these personnel can be able to bounce back to normal functioning through support from family and friends as well as an innate construct called resilience.

2.5. POSTTRAUMATIC STRESS DISORDER ON EMS PERSONNEL

Klein (2001) defines Posttraumatic stress disorder (PTSD) as an anxiety disorder that can occur after one has been through a traumatic event. PTSD is an emotional illness that is classified as an anxiety disorder and usually develops as a result of a terribly frightening, life-threatening or otherwise highly unsafe experience. Figley (1995) mentions that the helper may begin to experience the symptoms consistent with PTSD, except that symptoms are associated with the primary victim's trauma. It is suggested that trauma is contagious and the helper experiences to a lesser degree, the same terror, rage and despair as the patient.

For a diagnosis of PTSD to be made, the affected individual will have experienced or witnessed an event that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others, and that their immediate response involved intense fear, helplessness, or horror (APA, 2000). Many EMS personnel encounter conditions which could trigger these cognitive and emotional responses with some regularity. This may make them increasingly prone to PTSD, as evidence suggests that repeated exposure to potentially traumatic incidents

has a sensitizing effect, and thus increasing vulnerability to the condition (Dougall, Herberman, Delahanty, Inslicht & Baum, 2000)

Dissociation at the time of any traumatic event may also contribute to the development of PTSD, as it inhibits the cognitive processing required to integrate the emotional and the cognitive responses to the trauma into general memory systems in order to make them less 'traumatic' (Brewin & Holmes, 2003). Marmar, Weiss, Metzler, Delucchi, Best and Wentworth (1999) explain that dissociation around the time of the trauma was strongly predictive of symptomatic response and long-term distress in EMS personnel.

Considering the frequency, nature, and intensity of their duty-related traumatic exposures, EMS personnel have relatively low rates of PTSD. Most studies have reported PTSD prevalence among them of fifteen to twenty percent. A number of factors probably account for their resiliency, but the bonding and social support provided by their co-workers is perhaps most important (Beaton, 2006).

Shah, Garland and Katz (1997) mention that forty percent of EMS personnel (crisis helper) experience PTSD. Durham, McCammon and Allison (1985) studied seventy-nine EMS personnel involved in rescue operations at an apartment complex explosion. Eighty percent of EMS personnel had at least one PTSD symptom and ten percent met a full criterion of PTSD. Clohessy and Ehlers (1999) state that twenty-one percent of the EMS personnel had PTSD symptoms. Research has verified that EMS personnel have higher levels of PTSD symptomatology and higher diagnostic rates of PTSD than the general population (Fullerton, McCarroll, Ursano & Wright, 1992; McCarroll, Fullerton, Ursano & Hermsen, 1996).

The psychosocial model of Green, Lindy, Wilson and John (1985) identify a number of additional factors that may contribute to the development of PTSD. In

particular, it suggests that an individual working in a stressful and dysfunctional environment may be more susceptible to developing PTSD after experiencing trauma than those in more supportive environments. Inadequate social support may also contribute to risk for PTSD (Blanchard et al. 1995).

Work stress and low social support have also been associated with high levels of depression and anxiety among those employed within emergency medical services (Bennett, Lowe, Mathews, Dourali, & Tattersall, 2001). These therefore may be considered risk factors for emotional distress among EMS personnel. The stress associated with emergency response may also contribute to more general problems of depression or anxiety.

According to Klein (2001), Post-traumatic stress disorder (PTSD) is a result of traumatic events can unconsciously sneak up on us psychologically and emotionally. Trauma survivors often experience PTSD that may lead to problems in their intimate and family relationships or close friendships. PTSD involves symptoms that interfere with trust, emotional closeness, communication, responsible assertiveness, and effective problem solving. The entire family is profoundly affected when any family member experiences psychological trauma.

There remains a need to develop a better understanding of the prevalence of emotional problems among EMS personnel as well as to identify factors that influence risk for them. A number of risk factors for PTSD have been identified (Brewin & Holmes, 2003). Here we examine the influence of potentially traumatic incidents to which EMS personnel are called, individual responses to an index event, and the wider context of that event.

This means that trauma survivors with PTSD often struggle with intense anger or rage, and can have difficulty coping with an impulse to lash out verbally or physically, especially if their trauma involved physical abuse or assault, war,

domestic or community violence, or being humiliated, shamed and betrayed by people they needed to trust. Family members can feel frightened of and betrayed by the survivor, despite feeling love and concern.

2.6. MARITAL SATISFACTION (MS)

Marriage is described as the most important and fundamental human relationship because it provides the primary structure for establishing a family relationship and rearing the next generation (Larson & Holman, 1994). According to Aldous (1996), good marriages provide individuals with a sense of meaning and identity in their lives. A variety of studies have demonstrated that people are generally happier and healthier when they are married (Gottman, 1994; Kelly & Conley, 1987; Orbuch & Custer, 1995; White, 1994). Yet, while marriage seems to be a highly desirable relationship, statistics indicate that marital satisfaction is not easily achieved. This is evidenced by the chronically high rates of divorce in order to appreciate the magnitude of this problem (White, 1994).

Findings have demonstrated that secondary exposure to trauma may have an impact on the relationships (personal and professional) of trauma workers (EMS personnel). Findings have shown that personal relationships can suffer as a result of increased stress or difficulties related to trust and intimacy (Clark & Gioro, 1998; White, 1998). Sterud, Hem, Ekerberg, and Lau (2008) stating that higher levels of daily negative effects lead to interpersonal problems, but may also reflect that people with higher level of stress have higher need, and therefore do not feel that they receive sufficient social support. A study by McFarlane and Bookless (2001) found that eighty percent of EMS personnel reported irritability; fifty percent revealed spending less time with their families and thirty-one percent reported decreased sexual intimacy.

2.6.1. Traumatic events and its effects on marital satisfaction of EMS personnel

McFarlane and Bookless (2001) believe that apart from the direct effect of the symptoms of PTSD, the experience can become embedded in the memory structure. Individual who are exposed to an incident such as the death of a child, or sees the mutilated remains of an adult with particularly distressing characteristics, these aspects of the experience can become the features around which the traumatic memory is organized. Hence the nature of the traumatic experience itself can also have a disruptive effect on attachment through a variety of mechanisms. This means that trauma may cast a shadow over the whole of a couple's existence inhibiting development and creativity.

2.6.2. Communications

Early in relationships, couples show the ability to talk for longer period of time. But over time, communication becomes difficult as it begins to involve much more than generating an interesting dialogue. Communication becomes a matter of listening to one another's thoughts, ideas, feelings, and opinions.

Researchers have suggested that unhappy couples appear to suffer from a skills deficit which inhibits their ability to communicate effectively, and this deficit significantly contribute to marital dissatisfaction (Carrere & Gottman, 1999; Gottman & Levenson, 1992; Gottman & Krokoff, 1989; Rogge & Bradbury, 1999). Results demonstrate that couples lacking the necessary skills to regulate their emotional expressiveness and successfully communicate tend to become defensive or to withdraw from a conflict situation. These behaviours in turn, are good predictors of later marital dissatisfaction and dissolution.

Litzinger and Gordon (2005) mention that distressed couples reported less mutually constructive communication, more demand-withdrawal communication, and more conflict or psychological distance than did non-distressed couples. These researchers found that there is a significant interaction between sexual

satisfaction and communication in determining marital satisfaction. Meaning, when couple members are good at communicating, sexual satisfaction fails to contribute significantly to marital satisfaction. However, when couple members have difficulties in communicating, they will have greater marital satisfaction if they are sexually satisfied.

This implies that amongst many other factors that lead to marital satisfaction, communication appears to be one of the most important. Meaning that EMS personnel who are unable to communicate their fears, angers, challenges and frustration from home and work are likely to be dissatisfied, whereas those who are able to communicate with their partners are most likely to be satisfied with their marriages. EMS personnel who does not become defensive or withdraw when communicating significant issues are also likely to be satisfied.

2.6.3. Intimacy

Among the most important ingredients in a marriage are the elements of sexuality and intimacy. Sexual love is a crucial and binding force in marital relationships. Sexuality and intimacy reassure partners that they are loved, valued, and attractive. Over time, these two elements create deep personal bonds, or convey the height of personal rejection. In addition, sexuality and intimacy provide relationship security by satisfying this basic human need (Morokoff & Gillilland, 1993).

Self-intimacy is the need to feel connected to oneself while other-intimacy is the need to feel connected to and close to others (Pearlman & Saakvitne, 1995). Ortlepp and Friedman (2002) noted that secondary traumatized personnel reported changes in cognitive schemata relating to interpersonal relationships. Thirty percent of personnel interviewed became more aware of the importance of family and key relationships.

Particularly among people who develop PTSD, the emerging symptoms come to have a highly detrimental effect on their personal relationships. If the individual has developed PTSD, conflict at these times will spark the irritability, which is one of the most disruptive symptoms in terms of family relationships. Catherall (2004) adds that embedded in the relationship can be a frequent re-enactment of the fears of a recurrence of the trauma compounded by the individual's irritability. Paradoxically, the detrimental effects of this pattern of reaction can be further exacerbated by the numbing and attachment disruption which are also recognized as part of the symptomatology of PTSD.

McFarlane and Bookless (2001) also state that consequence might be that every time a EMS personnel looks at his wife's face or eyes, it may trigger memories of the traumatic incident. These reminders are then avoided, leading to detachment in the relationship. The traumatic memories have the capacity to disrupt attachments and lead to the progressive distancing and avoidance of the interpersonal triggers that are the stimulus for the traumatic re-enactments.

Researchers have demonstrated that satisfaction with sexual aspects of the relationship indeed plays a significant role in the overall relationship satisfaction of married couples (Apt, Hurlbert, Pierce & White, 1996; Christopher & Sprecher, 2000; Fields, 1983; Young, Denny, Luquis & Young, 1998). Morokoff and Gillilland (1993) found sexual satisfaction, perception of spouse's sexual satisfaction and frequency of sexual intercourse to be positively associated with marital satisfaction.

Sexuality represents the attunement and outcome of mutuality within relationships. Particularly if the individual has a decreased capacity for pleasure, it is likely that there will be a loss of the reinforcing bond of sexual intimacy. Sexual behaviour requires entering powerful affective domains which are relatively independent of the modulation of language. Such intimate engagement depends on a sense of safety (McFarlane & Bookless, 2001)

2.6.4. Trust

Traumatic may disrupt self-trust and trust of others. Self-trust is the need to trust one's own judgment. Other-trust is the need to depend on others to meet one's emotional and psychological need (Pearlman & Saakvitne, 1995).

Mcfarlane and Bookless (2001) state that if some element of the traumatic event has involved being let down by a colleague, this can similarly evoke the involvement of issues of trust in the traumatic memory structure. Goenjian (1993) believes that moments of dependence and reliance on a partner can become infiltrated and similarly corrupted by traumatic experiences. This disrupted self-trust and trust may gradually affect most spheres of relationships including marital relationships. Once trust is diminished in marital relationships, it might lead to marital dissatisfaction. However, once there is trust, it might lead to marital satisfaction.

2.7. THE WORKING ENVIRONMENT OF EMS PERSONNEL

According to Holland (2008) EMS personnel work in an environment that includes among others, frequent exposure to adults and children who are coping with life threatening and traumatic conditions. Beaton and Murphy (1995) state that conditions in the workplace for EMS personnel often include threats to their own and their partner's personal safety, exposure to chemical and bio-hazardous materials, injuries and death of children and infants, repugnant victim scenes, body handling, completed suicides and homicides, and mass casualty incidents. Emergency services providers must regularly cope with the stress related to these exposures and are expected to manage it appropriately.

Boudreaux, Mandry and Brantley (1998) investigated the perceived psychological and social impacts of modifying the work schedule from 24 hour on-call shifts to 12 hour shifts in an urban service. Participants reported liking the new schedule better and reported greater work-schedule satisfaction and less family disruption.

However, Holland (2008) states that there were, no changes reported in overall job satisfaction and most importantly, the observed improvements in emotional functioning returned to baseline at the one-year follow-up.

Holland (2008) further reveals that EMS personnel work an average of 2,800 hours a year with workweeks averaging 56 hours. William (2006) also examined the variety of shifts schedules that EMS personnel are expected to work. Work shifts ranged from10 to 24 hours with the most common being 24 hour shifts (53.8%). Holland (2008) indicates that the 24 hour rotations were usually followed by a 48 hour break before returning for another 24 hour shift. Some locations had modified the 24 hour rotation to include a 72 hour break before returning for another 24-hour shift. James, Tremea, Jones and Krohmer (1998) state that one of the most significant stress factors in adjusting to EMS work is rotation shift work Rotating shift work causes mental and physical stress and can lead to many health-related problems.

All this confirms the nature of work that EMS personnel finds themselves exposed to in their day to day work. This also supports that STS is inevitable and cumulative amongst EMS personnel.

2.8. FAMILIES OF EMS PERSONNEL

Families are often viewed as sources of support and pillars of strength when the hassles of life occur. It is noted, however, that support networks can also be great sources of stress. As Graham (1981) reports, it is too difficult for the families of EMS personnel to be "barraged" with the problems of the job on a daily basis, and they may not appreciate the scope of EMS work.

Allison, Whitley, Revicki and Landis (1987) report that interference with family life is a source of particular stress in EMS work. However, Cydulka, Lyons, Moy, Shay, Hammer & Mathews (1989) find marital status to have no significant effect

on moderating stress in them. It was suggested that although needs for affection and approval were fulfilled by the family, they reported that they were sometimes closer to their colleagues partner than to their spouse.

Therefore, EMS personnel's working environment is traumatic. Literature supports that the exposure to psychological trauma has a negative effect on the marital relationship. Trauma leads to restricted range of affect, feeling of detachment from other and diminished interest in previously enjoyed activities. These symptoms lead to problems in marital relationship because individuals no longer have feeling towards others, and in most cases, they no longer enjoy sexual activities.

2.9. THEORETICAL FRAMEWORK

2.9.1. Psychological perspective

2.9.1.1. Cognitive model of trauma

Ehlers and Clark (2000) develop a comprehensive cognitive model of the maintenance of PTSD symptoms. The core of the model implicates both posttraumatic cognitions and elements of trauma memories. The authors postulated that people with PTSD perceive a current threat, which has two sources: firstly, the nature of the trauma memory and secondly, problematic appraisals of the trauma and or its aftermath. The memory of the traumatic event is thought to be poorly elaborated and poorly integrated into the autobiographical memory base. Ehring, Ehlers and Glucksman, (2008) indicate that together with other trauma memory characteristics (strong perceptual priming and strong conditioned associations), the poor elaborations is thought to lead to an insufficient inhibition and easy triggering of involuntary memories that lack awareness of the self in the past and other relevant context information.

Ehlers and Clark (2000) suggest that PTSD is maintained not by the nature of traumatic event itself, but is the result of an ongoing interactive process between the person's posttraumatic appraisals and his/her memory of the event- leading to

the ongoing perception of being in a dangerous environment. They argue that appraisals (the first model of their model) can relate to the event itself, to the way one felt or behaved during the event, or to posttraumatic reactions. The second core element of cognitive model of trauma implicates the role of memory fragmentation and poor integration of the trauma memory in the maintenance of PTSD symptoms.

The nature of the trauma memory is thoughts about the result of problematic cognitive processing during the trauma, especially a predominance of data-driven processing (i.e. predominant processing of the sensory impressions, as opposed to processing the meaning of the situation) and lack of self-referential processing (i.e. insufficient linking of the event to knowledge of the self) both which overlap, in part, with dissociation (Halligan, Michael, Clark & Ehlers, 2003). PTSD is thought to be maintained by a range of cognitive and behavioural strategies that the individual uses to control the current threat. These include thought suppression, rumination, avoidance and safety behaviours (i.e. excessive precautions) (Ehring, Ehlers & Glucksman, 2008).

Therefore, EMS personnel are not always affected by the traumatic event itself, however, by the poor integration of trauma memories, strong conditioned association as well as problematic appraisals of the trauma and its aftermath. This model suggests that EMS personnel can experience recollection of trauma memories and also maintain those symptoms due to distorted thinking about the incident. STS among EMS personnel can also be maintained by lack of awareness of the self and also insufficient linking of the knowledge about the events.

2.9.1.2. Social learning theory

Bandura's Social learning theory states that people learn from one another, via observation, imitation, and modeling. This theory explains human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural and

environmental influences (Bandura, 1997). Social learning theory holds that many reactions of occupational trauma victims can be viewed in terms of learned behavior or conditioning. That is, a person learns to avoid stimuli that are associated with trauma. This in itself would probably not be problematic. Kenny, Carlson, Mcguigan and Sheppard (2000) what is problematic, however, is that the person generalizes avoidance to even the most non-threatening situations.

Kenny, Carlson, Mcguigan and Sheppard (2000) highlight necessary conditions for effective modeling. The first condition is attention which is increased or decreased by factors such as distinctiveness, affective valence, prevalence, complexity, functional value. One's characteristics (e.g. sensory capacities, arousal level, and perceptual set, past reinforcement) affect attention. The second condition is retention which refers to remembering what you paid attention to. Retention includes symbolic coding, mental images, cognitive organization, symbolic rehearsal, and motor rehearsal. The third condition is reproduction which refers to reproducing the images including physical capabilities, and self-observation of reproduction. The last condition is motivation which refers to having a good reason to imitate, which includes motives such a past (i.e. traditional behaviorism), and promised (imagined incentives).

As part of social learning theory, Martin Seligman and Steven Maler came up with a model of learned helplessness. Learned helplessness is a condition where an individual's learned to behave helplessly, even if the opportunity is restored for them to help themselves by avoiding an unpleasant or harmful circumstance to which they have been subjected (Henry, 2005). Learned helplessness occurs when an individual's is repeatedly subjected to an aversive stimulus that they can escape. Eventually, the individual will stop trying to avoid the stimulus and avoid the stimulus and behave as if it is utterly helpless to change the situation. Even if the opportunities to escape are presented, this learned helplessness will prevent

any action. There are people who rely on learned helplessness as a means to cope with negative events happening in their life (Bennet & Elliot, 2005)

EMS personnel work in a traumatic environment and STS is inevitable. Most of the reactions that are evident in EMS personnel can be viewed as leaned behavior. Therefore, social learning theory explains how the symptoms are maintained. These learned reaction or behaviour becomes part of the personnel. These reactions are then exhibited in professional, social and interpersonal relationships. In the same breath, EMS personnel are directly exposed to traumatic experiences of their patients almost every day, they seem to reach point where they feel they do not have control over their situation and begin to behave in a helpless manner. At times, personnel may overlook opportunities for relief or change.

2.9.2. Biological perspective (Neurobiology of psychological trauma)

2.9.2.1. Effects of psychological trauma on specific brain regions

Weiss (2007) indicates that traumatic experience activates numerous brain regions, primarily the limbic system, a network of neural regions and processes that work together to achieve homeostasis in response to external events. One of these specialized regions is the prefrontal cortex, where information is used to make decisions about cognitive and emotional responses that may be appropriate or needed (Elzinga & Bremmer, 2002). The deficiency in emotion regulation may result in hyper-vigilance to trauma-related cues, exaggerated startle, flashbacks, intrusive memories, and misinterpretation of innocuous stimuli as potential threats (Frewen & Lanius, 2006).

Weiss (2007) states that during the traumatic event, the thalamus also sends information to the hippocampus, where conscious memories of facts and details associated with the experience are established initially. The cortex, which is the smaller volume in the hippocampus, appears to stem from deterioration or trophy

of neural processes, including decreased density of neurons, decreased branching of the dendrites that take information to the nerve cell, degeneration at the terminals of neurons and decreased growth of new neurons (Duman, Malberg, & Nakagawa, 2001). These neural deficits may explain symptoms of avoidance and numbing, inability to recall facts and details of the trauma, fragmentation of various aspects of a memory, dissociative or total amnesia for the trauma (Weiss, 2007).

As part of its triage role during a stressful event, the thalamus also provides preliminary information to the amygdala regarding the need to prepare for a threat (Shin, Rauch, & Pitman, 2006). An overactive amygdala may be responsible for symptoms of hyperarousal in PTSD, including exaggerated startle response, irritability, anger outburst, reexperiencing and general hypervigilance (Weiss, 2007).

2.9.2.2. Effects of psychological trauma on the HPA axis

Weiss (2007) asserts that when Acetylcholine (ACTH) is released by the pituitary gland, it stimulates the adrenal to secrete cortisol, our body's primary stress hormone. Cortisol has numerous effects is an increased sensitivity of the thalamus to incoming stimuli. This process has been referred to as kindling, whereby, in chronic trauma, a stronger psychological and physiological response is elicited with triggers of diminishing strength (Van der Kolb, 2003).

Stress triggers release of corticotrophin-releasing factor (CRF) from the hypothalamus; acetylcholine (ACTH) released from the pituitary, in turn triggers the release of cortisol from the adrenal glands. In a negative feed-back loop, elevated levels of cortisol act on the brain to reduce the release of ACTH and cortisol. CRF plays a key role in modulating the autonomic, immune and behavioral effects of stress. Increases in CRF are associated with increased symptoms of depression and anxiety (Arborelius, Hawks, Owen, Plotsky & Nemeroff, 1999).

Cerebral cortex can be damaged by exposure to stress, in the absence of clinical symptoms, but further work is required. Bremner et al. (2003) found that compared to controls, people with PTSD had reduced frontal and temporal cortical thickness performed significantly less well on memory. There was a correlation between cortical thickness and memory performance, suggesting cortical thinning may correspond with the functional abnormalities of PTSD. High level of cortisol has also been found to improve recall of emotionality relevant information and consolidate long-term memory (Abercrombie, Kalin, Thurow, Rosenkranz & Davidson, 2003).

2.9.2.3. Effects of psychological trauma on monoamine neurotransmitters

Circulating epinephrine increases metabolism, respiration, heart rate, and mental activities such as attention and concentration. This state of hyper-arousal can be adaptive in the short term. However, individuals who have experienced trauma often have persistent SNS hyper-arousal, higher catecholamine levels, and excessive arousal in response to trauma cues (Bremmer, 2005). These findings suggests that the elevation in epinephrine may underlie symptoms such as exaggerated startle response, sensitization to trauma-related cues, and over generalization of trauma-related arousal to other situations or events.

Norepinephrine is a neurotransmitter that is released during stress, and one of its functions is to activate hippocampus, the brain structure involved with organizing and storing information for long-term memory. Under the extreme stress of trauma, norepinephrine may act longer or more intensely on the hippocampus, leading to formation of abnormally strong memories that are then experienced as flashbacks or intrusions (Kaehler, Singewald, Sinner, Thurnher & Phillipu, 2000).

In condition of moderate stress, serotonin is released into the frontal cortex, acting to calm and diminish dysphoria and anxiety (Bremner, 2005). Serotonin depletion may also contribute to the symptoms of hyper-arousal that are seen in PTSD,

including re-experiencing, hyper-vigilance, impulsivity, and irritability (Kaehler, Singewald, Sinner, Thurnher & Phillipu, 2000).

In contrast to serotonin depletion, research suggests that both acute and chronic stress increase level of dopamine in the prefrontal cortex and amygdale (Vermetten & Bremner, 2002). Higher concentration of dopamine may impair sensory processing capabilities and contribute to feelings of depersonalization or derealization often experienced in dissociative disorders that can result from trauma. Elevated dopamine levels may also be associated with the symptoms of hyper-vigilance and irritability observed.

2.9.2.4. Stages in Stress Reaction to Trauma (General Adaptation Syndrome)

In addition to biological model of trauma Ramokgopa (1993) highlighted the stages of stress reaction to trauma. The first stage is the alarm reaction stage which occurs when a stressor is recognized; the brain sends forth a biochemical message to the pituitary glands, which then secretes adrenocorticotropic hormone (ACT). The ACT causes the adrenal glands to secrete corticoid such as adrenalin. Adrenalin is a hormone that activates the body to prepare for defense. In other words, it prepares the body either for fight or flight response, by ensuring that muscles as well as energy is available for any action that may be necessary. The second stage is the resistance stage which occurs after the immediate threat is dealt with or is overcome; the body tries to return to a state of equilibrium, through the secretion of non-adrenalin. In many ways, this stage is the opposite of the alarm stage, whose physiological characteristics fades and disappears as the organism adopts to the derangement caused by the stressor. The last stage is the exhaustion stage which occurs if the individual continues to experience the presence of the stressor. The point is reached whereby, the body can no longer produce more adrenalin than necessary, and the acquired adaptation is eventually lost, and the new stage is entered. If the stress is unduly prolonged, the wear and tear incurred will results in damage to local area or death to the organism as a whole.

General adaptation syndrome explains the reason why EMS personnel experience such an abundant source of health problems. Stress change the way EMS personnel's body normally functions and continue to disrupt the natural balance that is important for well-being.

2.10. CONCLUDING REMARKS

EMS personnel frequently find themselves managing mass disaster and rescuing those who are traumatized by different traumatic events. Theories ranging from cognitive model, social learning theory as well as biological model attempts to explain the mechanism of how EMS personnel deal with the massive psychological pressure emanating from their workplace. This theories supports the fact that psychological trauma (secondary traumatic stress, PTSD and burnout) are inevitable amongst individuals who work or rescue trauma survivors, hence they elaborate on how these symptoms are maintained.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1. RESEARCH DESIGN

A research design is an overall plan for collecting and analyzing data, including specification for enhancing the internal and external validity of the study (De Vos, 2006). Burns and Grove (2001) describe research design as a “blueprint for conducting a study that maximizes control over factors that could interfere with the validity of the findings”.

In this study, the researcher adopts quantitative approach with an exploratory design in order to understand the phenomenon under investigation. The study is an applied research because the knowledge generated could influence the support and training for EMS personnel who work in a traumatic environment. Polit et al. (2001) state that the purpose of applied research is to “solve problems, make decisions or control outcomes in real-life situations”.

According to Burns and Grove (2001), quantitative research is the “formal, objective, systematic process in which numerical data is used to obtain information about the world”. This method is used to describe variables, examine relationships between variables and determine the cause-effect interaction between variables. The purpose of quantitative research is to describe new situations (Burns & Grove, 1999). Formal instruments, such as questionnaires, are used to collect information and data is analyzed using statistical procedures (Polit & Hungler, 1999). The researcher selected quantitative design in order to explore psychological trauma experienced by EMS personnel and how it impacts marital satisfaction.

Exploratory research aims at “exploring the full nature of the phenomenon, the manner in which it is manifested and the underlying processes” (Polit & Hungler, 1999). Exploratory studies are done “to acquire a better understanding of the phenomenon and can yield new insights to the topic” (Babbie & Mouton, 2001).

3.2. VARIABLES

A variable is an empirical property that is observed to change by taking more than one value or being of more than one kind. Independent variable is defined as the variable which is measured, manipulated, or selected by the researcher to determine its relationship to an observed phenomenon, which is the dependent variable. Dependent variable is defined as an observed or measured to determine the effect on it of the independent variable. It is that factor which varies as the researcher manipulates the independent variable. (Bless, Higson-Smith & Kagee, 2006). In this study, the independent variable is the psychological trauma while dependent variable is marital satisfaction.

3.3. POPULATION

The term population refers to a group or aggregate of individuals, groups, organizations, social artifact/objects, or social interactions and events (Du plooy, 2006). Burns & Grove, (1999) refer to population as “all elements (individuals, objects or substances) that meet certain criteria for inclusion in the study”. The target population for this study is all the EMS personnel, male and female, married, who render emergency services in Capricorn district in Limpopo province.

For the purpose of this study, the participants had to meet the following criteria:

- Registered as an Emergency Medical Services personnel with relevant board in HPCSA
- Employed on a full-time basis by the Department of Health in Limpopo Province, Capricorn District.

- Directly involved in assisting victims of trauma; for example, people exposed in fatal or traumatic accidents.

3.4. SAMPLE

Goddard and Melville (2005) define a sample as a "subset of the population". Burns and Grove (1999) also refer to a sample as a "small portion of the population that is selected for a particular study".

In this study, the researcher adopts a probability sampling approach. Goddard and Melville (2005) state that probability sampling is the basic principle used to avoid bias in a sample. This approach must ensure that each member of the population has as much chance as any other of being included in it. All EMS personnel who meet inclusion criteria for the study were included after being given equal chance to participate. Generalization to all EMS personnel at Capricorn District in Limpopo Province will therefore be possible.

According to De Vos (2006) simple random sampling allows each individual in the population to have an equal chance of being selected for the sample. The sample size refers to the number of participants selected to participate in the study. The sample size for this study was 200 participants working in Capricorn District in the Limpopo Province. A total number of 152 males and 48 females, all married and working in the department of health were selected. Each individual was represented by the number from 1 to 400 and the first number was blindly selected, subsequently a difference of one was used in selection.

3.5. MEASURING INSTRUMENTS

The following scales (see Appendix A, B, C, D) were used for this study:

3.5.1. Biographical information scale

In the demographics questionnaire**,** EMS personnel were asked to provide information on their background and current family situation. All respondents indicated their gender, age, race, duration of service and marriage.

3.5.2. PTSD Checklist – Civilian Version (PCL-C)

The PCL (Weathers et al., 1994) is a 17-item self-report questionnaire that prompts informants to endorse the level of distress that has co-occurred with each reported PTSD symptom over the prior 30 days. This scale is for use in primary care settings (Stein & Lang, 2005). It contains the 2 items from each of the reexperiencing, avoidance, and hyper arousal clusters that correlated most highly with the individual cluster score on the PCL-C. Respondents rate items on a 5-point scale (ranging from 1 = “Not at all” to 5 = “Extremely”). Griffith, Morgan, Barber and Young (2008) indicate that a score of 45 or greater on the PCL-C has been recommended as a cut-off point for high PTSD symptom load.

PCL scores ranged from 17 to 79. Item means ranged from 1.5 to 2.3 for the re-experiencing scale, for the avoidance scale, and from 1.4 to 1.8 for the hyper arousal scale (Weathers et al., 1994). In this study the alpha scale reliability is .93.

3.5.3. Professional Quality of life (ProQOL-R III)

ProQOL-R III was developed by Stamm in 1997. The subscales are Compassion Satisfaction, Compassion Fatigue, and Burnout. It is an instrument which quantifies compassion, satisfaction, burnout and fatigue – the three independent subscales that are graded separately. The updated version of ProQOL- R III uses a 30 item answer sheet with the 6-point Likert Scale (Stamm, 2005).

The ProQOL-R III is the revised edition of the test created to fix problems encountered in the original such as psychometric problems along with promoting a more positive outlook. For the three subscales (Compassion Satisfaction, Burnout and Compassion Fatigue) the alpha scale reliability is .87, .72, and .80 respectively

(Stamm, 2005). The coding for the negative statement which is item number 1, 4, 15, 17 and 29 in the Pro-QOL-R III were reversed. In this study the alpha scale reliability for three subscales (Compassion Satisfaction, Burnout and Compassion Fatique or Secondary Trauma) is .85, .67, and .80 respectively.

3.5.4. Marital satisfaction Questionnaire for older persons (MSQFOP)

MSQFOP was developed by Haynes, Floyd, Lemsky, Rogers, Winemiller, Heilman, Werle, Murphy, and Cardone (1992). It consists of 24 items that measures communication, problem solving, companionship activities and evaluations of the spouse's personal qualities. Cronbach coefficients alpha for the 24-item Marital Satisfaction Scale of the MSQFOP were .96 for both men and women. Cronbach coefficients alpha for the 24-item Marital Satisfaction Scale For Older People is .94.

The purpose of this research program was to develop and evaluate a measure of marital satisfaction that would be appropriate for use with older persons. Five separate studies were conducted over a 4-year period to (a) develop a questionnaire that would have content validity for an older population, (b) collect normative data and examine the factor structure for the questionnaire, (c) examine its temporal stability, and (d) examine its concurrent, predictive, and construct validity. For the purpose of this study, older persons will refer to anyone who is married and aged 20 years and above.

3.6. PROCEDURE OF DATA COLLECTION

The researcher firstly obtained permission to conduct the study from the University of Limpopo (Turfloop Campus) Ethics Committee. Thereafter, permission was again obtained from Limpopo Province's Department of Health to collect data from selected government/public hospitals in Capricorn district. The topic, aim, participants, names of selected hospital and time frame were stipulated. Once this was done, the researcher approached the selected hospitals in which EMS

personnel were identified with the assistance of Heads of department in different hospitals in Capricorn district. Participants were randomly sampled by choosing an equal number of names from the list of married EMS personnel provided by EMS Heads of Department (HOD). Simple random sampling was applied and the selected cases were invited to participate in the study and they were all asked for their consent. The researcher informed the participants that participating in this study was voluntary and that their identity would be confidential.

Participants from each group were then randomly selected and a total number of 200 were selected. All the married EMS personnel were registered from different hospitals in Capricorn District and an overall selection was made. Before the final version of the questionnaire was adopted for the use of this study, a pilot study was conducted to a group of 10 married EMS personnel at one hospital in Capricorn District. These results were not included in the main study. This was done to assess the questionnaire's level of understandability, its ability to be completed, the time it takes to be completed as well as its reliability.

Selected participants were given the questionnaires to fill in and these were collected when they were completed. The questionnaires were in English to accommodate all the participants. The researcher had two research assistants who were assisting in administering and collection of questionnaires from the participants. The research assistants were knowledgeable in human behavioural sciences procedures. Collection of data was completed in two months in six hospitals in Capricorn District of the Limpopo Province.

3.7. DATA ANALYSIS

The Statistical Package for Social Sciences (SPSS) was used in analyzing data with the use of ANOVA analysis. Correlation and descriptive analysis were computed and presented to provide an overall picture of the data obtained.

The participant's responses were then coded. The PTSD Checklist – Civilian Version (PCL-C) responses were coded as follows: "not at all" as 1, "a little bit" as 2, "moderately" as 3, "quite a bit" as 4, and "extremely" as 5.

The responses of the Professional Quality of Life (Pro-QOL-R III) were coded as follows: "never" as 1, "rarely" as 2, "a few times" as 3, "somewhat often" as 4, "often" as 5 and "very often" as 6. The coding for the negative statement which is item number 1, 4, 15, 17 and 29 in the Pro-QOL-R III were reversed.

The responses of the Marital Satisfaction Questionnaire for Older persons (MSQFOP) were coded as follows: "very dissatisfied" as 1, "dissatisfied" as 2, "somewhat dissatisfied" as 3, "somewhat satisfied" as 4, "satisfied" as 5, and "very satisfied" as 6.

3.7.1. Correlation analysis

Correlation analysis determines the extent to which changes in the value of an attribute is associated with changes in another attribute. In particular, Pearson correlation analysis was used to reflect the degree to which the variables are related. The aim of this analysis was to assist in exploring whether there is a significant or positive relationship between psychological trauma and marital satisfaction

3.7.2. Descriptive analysis

Descriptive analysis can predict the outcome of a given key business indicator (dependent variable) based on the interactions of other related business drivers (explanatory variable). The aim of this method of analysis was to describe whether EMS personnel were experiencing psychological stress at their workplace and whether they were satisfied with their marriage.

3.8. ETHICAL CONSIDERATION

According to Bless, Higson-Smith and Kagee (2006) ethics refer to a code or set of morals which guides whether certain behavior conforms to those set of morals. Strydom (1998) elaborated the definition of ethics by referring to it as a set of moral principles which is suggested by an individual or group, is subsequently widely accepted, and which offers rules and behavioral expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students.

From literature and researcher's personal experience, it is difficult for people to recover from such impact of trauma either on primary or secondary level. Therefore, it was expected that an intensive study such as this could be overwhelming for respondents, with possible regression for some who thought that they had resolved their traumatization. Careful consideration was therefore, given for the ethical interests of participants through the following procedure.

3.8.1. Permission to conduct the study

Permission to conduct the study was obtained from the Department of Health research committee.

3.8.2. Voluntary participation

The researcher informed the participants about the voluntarily nature of the study and explained the aspects of the study in detail to participants in order to ensure that they have full understanding and freely participate.

3.8.3. Informed consent

Informed consent was obtained through a documented statement that was signed by the participants that they had read and understood the description of the research study.

3.8.4. Confidentiality

It is of utmost importance to ensure the respondents right to privacy, meaning, any information that they offer would be used for research purposes and nothing else.

3.8.5. Debriefing

Debriefing was done after every session and no significant case that needed individual long-term therapy. They were advised to consult with a psychologist for therapeutic intervention, should symptoms that significantly impair their occupational or social functioning emanate.

CHAPTER 4

INTERPRETATION OF RESULTS (FINDINGS)

This chapter focuses on the presentation of data, which is done through the use of tables while the hypotheses will also be tested. The data analysis was conducted using the Statistical Package for Social Sciences (SPPS) program. Firstly, the data reliability coefficients (i.e. internal consistency) of all instruments used in the study were tested, and it turned that all the instruments had high reliability coefficient. The mean of the missing values were calculated using the SPSS in order to find values of the unanswered questions.

4.1. DEMOGRAPHIC INFORMATION

4.1.1. Gender

A total of 200 participants completed the questionnaire. Hundred and fifty two (76%) were males and forty eight (24%) were females (see table 1).

Table 1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	152	76.0	76.0	76.0
	Female	48	24.0	24.0	100.0
	Total	200	100.0	100.0	

4.1.1. Age

Fifty-two were between the ages of 20-30, ninety were between the ages 31-40, thirty nine were between the ages of 41-50, fourteen were between the ages of 51-60, and five were between the ages of 61-70 (see table 2).

Table 2: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	52	26.0	26.0	26.0
	31-40	90	45.0	45.0	71.0
	41-50	39	19.5	19.5	90.5
	51-60	14	7.0	7.0	97.5
	61-70	5	2.5	2.5	100.0
	Total	200	100.0	100.0	

4.1.3. Duration of marriage

Ninety-eight were married for a period ranging from 01 to 05, fifty-six were married for a period ranging from 06 to 10, twenty-seven were married for a period ranging from 11 to 15, five were married for a period ranging from 16 to 20, fourteen were married for a period ranging from 21 to date (see table 3).

Table 3: Duration of marriage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	01-05	98	49.0	49.0	49.0
	06-10	56	28.0	28.0	77.0
	11-15	27	13.5	13.5	90.5
	16-20	5	2.5	2.5	93.0
	21- to date	14	7.0	7.0	100.0
	Total	200	100.0	100.0	

4.1.4. Duration of service of EMS personnel

Sixty-six have been serving for a period ranging from 01 to 05 years, eighty-nine have been serving for a period ranging from 06 to 10 years, twenty-two have been serving for a period ranging from 11 to 15 years, nineteen have been serving for a period ranging from 16 to 20, and 4 have been serving for a period ranging 21 to date (see table 4).

Table 4: Duration of service as an EMS personnel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	01-05	66	33.0	33.0	33.0
	06-10	89	44.5	44.5	77.5
	11-15	22	11.0	11.0	88.5
	16-20	19	9.5	9.5	98.0
	21-to date	4	2.0	2.0	100.0
	Total	200	100.0	100.0	

4.2. RESULTS AND INTERPRETATION

4.2.1. PTSD, STS and BO

The PTSD checklist contained the 17-items PCL-C scale. The PCL-C is a self-report questionnaire that measures symptoms of PTSD which is re-experiencing, avoidance and hyperarousal. The mean of the overall score on the PCL-C is 51.87 which indicate that majority of EMS personnel who participated in this study experience PTSD. Table 5 presents a summary of the descriptive statistics relating to PCL-C.

Table 5 also illustrates the results ProQOL which measures STS and BO. The mean of the overall score on STS subscale is 1.93 which suggests that EMS personnel experience STS in their workplace. Whereas the mean of the overall score on BO subscale is 1.02 which suggests that EMS personnel do not experience BO as a result of their workload (see table 5).

Table 5: Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistics	Statistic	Std. Error	Statistic
PTSD	200	1	3	2.71	.035	.499
STS	200	1	2	1.93	.017	.247
BO	200	1	2	1.02	.010	.140
Valid N (listwise)	200					

4.2.2. Marital satisfaction and psychological trauma

The correlation table displays Pearson correlation coefficients, significance values, and the number of cases without missing variable (N) of PTSD, STS as well as Burnout. The sign of the correlation coefficient indicates the direction of the significant relationship between PTSD and marital satisfaction. The Pearson correlation between PTSD and MS is -.548 ($p<0.01$). Thus, EMS personnel who are having PTSD are dissatisfied with their marriage.

The sign of correlation coefficient indicates the direction of the significant relationship between STS and MS. The Pearson correlation STS and MS is -166 ($p<0.05$). Thus, EMS personnel who are secondary traumatized by helping others as part of their work are dissatisfied in their marital relationships.

The sign of correlation coefficient indicates the direction of insignificant relationship between BO and MS. The Pearson correlation between BO and MS is -.115. Thus, EMS personnel who are not burnt out by helping other as part of their work are satisfied with their marital relationship.

The absolute value of the correlation coefficient indicates the strength, with larger absolute values indicating stronger relationships. The correlation coefficients on the main diagonal are always 1, because each variable has perfect positive linear relationship with itself (see table 6).

Table 6: Pearson Correlations

		PCL-C	STS	BO	MSQFOP
PTSD	Pearson Correlation	1	-.121	.085	-.548**
	Sig. (2-tailed)		.087	.233	.000
	N	200	200	200	200
STS	Pearson Correlation	-.121	1	-.237**	-.166*
	Sig. (2-tailed)	.087		.001	.019
	N	200	200	200	200
BO	Pearson Correlation	-.085	-.237**	1	-.115
	Sig. (2-tailed)	.233	.001		.104
	N	200	200	200	200
MSQFOP	Pearson Correlation	-.548**	-.166*	-.115	1
	Sig. (2-tailed)	.000	.019	.104	
	N	200	200	200	200

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

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

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1. INTRODUCTORY REMARKS

In this chapter, the hypothesis of the current study will be discussed in relation to the literature review and other related factors. This chapter concludes the study's limitations, conclusions and recommendation.

5.2. TEST OF FIRST HYPOTHESIS

The first hypothesis states that EMS personnel experience psychological trauma in their work place. Before examination of the psychological trauma experienced by EMS personnel, the classification of scales and subscales that measure psychological trauma (PTSD, STS and BO) was done. The results were computed and scored using descriptive analysis.

The findings of this study indicate that most EMS personnel experience PTSD in their workplace. These findings were similar to those of studies that examined the psychological effects to exposure to critical incidents. Findings vary from non-harmful outcome to a full development of PTSD (Baum, Gathchel & Schauffer, 1983; Freedy, Shaw & Jarrel, 1992; McFarlane & Papay, 1992). Beaton (2006) posits that considering the frequency, nature and intensity of their duty-related traumatic exposures, EMS personnel have relatively low rates of PTSD with prevalence among them of 15-20 percent. In the study by (Shah, Garland and Katz, 2007) 40 percent of EMS personnel (crisis helper) experience PTSD. Though Figley (1995; 2002) linked PTSD with STS, little has been done to determine whether PTSD is a resultant of personal trauma history or health conditions (Abendroth, 2005).

Holland (2008) studied 79 EMS personnel involved in rescue operations at an apartment complex explosion. 80 percent of EMS personnel had at least one symptom and 10 percent met a full criterion for PTSD. Clohessy and Ehlers (1999) found that 21 percent of the EMS personnel evidenced PTSD symptomatology. Research has verified that EMS personnel have higher levels of PTSD symptomotology and higher diagnostic rates of PTSD than a general population (Fullerton, McCarroll, Ursano & Wright, 1992; McCarroll, Fullerton, Ursano & Hermsen, 1996).

Findings in the current study also indicate that EMS personnel experience STS in their workplace. These findings are similar to the findings of the study conducted by Jonas (2003) on crisis workers which indicates that due to repeated exposure to traumatic events or materials and dealing trauma survivors on daily basis, crisis workers often become traumatized themselves. Helping professionals, EMS personnel amongst others, is a group that experiences the most deadly trauma in their line of duty. It was further elaborated that the trauma experienced by this group has very little physical symptoms; however, they tend to have psycho-emotional sufferings which they experience on secondary level. Herman (1997) added that that trauma is contagious and those who help traumatized individuals experiences to a lesser degree, the same rage, terror and despair.

Shah, Garland and Katz (2007) found that EMS personnel experience STS because in the context mass disaster, they may push themselves to work excessively possibly to pay for the fact that they were fortunate enough to survive. They may not feel as though they deserve to live, but they continue to work in order to pay homage to the casualties. Abendroth (2005) mentions that it is not uncommon for helping professionals to experience STS; approximately 79 percent of the sample was in moderate to high risk category for STS in their study. Collins and Long (2003) explores how interacting with seriously traumatized people has the potential to affect health-care workers. Findings indicate that health-care workers experience STS.

However, findings on the BO subscale indicated that EMS personnel do not experience BO in their workplace. This was supported by Sterud, Hem, Ekeberg and Lau (2008) who indicate that EMS personnel stressors were reported as both more severe and more frequently occurring stressors (STS) than were organizational stressors (BO), meaning in the study conducted by the above mentioned authors, the relationship between STS and BO was weak. This implies that EMS personnel may have enough resources, adequate supervision and have a good working relationship with authority figures which act as a protective factor for BO.

Unlike STS, BO is related to chronic tedium in the workplace rather than exposure to specific kinds of client problems such as trauma (Schauben & Frazier, 1995). Bo is frequently associated with excessive workplace expectations; lack of appreciation for services rendered and limited employee input into the organizational processes (Maslach & Lieter, 1997).

The second hypotheses states that psychological trauma experienced by EMS personnel has negative effect on marital satisfaction. After classifying psychological trauma by using descriptive analysis to measure the extent of trauma, the results were correlated with marital satisfaction (MS). The findings on the Pearson correlation coefficients indicate the significant relationship between PTSD and MS. These findings were supported by Sterud, Hem, Ekerberg and Lau (2007) stating that higher levels of daily negative effects lead to interpersonal problems, but may also reflect that people with higher level of stress have higher need, and therefore do not feel that they receive sufficient social support. A study by McFarlane and Bookless found that 80 percent of EMS personnel reported irritability, 50 percent revealed spending less time with their families and 31 percent reported decreased sexual intimacy.

Traumatic experience is highly disruptive to attachment behavior and the inner world of self-awareness that is critical to intimacy. Hence the nature of traumatic

experience itself can also have a disruptive effect on attachment through a variety of mechanisms; the impact of trauma on interpersonal relationship is profound. Consequences might be that every time an EMS personnel looks at his wife's face or eyes, it may trigger memories of the traumatic incident. These reminders are then avoided, leading to detachment in the relationship. The traumatic have the capacity to disrupt attachments and lead to the progressive distancing and avoidance of the interpersonal triggers that are the stimulus for the traumatic re-enactments (McFarlane & Bookless, 2001).

Catherall (2004) states that particularly in those who develop PTSD the emerging symptoms come to have detrimental effect on their personal relationships. If the individual has developed PTSD, conflict may spark the irritability which is one of the most disruptive symptoms in terms of family relationships. In this regard, embedded in the relationships can be a re-enactment of the fears of the recurrence of the trauma compounded by the individual's irritability. Paradoxically, the detrimental effects of this pattern of the reaction can be further exacerbated by the numbing and attachment disruption which are also part of symptomatology of PTSD.

McFarlane and Bookless (2001) state that if some elements of the traumatic events have involved being led down by the colleague, this can similarly evoke the involvement of issues of trust in the traumatic memory structure. Goenjien (1993) believes that moments of dependence and reliance on a partner can become infiltrated and similarly corrupted by traumatic experiences. The disrupted self-trust and trust may gradually affect most spheres of relationship including marital relationship. Once trust is diminished in marital relationship, it might lead to marital dissatisfaction.

Self-intimacy is the need to feel connected to oneself; other-intimacy is the need to feel connected to and close to others (Perlman & Saakvitne, 1995). Ortlepp and

Friedman (2002) note that secondary traumatized personnel reported changes in cognitive schemata relating to interpersonal relationships. Thirty percent of personnel interviewed became more aware of the importance of family and key relationships.

This detachment may lead to lack of sexual contact in the relationship. Researchers have demonstrated that satisfaction with sexual aspects of the relationship indeed plays significant role in the overall relationship satisfaction of married couples (Apt, Hurlbert, Pierce & White, 1996; Christopher & Sprecher, 2000; Fields, 1983; Young, Denny, Luquis& Young (1998). Morokoff and Gillilland (1993) found sexual satisfaction perception of spouse's sexual satisfaction and frequency of sexual intercourse to be positively associated with MS.

Litzinger and Gordon (2005) mention that distressed couples reported less mutually constructive communication, more demand-withdrawal communication, and more conflict or psychological distance than did non-distressed couples. These researchers found that there is significant interaction between sexual satisfaction and communication in determination in determination Marital Satisfaction. Meaning, when couple members are good at commutating, sexual satisfaction fails to contribute significantly to marital satisfaction. Researchers have suggested that unhappy couples appear to suffer from a skills deficit that inhibits their ability to communicate effectively, and this deficit significantly contribute to marital dissatisfaction (Carrere & Gottman, 1999; Gottman & Levenson, 1992; Gottman & Krokoff, 1989; Rogge & Bradbury, 1999). Results demonstrate that couples lacking the necessary skills to regulate their emotional expressiveness and successfully communicate tend to become defensive or to withdraw from a conflict situation, and these behaviours in turn predict later marital dissatisfaction and dissolution.

5.3. LIMITATIONS

There are number of limitations that should be considered when interpreting these results. Firstly, all scales administered in this study were measured by self-report manner and all data came from a cross-sectional design. These may cause common method variance and in this way, conclusions cannot be drawn confidently when interpreting results. Self-report measures can be influenced by social desirability bias and the limitations of recall of past events. Generalization of these findings is limited because of the small sample drawn from EMS personnel who are working at Capricorn District. Therefore generalization must be limited to personnel around Capricorn District.

This study investigated a specific group of employees, namely EMS personnel; meaning that the findings of this study may not be generalized to other occupational group. Poor quality of data characterized by the missing values made data analysis to be difficult.

There is insufficient referral material on psychological trauma experienced by caregivers and its impact on MS. Time and financial constraint may have had negative impact on the outcome of this study, a far larger and broader sample from various districts in Limpopo Province or South Africa should have been ideal.

The length of the questionnaire, namely 76 questions, may have attributed to the poor quality of data collected as respondents would have responded randomly in order to save their time. Another limitation of this study is the lack of qualitative information. A narrative component, for instance, would enhance our understanding of living with STS, PTSD, BO and its effects on MS. The lived experience would add a deeper understanding of psychological trauma team at the workplace and its effects on MS beyond what a quantitative study can provide.

5.4. CONCLUSIONS

The results of this study clarify the relationship between psychological trauma (PTSD and STS) experienced by EMS personnel at their work environment and its negative effects Marital Satisfaction. The findings in this study support those from other studies, which show that working with trauma can have negative effects on the worker and STS is a consequence of caring for traumatized individuals.

5.5. RECOMMENDATIONS

- The findings suggest a need for acknowledging that STS exist and that its manifestation can affect trauma workers and patients.
- The psychological Trauma experienced by EMS personnel and its effects on marital satisfaction should be further explored taking into consideration factors such as age, gender, religion, duration of marriage and also duration of services as an EMS personnel using multifactorial ANOVA.
- Research should identify certain factors that would assist EMS personnel to cope better with the demands of work-related trauma and the effects it imposes on marriages.
- Effective ways to cope with the above mentioned demands should also be explored and presented to EMS personnel before they commence with their work-related services.
- There is a need to conduct further studies in the field of EMS personnel, taking into account the limitations of the study.

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Appendix A: Biographical information

Topic: Psychological Trauma on EMS personnel and its Impact on Marital Satisfaction

Project leader: Mr. Ramulwela T.V.

Instructions

1. Please respond to all items honestly by selecting the appropriate box per item.
2. There is no right or wrong answers.
3. If possible, don't allow anyone to see your responses to questions.
4. Some questions may be very private, but be rest assured that your responses shall be handled anonymously and confidentially.
5. Make a tick or a cross in a box that correspond with your answer.

1. Gender

Male	
Female	

2. Age

20-30	
31-40	
41-50	
51-60	
61-70	

3. Race

Black	
White	
Colored	
other	

4. How long have you been married?

01-05	
06-10	

11-15	
16-20	
21-25	

5. How long have you been serving as personnel?

01-05	
06-10	
11-15	
16-20	
21-25	

A. PTSD Checklist-Civilian Version (PCL-C)

Instruction to clients: Please read each one carefully; put an "X" in the box to indicate how much you have been bothered by that problem *in the last month*.

No.	Response:	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories, thoughts,* or *images* of a stressful experience from the past?					
2.	Repeated, disturbing *dreams* of a stressful experience from the past?					
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening again* (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful experience from the past?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful experience from the past?					
6.	Avoid *thinking about* or *talking about* a stressful experience from the past or avoid *having feelings* related to it?					
7.	Avoid *activities* or *situations* because *they remind you* of a					

	stressful experience from the past?					
8.	Trouble *remembering important parts* of a stressful experience from the past?					
9.	Loss of *interest in things that you used to enjoy?*					
10.	Feeling *distant* or *cut off* from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

B. **Professional Quality Of Life (Pro-QOL - R III**)

Helping others puts you in direct contact with other people's lives. As you probably have experienced, your compassion for those you help has both positive and negative aspects. We would like to ask you questions about your experiences, both positive and negative, as a helper. Consider each of the following questions about you and your current situation. Tick in the box that honestly shows how often the statement has been true for you *in the last 30 days*

Statements :	**Never**	**Rarely**	**A few times**	**Somewhat Often**	**Often**	**Very Often**
1. I am happy						
2. I am preoccupied with more than one person						
3. I get satisfaction from being able to help						
4. I feel connected to others						
5. I jump or I am startled by unexpected sounds.						
6. I have more energy after working.						
7. I find it difficult to separate my private life from my life as a helper.						
8. I am losing sleep over a person I help's traumatic experience.						
9. I think that I might have been "infected" by the traumatic stress of those I help.						
10. I feel trapped by my work as a helper.						

11. Because of my helping, I have feel “on edge”(nervous) about various things.						
12. I like my work as a helper.						
13. I feel depressed as a result of my work as a helper.						
14. I feel as though I am experiencing the trauma of someone I have helped.						
15. I have beliefs that sustain me.						
16. I am pleased with how I am able to keep up with helping techniques and protocols.						
17. I am the person I always wanted to be.						
18. My work makes me feel satisfied.						
19. Because of my work as a helper, I feel exhausted.						
20. I have happy thoughts and feelings about those I help and how I could help them.						
21. I feel overwhelmed by the amount of work or size of my caseload I have to deal with.						
22. I believe I can make a difference through my work.						
23. I avoid certain activities or situations because they remind m of frightening experiences of the people I help.						
24. I plan to be a helper for a long time.						
25. As a result of my helping, I have sudden,						

unwanted frightening thoughts.						
26. I feel “bogged down” (too much drawn into my work) by the system.						
27. I have thoughts that I am a “success” as a helper.						
28. I can’t remember important parts of my work with trauma victims.						
29. I am an unduly sensitive person.						
30. I am happy that I chose to do this work.						

C. Marital Satisfaction Questionnaire for Older Persons (MSQFOP)

Please answer the following questions as carefully as possible. Please indicate your current level of satisfaction or dissatisfaction for each of the items listed below.

Statements:	**Very dissatisfied**	**dissatisfied**	**Somewhat dissatisfied**	**Somewhat satisfied**	**satisfied**	**Very satisfied**
1.The amount of time my spouse and I spend in shared recreational activities:						
2.The degree to which my spouse and I share common interests:						
3.The day-to-day support and encouragement provided by my						

spouse:						
4.My spouse's physical health:						
5.The degree to which my spouse motivates me:						
6.My spouse's overall personality:						
7.The amount of consideration shown by my spouse:						
8.The manner in which affection is expressed between my spouse and me:						
9.How my spouse reacts when I share feelings:						
10.The way disagreements are settled:						
11.The number of disagreements between my spouse and me:						
12.My spouse's philosophy of life:						
13.My spouse's values:						
14.My spouse's						

emotional health:						
15.The frequency of sexual or other physically intimate relations with my spouse:						
16.The quality of sexual or other physically intimate relations with my spouse:						
17.The frequency with which my spouse and I have pleasant conversations:						
18.My overall compatibility with my spouse:						
19.How decisions are made in my marriage:						
20.How decisions are made in my marriage:						
21. Overall, how satisfied are you with your marriage right now?						
22. Compared to Two years ago, how satisfied are you with your						

marriage?						

23. In the past years, how often have you had significant problems in your marriage?

1 2 3 4

Very often often seldom never

24. Of all the attention you receive from your spouse, what percent is pleasant or positive?

1 2 3 4

0-25% 26—50% 51—75% 76—100%

UNIVERSITY OF LIMPOPO

TURFLOOP CAMPUS

DEPARTMENT OF PSYCHOLOGY

PROJECT: PSYCHOLOGICAL TRAUMA EXPERIENCED BY EMERGENCY MEDICAL SERVICE (EMS) PERSONNEL AND ITS IMPACT ON MARITAL SATISFACTION.

PROJECT LEADER: RAMULWELA T.V.

INFORMED CONSENT FORM

I _____ hereby voluntarily consent to participate in the following project.

I realize that:

1. The study deals with psychological trauma on Emergency Medical Services personnel and its impact on marital satisfaction.
2. Participation in the project is completely voluntary and I am free to withdraw from the project (without providing any reasons) at any time.
3. It is possible that I might not personally experience any advantage during the possible project, although the knowledge that may be accumulated through the project might prove advantageous to others.
4. The procedure envisaged may hold some risk for me that cannot be foreseen at this stage;
5. The Ethics Committee has approved that individuals may be approached to participate in the study.
6. The experimental protocol, i.e. the extent, aims and methods of the research, has been explained to me;

7. The protocol sets out the risks that can be reasonably expected as well as possible discomfort for persons participating in the research, an explanation of the anticipated advantages for myself or others that are reasonably expected from the research and alternative procedures that may be to my advantage;
8. I will be informed of any new information that may become available during the research that may influence my willingness to continue my participation;
9. Access to the records that pertain to my participation in the study will be restricted to persons directly involved in the research;
10. Any questions that I may have regarding the research, or related matters, will be answered by the researchers;
11. If I have any questions about, or problems regarding the study, or experience any undesirable effects, I may contact a member of the research team.

_____ _____

Name of the participant Name of the researcher

_____ _____

Signature of the participant Signature of the researcher

_____

Date

LIST OF ABBREVIATION

EMS	Emergency Medical Personnel
STS	Secondary Traumatic Stress
PTSD	Posttraumatic Stress Disorder
CS	Compassion Satisfaction
BO	Burnout
MS	Marital Satisfaction