STRESS AND TRAUMATIC SYMPTOMS AMONG POLICE OFFICERS: A GENDER ANALYSIS

THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SOCIAL SCIENCE (COUNSELLING PSYCHOLOGY)

DEPARTMENT OF PSYCHOLOGY

UNIVERSITY OF FORT HARE

By

WENDY CLAUDIA WILLIAMS

March 2008

Supervisor: Prof. L.J. Nicholas

Abstract

This study assessed the extent to which exposure to traumatic events affected the traumatic stress response of male and female police officers. A convenience sample of male and female police officers (N = 66: n Male=46, n Female=20) was surveyed at an Eastern Cape police station. The following instruments were used: 1) Biographical questionnaire 2) PTSS-10 scales 3) The 39-item stress incident scale. Findings of this study indicate that the frequency of exposure to stressful incidents especially for more serious events is significant higher than that of Peltzer (2001) study. The four most frequent stressful incidents experienced by all participants were 1) Finding a corpse after murder (86.4%), 2) Responding to a scene involving accidental injury of a child (84.8%), .3) Finding a corpse (died of natural causes) (84.8%), 4) Duty related violence (non-shooting) (84.8%).The four least frequent incidents experienced by participants were: (1) Response to the depressing social situation (71.2%), (2) Dragging of a corpse (74.2%), (3) Taking a life in the line of duty (75.8%), (4) Violent death of a colleague (77.3%).Female participants results indicated a positive relationship between frequency of stressful incidents and total threat, anxiety, helplessness and PTSS-scale, where male participants' results indicate no significant relationship between frequency of stressful incidents and total threat, anxiety, helplessness and PTSS-scale. Findings on male participants however indicate a positive relationship between years of service in police, age of police officers and PTSS-scale, while female participants' results indicated no relationship between years of service in the police, age of police officer and PTSS-scale.

Key words: stress, trauma, police, stress related disorders (acute stress disorder, anxiety, threat, posttraumatic stress disorder) and gen

Acknowledgements

Firstly, I would like to give thanks to our heavenly father for helping me realise my dream. I would like to thank my supervisor, Prof. L.J. Nicholas for his support and guidance which has made this research possible.

I would like to thank the following individuals for their contributions and assistance throughout my research:

- My husband, Robert for his ongoing encouragement and support
- My children, Robin & Luther for their patience and understanding
- Liezl Coetzer and Kitty Dumont for assisting me with the statistics
- My family and friends and especially my cousin Nadia for their love and support
- All the participants that has taken part in this research

A special thanks to Althea Van der Merwe for her support and assistance.

Table of Contents

Appendices

List of Figures

CHAPTER 1

INTRODUCTION

1.1 Background

Police work is generally regarded as a highly stressful occupation (Pestonjee, 1992; Violante, 1985). Policing has been identified as the most psychologically dangerous profession worldwide (Axel bred & Valle, 1978). The increasing stress of the members of the South African Police Services (SAPS) is evident in the alarming rise in suicide statistics from 1990 to 2006 and the dramatic increase of medical boarding more often for psychological reasons (Snel & Burgers, 1995).Rothman & Pienaar (2007) found that 8.3% of 1781 SAPS members they studied displayed high levels of suicide ideation. They also reported an increase in suicides among US and Australian police officers over recent years. Spielberger (1981) concluded in his stress survey comparing stress levels among local police officers to those of police officers in USA, that the South African sample showed higher levels of stress than the USA sample.

Policemen are exposed to various traumatic situations ranging from threats to themselves and their colleagues, to witnessing riots, injuries or death of citizens, bombings, shootings, criminal activities and often fatal shootings of perpetrators (McCafferty, Godofredo, Domingo and McCafferty, 1990). Burgess (1994) found that 36% of riot squad police officers who participated in his study in the Eastern and Western Cape reported symptoms of PTSD.

The South African Police Services (2001) reported the following regarding the effects of trauma; that exposure to traumatic events in the Gauteng Province was alarmingly high and that 44% of members in this province were at risk of being diagnosed with a stress-related

disorder. Gulle (1989) found in his survey that there is a difference between the sources of stress between the US and South African samples in that the SAPS stressors seem to be more organizationally oriented. Peltzer (2001) found the following job-inherent stressors in the SAPS that had the highest emotional intensity 1) Duty-related violent injury, i.e. shooting 2) Pursuit of an armed robber 3) Response to a scene involving the death of a child 4) Accident with departmental vehicle. A source of stress that was ranked the third highest among police officers in a US sample was the death of a known police officer (Stephens and Miller, 1998).

Kurke (1995) stated that the quality of performance among police officers would, up to a point increase due to these stressors in the workplace after which degeneration of performance would occur. Pancheri, De Martino, Spiombi, Biondi and Mosticoni (1986) postulated that frequent, intense or persistent arousal that changes the internal environment of a person may eventually lead to temporary or lasting state of functional overload resulting in organ or tissue modification. This can lead to a predisposition to illness and breakdown in functioning.

.

Definitions

Trauma is defined as "the person experienced, witness or was confronted with an event or events that involved actual or threatened death or serious injury or a threat to the physical integrity of self or others."

Stress

Stress is defined as an imbalance between perceived environmental demands on the individual and his/her coping capabilities (Cooper, 1991).

1.2 Aim of the Study

The purpose of this study was to examine the association between traumatic experiences and the stress levels of police officers.

1.3 Rationale of the Study

Research into the stress and traumatic experiences among police officers in South Africa could inform selection and training procedures in the SAPS. More female police officers have been entering the male dominant arena of the SAPS and this study would shed light on gender differences in stress reactions among SAPS officers.

1.4 Summary

Chapter one provides an overview of the stressful circumstances of police work. Chapter two will focus on a review of the literature with regard to stressful and traumatic experiences as well as symptoms that police officers display. The role of females in the police force has changed over the past two decades. This might have an impact on the subjective realities of the traumatic work experiences of these female officers, which this study will explore. Chapter three contains a description of the sample, the research instrument, the data collection procedure and the treatment of the data as well as the limitations of the study. In chapter four a gender analysis is provided with the data presented in tabular form. Chapter five contains an overview of the results, exploring the implications of the study for theory, research and practice in the area of police stress.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Police work is regarded as an extremely stressful occupation, and police officers typically suffer a variety of physiological, psychological and behavioural stress effects. It has been argued that particular attention should be given to occupational stress in policing, as its potential negative consequences affect society in more direct and critical ways than stress in most other occupations. Officers operating under severe and chronic stress may well be at greater risk of error, accidents and over-reaction that can compromise their performance, jeopardise public safety and pose significant liability costs to the organisation. Rothman (2006) stated that failing to take into account the frequency of stressful incidents that police officers experience can lead to underestimating the effects of moderately stressful events that are frequently experienced and overestimating highly stressful situation that rarely occur.

South Africa has one of the highest crime rates in the world, which has contributed to high levels of stress among police officers (Rothman and Pienaar, 2006). Bruce (2002) reported that between 1991 and 2001, 2455 police officers were reported killed of who 918 were killed on duty and 1537 were killed off duty. Kopel (1996) found that 31 of the 109 police officers surveyed in the Brixton Flying Squad, Johannesburg had elevated scores on both the Civilian Mississippi PTSD Scale and the PTSD Checklist respectively.

Masuku (2000) reported that earlier studies concluded that SAPS officers were eleven times more likely to take their own lives than members of the general public. Policing is one of the occupational groups that is considered high risk and in which suicide figures are high. In South Africa the number of police suicide has been reported as being five times higher than that found in police services in some other countries (Pienaar, 2003).A review by Hem, Berg & Ekeberg (2001) on suicide among police officers in Europe, North America and Australia reported no elevated rates of suicides.

Violante and Paton (1999) reported that the suicide rate among police ranks in South Africa is 200 for every 100 000 members, compared with 22 in the United States and they attributed these figures to the high levels of stress experienced in the SAPS workplace. Analysis of the suicide rates per 100 000 members of SAPS between 1990 and 2000 showed an increase from 110 in1990 to 200 in 1994 and a decrease to 130 in the year 2000 (Pienaar, 2003).

Violante (1999) stated that many traumatized and stressed policemen were reluctant to use the SAPS Crisis Line, which offers 24-hour counselling; he attributed this to the stigma attached to social workers and psychologists as well as the shame wrongfully attributed to seeking help. Jacobs (1998) has found the biggest problem that police officers within the SAPS experience with seeking help from psychological services of the organization is the perceived lack of confidentiality of the psychological services of the SAPS.

The South African Crime Quarterly (September, 2003), a publication of the Institute for Security Studies (ISS), reported that in 1998/9, 1848 employees per 100 000 left the police department as result of being discharged on account of ill-health. This figure has increased by

18% over the next three years and by 2000/01 2,179 per 100 000 police members were being medically boarded on account of ill-health.

Official crime statistics (SAPS, 2003/4) reported a general decrease in crime over this period, however the Annual report from SAPS (2003/4) indicate that aggravated robbery has increased. Prinsloo (2006) found that 67% of the attackers in his study of robberies were armed with firearms, with 28% actually intending to use the firearms to deal with resistance from their victims.The Eastern Cape Province has among the highest number of police suicides and reported crime (Rothman and Pienaar, 2003)

2.2 Historical view of the SAPS

Since 1993, the traditional view of the SAPS has changed from that of crime fighters and supporters of injustices to that of community policing and apart from the historical changes that have taken place in the SAPS , the service is currently undergoing major restructuring of personnel from area to station level. This restructuring resulted in police officers being transferred to police stations outside their preferred geographical areas and caused additional organizational stress. Rothman and Pienaar (2005) contend that the organizational aspects of policing has been considered a prominent source of stress. Studies among South African police officers by Rothman and Van Rensburg (2002) indicated decreased levels of job satisfaction and high levels of occupational stress.

Policing in South Africa has been particularly stressful especially when one takes into account the socio-economic and political turmoil of the past thirty years under apartheid rule and the major political changes since its abolition.

2.3 The role of female police officers in the SAPS

Women have been traditionally consigned to the private sphere of the home and family, which resulted in their exclusion from public domains such as politics and paid work. The first appointment of female officers within police services occurred more than hundred years ago. The tasks of these female officers consisted of carrying out domestic and administrative duties. It was not until the 1960's that women were permitted to undertake other policing tasks. The tendency to treat female police officers differently to their male counterparts is a worldwide phenomenon. Besides the exclusion of females from patrol duties, Roberg and Kuykendall (1993) state that most police departments had certain discriminatory policies such as quotas in place to discourage the hiring of female officers.

The SAPS officially started recruiting and employing female officers for policing only in 1972 (Emsley, 1996). In South Africa, deeply entrenched stereotypes against women in police services are still prevalent. It exists in practices, such as not allowing female officers to patrol areas without a male police officer and assigning them to clerical, administrative or counselling work. (Van Heerden, 1982)

Men are accustomed to dominate women and often do not regard them as figures of authority while women on the other hand are not used to exercising authority over men. (Martin& Jurik, 1996). According to the traditional views of gender roles it is assumed that women should be located in jobs where they have less decision-making power than men and when females did accepted a position in policing, it was consistent with the traditional view of their role.

The division of labour as well as patriarchy and the dominance of men in society have served to limit women's entry into the workplace of policing (Morrison, 2005). Within the police service, women are often regarded as inadequate officers and are often regarded as a liability in dangerous situations (Martin & Jurik, 1996).

Bezuidenhout (2002) contended that although female officers are generally not as strong and fast as men it is also undeniable that female police officers can use firearms as effectively as their male counterparts. What distinguishes them from their male colleagues is their ability to utilize skills and techniques other than physical strength to resolve and negotiate problematic situations (Bezuidenhout, 2002).

Bezuidenhout and Theron (2000) found that emotionality and depression are not determined by gender but were related to the nature of the police work performed. Thus he concluded, the psychological state of both male and female police officers is influenced by the work that has to be done. Cherry (1978) however suggested in her study that certain individuals are predisposed to stress and anxiety. According to Kaplan and Sadock (2003) preexisting biological and psychosocial factors play a role in determining how the individual would cope or handle stress and anxiety of perceived stressful work related events .Tache and Selye(1986) stated that individual differences in reaction to stressors are created by a combination of endogenous factors i.e. inherited or acquired traits and exogenous factors i.e. environmental conditions. This implies that psychosocial variables which determine the coping skills and attributions of the individual interact with constitutional factors which determine the physiological area vulnerable to stress (illness).

Davidson and Cooper (1980) suggest that certain personality types are more stress-prone and such predisposition may play a part in the significant association between female and male mental ill health. They found that female police officers display the tendency to worry more than their male counterparts in the workplace. Men and women differ in the types of trauma to which they are exposed and their liability to develop PTSD. According to Kaplan and Sadock (2003) more females tend to develop the disorder and studies done by Kessler (1995) confirm that women experience more or different types of trauma than men. The reasons offered for this were that women may react to trauma more often and more robustly than men because of sex hormones, cultural gender roles or combination of these factors mentioned.

Martin, McKean, and Veltkamp (1986) found that female officers reported more exposure to stressful events and situations, and that gender differences in psychological reactions are related to the degree of identification with victims, frequency of exposure to victims and coping styles. Previous police studies have often failed conclusively to address gender patterns because of the considerable male dominance in SAPS population. Collins & Gibbs (2003) found that a higher number of female officers are retiring on the grounds of psychological illness than male officers.

Despite societal and organizational changes, levels of stress-related mental illness among SAPS police officers seems not to have improved over the last decade and studies has shown an increase of stress related disorders among police officers varying from 9.10 to 41%. Collins (2003) also found in his study that female police officers tend to worry more and perceive their workplace as more stressful. This study concluded that female officers more readily admit having personal or work related stressors than male officers.

Amongst the findings of this study was that female officers may still be exposed to additional gender specific stressors in being treated differently both by their organizational structures and male colleagues. (Collins, et al, 2003). Akiva, Liberman, Best, Metzler, Weiss and Marmar (2002) reported in their US police study that US female police officers reported less exposure to operational stressors within the workplace, but if exposed to such stressors reported more adverse reactions than their male counterparts.

2.4 Multiple stressors

Ineffective administration within police organizations contribute significantly to police stress in South Africa. Koortzen (1996) found the three top stressors to be the lack of supervisory and management skills, court verdicts that are seen as inappropriate by police officers (for example criminal cases being thrown out of court because of incomplete or inappropriate police reports) and emotional detachment within the family. Peltzer (2001) found that job-inherent stressors in the SAPS that are emotionally intense (such as violent injury, pursuit of an armed suspect, and response to a scene involving the death of a child) were prevalent.

In a study of the effects of working with victims of crime, Martin, McKlean and Veltkamp (1986) found that police officers were frequently exposed to traumatic events, that are often repeated and that those officers who were exposed to multiple stressors had an increased risk of developing PTSD.

Anshel (2000) highlighted three underlying postulates in stress research with police officers. Firstly, extreme or unusual external stimuli that are perceived as threatening will be stressful and cause significant changes in psychological, physiological and behaviour responses. The second stress postulate is that the failure to cope effectively with short-term sudden stress

leads to long term, chronic stress, which might in turn inhibit the body's immune system, leading to health risks. Lastly, sources of police stress that is ongoing and long-term will eventually result in burnout, reduced motivation, poor performance, and eventual dropout from the police profession (Violante& Aron, 1993)

The Spielberger State-Trait (STP) model of occupational stress conceptualizes stress as a complex process that consists of three major components, namely sources of stress that are encountered in the work environment, the perception and appraisal of a particular stressor by an employee, and the emotional reactions that are evoked when a stressor is appraised as threatening (Spielberger, Vagg & Wasala, 2003) .The appraisal of a stressor as threatening leads to anger and anxiety as well as the associated activation of the autonomic nervous system. Severe and persistent stress will result in physical and psychological strain that could cause adverse behavioural consequences (Spielberger et al., 2003).

Stress occurs in three stages within the human body: alarm reaction, resistance and exhaustion. The alarm reaction produces physiological changes known as the "fight or flight" syndrome in response to an emergency. Heart rate, blood pressure and muscle tone increases. The secretion of adrenaline heightens awareness, a crucial survival factor for police officers confronted with life threatening situations. Prolong exposure to a stressful event or situation eventually causes the resistance stage to set in. The resistance phase is characterized by more control and greater ability to withstand the effects of stress while maintaining performance level (Gatson, 2002).There is a growing concern with stress as a problem within the workplace. Policing is among the three top occupations that are commonly reported by both occupational physicians and psychiatrist in the Occupational Disease Intelligence Network system for Surveillance of Occupational Stress and Mental Illness (Liberman et al, 2002)

Stress is often understood in its negative expression as synonymous with distress. However, it is worth bearing in mind that adapting to a new situation, even when the situation at first may be considered a threat, cannot entirely be seen as a negative process, as overcoming the threat may be considered beneficial to personal growth and learning (Di Martino, 1992). In the1950's Hans Seyle recognized the dual nature of the stress response on the human body stating that stress has the effect that it produce adaptive changes for example mobilizing of energy resources, inhibition of inflammation and resistance to infection. In the long-term however it produces maladaptive changes such as physical and psychological problems to the individual (Pinel, 2000)

When victims of a traumatic event experience symptoms that do not meet the criteria for a full diagnosis of PTSD, reference is made to symptoms of posttraumatic stress rather than posttraumatic stress disorder. A traumatic experience is part of the diagnosis of PTSD by definition (APA, 1994), however new issues have arisen in investigating symptoms in workers who encounter a wide range of potentially traumatic experiences in their lifetime. First of these issues was the effect of cumulative traumas. It has been assumed that experience with traumatic incidents increases the ability to withstand the effects of subsequent exposure (Stephens, 1998).

In a study by Gersons (1989) of police officers in the Netherlands it was found that none of the 37 officers who suffered PTSD symptoms had sought treatment. The reasons were that even though they complained about their work to their supervisors, they failed to understand the relationship between their inadequate role functioning and their traumatic experiences.

Police officers have been diagnosed and treated while on the job, but many officers with posttraumatic stress disorder symptoms do not seek treatment (Mc Farlane, 1998)

Poor coping skills seems to be a significant predictor of stress experienced in police work (Anshel, 2000 as cited in Pienaar and Rothman (2006) Lazarus (1991) emphasized the individual differences in classifying situations as threatening or non-threatening in his cognitive appraisal approach. He stated that positive and negative responses could occur simultaneously as a result of the same stressor. Individual's experiences of stress are highly subjective with some individuals more predisposed than others to appraise situations as threatening or problematic, thereby being at risk for psychosomatic ill-health, including cognitive difficulties and sleep problems. Anxious, neurotic individuals as well as those individuals who are unhappy report more stress than others (Watson, Davids & Suls, 1999). In a review on stress and personality, Vollrath (2001) showed that persons high in neuroticism experience more stressful events, whereas persons high in extraversion experience both more stressful and more pleasurable events.

Stress is not experienced uniformly by police members, but varies from one individual to the other (Violante & Aron, 1995). Studies by Cooper, Kirkcaldy & Brown, 1994 have provided evidence that individual personality traits play substantial roles in occupational stress. According to the Eysenck's system there are three personality factors that constitute the basic structure of personality and these are important in determining how individuals experience and adjust to the stressful events in their lives (Lau, 2006). Individuals with personalities marked with neuroticism and extraversion will perceive stressful incidents differently.

Neurotic individuals tend to experience negative emotions and distress, regardless of the level of stress, whereas extraversionistic individuals are predispose to experience more positive effects. Lau (2006) studied personality traits in coping with work related strains among Norwegian police officers and found a small difference in the way officers with different personality types handle work-related stress. Studies among a British sample of police officers suggest a significant direct relationship between personality traits and the type of coping strategies police officers use. This study also conclude that neurotic individuals are more prone to experiencing negative thoughts and emotional distress regarding stressors in workplace which eventually leads to poor job satisfaction (Ortega, Brenner and Leather,2006).

Cooper & Bramwell (1992) found a potential difference between the sources of stress between different subcultures and ranks within the same organization. Studies done by Terry and Calan (1997) indicated that officers in higher ranks experience higher levels of stress than officers lower in organizational hierarchy. Race, gender and rank were found to be related to occupational stress in a study done by Rothman and Pienaar (2006) among the SAPS. Their study concludes that constables experience lower intensity of stress than higher ranking officers with lower frequency.

This study also found that female officer's experience less crime-related stress. The explanation for this was that female officers tend to be less operational (Pienaar &Rothman, 2006). A study by Martocchio and Leary (1989) concluded that there seems to be no difference in the amount of stressful experiences between male and female police officers. Anshel (2000) stated that male and female police officers experience different sources of stress and use different coping strategies. This study also concluded that female officers make

use of passive coping strategies .Passive coping strategies show a significant correlation with job demands. This implies that the higher the job demands officer experiences, the more likely it is that he or she will make use of passive coping strategies.

The type of stress and seriousness of it is markedly worse for police officers than for personnel employed in other emergency services. Police officers are continually exposed to traumatic incidents and a high percentage of them develop debilitating psychological symptoms. Nearly 10% of police officers were reported to be at risk for the development of psychological symptoms as a direct consequence of their exposure to traumatic incidents (Jones& Kagee, 2005).

The level of stress an individual experiences in his or her work environment and the extent to which adverse effects such as psychological strains occur, depend on how effectively he or she copes with stressful organizational situations (Bhagat, 2001). Gulle et al. (1998) examined the frequency with which stressful events occurred (within a month) in the SAPS. In their study they found that excessive paperwork, insufficient person power, fellow officers not doing their job, inadequate or poor quality equipment and inadequate salaries were among the stressors which occurred more frequently within the police force.

Rothman and Pienaar (2003) found in their study among Eastern Cape police officers the following regarding these stressors: Staff shortage, inadequate salaries and other officers not performing their duties were seen as stressors with high intensity and average frequency. Other stressors such as a lack of officers to handle specific tasks, inadequate or poor equipment, and lack of recognition for work performance can be seen as stressors with average intensity. Some of the stressors with highest intensity were; how to deal with crisis

situations, taking on a colleague's workload, seeing criminals go free and losing a fellow officer in the line of duty. Losing a fellow officer in the line of duty was low in frequency (Rothman, Meyer and Pienaar, 2003).

2.5 Trauma

A stressful feature of police work is murder investigations in which the investigator is exposed to violence and death (Karlson and Christians, 2003).A study by Stephens (1998) among New Zealand police officers showed a positive relationship between the number of traumatic experiences and PTSD symptoms. Higher PTSD symptoms among the police officers were related to trauma after joining the police, while trauma experienced before joining the police was not related to PTSD. Trauma experienced on duty as a police officer was also more strongly related to PTSD symptoms than trauma experienced while off duty (Stephens, 1998).

The essential feature of posttraumatic stress disorder (PTSD) is the development of a range of distressing psychological and physical symptoms following exposure to a traumatic experience (APA, 1994). Most recent studies with Coman and Violante (1996) showed that the traumatic events most often reported by police include infrequently occurring duties related to violent death, injury or the non-accidental death of a child and more frequent events such as facing possible physical injury or an unpredictable situation.

The essential characteristic of traumatic events include (but are not restricted to): 1). A serious threat to one's life; 2). A serious threat to one's physical integrity; 3). A serious threat or possible harm to one's children, spouse, relative, friend; 4). Sudden destruction of one's home

or community; 5). Seeing another person seriously injured or killed; 6). Physical violence; and 7). Learning about serious threat to relative/family (Peterson, Prout and Schwartz, 1991).

It has been assumed that experience with traumatic incidents increases the ability to withstand the effects of subsequent traumatic exposure. Some studies even suggest that policemen became hardened by these continuous exposure to traumatic events and that these experiences help police officers to mentally prepare themselves in acquiring methods that would help them to handle their emotional reactions more adequately in order to protect themselves against traumatic reactions (Karlsson & Christianson, 2003). However the opposing view by researchers is that the coping abilities of police officers break down with increased exposure to pain, suffering and death and that consequently individuals may become psychologically debilitated (Moran and Britton, 1994). There has been increasing evidence to support the latter view of a positive relationship between the number of traumatic events experienced and the severity of posttraumatic stress symptoms.

Stephens (1998) found that the types of events most likely to be related to higher PTSD symptoms were the death of colleague, a robbery, mugging, chronic distress at work and other experiences. The death of a colleague is an important stressor and is regarded as one of the three highest ranked stressors in the police force. The likelihood of developing posttraumatic stress disorder might increase as the intensity of and physical proximity to these stressors increases. The severity, duration and proximity of an individual's exposure to the traumatic event are the most important factors affecting the likelihood of developing traumatic stress reactions such as PTSD.

According to Edwards (2005) traumatizing events associated with post-traumatic stress symptoms are a common occurrence in South Africa. In a study done in Limpopo Province,

Peltzer (2001) found that 9.1% of a sample of 66 police officers scored in the clinical range of the Posttraumatic symptom scale (PTSS-10), indicating the likelihood of PTSD.A study by Stephens (1998) among police officers in New Zealand however concluded that the prevalence of PTSD symptoms in a police sample was similar to those of other civilian population who have experienced a traumatic event, and that most individuals recover from the trauma without developing PTSD.

Police environments in which there are multiple exposures to traumatic events may lead to symptoms, which are not related to any one particular event for which the officer can seek help. Stratton et al (1984) examined police officers who had been involved in shootings and studied the psychological effect of these incidents. They found a variety of psychological reactions such as disturbed time perception, sleep problems, fear of legal consequences and a variety of emotional reactions, such as anger, elation and crying. One-third of the officers appeared to be greatly affected by such incidents and one-third were moderately affected. The remaining third stated that the incident had had no effect on them at all.

According to Reisner and Geiger (1984) these stressful experiences and situations are affected by situational factors such as the role of authority, peer pressure and 'macho' values. In their view, denial is a defense mechanism often used by police officers, who consciously repress feelings such as anxiety and fear in connection with life threatening events.

In a study of police officers that have been involved in shooting incidents; Loo (1986) found that they experienced the strongest stress reaction during the first three days after the incident. In a study done on 162 Swedish police officers it was found that even when the traumatic

event happened a long while ago the officers reported vivid and detailed memories of the event.

The heightening of the senses in a stressful situation has also been reported in other studies like Weisaeth (1997) who found that the characteristic feature of sensations during traumatization is that they are crystal clear and "engraved in the soul". Participants in a study by Karlson and Christian (2003) stated that the traumatic experiences of police officers often remain in their memories in the form of tactile, olfactory and visual sensations. This study also suggested that the first confrontation with a traumatic event is experienced most intensely and remains clearest in the memory.

Individuals who are exposed to overwhelming stress in connection with traumatic events might be experiencing difficulty assimilating what is actually happening to them and their first defence reaction might be to deny the psychological affects of the traumatic event. Other defence reactions may be that they detached themselves from the traumatic event (Karlson and Christian, 2003). It has been suggested that continuous exposure to traumatic events harden the individual, some researchers suggest that this repeated traumatic incidents could help police officers to develop strategies to protect themselves from debilitating trauma on the psyche (Karlson and Christianson, 2003). The effect of continuous traumatic exposure has been examined by various researchers. It has been postulated that post traumatic stress reactions have three distinctive stages: 1) the impact stage, where victims often reports feeling helpless and vulnerable. Physical reactions usually takes the form of tightness in the throat, lack of breath, upset stomache ,feelings of weakness, sleeping disturbances and a loss of appetite.

Different phases of post traumatic stress disorder have been recognized among police officers. The early stage involves feelings of shock that may be accompanied by a sense of unreality or denial of events that have occurred. The second phase are the recoil stage, it is in this stage that the victim might experience a loss of equilibrium. Reexperiencing the trauma in dreams, thoughts occur in this stage. The third phase is the reorganization stage where the victims re-establish themselves and attempt to move beyond their distress (Stromnes, 2000).

Karlson and Christianson (2003) found that the most traumatic incident reported by police officers was an armed threat. They also reported experience feelings of despair and powerlessness in situations when children were injured or killed.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This study was conducted in the Buffalo City municipality, which is one of 38 local municipalities in the Eastern Cape Province. Historically levels of development in the Buffalo City area have been negatively affected by both its distant geographical location in comparison to the major centres of economic activity in South Africa and by the disastrous socio-political and economic impact of divisive "separate development" policies before 1994.

The population estimate is 1020,000 people of which the majority is disadvantaged by their impoverished circumstances and low levels of skills. The Buffalo city municipality has 25 police stations with 21 operating in urban areas while 4 operate in rural areas.

The statistical program, SAPS, was used to process the data collected from the participants. The data was analysed for all participants in the sample and thereafter a comparison was made between male and female police officer's traumatic stress responses. The frequencies of the stressful incidents and the means of the sample were calculated using SPSS.

The purpose of this study is to examine the extent to which traumatic experiences contribute to traumatic stress responses among police officers in the Eastern Cape with particular reference to gender differences.

The survey method for data collection was chosen because it is a good way to determine whether or not a relationship exists between two variables. The purpose of this study was to

investigate the extent to which exposure of traumatic events amongst South African police officers affected their traumatic stress response.

3.2 Sample

The sample consists of 66 South African police officers stationed in the Buffalo City municipality in the Eastern Cape.(Male police officers = 46(69.7) and Female police officers =20(30.3) . Their ages ranged from 22 to 54 with the average age being 36. In this group i.e. all the participants the average length of service is approximately 17 years. Respondents had been exposed to traumatic events, of varying nature.

3.3 Instrumentation

The questionnaire battery consists of a data sheet to record demographic variables, the PTSS-10 questionnaire to identify the symptoms of PTSD and a 39-item stressful incidence scale.

3.4 PTSS-10

The PTSS-10 scale is a self- report 10-item questionnaire. The PTSS-10 was found effective in screening out psychiatric risk cases among disaster survivors. The PTSS-10 is a self report 10-item questionnaire. The participants were asked to indicate whether he or she had experienced each of the 10 disturbances. They indicated on the scale from never to always, the degree that they are experiencing the disturbance (symptoms) The Cronbach alpha was 0.88.

3.5 39-Item stressful incidents scale

The 39-item stressful incident in police work scale developed by Carlier & Gersons (1992) was used. Participants were asked whether they had ever experienced any of 39 stressful incidents. If they had, they were asked to imagine it as vividly as possible. Secondly, they had to indicate the degree to which they had experienced three different emotions for each stressful incident. The response format used a 5-point Likert scale (from1=the word does not correspond to how you felt at that situation to 5=the word completely corresponds to how you felt at that situation.

3.6 Data Collection Procedure

Permission for the research was obtained from SAPS authorities and the station commissioner. The battery was distributed by the researcher and the station psychologist. A covering letter explained the purpose of the study and requested careful reading of the contents and instructions. Participants were given verbal instructions regarding completion of the questionnaires. It was stressed that personal details were confidential and that the subject's participation in the study would be anonymous. Participants were asked to complete questionnaires in a truthful and honest fashion. Due to the nature of police work i.e. working shifts, data had to be collected over period of three weeks on different occasions.

3.7 Data Analysis

The SPSS was used to analyze the following

1) Descriptive statistics were used to obtain means, standard deviation, frequencies and percentages of the independent and the dependent variables.
2) The Pearson product-moment correlation coefficient was used to specify the relationships between the variables.

3.8 Ethical Considerations

Participants gave informed consent before they engaged in the research. This would imply that they acknowledge their rights as participants and that these rights are protected during the data collection. Participants had the right to withdraw at any time.

The purpose of the study was explained to participants. The procedure of the study was explained to participants, so that they could reasonably expect what to anticipate in the research. The right to ask questions, obtain a copy of the results and to have their privacy respected was acknowledged. The benefits of the study to the individual were explained **(**Creswell, 2003)

3.9 Research Hypotheses

1. Gender differences will be found for exposure to traumatic events among police officers
2. Gender differences will be found for the emotional response and reactions to traumatic events among police officers

3.10 Limitations

The data were collected at one police station in the Eastern Cape and is therefore not generalisable to the population of police officers.

]

CHAPTER 4

RESULTS

4.1 Introduction

The purpose of this study is to examine to what extent traumatic experiences contribute to traumatic stress responses among police officers in the Eastern Cape with particular reference to gender differences.

4.2 Frequency of stressful incidents and total emotional intensity experienced by all participants

Table 1.1 indicates the frequencies of stressful events and the intensity of all the participants' emotional responses. The four most frequent stressful incidents experienced by all participants were 1) Finding a corpse after murder (86.4%), 2) Responding to a scene involving accidental injury of a child (84.8), .3) Finding a corpse (died of natural causes) (84.8), 4) Duty related violence (non-shooting) (84.8).

The four least frequent incidents experienced by participants were: (1) Response to the depressing social situation (71.2), (2) Dragging of a corpse (74.2), (3) Taking a life in the line of duty (75.8), (4) Violent death of a colleague (77.3).

The stressful incidents which led to the four highest scores relating to total emotional intensity among all participants were (1) Threat with a firearm (9.9) ;(2) Pursuit of an armed suspect (9.7) ; (3) Violent death of a colleague (9.4); (4) Violent confrontation, for instance threat with a knife (9.3), while those which led to the lowest scores relating to emotional intensity among all participants were the following (1) Finding corpse (died of natural causes) (7.2); (2)

Attending to witchcraft case (7.8); (3) Conflagration scene(victims dead or injured) (8.1); (4) Assistance in calamity other than mentioned above (8.1).

4.2 Frequencies and total emotional intensity of stressful incidents among male police officers

Table 1.2 indicates the frequencies of stressful incidents and the emotional intensity of male police officers. The four most frequent incidents by male police officers were: (1) Finding a corpse after murder (87), (2) Responding to a scene involving accidental injury of a child (87), (3) Pursuit of an armed suspect (87), 4) finding a corpse (die of natural causes) (87),

The four least frequent incidents experienced by male police officers were: (1) Dragging of a corpse (80.4), (2) Threat with a fire arm (80.4), (3) Accident with departmental vehicle (80.4), (4) Taking a life in the line of duty (82.6).

The stressful incidents which led to the four highest scores relating to total emotional intensity among male police officers were (1) Pursuit of an armed suspect (7.79) ;(2) Participation in raid involving armed dangerous subjects (7.48) ; (3) Threat with a firearm (7..01); (4) Violent confrontation, for instance with a knife (6.88), while those which led to the lowest scores relating to emotional intensity among male police officers were the following , Attending a witchcraft case (3.95); (2) Dragging a corpse (4.46) ;(3) Assistance in calamity other than mentioned (4.62); (4) Finding a corpse who died of natural causes (4.76) .

4.3 Frequency and total emotional intensity of stressful incidents experienced among female police officers

Table 1.3 indicates the frequencies of stressful incidents among female participants. The four most frequent incidents experienced by female police officers were (1) Participation in raid involving armed and dangerous subjects (85%), Conflagration scene (victims dead or injured),(85), (2) Responding to a scene involving the accidental injury of a child (80), (3) finding a corpse (natural causes)(80) (4) Responding to social depressing situation (75),

The four least frequent experience incidents among female police officers were: (1) Attending a witchcraft case (70), (2) Finding a corpse after a suicide (70), (3) Violent death of a colleague (70), (4) Held hostage (70).

The stressful incidents which led to the four highest scores relating to total intensity among female police officers were (1) Suicide of an officer who was an close friend (7.54); (2) Threat with a firearm (7.07) ;(3) Responding to a scene involving the accidental injury of a child (7.03); (4) Responding to scene involving the accidental death of a child (6.87); while those that led to the lowest scores relating to emotional intensity among female police officers were (1) Dragging a corpse (4.4); (2) Finding a corpse (died of natural causes) (4.35)); (3) Shooting someone in the line of duty (4.54); (4) Taking a life in the line of duty (4.75) .

TABLE 1.1: STRESSFUL INCIDENTS IN POLICE WORK: FREQUENCY (PERCENTAGE) AND MEAN (SD) AFFECTIVE RESPONSES FOR ALL PARTCIPANTS (RANGE 1 - 5)

Frequency of Incidents (Percentage) and Mean (SD) of Threat, Anxiety, Helplessness					
	Frequency Experienced	Threat	Anxiety	Helplessness	Total Emotional Intensity Mean
1. Response to a depressing social situation	47(71.2)	2.90(2.10)	3.00(2.00)	3.00(2.10)	8.9
2. Finding corpse after murder	67(86.4)*	2.60(2.00)	2.80(2.02)	2.80(2.00)	8.2
3. Responding to a scene involving accidental injury of a child	56(84.8)*	2.70(2.00)	3.10(1.90)	3.20(1.90)	9.0
4. Pursuit of an armed suspect	55(83.3)	3.40(1.90)	3.40(1.90)	2.90(2.05)	9.7
5. Finding corpse(died of natural causes)	56(84.8)	2.00(2.07)	2.60(2.07)	2.60(2.02)	7.2
6. Conflagration scene(victims dead or injured)	55(83.3)	2.60(2.00)	2.80(2.00)	2.70(2.10)	8.1
7. Attending to witchcraft case	52(78.8)	2.60(2.00)	2.80(2.10)	2.40(2.10)	7.8
8. Response to scene involving accidental death of a child	54(81.1)	2.70(2.00)	3.10(1.91)	3.00(1.90)	8.8
9. Duty related violent injury(non-shooting)	56(84.8)*	2.80(2.10)	2.80(1.90)	2.80(2.00)	8.4
10. Participation in raid involving armed dangerous subjects	56(84.8)*	3.00(1.90)	3.00(1.90)	2.90(2.00)	8.9
11. Street/train car accident involving victim	56(84.8)*	2.70(2.10)	3.00(2.10)	2.70(2.00)	8.4
12. Handling of a threatening mental/emotionally disturbed person	55(83.3)	3.00(1.90)	3.00(2.00)	2.70(1.90)	8.7
13. Response to a scene involving violent death of a child	53(80.3)	2.80(2.00)	3.30(1.90)	3.10(1.80)	9.2
14. Riot/crowd control situation with serious threat	54(81.8)	3.00(2.00)	3.10(2.10)	2.90(2.10)	9.0
15. Traffic accident involving an adult victim with serious injury	56(84.8)*	2.60(2.00)	2.80(1.86)	3.10(2.17)	8.5
16. Dragging of a corpse	49(74.2)	2.70(2.20)	3.00(2.20)	2.90(2.20)	8.6
17. Personal involvement in a shooting incident	55(83.3)	3.10(2.10)	3.10(2.00)	2.80(2.00)	9.0
18. Assistance in calamity other than mentioned above	54(81.8)	2.70(2.20)	2.80(2.00)	2.60(2.10)	8.1
19. Participation in raid/arrest/eviction with violence or injury	54(81.8)	3.00(2.00)	3.00(2.00)	2.70(2.10)	8.7
20. Finding corpse after suicide	52(78.8)	3.10(2.10)	3.00(2.00)	3.10(2.00)	9.2
21. Duty-related accidental injury	53(80.3)	2.70(2.10)	3.00(2.10)	2.90(2.16)	8.6
22. Threat with a firearm	53(80.3)	3.30(2.10)	3.30(2.00)	3.30(2.10)	9.9
23. Response to a sexual battery/abuse scene involving a child victim	53(80.3)	3.00(2.10)	3.10(2.07)	3.10(2.08)	9.2
24. Response to sexual battery scene involving an adult victim	54(81.8)	2.70(2.10)	2.90(2.00)	3.00(2.02)	8.6
25. Shooting someone in the line of duty	53(80.3)	3.00(2.20)	3.00(2.20)	2.90(2.14)	8.9
26. Duty related violent injury(shooting)	53(80.3)	3.00(2.10)	3.00(2.03)	2.90(2.10)	8.9
27. Accident with departmental vehicle(death or seriously injured victims)	53(80.3)	2.90(2.20)	2.80(2.10)	2.80(2.20)	8.5
28. Violent confrontation, for instance threat with a knife	55(83.3)	3.20(2.00)	3.10(2.00)	3.00(2.00)	9.3
29. Criminal indictment of a fellow officer(shooting incident)	53(80.3)	2.80(2.12)	2.90(2.05)	2.90(2.90)	8.6
30. Suicide of another officer	55(83.3)	2.95(2.09)	2.95(2.00)	3.18(2.26)	9.1
31. Violent job-related injury of a colleague	54(81.8)	2.82(2.07)	3.00(2.06)	3.06(2.09)	8.9
32. Suicide of an officer who is a close friend	54(81.8)	3.00(2.16)	3.10(2.09)	3.26(2.09)	9.3
33. Shooting incident involving a colleague	53(80.3)	2.90(2.10)	3.00(1.98)	3.12(2.07)	9.0
34. Being too late/not able to do something in the case of drowning or other accident	53(80.3)	2.90(2.18)	3.00(2.09)	3.30(2.30)	9.2
35. Violent death of a colleague	51(77.3)	3.00(2.11)	3.14(2.04)	3.21(2.06)	9.4
36. Violent death of a partner in line of duty	52(78.8)	3.00(2.16)	3.02(2.05)	3.08(2.08)	9.2
37. Taking a life in the line of duty	50(75.8)	3.00(2.22)	3.14(2.12)	3.02(2.22)	9.2
38. Held hostage	51(77.3)	2.97(2.20)	3.06(2.21)	3.08(2.22)	9.1
39. Other: family violence, arson or fire, murder scene	52(78.8)	3.00(2.05)	3.03(2.06)	3.05(2.09)	9.1

TABLE 1.2: STRESSFUL INCIDENTS IN POLICE WORK: FREQUENCY (PERCENTAGE) AND MEAN (SD) AFFECTIVE RESPONSES FOR MALE PARTCIPANTS (RANGE 1 - 5)

Frequency of Incidents (Percentage) and Mean (SD) of Threat, Anxiety, Helplessness					
	Frequency Experienced	Threat	Anxiety	Helplessness	Total Emotional Intensity Mean
1. Response to a depressing social situation	37(80.4)	1.60(0.77)	1.92(1.10)	1.92(1.29)	5.44
2. Finding corpse after murder	42(91.3)	1.45(0.65)	1.86(0.95)	1.82(1.07)	5.13
3. Responding to a scene involving accidental injury of a child	40(87)	1.65(0.91)	2.38(1.49)	2.36(1.32)	6.39
4. Pursuit of an armed suspect	40(87)	2.79(1.45)	3.0(1.56)	2.0(1.17)	7.79
5. Finding corpse(died of natural causes)	40(87)	1.34(0.62)	1.71(1.03)	1.71(1.01)	4.76
6. Conflagration scene(victims dead or injured)	38(82.6)	1.55(0.82)	2.03(1.13)	1.62(1.03)	5.2
7. Attending to witchcraft case	38(82.6)	1.29(0.76)	1.42(0.90)	1.24(0.59)	3.95
8. Response to scene involving accidental death of a child	39(84.8)	1.71(1.06)	2.26(1.27)	2.25(1.46)	6.22
9. Duty related violent injury(non-shooting)	40(87)	1.73(1.17)	1.97(1.13)	1.87(1.15)	5.57
10. Participation in raid involving armed dangerous subjects	39(84.4)	2.72(1.50)	2.76(1.36)	2.0(1.16)	7.48
11. Street/train car accident involving victim	39(84.8)	1.49(0.83)	1.94(1.19)	1.79(1.00)	5.22
12. Handling of a threatening mental/emotionally disturbed person	40(87)	2.18(1.20)	2.05(1.22)	1.88(1.13)	6.11
13. Response to a scene involving violent death of a child	38(82.6)	1.74(1.05)	2.47(1.33)	2.48(1.32)	6.69
14. Riot/crowd control situation with serious threat	38(82.6)	2.03(1.16)	2.00(1.30)	1.64(0.96)	5.67
15. Traffic accident involving an adult victim with serious injury	40(87)	1.66(1.02)	2.18(1.23)	2.21(1.32)	6.05
16. Dragging of a corpse	37(80.4)	1.32(0.62)	1.61(0.99)	1.53(0.97	4.46
17. Personal involvement in a shooting incident	40(87)	2.14(1.45)	2.46(1.46)	1.90(1.29)	6.5
18. Assistance in calamity other than mentioned above	37(80)	1.43(0.85)	1.68(0.91)	1.51(0.83)	4.62
19. Participation in raid/arrest/eviction with violence or injury	39(84)	2.22(1.22)	2.24(1.23)	1.62(0.95)	6.08
20. Finding corpse after suicide	38(82)	1.79(1.03)	1.86(1.01)	2.06(1.21)	5.71
21. Duty-related accidental injury	38(82.6)	1.62(0.92)	1.75(1.18)	1.75(1.22)	5.12
22. Threat with a firearm	37(80.4)	2.42(1.55)	2.42(1.53)	2.17(1.42)	7.01
23. Response to a sexual battery/abuse scene involving a child victim	38(82.6)	1.89(1.23)	1.89(1.23)	2.00(1.26)	5.78
24. Response to sexual battery scene involving an adult victim	39(84.8)	1.70(1.15)	2.05(1.27)	2.11(1.22)	5.86
25. Shooting someone in the line of duty	38(82.6)	2.19(1.60)	2.14(1.49)	1.95(1.39)	6.28
26. Duty related violent injury(shooting)	38(82.6)	2.06(1.41)	2.14(1.27)	1.89(1.19)	6.09
27. Accident with departmental vehicle(death or seriously injured victims)	37(80.4)	1.71(1.27)	1.69(1.09)	1.67(1.14)	5.07
28. Violent confrontation, for instance threat with a knife	40(87)	2.35(1.33)	2.37(1.32)	2.16(1.26)	6.88
29. Criminal indictment of a fellow officer(shooting incident)	38(82.6)	1.72(1.08)	1.89(1.10)	1.81(1.09)	5.42
30. Suicide of another officer	39(84.8)	2.03(1.23)	2.08(1.23)	2.45(1.99)	6.56
31. Violent job-related injury of a colleague	38(82.6)	1.86(1.22)	2.00(1.21)	2.03(1.29)	5.89
32. Suicide of an officer who is a close friend	38(82.6)	1.92(1.40)	2.05(1.37)	2.24(1.53)	6.21
33. Shooting incident involving a colleague	38(82.6)	1.81(1.19)	2.16(1.32)	2.06(1.28)	6.03
34. Being too late/not able to do something in the case of drowning or other accident	37(80.4)	1.76(1.15)	2.08(1.29)	2.25(1.48)	6.09
35. Violent death of a colleague	37(80.4)	2.14(1.45)	2.03(1.22)	2.22(1.39)	6.39
36. Violent death of a partner in line of duty	38(82.6)	2.14(1.45)	2.11(1.26)	2.22(1.41)	6.47
37. Taking a life in the line of duty	37(80.4)	2.06(1.49)	2.19(1.39)	1.89(1.38)	6.14
38. Held hostage	37(80.4)	1.86(1.39)	1.94(1.41)	2.08(1.59)	5.88
39. Other: family violence, arson or fire, murder scene	38(82.6)	1.97(1.13)	2.08(1.23)	1.94(1.14)	5.99

TABLE 1.3: STRESSFUL INCIDENTS IN POLICE WORK: FREQUENCY (PERCENTAGE) AND MEAN (SD) AFFECTIVE RESPONSES FOR FEMALE PARTCIPANTS (RANGE 1 - 5)

Frequency of Incidents (Percentage) and Mean (SD) of Threat, Anxiety, Helplessness					
	Frequency Experienced	Threat	Anxiety	Helplessness	Total Emotional Intensity Mean
1. Response to a depressing social situation	15(75)	1.75(0.86)	2.15(1.34)	2.17(1.26)	6.07
2. Finding corpse after murder	15(75)	1.50(0.79)	1.62(1.19)	2.08(1.32)	5.2
3. Responding to a scene involving accidental injury of a child	16(80)	2.07(1.07)	2.50(1.16)	2.46(1.45)	7.03
4. Pursuit of an armed suspect	15(75)	1.83(0.93)	2.00(1.29)	1.42(0.51)	5.25
5. Finding corpse(died of natural causes)	16(80)	1.54(1.12)	1.38(1.12)	1.43(1.08)	4.35
6. Conflagration scene(victims dead or injured)	17(85)	1.62(0.96)	1.62(1.12)	1.46(1.12)	4.7
7. Attending to witchcraft case	14(70)	1.82(1.25)	1.82(1.25)	1.42(0.66)	5.06
8. Response to scene involving accidental death of a child	15(75)	1.92(1.25)	2.38(1.38	2.57(1.50)	6.87
9. Duty related violent injury(non-shooting)	16(80)	2.00(1.00)	1.92(1.18)	1.92(1.03)	5.84
10. Participation in raid involving armed dangerous subjects	17(85)	2.15(1.06)	1.93(1.38)	1.77(1.09)	5.85
11. Street/train car accident involving victim	16(80)	1.58(1.08)	1.75(1.42)	1.75(1.21)	5.08
12. Handling of a threatening mental/emotionally disturbed person	15(75)	2.07(1.14)	2.23(1.36)	2.00(0.87)	6.3
13. Response to a scene involving violent death of a child	15(75)	2.00(0.91)	2.46(1.12)	2.40(1.24)	6.86
14. Riot/crowd control situation with serious threat	16(80)	1.92(1.16)	1.83(1.33)	1.75(1.13)	5.5
15. Traffic accident involving an adult victim with serious injury	16(80)	1.62(0.65)	1.93(1.14)	2.62(2.69)	6.17
16. Dragging of a corpse	12(60)	1.30(0.94)	1.70(1.49)	1.40(0.84)	4.4
17. Personal involvement in a shooting incident	15(75)	1.92(1.25)	2.00(1.35)	1.92(1.18)	5.84
18. Assistance in calamity other than mentioned above	17(85)	1.62(0.96)	1.92(1.32)	1.69(1.18)	5.23
19. Participation in raid/arrest/eviction with violence or injury	15(75)	1.54(0.96)	1.79(1.31)	1.69(1.18)	5.02
20. Finding corpse after suicide	14(70)	2.00(1.22)	2.15(1.46)	2.21(1.52)	6.36
21. Duty-related accidental injury	15(75)	1.58(0.90)	2.08(1.31)	1.83(1.19)	5.49
22. Threat with a firearm	16(80)	2.23(1.42)	2.38(1.38)	2.46(1.45)	7.07
23. Response to a sexual battery/abuse scene involving a child victim	15(75)	1.92(1.03)	2.08(1.25)	2.15(1.46)	6.15
24. Response to sexual battery scene involving an adult victim	15(75)	1.54(0.77)	1.85(1.21)	2.00(1.47)	5.39
25. Shooting someone in the line of duty	15(75)	1.31(0.85)	1.69(1.49)	1.54(1.19)	4.54
26. Duty related violent injury(shooting)	15(75)	1.69(0.85)	1.85(1.34)	1.46(0.96)	5
27. Accident with departmental vehicle(death or seriously injured victims)	16(80)	1.62(0.96)	1.85(1.28)	1.92(1.44)	5.39
28. Violent confrontation, for instance threat with a knife	15(75)	2.00(1.08)	1.77(1.36)	1.77(1.36)	5.54
29. Criminal indictment of a fellow officer(shooting incident)	15(75)	1.77(1.30)	1.92(1.44)	1.69(1.18)	5.38
30. Suicide of another officer	16(80)	1.54(1.19)	2.00(1.41)	2.08(1.55)	5.62
31. Violent job-related injury of a colleague	16(80)	1.62(0.87)	2.00(1.29)	2.00(1.41)	5.62
32. Suicide of an officer who is a close friend	16(80)	2.08(1.55)	2.69(1.75)	2.77(1.78)	7.54
33. Shooting incident involving a colleague	15(75)	2.08(1.38)	2.36(1.39)	2.31(1.54)	6.75
34. Being too late/not able to do something in the case of drowning or other accident	16(80)	1.46(0.96)	1.77(1.30)	2.77(2.94)	6
35. Violent death of a colleague	14(70)	1.92(1.38)	2.43(1.50)	2.31(1.54)	6.66
36. Violent death of a partner in line of duty	14(70)	1.54(1.12)	1.92(1.49)	1.92(1.49)	5.38
37. Taking a life in the line of duty	13(65)	1.50(1.16)	1.67(1.30)	1.58(1.24)	4.75
38. Held hostage	14(70)	1.75(1.28)	1.67(1.30)	1.67(1.30)	5.09
39. Other: family violence, arson or fire, murder scene	14(70)	2.00(1.20)	1.75(1.28)	1.92(1.44)	5.67

4.4 Correlations among Different Outcome Measures

Table 1.4 indicates the Pearson Intercorrelation among different outcome measures for all the participants. There was a strong, significant positive relationship between total threat and anxiety (r=.884, p<.01) as well as total threat and helplessness (r=.773, p<.01) and total threat and total emotional intensity (r=.923, p<.01). The Pearson Intercorrelation also indicated that a strong, significant positive relationship existed between anxiety and helplessness (r=.924, p<.01) as well as anxiety and total emotional intensity (r=.984, p<.01). A significant positive relationship was also found between helplessness and total emotional intensity (r=.948, p<.01).

There is no significant relationship between threat and PTSS Scale, anxiety and PTSS Scale, Helplessness and PTSS Scale as well as total emotional intensity and the PTSS Scale for all participants.

TABLE 1.4: PEARSON INTERCORRELATIONS AMONG DIFFERENT OUTCOME MEASURES FOR ALL PARTCIPANTS

	Threat	**Anxiety**	**Helplessness**	**Total Emotional Intensity**	**PTSS Scale**
Threat	**1.000**	**.884****	**.773****	**.923****	**.228**
Anxiety	**.884****	**1.000**	**.924****	**.984****	**.307**
Helplessness	**.773****	**.924****	**1.000**	**.948****	**.185**
Total Emotional Intensity	**.923****	**.984****	**.948****	**1.000**	**.253**
PTSS Scale	**.228**	**.307**	**.185**	**.253**	**1.000**

**p<.0

Table 1.5 indicates the Pearson Intercorrelation among different outcome measures for all the male participants. There is a strong, significant positive relationship between total threat and

anxiety (r=.887, p<.01) as well as total threat and helplessness (r=.775, p<.01) and total threat and total emotional intensity (r=.928, p<.01). The Pearson Intercorrelation also indicated that a strong, significant positive relationship existed between anxiety and helplessness (r=.915, p<.01) as well as anxiety and total emotional intensity (r=.981, p<.01). A significant positive relationship was also found between helplessness and total emotional intensity (r=.945, p<.01).

There is no relationship between threat and PTSS Scale, anxiety and PTSS Scale, Helplessness and PTSS Scale as well as total emotional intensity and the PTSS Scale for male participants.

TABLE 1.5: PEARSON INTERCORRELATIONS AMONG DIFFERENT OUTCOME MEASURES FOR MALE PARTCIPANTS

	Threat	**Anxiety**	**Helplessness**	**Total Emotional Intensity**	**PTSS Scale**
Threat	**1.000**	**.887****	**.775****	**.928****	**.091**
Anxiety	**.887****	**1.000**	**.915****	**.981****	**.122**
Helplessness	**.775****	**.915****	**1.000**	**.945****	**.018**
Total Emotional Intensity	**.928****	**.981****	**.945****	**1.000**	**.075**
PTSS Scale	**.091**	**.122**	**.018**	**.075**	**1.000**

**p<.01

Table 1.6 indicates the Pearson Intercorrelation among different outcome measures for all the female participants. There is a strong, significant positive relationship between total threat and anxiety (r=.925, p< .01) as well as total threat and helplessness (r=.814, p<.01) and total threat and total emotional intensity (r=.936, p<.01). The Pearson Intercorrelation also indicated that

a strong, significant positive relationship existed between anxiety and helplessness (r=.953, p<.01) as well as anxiety and total emotional intensity (r=.995, p<.01). A significant positive relationship was also found between helplessness and total emotional intensity (r=.963, p<.01). The female intercorrelations all appeared higher than that of the intercorrelations for male participants.

There is a significant positive relationships between total threat and the PTSS Scale (r=.701, p<.05), total anxiety and PTSS Scale (r=.769, p<.05), total helplessness and PTSS Scale (r=.652, p<.05) as well as total emotional intensity and PTSS Scale (r=.735, p<.05) for female participants.

TABLE 1.6: PEARSON INTERCORRELATIONS AMONG DIFFERENT OUTCOME MEASURES FOR FEMALE PARTCIPANTS

	Threat	**Anxiety**	**Helplessness**	**Total Emotional Intensity**	**PTSS Scale**
Threat	**1.000**	**.925****	**.814****	**.936****	**.701***
Anxiety	**.925****	**1.000**	**.953****	**.995****	**.769***
Helplessness	**.814****	**.953****	**1.000**	**.963****	**.652**
Total Emotional Intensity	**.936****	**.995****	**.963****	**1.000**	**.735***
PTSS Scale	**.701***	**.769***	**.652**	**.735***	**1.000**

**p<.01, *p<.05

4.5 Correlations between Independent and Dependent Variables for all Participants

Table 1.7 indicates the Pearson correlations and ttest between independent variables and outcome measures for all participants. The Pearson correlation indicate significant positive relationships between total threat and the frequency of stressful incidents experienced (r=.467, **p<.01), total anxiety and the frequency of stressful incidents experienced (r=.376, *p<.05),

total emotional intensity and the frequency of stressful incidents experienced (r=.356, *p<.05), and PTSS Scale and the frequency of stressful incidents experienced (r=.454, **p<.01). The length of police service (r=.449, **p<.01) and age (r=.449, **p<.01) were positively associated with PTSS Scale, but not with the other outcome measures (anxiety, threat and helplessness).

There also is no association between marital status and gender and of the outcome measures (threat, anxiety and helplessness).

TABLE 1.7 CORRELATIONS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES FOR ALL PARTICIPANTS

Independent Variables	Total Threat	Total Anxiety	Total Helplessness	Total Emotional Intensity	PTSS Scale
	R	R	r	r	R
Frequency of Stressful Incidents Experienced	.467**	.376*	.269	.356*	.454**
Length of Police Service	.031	.057	.019	.041	.449**
Age	-.124 F	-.135 F	-.158 F	-.130 F	.372** F
Marital Status	.157	.211	.149	.151	.144
Gender	-.080	-.011	.057	.001	.265

*p<.05, **p<.01

4.6 Correlations between Independent and Dependent Variables for Male Participants

Table 1.8 indicates the Pearson correlations and ttest between independent variables and outcome measures for all male participants. The Pearson correlation indicates a significant positive relationship between total threat and the frequency of stressful incidents experienced (r=.405, *p<.05), as well as PTSS Scale and the frequency of stressful incidents experienced (r=.418, *p<.05). There is no association between frequency of stressful incidents experienced and the rest of the outcome measures (anxiety and helplessness). The length of police service

(r=.449, **p<.01) and age (r=.449, **p<.01) were positively associated with PTSS Scale, but not with the other outcome measures (anxiety, threat and helplessness).

There is no association between length of police service, age and the rest of the outcome measures (threat, anxiety and helplessness) in the male sample. There also is no association between marital status and gender and any of the outcome measures (threat, anxiety and helplessness).

TABLE 1.8 CORRELATIONS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES FOR MALE PARTICIPANTS

Independent Variables	Total Threat	Total Anxiety	Total Helplessness	Total Emotional Intensity	PTSS Scale
	R	R	R	r	R
Frequency of Stressful Incidents Experienced	**.405***	**.326**	**.235**	**.295**	**.418***
Length of Police Service	**-.024**	**-.045**	**-.040**	**-.035**	**.447****
Age	**-.145**	**-.171**	**-.160**	**-.144**	**.389****

*p<0.05, **p<0.01

4.7 Correlations between Independent and Dependent Variables for Female Participants

Table 1.9 indicates the Pearson correlations and ttest between independent variables and outcome measures for all female participants. The Pearson correlation indicate significant positive relationships between the frequency of stressful incidents experienced and all the outcome measures – threat (r=.853, **p<.01), anxiety (r=841, **p<01), helplessness (r=.749, *p<.05) and PTSS Scale (r=.812, **p<.01). There is no association length of police service, age and any of the outcome measures (threat, anxiety, helplessness and PTSS Scale).

TABLE 1.9 CORRELATIONS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES FOR FEMALE PARTICIPANTS

Independent Variables	Total Threat	Total Anxiety	Total Helplessness	Total Emotional Intensity	PTSS Scale
	R	R	R	R	R
Frequency of Stressful Incidents Experienced	.853**	.841**	.749*	.837**	.812**
Length of Police Service	.187	.360	.277	.296	.390
Age	-.127	-.060	-.150	-.111	.015

CHAPTER FIVE

DISCUSSION

5.1 Introduction

Results of this study indicated the four most frequent stressful incidents (table 1.1) experienced by all participants were 1) Finding a corpse after murder (86.4%) 2) Responding to a scene involving accidental injury of a child (84.8%) .3) Finding a corpse(died of natural causes) (84.8%) 4) Duty related violence (non-shooting)(84.8%).The frequencies of stressful incidents experienced of this study is higher than that of studies done elsewhere. Statistics from SAPS showed that the Eastern Cape is considered as one of the provinces with the highest crime rates. This finding of this study is that the exposure to stressful incidents especially for more serious events is significantly higher than that of Peltzer (2001)study e.g response to a sexual battery /abuse scene involving a child victim, the frequency for Peltzer study was 60.6% compared to the present study of 80.3%.

The higher percentages obtained by Eastern Cape sample in comparison to Peltzer (2001) study in Limpopo could be related to the higher number of criminal cases that are managed by Eastern Cape police officers in comparison to those officers in the Northern Cape. According to Rothman and Pienaar (2006) Eastern Cape police officers managed 52 criminal cases per detective in comparison with Northern Cape detectives who managed about 32 criminal cases.

The four least frequent incidents experienced by all participants were: (1) Response to the depressing social situation (71.2%), (2) Dragging of a corpse (74.2%), (3) Taking a life in the line of duty (75.8%), (4) Violent death of a colleague (77.3%). The least frequent stressful incident experienced in the Eastern Cape sample: Response to a social depressing situation

(Eastern Cape sample at 71.2%) and (Peltzer's at 90.9%) is the most frequent stressful incident experienced in the Peltzer (2001) study. Similarities between Peltzer's and this study is that these tw o ,violent death of a colleague (Peltzer's at 34% and EC sample at 77.3%) and taking a live in line of duty (Peltzer's at 30.3% and EC sample at 75.8%) were both reported as among least frequent stressful events.

The stressful incidents which led to the four highest scores relating to total emotional intensity among all participants were (1) Threat with a firearm (9.9) ;(2) Pursuit of an armed suspect (9.7) ; (3) Violent death of a colleague (9.4); (4) Violent confrontation, for instance threat with a knife (9.3). Findings on the total emotional intensity of stressful events is lower than that of Peltzer(2001) . Pursuit of an armed suspect is reported in this study as well as Peltzer's as among the highest events scored on total emotional intensity (P eltzer's at 11.40 and EC at 9.7). The item violent death of a partner in line of duty(9.2) is among the highest ranking on total emotional intensity in this study, where in Peltzer(2001) study it is among the lower ranking at (8.8).

Results of this study is supported by Violante and Aaron (1994) that found the four top ranked stressors among US police were experiencing a fellow officer being killed ,physical attacks and experiences with battered children. Stressful incidents which led to the lowest scores relating to emotional intensity of participants in this study were the following (1) Finding corpse (died of natural causes) (7.2); (2) Attending to witchcraft case (7.8); (3) Conflagration scene(victims dead or injured) (8.1); (4) Assistance in calamity other than mentioned above (8.1).

Findings in this study was that the incident on all participants: Finding a corpse (died of natural causes) was found to evoke the least emotional intensity, similar to that of Peltzer (2001). The incident that caused the highest total emotional intensity was threat with a firearm, the second highest being, the pursuit of an armed suspect. Prinsloo (2006) concluded that 67% of attackers in his study of robberies were armed with firearms. The latest crime statistics has shown that armed robberies has increased significantly and the Eastern Cape has been identified as one of the provinces with the highest crime rate (Crime Quaterly, 2006).

Male participants had higher frequency of exposure to stressful incidents than the female participants, with the highest frequency between 80-85% while male participants' highest frequency vary between 87-91%. The Lowest frequency of exposure to stressful incident among female participants is below 70%, which is also significant lower than that of the male participants which is 80% and above. This is supported by reports by Akiva, Liberman, Best, Metzler, Weiss and Marmar (2002) in their US police study that US female police officers reported less exposure to operational stressors within the workplace, but if exposed to such stressors reported more adverse reactions than their male counterparts.

A comparison between the frequency of stressful incidents experienced between male and female police officers were the following: The four most frequent incidents by male police officers were: (1) Finding a corpse after murder(87%), (2) Responding to a scene involving accidental injury of a child (87%), (3) Pursuit of an armed suspect (87%), 4) finding a corpse (die of natural causes) (87%) . The four most frequent incidents experienced by female police officers were (1) Participation in raid involving armed and dangerous subjects (85%), Conflagration scene (victims dead or injured),(85%), (2) Responding to a scene involving the accidental injury of a child (80%), (3) finding a corpse (natural causes) (80%) (4) Responding

to social depressing situation (75%).There are two events that has been reported as most frequent in both male and female, finding a corpse that died of natural causes and responding to a scene involving accidental injury of a child. The difference though is the rating in males is slightly higher in male participants than female participants.

Results of this study indicate that the female participants' exposure to stressful incidents is lower than that of the male participants. According to Bezuidenhout (2002) there seems to be a difference in how female officers execute their duties, they are less likely to apprehend suspicious pedestrians or to use their firearms in dangerous situations. Female officers are also less likely to patrol dangerous areas without male counterparts as policing is still mainly viewed from the traditional view (Martin& Jurick (1996).

The four least frequent incidents experienced by male police officers were: (1) Dragging of a corpse (80.4%), (2) Threat with a fire arm (80.4%), (3) Accident with departmental vehicle (80.4%), (4) Taking a life in the line of duty (82.6%). The four least frequent incidents experienced among female police officers were: (1) Attending a witchcraft case (70%), (2)Finding a corpse after a suicide (70%), (3) Violent death of a colleague(70%), (4) Held hostage (70%). The frequency reported for the least frequent incident experienced for male participants is higher than the female participants. No similarities were found and the least frequent incidents reported by female participants seems to have rating of 80% and above in the male participants.

The stressful incidents which led to the four highest scores relating to total emotional intensity among male police officers were:

Pursuit of an armed suspect (7.79); (2) Participation in raid involving armed dangerous

subjects (7.48); (3) Threat with a firearm (7.01); (4) Violent confrontation, for instance with a knife (6.88). The stressful incidents which led to the four highest scores relating to total intensity among female police officers were (1) Suicide of an officer who was an close friend (7.54); (2) Threat with a firearm (7.07); (3) Responding to a scene involving the accidental injury of a child (7.03); (4) Responding to scene involving the accidental death of a child (6.8).Both male and female participants reported threat with an firearm as among highest total emotional intensity incidents.

The incident with lowest scores relating to emotional intensity among male police officers were the following: Attending a witchcraft case (3.95); (2) Dragging a corpse (4.46); (3) Assistance in calamity other than mentioned (4.62); (4) Finding a corpse who died of natural causes (4.76). Those that led to the lowest scores relating to emotional intensity among female police officers were (1) Dragging a corpse (4.4); (2) Finding a corpse (died of natural causes) (4.35)); (3) Shooting someone in the line of duty (4.54); (4) Taking a life in the line of duty (4.75) .Similarities on the lowest total emotional intensity incidents by both male and female participants were ,dragging a corpse and finding a corpse (died of natural causes).

Findings from this study indicate a strong association between ptss-10 symptoms, age and years/length of service whereas Peltzer (2001) found no significant association between PTSS-10 symptoms and years of service of participants. The positive relationship between PTSS symptoms and age and length of service are supported by finding of Martin, McKleen and Veltkamp (1996) that police officers who were frequently exposed to multiple repeated traumatic events, had increased risk of developing Post traumatic stress disorder. Coping abilities of police officers break down with increased exposure to pain, suffering and death (Moran and Britton, 1994) Results of studies by Stephens (1998) among New Zealand police

officers found a positive relationship between the number of traumatic experiences and post traumatic stress disorder symptoms.

According to Fischer and Reidesser (as cited in Peltzer, 2001) a score of 36 plus on the PTSS-10 scale indicates a likelihood of PTSD symptoms. This study found that 10(15.2) of the sample were likely to have PTSD compared the study of Peltzer (2001) where 9% of participants indicated likelihood of PTSD symptoms. This is consistent to the much higher exposure of the Eastern Cape SAPS to stressful events.

Female participant's results portray a positive relationship between total threat, anxiety, helplessness and PTSS- scale. This is supported by Collins (2003) study that concluded that female police officers tend to worry more and they tend to perceive their workplace as threatening. According to Weiss et al (2001) women report less exposure to operational stressors, but if exposed they report more adverse reactions than their male counterparts. This supports the findings of this study in terms of affective responses to operational stressors.

This study finds that there is a relationship between the female officers' frequency of stressful incidents experienced and PTSS-scale. This has been supported by Martin,Veltkamp and McKlean(1986) who found that female officers tend to report exposure to stressful incidents and events more than male officers. Their study also suggested that there is a gender difference in the psychological reactions to stressors and those female officers tend to identify more with the victim than male police officers.

The incident that evokes the highest total emotional intensity among female officers was recorded as the suicide of an officer who is a close friend(7.54). While the incident that evoke the highest total emotional intensity among male participants were the pursuit of an armed

suspect (7.79). Gender differences exist in the perception and psychological reaction to stressful incidents experienced by police officers as was found by Karlson & Archer(2007), This also seems to correlate with studies by Knoetze & De Bruin (2001), Mc Farlane (1989) that there is a positive relationship between anxiety and post traumatic stress symptoms.

In 1998 the SAPS launched a R4 million SAPS counselling service project geared at suicide prevention. The SAPS Employee Assistance Support Centre (EASC) provides this counselling service to SAPS employees whose personal and work related problems interfere with their work performance. Statistics has shown that the counselling services were however under-utilized by SAPS members (Masuku, 2000).

5.2 Conclusion

The present study found much higher exposure to the stressful events than the comparable studies. Significant gender differences were found in the perception and psychological reaction to stressful incidents experienced by male and female police officers.

REFERENCES

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

Anshel, M. H. (2000). A conceptual model and implications for coping with stressful events in police work. *Criminal Justice and Behaviour, 27,* 375-400.

Axel bend, M &Valle,J. (1979). South Florida's approach to police stress management, *Police Stress,* 1, 13-14.

Bezuidenhout, C. & Theron, A. (2000). Attitudes of male and female police officers towards the role of female police officers. *Acta Criminologica,* 13(3), 19-31.

Burke, R.J.(1998). Work and non-work stressors and wellbeing among police officers: The Role of Coping. *Anxiety , Stress and Coping*, 11, 345-362.

Burgers,T.J.(1994). Facing the enemy. *Indicator South Africa* , 12, 5-8.

Bruce, D. (2002). Police brutality in South Africa. In: Mwanajiti, N. *Police brutality in Southern Africa – A human rights perspective.* Lusaka: Inter-African Network for Human Rights development (AFRONET).

Cherry, N. (1978). Stress, anxiety and work: A longitudinal study. *Journal of Occupational Psychology,* 51, 259-270.

Collins, P. A., & Gibbs, A.C. (2003). Stress in police officers: A study of origins, prevalence and severity of stress related symptoms within a county police force. *Journal of Occupational Medicine,* 53, 256-264.

Davidson, M. J. & Cooper, C. L. (1981). A model of occupational stress. *Journal of Occupational Medicine,* 23, 564 - 574.

Emsley ,C. (1996). The origins and development of the police. In E. McLaughlin & J. Muncie (Eds). *Controling crime,order and social control.* London: Open University Press.

Field, A. (2000). *Discovering Statistics using SPSS for Windows.* Great Britain: The Cromwell Press. Gulle, G., Tredoux, C. & Foster, D. (1998). Inherent and organisational stress in SAPS: An empirical survey in the Western Cape. *South African Journal of Psychology,* 28, 129-134.

Gersons, B.P.R. & Carlier, J.V.E. (1992). Post-traumatic stress disorder: The history of a recent concept. *British Journal of Psychiatry*, 161, 742-748.

Green, B. (2004). Post – traumatic stress disorder in UK police officers. *Current medical research and opinions*, 20(1), 1-5.

Hem, E., Berg, A. & Ekeberg ,O. (2001). Suicide in police, A critical review. *Suicide and life threatening behaviour.31.224-233*

Jacobs, Q. (1998). Selfmoord in die SAPD: Die laaste uitweg, of is dit! *Union Post,* 3(4).

Jones, R. & Kagee, A. (2005). Predictors of post-traumatic stress symptoms among South African police personnel. *South African Journal of Psychology,* 35(2) 209-224.

Karlson, E. & Archer, T. (2007). Relationship between personality characteristics and affect: Gender and Affective personality . *Individual Difference Research* , 5(1), 44-58.

Kopel, H. & Friedman, M. (1997). Posttraumatic symptoms in South African police exposed to violence. *Journal of Traumatic Stress,* 10,307-317.

Karlson, I. & Christianson, S. (2003). The phenomology of traumatic experiences in police work. *International Journal of Police Strategies and Management,* 26(3), 419-438.

Kaplan, H., Sadock, B. J. & Sadock, V. A. (2003). *Synopsis of Psychiatry (Behavioural sciences / clinical psychiatry)* (9th edition). Lippincott Williams & Wilkins: USA.

Knoetze, J. & De Bruin, G. (2001). Die verband tussen trekangs, diensjare en posttraumatic stressversteuring by polisiebeamptes. *Acta Academica* 33(2), 168-184.

Koortzen, P. (1996). Die dimensionaliteit van polisiestressore. *Acta Criminologica*, 9, 55-63.

Kopel, H. & Friedman, M. (1997). Posttraumatic symptoms in South African Police exposed to violence. *Journal of Traumatic Stress,* 10, 307-317.

Liberman, A. M., Best, S., Metzler, T., Weiss, D.S. & Marmar, C.R. (2002). Routine Occupational stress and psychological distress in police. *International Journal of Police Strategies & Management*, 1.

Loo, R. (1984). Occupational stress in the law enforcement profession. *Canada's Mental Health, 31,* 10-13.

Louw, A.(2006) The start of a crime wave, the 2005-2006 official crime statistics in context. *Crime Quarterly,* 18.

Martin, C.A. , McKeann, H.E. & Velkamp, L.J. (1986). Post-traumatic stress disorder in police and working with victims: a pilot study. *Journal of Police Science and Administration,* 14(2), 98-101.

McCafferty, F., McCafferty,E., Godredo, D.& Domingo, M.D. (1990). Post-traumatic Stress Disorder in the police officer. Paradigm of occupational stress. *Southern Medical Journal,* 83(5) , 543-547.

Morrison, C. J. (2005). Gender discrimination versus equality in the police. *Acta Criminologica* , 18(3) , 20-28.

Martin, S.E & Jurik, N.C. (1996). *Doing justice,doing gender: Women in law and criminal justice occupation.* Thousand Oaks, CA:Sage

Masuku, S. (2000). Suicide among SAPS officials. *Nedbank ISS Crime Index 4* .

Nel, J. & Burgers, T. (1998). Stress and trauma in the work environment: The South African Police Service, *Unisa Psychologia* , 25(2), 17-25.

Nedcor Project on Crime,Violence and Investment. (1996). *Final Report (The nedcor project, Johannesburg* .

Peltzer (2001). Stress and traumatic symptoms among police officers at a South African police station. *Acta Criminologica ,14, 52-56*

Pienaar, J. & Rothman, S.(2006) Occupational stress in the South African Police Service; *South African Journal of Industrial Psychology,, 32(3), 72-78*

Pienaar,J. (2002) Coping ,stress and suicide ideation in the South African police services, unpublished doctoral thesis,PU for CHE, Potchefstroom .

Prinsloo (2006). Robbery in South Africa. *Acta Criminologica,* 10.

Rothmann, S. & Jorgensen, L. I. (2007). A model of work-related well-being for polic members in the North-West Province. *Acta Criminologica,* 20(4), pp. 73 -84.

Rothman, S. & Pienaar, J. (2003). Job stress in the police service. Paper presented at the 15th conference of the South African Institute for Management Scientist, Potchefstroom.

Rothman, S. & Pienaar, J. (2007) Suicide ideation in the South African Police Service, *South African Journal of Psychology,* 18.

Rothman,S. & Van Rensburg, P. (2002) Psychological strengths,coping and suicide ideation in the South African Police Services in the North West Province. *South African Journal of Industrial Psychology,*28: 39-49

Stromnes, J. (1999). *The incident of post traumatic stress disorder among police officers.* Unpublished masters thesis.UNISA

Sekwena, E. ,Mostert ,K.& Wentzel, L.(2007) Interaction between work and personal life experiences of Police officers in the North West Province. *Acta Criminologica,* 20(4) 37-54.

Spielberger, C. D., Vagg, P .R., & Wasala, C.F.(2003) Occupational stress: Job pressures and lack of support, *Handbook of occupational health psychology*. Washington DC, American Psychological Association

Spielberger,C.D., Westberry, L.G., Grieg ,K.S. & Greenfield,G.(1981). The police stress survey, sources of stress in law enforcement. Tampa, F.L. University of South Florida.

Stephens, C., Long, N., & Miller, I. (1997). The impact of trauma and social support on posttraumatic stress disorder: A study of New Zealand police officers. *Journal of Criminal Justice,* 25, 303 – 314.

Schuffel,W., Schade, B. & Schunk ,T.(1992) *A Brief inventory to investigate stress reactions*. Post-traumatic *S*ymptom scale,10 items(PTSS-10) . Phillips University Clinic.Germany

Shlebusch, L. (2004) The development of a stress symptom checklist. *S*outh *African Journal of Psychology* .34(3) 327-349

Stephens, C.& Long, N. (2000) Communication with police supervisors and peers as a buffer to work-related traumatic stress. *Journal of Organizational Behaviour*,21,407-424

Stephens,C. (1998) Traumatic experiences and post-traumatic stress disorder in New Zealand police *International Journal of Police Strategies and Management*. 21(1) 178-191

South African Police Services (2005 / 2006) .Statistics from the South African Police Services

SAPS. (2001). The reported serious crime situation in South Africa for the period January-September 2001. Crime Intelligence, Pretoria. Available at http//www.saps.org.za

Terre Blanche, M. T. & Durrheim, K. (1999). *Research in Practice: Applied Methods for the Social Sciences.* Cape Town: UCT Press.

Tache, J. & Selye, H. (1986) On stress and coping mechanism. In C.D Spielberger and I.G. Sarason(eds), *Stress and Anxiety*, vol 10, A sourcebook of theory and research. Washington

Violante,J.M.(1983) Stress patterns in police work, A longitudinal study. *Journal of police science and Administration (11)* 211-216

Violante, J.M. & Aron, F. (1994). Ranking police stressors. Psychological Reports, 75, 824-826.

Violante,J.M.(1995) Survivors of trauma and departmental responses following deaths of police officers.*Psychological Reports* 77 ,611-615

Van Heerden, T.J. (1986) Inleiding tot die polisiekunde.Pretoria. Universiteit van Suid Afrika

Watson,K .(1999) Gender bias? The struggle to establish a permanent women police presence in South Africa during the Union period. *Journal for Contemporary History,* 24(1), June ,1-14

Weiss, D.,Brunet,A., Best ,S.R, Metzler, T., Liberman,A, Rogers, C. Neyland, T ,Fagan, J.& , Marman,C. (2001) The critical incident history questionnaire: a method for measuring total cumulative exposure to critical incidents

Weisaeth, L. (1989). Torture of a Norwegian ship's crew.*Acta Psychiatrica Scandinavia Suppl.* 355,80.63-72