

THE EXTENT AND SOME OF THE VICISSITUDES OF PSYCHOLOGICAL
TRAUMATISATION AT THE HANDS OF VIOLENT CRIME IN FIRST YEAR
UNIVERSITY STUDENTS

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(Psychology)

DECLARATION

I hereby declare that this dissertation is my own work and has not been submitted to any other university.

A handwritten signature in cursive script, appearing to read "Fr Jacobs", is written over a horizontal line.

Franchelle Jacobs

6th day of September, 2002

ABSTRACT

A review of the relevant South African trauma literature indicated that very little research into the effects of direct and indirect violent crime exposure has been undertaken. The present study examined some of the psychological sequelae given extremely high levels of violent crime exposure in South Africa (Nedbank ISS Crime Index, 2001). This study focused on violent crime in Gauteng, South Africa, as experienced by a sample of 1st year University of the Witwatersrand students. The sample (n = 367) consisted of 1st year Bachelor of Arts, Bachelor of Science and Bachelor of Commerce students. A quantitative research methodology was used, in which levels of trauma were assessed by using the Impact of Event Scale (Horowitz et al., 1979). The Dimensions of Trauma Scale (Esprey, 1996) and the Direct and Indirect Exposure to Violent Crime Scales, constructed by the researcher, were used to measure violent crime exposure.

The current research adopted an epidemiological lens and focused on the prevalence of both direct and indirect traumatic exposure to violent crime, in a sample of 1st year South African university students in Gauteng, and the prevalence of any resultant traumatic stress symptomatology. The results of the research yielded high levels of direct and indirect exposure to violent crime. Thirty-five percent of the students reported direct exposure to violent crime and 62 % reported indirect exposure to violent crime. Multiple exposure to trauma was evident in the current study's sample.

It was found that 19% of the sample reported substantial levels of PTSD symptomatology on the Impact of Event Scale (Horowitz et al., 1979).

A further focus of the current study included an examination of the relationship between the nature of the traumatogenic event (i.e. the nature, severity and subjective perception of the stressor), the posttrauma environment (i.e. counselling, social support and previous exposure to trauma) and personal factors (i.e. demographics, health status, substance abuse, psychiatric and family psychiatric history and a sense of coherence) and both traumatic exposure to violent crime and traumatic symptomatology. The results of the study yielded many statistically significant relationships and statistically significant effects between the factors chosen as part of the relational aspect of the current study. Statistically significant results were found with regards to the nature of the traumatogenic event (e.g. mugging, attempted sexual assault), features of the posttrauma environment (e.g. social support, previous trauma exposure) and personal factors (e.g. demographics, substance use) in relation to both direct and indirect traumatic exposure to violent crime and traumatic symptomatology. The results of the relational aspect of the current study suggest that many factors are implicated with regards to traumatic exposure and traumatic stress manifestations, highlighting and adding to continuing debates regarding the complex and multifaceted nature of the study of trauma.

Finally, the study examined whether there was a relationship between traumatic exposure and traumatic symptomatology. The results of the study found statistically significant relationships between traumatic exposure, in this case, violent crime, and traumatic symptomatology. This result contributes to the body of traumatic stress

literature regarding the relationship between the nature of the stressor and traumatic symptomatology.

The study added to current knowledge in the field of traumatic stress generally, and more specifically expanded on the effects of criminal violence in South Africa. The study also illustrated the importance of acknowledging the effects of indirect exposure to violent crime. A further, fairly novel contribution of the current study regards the examination of variables in relation to traumatic exposure. Finally, a number of suggestions for future research are discussed.

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PART ONE

CHAPTER ONE

Introduction

Apart from the dreadful misery and suffering it causes, crime is a ghastly waste for the whole country, in money and manpower. Each year there are more watchmen, more guards, more windows barred, more doors double-locked, the jails are full, the courts crowded, the whole legal system strained to the limits of inefficiency. For every gangster at large several men are needed to safeguard and protect the citizen. And yet crime grows. The huge crime rate is an incalculable open drain on the resources of the country which no country can afford...A start has come already: vigilantes have been formed by citizens themselves to patrol the streets and protect the householders. Children are being stopped from wandering after dark. (Drum, 1951 cited in Nicol, 1991, p. 49-51).

The above quote highlights some of the debilitating effects of crime, for individuals and country alike, and foregrounds the extended period of time that crime has been an endemic part of life in South Africa. Crime is an extremely complex social and economic problem in any society (Nedcor ISS Crime Index, 1996; South African Police Services, 2001). This research aims to examine some of the psychological sequelae given extremely high levels of violent crime exposure in South Africa (Nedbank ISS Crime Index, 2000). This study will examine violent crime in Gauteng,

South Africa, in relation to a sample of 1st year University of the Witwatersrand students. The aim of the current research is to adopt an epidemiological lens and focus on the prevalence of both direct and indirect traumatic exposure to violent crime in a sample of 1st year South African university students in Gauteng and the prevalence of any resultant traumatic stress symptomatology.

A further aim of this study is to examine of the relationship between the nature of the traumatogenic event (i.e. the nature, severity and subjective perception of the stressor), the posttrauma environment (i.e. counselling, social support and previous exposure to trauma) and personal factors (i.e. demographics, health status, substance abuse, psychiatric and family psychiatric history and a sense of coherence) and both traumatic exposure to violent crime and traumatic symptomatology.

Finally, the study aims to examine whether there is a relationship between traumatic exposure to violent crime and traumatic symptomatology.

LITERATURE REVIEW

The material covered in the literature review will be presented in three sections. Firstly, the researcher will locate this study by discussing the context to be investigated, in relation to traumatic exposure and traumatisation. Crime statistics for Gauteng, which is one of the nine provinces of South Africa, and the area from which the current study's sample will be drawn will be included, as will definitions of criminal violence. In terms of both traumatic exposure and traumatisation, only criminal violence will be investigated in this research.

Secondly, literature in the field of traumatic stress will be discussed. The studies that will be examined include research from South Africa and the rest of the world. This is done deliberately in as far as these studies have looked at the relationships between the variables chosen by the researcher, for instance, demographic variables and PTSD. Hence, the variables chosen as part of the relational aspect of the study (e.g. social support and PTSD), in relation to traumatic exposure and traumatisation, will mainly be discussed.

Thirdly, the researcher will discuss epidemiology as a construct, and epidemiological studies in the traumatic stress field. This study will examine epidemiological findings, with regard to traumatic exposure to violent crime and traumatisation in order to assess the prevalence in a South African 1st year university student population. Finally, the study will examine literature related to the relationship between traumatic exposure to violent crime and traumatic symptomatology.

Criminal Violence in South Africa

Introduction

Eagle (1998) states that it seems that victims of violent crime warrant broader and deeper study as a traumatised population, since in comparison to other traumatised populations (e.g. combat veterans, survivors of man-made and natural disasters) victims of violent crime, have received relatively little attention. According to researchers in this area, reactions to criminal violence, other than rape, have remained relatively unexplored in the field of posttraumatic stress disorder (Breslau & Davis, 1987; Friedland, 1999; Sorenson & Golding, 1999; Wolfe & Kimerling, 1997). However, criminal violence has become endemic to life in South Africa and crime levels have continued to escalate over the last few years (South African Police Services, 1998). Authors argue that crime is one of the most serious issues in South Africa (Nedcor ISS Crime Index, 2000; South African Police Services, 2001), however, debates around prevention and punishment frequently overlook the plight of victims (Camerer, 1996; Hamber, 1997; Hamber & Lewis, 1997). While there has been research into the effects of political violence in South Africa (Dawes, 1994; Esprey, 1996; McKendrick & Hoffman, 1990; Straker, Moosa, Becker & Nkwale, 1992), research into the effects of criminal violence has only recently begun to emerge (Benatar, 1996; Butchart & Kruger, 1998; Eagle, 1998; Friedland, 1999). This study aims to examine the psychological effects of exposure to criminal violence, reflecting an emerging trend in the study of trauma in South Africa.

This study examines responses to a wide range of criminal violence. Authors have argued that this is necessary and important since studies of responses to crime have generally focused on the study of victims of sexual assault (Friedland, 1999;

Markesteyn, 1992; Sorenson and Golding, 1990). Furthermore, whereas there has been some research into the effects of criminal violence (Amick-McMullan, Kilpatrick, Veronen & Smith, 1989; Benatar, 1996; Green, Goodman, Krupnick, Corcoran, Petty, Stockton & Stern, 2000; Sorenson & Golding, 1990), there has been very little research into the effects of indirect exposure of individuals to criminal violence (Friedland, 1999). Amick-McMullan et al. (1989), Figley (1995) and Friedland (1999) have emphasized the need to explore the phenomenon of indirect traumatisation. Hamber and Lewis (1997) note that a pattern of effect emerges in both the victims of crime and their supporters. The DSM-IV (APA, 1994, p. 416) also stresses that post-traumatic stress symptoms may occur following an individual witnessing or "...learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate." Thus, this research study aims to explore the issue of indirect traumatisation, with particular reference to indirect exposure of individuals to criminal violence in South Africa, as well as those directly affected.

Crime in South Africa

In addition to criminal violence, other forms of violence, like political violence, are, and have been a complex and endemic part of life in South Africa. It has been "...argued that the legacy of Apartheid has bequeathed to South Africa a 'culture of violence'." (Simpson, 1993b, p.1). As Hamber (1997, p.1) has noted, since South Africa's first democratic election in April 1994 overtly political violence has decreased, but the "...transition has been characterised by dramatic increases in violent crime". However, while there was a high incidence of political violence before the 1994 elections, there was also a dramatic increase in the levels of violent crime. In

1992 the Minister of Law and Order reported that there were more than 24 700 rapes and 79 927 robberies per annum (Simpson, 1993b; Nedcor ISS Crime Index, 1996). Although statistics do not always accurately reflect reality, these statistics do reflect high levels of reported crime (Nedcor ISS Crime Index, 1996). Crime statistics are notoriously difficult to interpret, due to unquantifiable under-reporting, faults in record keeping, aggregation and prosecution (Nedcor ISS Crime Index, 1998; SAPS, 2001). However, there is substantial evidence to suggest that political violence existed alongside violent crime (Hamber, 1997; Hamber & Lewis, 1997).

The 'crossover' of political violence to criminal violence in South Africa is an extremely complex issue (Hamber & Lewis, 1997). Simpson (1993) pointed to the increasingly blurred line between political and criminal violence. For instance, historically the ongoing taxi violence was an area in which the difficulty in distinguishing between criminal and political violence is exemplified. The violent crime that has dominated this taxi industry is attributed to the conflict over lucrative transport routes, but it quickly became associated with claims between rival political groups. (NCPS, 1996).

However, currently South Africa is experiencing high rates of violent crime the roots of which are not essentially being ascribed to political violence. Rather, social imbalances like poverty and unemployment, for example, have been cited as having an effect on violent crime levels (Nedcor ISS Crime Index, 1998; SAPS, 2001). However, this is a complex and multifaceted area of investigation. Some hypotheses regarding violent crime in South Africa will be discussed below.

Understanding Crime Levels in South Africa

It has been suggested that the problems of violence and crime are deeply rooted in the history of South Africa (Hamber, 1997; Nedcor ISS Crime Index, 1996). As noted above, it has been argued that South Africa's inherited political culture of violence and crime is one factor that accounts for the increase of levels in criminal activity (Esprey, 1996; Hamber, 1997; Hamber & Lewis, 1997; NCPS, 1996; Simpson, 1993b). Through the generation of a culture of violence, violence has become viewed as normative as opposed to deviant in South Africa, and subsequently violence has come to be regarded as an acceptable means of resolving social and political conflict (McKendrick & Hoffman, 1990; NCPS, 1996). Consequently, crime is viewed by some as another facet of violence, which is acceptable in South Africa. Understanding the increase of criminal activity in South Africa, is complex and multidimensional (Nedcor Crime Index, 1998). The National Crime Prevention Strategy Task Force (1996) has identified several important factors that appear to account for the increase in crime in South Africa.

Paradoxically, the negotiated transition in South Africa, and the subsequent destruction of repressive social control, are factors that have been cited as partially contributing to the increase in crime (Nedcor ISS Crime Index, 1998; Hamber, 1997). It has been argued that an important condition for the dismantling of legislative Apartheid was the shift away from the politics of confrontation to the politics of negotiation (NCPS, 1996). An unintended consequence of this transition has been the breaking down of existing (and often illegitimate) mechanisms of control (NCPS, 1996; Hamber, 1997). However, these mechanisms of control have not as yet been replaced by legitimate or credible alternatives (NCPS, 1996). This has created an

environment in which criminal activity has been able to develop, without having to face a cohesive law enforcement agency (NCPS, 1996).

This “...destruction of social control” (NCPS, 1996, p. 14) has further eroded perceptions of authority (both legitimate and illegitimate), and the institutions that were responsible for social control (such as the police force) have become less effective since elections in 1994. With particular reference to the state’s law enforcement agencies, their authority has been undermined by their inability to use previously sanctioned repressive methods of social control (NCPS, 1996).

Furthermore, reports of widespread corruption in the police force undermine the fight against crime (Glanz, 1995). The slow process of transformation in organisations such as the police force is “integral to the context in which criminal activity has in some respects become socially accepted” (NCPS, 1996, p. 14), and has created an environment in which criminal activity can flourish because of the absence of adequate policing. Hence, through the period of negotiated transition, and following the subsequent alterations in social mechanisms of control, opportunities for the organisation and increase of criminal interests has increased dramatically (NCPS, 1996). Furthermore, in the case of the SAPS extremely low salaries, violent working conditions, and understaffing, besides other factors, have led to many resignations and, in turn, to low rates of detection and apprehension of criminals (Nedcor ISS Crime Index, 1996).

The justification of crime in political terms is another factor that has contributed to the increase of crime in South Africa (Hamber, 1997; NCPS, 1996). It is thought that the previous government’s attitude of viewing legitimate political activity as criminal activity, served to discredit the agencies and processes associated with law enforcement (NCPS, 1996). This also appears to have led to the popular

approval of 'illegal activities'. This undermined "...popular discouragement of unlawful activities in general and underpinned the rationalisation" (NCPS, 1996, p. 16) for the blurring of the line between political and criminal activity. The NCPS (1996) argues that the past criminalisation of politics has been translated into the 'politicisation of crime' - a widespread tolerance of anti-social activities including crime. This 'politicisation of crime' does not imply that there is not widespread public concern over the problem of violent crime (Camerer, 1996; Hamber, 1999). However, the 'politicisation of crime' has tended to undermine the popular condemnation of certain criminal activities, particularly acquisitive crime and forms of victimless crime such as fraud (NCPS, 1996).

Historically "...shaped structural deprivation, unemployment and underdevelopment in South African society, provides the key context to the increasing levels of crime" (NCPS, 1996, p. 17). It is important to note that poverty is not an adequate explanation for the increase in criminal violence. There is no direct correlation between poverty or unemployment and violent crime, although there may be a greater correlation between these factors and acquisitive crime such as theft and housebreaking (NCPS, 1996).

Historical marginalisation of the youth is a further, partial explanation of crime in South Africa (Nedcor ISS Crime Index, 1998). The youth constituency has experienced historical, social, economic, political and educational marginalisation (NCPS, 1996). As political change has occurred the youth have struggled to attain a sustainable identity. The criminal youth gangs have increasingly provided social cohesion and identity for members of this youth constituency (NCPS, 1996). This has led to the integration of young individuals into criminal activities and sub-cultures (NCPS, 1996). The break-up of the traditional family structure, resulting in poor

parental guidance and a loss of the values and norms that provide a basis for resisting the attractions of crime, has been cited as an immediate cause of young people entering a life of crime (Nedcor ISS Crime Index, 1996). However, the break-up of the family itself is not a spontaneous occurrence, but caused by factors such as: rural to urban migration; families with both parents working (or conversely, unemployed); poverty; inadequate housing besides other social and economic realities (Nedcor ISS Crime Index, 1996). Furthermore, worldwide, young people are more likely to be drawn into crime than older people (Nedcor ISS Crime Index, 1998; 1999). Accordingly, demography plays a role in South Africa's present crime wave (Nedcor ISS Crime Index, 1998; 1999).

The large imbalances in access to wealth, development and resources may operate as an incentive for criminal activity, and also form the basis for the justification of crime (Nedcor ISS Crime Index, 1998; Hamber, 1997). These differences, "...rooted in the preceding era and largely coinciding with racial differences, are frequently evoked as a rationalisation for criminal redistribution." (NCPS, 1996, p. 13). This is one mechanism by which crime is justified as 'political' in nature. However, it is important to note that it is not simply the poor who rob the rich. The latter have access to better security, and thus it is often the "...Black (and often poor) citizens who are the most vulnerable to crime." (NCPS, 1996, p.13). Furthermore, it is not simply poor people who commit violent and/or acquisitive crime. Syndicated and organised crime ultimately benefits the affluent leaders (NCPS, 1996). Thus, the relationship between poverty, unemployment, relative deprivation, and the increase in crime is not linear: it is extremely complex and dependent on a multitude of factors (Nedcor ISS Crime Index, 1998).

It is important to recognise that there is “...no single cause of violence and crime in South Africa.” (NCPS, 1996, p. 13). There are many different types of crime ranging from motor vehicle hijackings to white collar crime to child abuse. The underlying causes of motor vehicle hijackings are quite different to the motivations behind rape or fraud (NCPS, 1996). Thus, each type of crime requires a different understanding, but all contribute to the whole picture of crime that confronts South Africa (Nedcor ISS Crime Index, 1996; 1998).

The above discussion of some of the posited reasons for the increases in levels of crime is important since it serves to contextualise crime within South Africa. As a result of the above factors, crime is both increasingly widespread and random (NCPS, 1996; Friedman, 1999; Nedcor ISS Crime Index, 1999; 2000; 2001). This has resulted in an overall increase in levels of anxiety and distress within communities affected by crime, especially as each individual is forced to contemplate them self as a potential victim (Camerer, 1996). Crime has led to alienation and the breakdown of mutual support within communities (; Hamber & Lewis, 1997). Furthermore, crime has occurred within the framework of dramatic transition and social change within South Africa (Nedcor ISS Crime Index, 1996). This social change has in itself led to widespread stress and insecurity. However, the high levels of crime have compounded the situation (NCPS, 1996; SAPS, 2001). It is, therefore, clear that the effects of crime are widespread and have been further impacted upon by the negative context in which criminal activity occurs (Friedland, 1999).

Defining Criminal Violence

In terms of a working definition of criminal violence, McKendrick and Hoffman (1990) argue that criminal violence can either be directed at persons or

property. Those directed at an individual include acts, known as violent crimes, which inflict harm on others (murder, battery, rape, burglary, mugging, assault and acts of abuse and neglect) (McKendrick & Hoffman, 1990). Violence directed at property, known as property crime, may consist of burglary, motor-vehicle theft and larceny theft. However, the latter may become directed at the individual (e.g. in South Africa, hijacking of cars is a prevalent form of criminal violence)(Nedcor ISS Crime Index, No. 6, 1999). McCann and Pearlman (1990a) include intentional violence, muggings, burglaries, aggravated assaults and rape, as important examples of criminal violence.

Block and Block (1984, p. 139) provide a more clearly defined crime index than McKendrick and Hoffman's (1990) since it describes more extended and more specific forms of criminal violence. They include:

“(a) murder and non-negligent manslaughter; (b) forcible rape and attempts; (c) armed robbery, strong-arm robbery; and attempted robbery; (d) aggravated assault, aggravated battery; (e) burglary, breaking and entering, and attempted burglary; (f) larceny-theft and attempts; (g) motor-vehicle theft and attempts; and (h) larceny.”

Block and Block (1984) outline eight index crimes used in measuring crimes in the USA, and which form the basis of the Uniform Crime Report's (UCR) Crime Index Series. This definition will be utilised in this study since it appears to encompass extended and more specific forms of criminal violence. There does appear to be general consensus in defining criminal violence according to the parameters reflected in the UCR Crime Index (Block & Block, 1984).

Crime Statistics in South Africa

The only official source of crime statistics in South Africa (like any other country) is the police. Police statistics are limited by problems associated with the way that crime is reported and recorded (SAPS, 1998). Given inaccurate and unreliable reporting and recording, a moratorium on the release of crime statistics was declared by the South African Minister for Safety and Security, Mr S. Tshwete. This came into effect from 20 July 2000 (SAPS, 2001). The moratorium has since been lifted (in August 2001) and the latest statistics released will be discussed further on in the chapter. This study is focusing on the time period when no crime statistics were released and aims to assess the prevalence of exposure during this time. The statistics quoted here were obtained from the Nedbank Institute for Security Studies Crime Index and they only provide crime statistics until 1999.

During 1999 levels of reported crime allegedly increased at a faster rate than any other year since 1994. Violent crime increased by almost 10% between 1998 and 1999, more than any other crime category. During 1999 every third crime reported to the police involved violence or the threat of violence (Nedbank ISS Crime Index, 2000). During the first three years after South Africa's political transition in 1994, crime levels seemed to stabilise (Nedbank ISS Crime Index, 2000). However, after 1997, levels of reported crime, measured from one year to the next, began to increase at an escalating rate. While crime levels decreased by 0.3% between 1995 and 1996, and increased by 1.2% between 1996/1997, the increase was 4.8% in 1997-1998. This reached a peak of 7% in 1998-99. According to the most recently available Interpol figures, in 1996 South Africa had the highest per capita murder, rape, robbery and violent theft levels of the 114 countries surveyed. By 1998 and 1999 the number of reported violent crimes increased by 9.3%, more than any other crime category. In

1999 some 32.6% of all reported crimes were violent. It is South Africa's high level of violent crime that sets the country apart from other crime-ridden societies (Nedbank ISS Crime Index, 2000). Not all types of violent crime increased or decreased at the same rate between 1998 and 1999. Common robbery and robbery with aggravating circumstances experienced the greatest increase of 15.6% and 10.3% respectively. Assault with the intent to inflict grievous bodily harm increased by 9.5%. Murder continued with its post-1994 downward trend, decreasing by 4.3% between 1998 and 1999. The number of reported attempted murders decreased by 2.4% over the same period. However, crime figures for 1999 continue to indicate that the number of reported crimes is at an all time high (Nedbank ISS Crime Index, 2000).

The Nedbank ISS Crime Index (2000) analysed SAPS statistics comparing crime in the provinces, including trends since 1994. An analysis of police statistics for six crime types shows that Gauteng, Western Cape and KwaZulu-Natal have the highest crime rates. However, crime rates have increased faster in the Western Cape and KZN since 1994 than in Gauteng. Although Gauteng has high volumes of crime, according to this analysis, the chances of becoming a victim are increasing much faster in other provinces. In 1999, Gauteng ranked in the top three for all six crime types (murder, robbery with aggravating circumstances, assault with intent to do grievous bodily harm -serious assault, burglary of residential premises and vehicle theft and hijacking -of cars and trucks). Gauteng consistently had crime rates higher than the country as a whole. For the purpose of this study Gauteng statistics will be considered since this is the population from which the research sample is drawn.

The South African Institute of Race Relations publishes surveys in South Africa Survey. In their millennium edition 1999/2000 they state the following on crime. A national Victims of Crime Survey showed that in 1997, some 21% of South

African households had experienced at least one household crime (such as hijacking or murder), one household in 200 had experienced at least one incidence of murder, 3.8m South Africans over the age of 16 had been the victim of at least one individual crime (such as assault), and one in every 250 had been the victim of a sexual offence. Some 17% of White and so-called Coloured respondents were the victims of at least one individual crime in 1997, compared with 14% of African and 11% of Indian respondents.

The Nedcor ISS Crime Index (1998) stated that crimes against women and children have increased to such an extent over the past few years that the South African Police Service declared such crimes a policing priority for 1997/98 and 1998/99. Rape, domestic violence and child abuse are major threats to women and children (Nedcor ISS Crime Index, 1998). The Human Sciences Research Council's (HSRC) 1997 Crime and Victim Survey in Midrand, Johannesburg, showed that a large percentage of women and children were victims. Further, it showed that figures for unreported crimes, especially rape, committed against women and children, were among the highest, ranging between 30%-41%. This reflected the HSRC Omnibus Study, a countrywide study on underreporting of crime (Nedcor ISS Crime Index, 1998). Another issue of grave concern relates to sexual violence and HIV/AIDS. The Nedcor ISS Crime Index (1999) states that an added issue that confronts young women is their susceptibility to HIV/AIDS.

Furthermore, research on abuse usually focuses on adults and children, with little attention on young women between the ages of 12 and 25 (Nedcor ISS Crime Index, No. 6, 1999). This group is particularly vulnerable to violence perpetrated largely by people they know and trust (Nedcor ISS Crime Index, No. 6, 1999). They state that few ever talk about the abuse, which means curative interventions or

criminal justice solutions will not reach most survivors. Perhaps this study will access some of these individuals and provide a means for seeking help (telephone numbers for trauma debriefing will be provided). Young women are vulnerable not only because they are women, but also because of their age (Nedcor ISS Crime Index, No. 6, 1999). Compared to older women, girls and young women are much less mobile and financially independent and are less able to escape abusive situations. According to a Medical Research Council (MRC) study on relationship dynamics and adolescent pregnancy in South Africa, young women are subject to assault (ranging from slapping to beatings with objects and stabbing) and sexual coercion (on a spectrum from begging to gang rape) by partners and others. The figures on rape reported to the police (and to district surgeons) as well as survey results indicate that young women constitute a large percentage of survivors. The University of South Africa's (UNISA) Institute for Social and Health Sciences studied rape cases reported to the district surgeons between 1996 and 1998 in Johannesburg. Results showed that 51% of these women were between 15 and 25. This study focuses on the aforementioned age demographic, albeit, starting at 17 to 18 years in a university student population.

At the time of writing the proposal for the current study, the crime statistics moratorium in South Africa was still in place. However, at the time of conducting the research the moratorium had been lifted. As an interest point, the researcher will now include some of the latest statistics released, although, the study is focusing on violent crime over two years, namely, September 1999 - September 2001. Statistics for 2000 (SAPS, 2001) and controversy regarding recent crime statistics in South Africa (Bruce, 2001) will briefly be discussed. It is important to note that, when the crime statistics moratorium was recently lifted in South Africa in August 2001, analysts "...were caught in a double bind" (Bruce, 2001, p.1). The question asked is, if the

statistics are not reliable, how can the analysts comment on the trends they appear to reflect (i.e. for 2000). However, the Minister of Safety and Security, Steve Tshwete, released the statistics that he simultaneously condemned as 'unreliable' (SAPS, 2000). Bruce (2001) argues that the statistics do, nevertheless, indicate broad trends in reported crime. Bruce (2001) notes that while there is positive news for South Africans in the form of major declines in the murder rate, more broadly the statistics point to an overall increase in levels of violent crime. Since the lifting of the crime statistics moratorium the latest released SAPS crime statistics are reported to be reliable (SAPS, 2001). A South African Police Services report, "The reported serious crime situation in South Africa for the period January-September 2001", stated the following:

Except in the case of other theft and the two categories of robbery (which are still a major concern), all 17 other crimes have at least stabilised during the 18 months of the implementation of the National Crime Combating Strategy (NCCS)...(SAPS, 2001, p. 1)

Robbery with aggravating circumstances and other robbery (crime category used to register the theft of a wide range of items) are still increasing significantly (by 7.6% and 4.5% respectively)(SAPS, 2001). The above report notes that the South African crime figures for 1999, measured against 90 other Interpol member countries, indicates that South Africa measures unacceptably high with regard to violence, for instance murder, rape, robbery and assault (SAPS, 2001).

Conclusion

In order to understand responses to criminal violence in South Africa it is important not only to discuss posttraumatic stress responses to trauma, but also to

contextualise crime in South Africa. The discussion of crime levels, as well as reasons for the increase of crime in South Africa serves to locate this study of trauma in a particular context; namely a context that is characterised by high levels of violent crime, and ongoing stress related to living in a society in which crime is apparently random and ongoing (Butchart & Kruger, 1998). Apart from the economic burden, the loss in quality of life and the psychological suffering is immeasurable (Butchart & Kruger, 1998) and, as Wilson and Keane (1997) argue, we live in an era of trauma and human suffering in the global community, which is a truism and a tragedy. Hence, our knowledge and understanding of trauma and PTSD "...is an important step in what must become a broader mission for the generations of the future." (Wilson & Keane, 1997, p. 5). The research will now turn to a broad discussion of trauma, and following this, more specifically to literature in the field of traumatic stress. Finally, epidemiology with regards to traumatic stress will be discussed since this study aims to examine the prevalence of traumatic exposure to violent crime and traumatic symptomatology given the crime statistics moratorium that occurred in South Africa.

CHAPTER TWO

Trauma

General History of Post-Traumatic Stress Disorder

Traumatisation has been an intrinsic part of human history. Herman (1992, p. 7) argues that, in the field of trauma, periods of intense investigation have alternated with “periods of oblivion”. Historically, only during and after major warfare, has posttraumatic stress disorder been studied exclusively (Kolb, 1993). However, more recently traumatic stress has begun to occupy an important part in psychiatric and psychological fields (Herman, 1992; Horowitz, 1999; Wilson & Keane, 1997; Wilson, 1994; Yehuda & McFarlane, 1999). Currently, there is an upsurge of interest in traumatic stress in South Africa as reflected in the range of literature available on psychological trauma (Dawes, 1994; Benatar, 1996; Blumberg, 2000; Eagle, 1994; 1998; Esprey, 1996; Friedland, 1996; 1999; Michelson, 1994; Straker, 1987).

The historical understanding of posttraumatic stress disorder (PTSD) has changed markedly over the years from Freud’s initial conception of traumatic stress to the DSM-IV’s (APA, 1994) formulation of this pathology (Wilson, 1994). In ‘Beyond the Pleasure Principle’, Freud conceives of trauma as involving an “external stressor event that overwhelms normal ego functioning” (Wilson, 1994, p. 687). It was thought that, essentially, the traumatic neuroses of war caused the protective shell of the ego to break down, causing the “...ego to escape into a neurosis” (Kinzie & Goetz, 1996, p.162 cited in Wilson, 1994, p. 688). Freud’s (1928) notion that trauma had the power to change ego states and alter adaptive behaviour anticipated current views on trauma,

and reflect a major contribution to the field of posttraumatic stress disorder (Herman, 1992; Raphael, 1986).

Freud later shifted his emphasis on the reality of the traumatic stimuli to focus on phenomena of the psyche in which fantasy, imagery and thoughts play the most central role in trauma. This was reflected in Freud's decision to view his hysterical patient's accounts of sexual abuse as fantasized (Herman, 1992). This shift in the conceptual paradigm of trauma from that of reality based, "stressor event determinants of PTSD to a focus on fantasy" (Kolb, 1993, p. 200), was enormously significant as it made pre-morbid determinants the primary consideration in trauma. This approach led Freud to minimise external events, which included the nature and magnitude of the trauma, and the socio-historical context in which trauma occurs. Thus, if an individual had a prolonged reaction to a traumatic event, this was caused not by the 'reality' of the stressor, but rather by the psychodynamics and pre-morbid personality of that individual (Wilson, 1994). This debate, around the importance of the stressor and the individual, has remained prevalent in research regarding traumatic stress and currently the DSM-IV (APA, 1994) recognizes the importance of both objective and subjective aspects in trauma, albeit tending to place greater emphasis on the external event (Friedland, 1999).

Moreover, interest in PTSD "...waxed around wartime and waned during peace." (Davidson & Foa, 1993, p. ix). The reality of psychological trauma was brought into "...public consciousness once again by the catastrophe of the First World War" (Herman, 1992, p.20), as well as the Second World War. The DSM-I, which was published after World War II, not only recognised traumatic neurosis but provided for two sub-types of this disorder (APA, 1952). In the publication of the DSM-I the category of 'gross stress reactions' was recognised (APA, 1952). However,

DSM-II, which was published more than twenty years after W.W.II and just before the Vietnam War, relegated “...trauma-related disorders to just one example of situational disturbances of adult life” (Davidson & Foa, 1993b, p. ix). In 1980 the existence of PTSD was legitimised for the first time in the DSM-III in its classification amongst the anxiety disorders. It had finally been acknowledged that PTSD was and is a lasting and inevitable legacy of war (Herman, 1992).

According to Wilson (1994, p. 681), the last quarter of a century has seen a “...rapid proliferation of interest in traumatic stress symptoms, especially in post-traumatic stress disorder”. The vast increase of clinical and research studies with different populations of trauma victims (e.g. childhood abuse victims, rape victims, war veterans, emergency workers etc.) has led to new questions, debates and ongoing refinements in understanding the complexity of stress response syndromes (Wilson, 1994). Refinements include Herman’s (1993) notion of a complex post-traumatic stress syndrome. Herman (1993, p.214) argues that the current diagnostic formulation of PTSD fails to encapsulate the “...protean symptomatic manifestations of prolonged, repeated trauma or the extensive alterations of personality that occur during prolonged captivity”.

Also, historically, there has been little focus on indirect victims of trauma. More recently awareness has grown regarding those indirectly affected (Friedman, 1999; Hamber & Lewis, 1997; Figley, 1995). This has been highlighted in McCann and Pearlman’s (1990b) concept of ‘vicarious traumatisation’ which reflects a refinement in the field of trauma. Vicarious traumatisation “refers to the transformation in the therapist’s (or other trauma worker’s) inner experience resulting from empathic engagements with client’s traumatic material” (Pearlman & Saakvitne, 1995, p. 151). The emotional impact of indirect traumatisation, as opposed to

secondary traumatisation, which is the term used to describe experiences of crisis workers, is relatively untheorised and, as noted above, Figley (1995) argues for further research in this domain. This study focuses on indirect as well as direct exposure to violent crime.

In terms of understanding responses to criminal violence, it is important to discuss posttraumatic stress disorder generally. This would include a general history of trauma (discussed above), traumatic stress in South Africa, defining trauma, debates in the traumatic stress field as well as particular reference to responses to trauma. In terms of examining trauma responses, it is necessary to explore both the symptoms of posttraumatic stress disorder as set out by the DSM-IV (APA, 1994) as well as the effects of exposure to traumatic experiences. Aspects of the traumatic stress literature, pertaining to this study, will now be discussed.

Defining Traumatic Stress

Etymologically, the word ‘trauma’ means “wound” (Figley, 1978). It was first used in the field of medicine. However, as Janoff-Bulman (1992) points out, the defining feature of physical trauma also applies to psychological trauma. Janoff-Bulman (1992, p.50) notes that psychological trauma may also be viewed as “...a violent shock, the idea of a wound and the idea of consequences affecting the whole organisation.”. Despite its prolific use in the field of psychology, the concept of traumatic stress is not easily defined and is somewhat ambiguous (Figley, 1985; Horowitz, 1999; Kleber & Brom, 1992; Yehuda & McFarlane, 1999). This appears to be as a result of historical shifts in the understanding of the concept over the years, beginning with Freud’s initial conception of the notion of traumatic stress (Horowitz et al., 1997) to its current formulation in the DSM-IV (APA, 1994). Kasl (1990)

clarifies this concept by noting that the term “trauma” can be understood to mean an exposure (stimulus), an outcome (response) or a process which links the one to the other. Freud’s (1928) view of trauma as an external stressor, strong enough to break through the protective shield of the ego, and to overwhelm normal ego functioning, appears to encapsulate the notion of trauma as both a stimulus and a response (Wilson, 1994). The DSM-IV (APA, 1994) classification of trauma (employed in this study) also defines trauma as both a stimulus and a response.

In the DSM-IV (APA, 1994), a traumatic stressor is defined as an extreme stressor:

A (1) involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one’s physical integrity; or witnessing an event that involves death, injury or a threat to the physical integrity of another person; or learning about an unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate. A (2) the person’s response to the event must involve intense fear, helplessness or horror (p.424)

Trauma is viewed as “...a psychologically distressing event that is outside the range of normal human experience...that would be markedly distressing to almost anyone.” (APA, 1994, p.247). There are contentious debates concerning the definition of trauma that will be discussed later in the chapter (Figley, 1985; McCann & Pearlman, 1990). However, in this light, criminal victimization and crimes are “...neither rare events nor outside the realm of normal human experience”. This is particularly the case in countries like South Africa, where violent crime is a fact of life in all sectors of society (Blumberg, 2000). Blumberg (2000) notes that many people may perceive themselves to be at risk on an ongoing basis. In addition, many people are exposed to

several traumatic events and may experience ‘complex’ (Herman, 1992) or ‘continuous’ (Straker, 1987) traumatic stress. These experiences of trauma are not easily accommodated within current definitions (Blumberg, 2000).

However, the DSM-IV (APA, 1994) has recognised that there is not a uniform approach to defining a traumatic event. Rather, the DSM-IV’s criteria acknowledges the subjectivity of trauma and defines a traumatic event in terms of an individual’s appraisal of that event as potentially threatening (Esprey, 1996). The DSM-IV has shifted the emphasis away from the objective severity of the stressor, to acknowledging the effects of a combination of the objective severity of the stressor and an individual’s vulnerability to a traumatic stressor, as well as that individual’s perception of the stressor (Friedland, 1999).

As noted by Yehuda and McFarlane (1999), while a traumatic experience may threaten a certain individual’s psychological core, others may not be nearly as affected. Janoff-Bullman reiterates this point when she postulates that an appraisal process always takes place in trauma, and it is “...how an event is understood that ultimately determines whether it will be traumatic or not.” (Janoff- Bullman, 1992, p. 52).

As noted above, trauma is also conceptualised as a response, the second criterion for the diagnosis of PTSD in the DSM-IV (1994, p. 424), is that the:

person’s response involves intense fear, helplessness, or horror

The DSM-IV (APA, 1994) then outlines characteristic responses to trauma, which will be discussed at length later in the next chapter, including intrusive thoughts about the traumatic experience, avoidance and numbing reactions, and increased physiological arousal which consists primarily of physiologic reactivity when confronted with reminders of the traumatic event.

Figley (1985) also views trauma as a response, and more specifically as

...an emotional state of discomfort and stress resulting from memories of an extraordinary, catastrophic experience which shatters the survivor's sense of invulnerability to harm (p.xviii).

Janoff-Bullman (1992) affirms the above, arguing that trauma shatters the survivor's sense of invulnerability, resulting in individual's realising that "bad things can happen to them" (Janoff-Bullman, 1992, p. 61), and that they are not necessarily safe within their world. Janoff-Bulman (1992, p. 52) states that trauma is:

...an injury to the victim's inner world, and core assumptions about the world are shattered by the traumatic experience.

Ulman and Brothers (1988, p. 3) also argue that trauma results in the change of a "person's experience of self". They note that trauma essentially shatters the self, and more specifically the internal world of the individual. McCann and Pearlman (1990a) also view trauma as disrupting the individual's self and frame of reference.

Conclusion

An introduction to the field of traumatic stress was provided by the discussion of the concept of trauma as a construct. The researcher will now focus on literature, in the field of traumatic stress, pertaining to the current study.

Posttraumatic Stress Disorder

Introduction

Clarification of trauma-relevant diagnoses have progressed rapidly in the last two decades (Horowitz, 1999). Currently, the fourth version of the American Psychiatric Association's Diagnostic and Statistical manual (DSM-IV, 1994), contains several stress response syndromes. Of these, the diagnosis of Posttraumatic Stress Disorder (PTSD) is central (Horowitz, 1999). There are other relevant diagnoses. These include Acute Stress Disorder, Brief Psychotic Disorder, with marked stressors, Adjustment Disorder, trauma-induced Dissociative Disorder such as Depersonalisation Disorder, and a potential new diagnosis of Complicated Grief Disorder (Horowitz et al., 1997). In addition, traumatic responses can flare up other symptom clusters into heightened psychopathology, leading to disorders of depression, anxiety and pathological change in personality (Horowitz, 1999).

The DSM-IV (APA, 1994) will be utilised as the reference point for the understanding of PTSD employed in this study. In the DSM-IV (APA, 1994, p.424) the characteristic symptoms of PTSD are described as follows: (1) persistent re-experiencing of the traumatic event; (2) persistent avoidance of stimuli associated with the trauma; (3) numbing of general responsiveness and (4) persistent symptoms of increased arousal. To receive the diagnosis of PTSD these symptoms must be present for at least a month after the traumatic event and must cause a significant disruption to social, occupational and/or other important areas of functioning.

Although symptoms of PTSD usually develop within three months after the traumatic event, the DSM-IV (APA, 1994) states that the disorder may develop many months or years after the event. This is termed PTSD with Delayed Onset. As noted

previously, the DSM-IV (APA, 1994) also includes a new category, namely Acute Stress Disorder which allows for the development of symptoms of traumatic stress within one month after the exposure to a traumatic stressor, lasting for a minimum of 2 days and a maximum of 4 weeks. Acute Stress Disorder includes a number of dissociative symptoms (including numbing, detachment, depersonalisation, derealisation, as well as the characteristic symptoms of re-experiencing, avoidance and marked anxiety (APA, 1994).

The placement of the diagnostic category of PTSD among the anxiety disorders in the DSM reflects the recognition that anxiety is a predominant reaction to trauma (Blumberg, 2000). Although there have been several revisions to the criteria, necessary for the diagnosis of PTSD, since the term PTSD was first introduced into the clinical literature by the APA (1980), much debate remains over the architecture of PTSD symptomatology and in particular the definition of trauma (Joseph et al., 1997). Various debates rage in the field of traumatic stress, some polarities are outlined here.

Recent theoretical work emphasizes the role of subjective perception in the development of trauma-related disorder (Joseph et al., 1997). The diagnosis of PTSD is often accompanied by other related disorders as well as a wide range of cognitive, emotional and behavioural problems. For example, research suggests that depression is a major co-diagnosis (Joseph et al., 1997). For most events, symptoms of PTSD appear to diminish by around 18 months although for other events there may be long-lasting effects (Joseph et al., 1997). Events involving massive death and destruction as well as human agency seem particularly likely to have chronic effects (Joseph et al., 1997). As Horowitz (1999) notes, the diagnosis of PTSD emerged officially in 1980, after a controversy regarding a polarisation of causation:

“Did the traumatic event in and of itself cause a psychiatric problem? Were pre-existing features of the victim’s personality and vulnerability involved? ...We know this as a “both-and” rather than an “either-or” polarity.” (p. 3).

Yehuda and McFarlane (1999) state that it is now clear that PTSD does provide a model for a process of adjustment and destabilisation to trauma that has biological, psychological and phenomenological dimensions. Some biological investigations have demonstrated that the substrates of the disorder may not, in fact, be similar to the “normative stress response” described by Selye (cited in Yehuda & McFarlane, 1999, p.52) but, rather, may be a progressive sensitisation of biological systems that leave the individual hyperresponsive to a variety of stimuli. The finding that PTSD is not an inevitable consequence of trauma has required theorists to be more precise in their formulation of the effects of trauma and to search for other vulnerability factors that give rise to and perpetuate the course of PTSD (Yehuda & McFarlane, 1999). Yehuda and McFarlane (1999) argue that the current challenge in the field of traumatic stress studies is to address the emerging empirical basis of PTSD as central to the validity of the disorder. Yehuda and McFarlane (1999) note that, now that PTSD’s place in psychiatric nosology is safely established, it is the scientific process that must provide the organising philosophy for the field.

On the other hand, theorists like Joseph et al., (1997) and Everstine and Everstine (1993) argue that a perspective that views symptoms of PTSD as continuous with symptoms of normal adaptation is advocated. However, again, Yehuda and McFarlane (1999) also comment on the abovementioned debates in the field. These polarised views have apparently led to a tension between those with a strong allegiance to the social achievements that have been met by the existence of disorder and the clinical researchers. In particular, as clinical researchers continue to make

observations such as the relative rareness of the disorder following exposure to trauma (Card, 1987; Pynoos et al., 1987), the existence of risk factors other than trauma as predictors of PTSD (Shore et al., 1986; Bremner et al., 1995), the atypical rather than normative nature of the biological stress response in PTSD (Yehuda et al., 1999), and the prevalence of pre- and posttraumatic comorbidity (Freedy et al., 1992; Kulka et al., 1993), there arises a conflict between those who wish to normalise the status of victims and those who wish to define and characterise PTSD as a psychiatric illness.

Yehuda and McFarlane (1999) argue that the future of the traumatic stress field depends upon an acknowledgment of the competing agendas and paradigms that have emerged in the last 20 years since the inception of the diagnosis. A clarification of theoretical inconsistencies that have arisen is required and a reformulation of the next generation of conceptual issues. They state that because PTSD is a prototypic illness, in that, it allows a characterisation of the effects of environmental factors in psychiatric illness, clarification and resolution of divergent philosophical conceptions are imperative to a broader understanding of the role of stress in mental illness (Yehuda & McFarlane, 1999). This study hopes to make some contribution in this area, as it does with the following recommendation. Yehuda and McFarlane (1999) argue that while consensual validation and clinical observation have resulted in substantial agreement in defining PTSD, there is a need for data about the prevalence, within the syndrome, of various significant signs and symptoms.

Longitudinal Course and Prognosis

PTSD can develop some time after the traumatic incident. The delay in onset can be as short as one week or as long as 30 years (Kaplan et al., 1994). Symptoms can fluctuate over time and may be most intense during stressful periods. Gree (1994)

notes that insufficient research has been conducted regarding the longitudinal course of PTSD, however, existing research suggests that it may be a very long lasting disorder, especially without treatment intervention. According to Kaplan et al. (1994) approximately 30% of patients recover completely, while 40% continue to have mild symptoms, 20% continue to have moderate symptoms and 10% remain unchanged or deteriorate further. Helzer et al. (1987, cited in Davidson & Fairbank, 1993) found that 49% of PTSD subjects had symptoms that were resolved within six months and 51% of the group had symptoms which persisted beyond six months, with 33% of the entire PTSD population having symptoms lasting beyond 36 months. Kilpatrick et al. (1987) found that, in a female community sample of crime victims, 7.5% still had PTSD symptoms 15 years after exposure.

The intensity and lifespan of PTSD is thought to be influenced primarily by the severity, duration and proximity of the trauma (Blank, 1993; Davidson & Fairbank, 1993; March, 1993). Green (1994) argues that, while PTSD symptoms, in human caused events, usually do decrease over time, this decrease might not mean a return to normal levels. The nature of the trauma alone does not dictate the course of PTSD, subjective perception of the traumatic event is a central factor in determining outcome (Green et al., 1985; March, 1993). Furthermore, there are a number of other factors that can exacerbate or relieve PTSD symptomatology which will be discussed at length in the following chapters, for example, the perceived availability of social support (Scott & Stradling, 1992); family history and family circumstances (Yule and Williams, 1990); previous exposure to traumatic experiences (Green et al., 2000; Wolfe & Kimerling, 1997); pre-existing personality variables (Emery et al., 1991; Kleber & Brom, 1992) and coping style (Gibbs, 1989; Scott & Stradling, 1992).

According to Kaplan et al. (1994), a good prognosis for PTSD can be predicted on the basis of the following: rapid onset of symptoms, the short duration of the symptoms (less than 6 months), good pre-morbid functioning, a strong social support network and the absence of other psychiatric, medical or substance-related disorders.

Comorbidity Patterns

Evidence has been found of a high prevalence of the comorbidity of PTSD with other psychiatric disorders (Davidson & Fairbank, 1993; Green, 1994; Horowitz, 1999, Yehuda & McFarlane, 1999). Findings such as these raise the, as yet, unresolved question of whether exposure to extreme trauma produces the range of co-occurring disorders observed among individuals with PTSD, or whether the presence of other psychiatric disorders increases an individual's risk for developing PTSD (Davidson & Foa, 1993). Other disorders most commonly co-occurring with PTSD include, somatisation disorder, obsessive-compulsive disorder, other anxiety and panic disorders, sexual dysfunction, major depression, schizophrenia and alcohol and substance abuse (Davidson & Fairbank, 1993; Green, 1994; Kilpatrick & Resnick, 1993). Individuals with PTSD have also been shown to be eight times more likely to have attempted suicide, even after controlling for depression, and have also been shown to be more likely to develop medical conditions such as peptic ulcers and hypertension (Green, 1994).

Yehuda and McFarlane (1999) argue that the presence of psychiatric comorbidity is another issue that poses a dilemma for the initial conceptualisation of PTSD as a normative stress response. A number of studies of traumatised groups with PTSD found that from 50% to 90% of individuals with chronic PTSD also meet

diagnostic criteria for another psychiatric disorder, including substance abuse (Yehuda and McFarlane, 1999). Yehuda and McFarlane (1999) state that the findings suggest that it is the exception rather than the rule for individuals to meet diagnostic criteria for PTSD in the absence of meeting criteria for another psychiatric disorder. These authors argue that, in unpacking the question of psychiatric comorbidity, these conditions may reflect the overlap of symptoms between diagnoses as they are formulated in current nosologic conceptions and may not necessarily represent distinct disorders (Yehuda & McFarlane, 1999).

Even so, the existence of these symptoms raises the possibility that they may be considered secondary to these comorbid disorders rather than being secondary to PTSD... The presence of psychiatric comorbidity is a complex issue that overlaps with some of the conundrums raised by the complex longitudinal course of PTSD and existence of vulnerability factors...The relevant rareness of “pure PTSD” (i.e., a frequently used terms that denotes a syndrome uncomplicated by the presence of symptoms of other psychiatric disorders), compared to the presence of more complex forms, suggests that traumatic stress may precipitate a whole host of symptoms and conditions. As such, the emergence of PTSD following exposure to trauma may represent the manifestation of an underlying diathesis rather than a normative adaptation to environmental challenge (Yehuda & McFarlane, 1999, p. 49-50).

Indirect Traumatic Stress and PTSD

Indirect traumatic stress has been recognised in the DSM-IV (APA, 1994). According to the DSM-IV (1994, p.425), the development of posttraumatic stress disorder occurs after the exposure to an extreme stressor that involves the following:

direct personal experience of a threatened serious injury, or threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate.

The italicised phrases emphasise the notion that people can be traumatised "...without actually being harmed or threatened with harm" (Figley, 1995, p.4), and they can be traumatised by merely learning about a traumatic incident. Green (1993) argues that learning about violence to a significant other is an important and little documented dimension of trauma, requiring further research. Green (1993) states that when not witnessed directly, violence to a significant other, is likely to be experienced vicariously.

The DSM-IV (APA, 1994), therefore, acknowledges that people may be traumatised either directly or indirectly, in a variety of different ways. These include assault, serious injury or accident, or death of someone significant. Other forms of indirect traumatising may include exposure of a significant other to criminal violence, such as mugging, homicide of a family member; and assault (Figley, 1995). Kilpatrick and Resnick (1993) point out that in terms of a significant other, the murder of a spouse, sibling or child led to a higher rate of PTSD than the murder of a parent, grandparent or grandchild. Thus, it appears that the particular type of relationship with the significant other may be important.

Figley (1995) argues that the number of 'victims' of violent crimes are greatly underestimated because only those directly in "...harm's way are counted, excluding family and friends of the victims..." (Figley, 1995, p.4). Kishur's (1984, cited in

Figley, 1995, p.6) study, of New York City crime victims and their supporters, illustrated that a

pattern of effects emerges in both victim and supporter. The crime victims as well as their supporters suffer from crime episodes after the initial crisis has passed. Symptoms of depression, social isolation, disruption of daily routine...affect the lives of these persons.

This form of indirect traumatising appears to occur when traumatic stress seems “to ‘infect’ the entire system after first appearing in only one member” (Figley, 1995, p.5). This is especially relevant in countries like South Africa where crime is a continuous threat and many individuals, families, institutions/organisations and the country at large have been, and continue to be affected.

Friedland (1999) argues that it is possible that indirect traumatic stress occurs through the process of identification. This is highly relevant in South Africa, where crime is ongoing, since individuals may identify with people who have been directly affected by crime, thinking, “When is it going to happen to me?” (Friedland, 1999). Empathy may also impact on indirect traumatising since “...empathic induction of a family member’s experience results in considerable emotional upset” (Figley, 1995, p.4). Furthermore, empathy may extend beyond family to significant others (Figley, 1995). Figley (1995) argues that empathy with significant others makes one vulnerable to the catastrophes that may impact on them. Hence, in addition to empathy, identification with others may form the basis of indirect traumatic stress (Friedland, 1999).

The context in South Africa has been discussed, and one of the central characteristics of criminal activity is its widespread and random nature (NCPS, 1996). The random nature of violent crime forces “...everyone to contemplate themselves as

potential victims” (NCPS, 1996, p. 21). Identification may then be taking place on a general social level (Friedland, 1999).

As Louw-Potgieter (1991, p. 319) argues, identification is transitive as “...we do not simply identify, but identify with something or someone”. Identification apparently occurs with someone who has been directly traumatised (Friedland, 1999). This identification can be influenced by factors such as closeness to the person (Sorenson & Golding, 1990), life circumstances or geographical area (Butchart & Kruger, 1998; Nedcor ISS Crime Index, 2000). In the case of geographical area, crime is more prevalent in certain areas (SAPS, 1998; 2001), hence, identification with those criminally victimised in certain areas may be more stressful depending on the individual’s own geographic location, its proximity and similarity to high incidence areas (Friedland, 1999). Formal research regarding identification and trauma appears to be limited, however, it appears probable that identification may play a role in indirect traumatising, especially in contexts like South Africa (Friedland, 1999).

As Friedland (1999) notes, it is important to point out that individuals may be traumatised by events that have happened to colleagues or even unknown people, with whom the individual may identify. In South Africa, police officers’ learning about colleagues who have been seriously injured or killed during duty is reported as highly traumatic (Burgers, 1994). This occurs even when police officers have not known the dead or injured police officer (Burgers, 1994). Thus, indirect traumatic stress may occur as a result of an individual learning about events which have happened to someone else less known than a family member, close friend or significant other, but related to the individual in some other respect. Given, high levels of violent crime in Gauteng, this study aims to explore the widespread effect on individuals who are indirectly exposed, on a daily basis.

Responses to Trauma

Physiological Responses to Trauma

Research in the area of physiological responses to trauma has become very important in understanding the physiological underpinnings of the psychological experience of trauma (van der Kolk & Saporta, 1993; van der Kolk, 1994; Orr & Kaloupek, 1997). According to van der Kolk and Saporta (1993, p. 25) the recognition that “...psychological trauma results in enduring biological changes goes back to the earliest descriptions of trauma”. Pierre Janet (1989) asserted that when individuals experience a traumatic event there is an interruption in “...proper information processing and appropriate action.” (cited in, van der Kolk & Saporta, 1993, p. 26). It was hypothesised that the interference in the processing of information and memory that accompanied the trauma is due to hyperarousal (van der Kolk & Saporta, 1993). The intense emotions which occur as a result of the traumatic experience “...causes memories of particular events to be dissociated from consciousness to be stored instead as visceral sensations...” (van der Kolk, 1994, p. 253) which are associated with anxiety or panic. Physiological responses to trauma are not the focus of the study, however, it is important to note that traumatic stress responses have been shown to have physiological manifestations hence a brief mention was made here.

PTSD Symptomatology

In addition to the biological approach to PTSD, the DSM-IV also presents a particular view of PTSD responses (APA, 1994). It approaches PTSD in terms of a description of symptoms, which occur in this disorder. As noted above, the three characteristic symptom clusters outlined by the DSM-IV (APA, 1994) are the persistent re-experiencing of the trauma (intrusion), the avoidance of the effects to the trauma, and persistent hyperarousal following the trauma. The symptoms must also cause “clinically significant distress or impairment in social, occupational or other important areas of functioning” (APA, 1994, p. 429). Individuals with posttraumatic stress disorder may also describe painful feelings of guilt as a result of surviving when others did not survive (APA, 1994; Herman, 1992). Each of these symptom clusters will now be discussed.

As highlighted earlier, the DSM-IV (APA, 1994) notes that symptoms of posttraumatic stress disorder usually begin within three months of the trauma. The disorder sometimes does not develop until months or even years after the event, and this is termed PTSD with delayed onset (DSM-IV, 1994). The DSM-IV (1994) has also included a new category of Acute Stress Disorder, which allows for the development of traumatic symptoms within one month after exposure to an extreme stressor, lasting for a minimum of two days, and a maximum of four weeks. According to Figley (1995), indirect traumatic stress is a syndrome of symptoms nearly identical to that of PTSD. The three diagnostic categories of indirect traumatic stress would therefore also include re-experiencing of the traumatic event, avoidance of the event and persistent arousal.

Re-experiencing the Trauma

In terms of the persistent re-experiencing of the traumatic event, this may happen in one or more of the following ways:

“(1) recurrent and intrusive distressing recollections of the event, including images, thoughts or perceptions...(2) recurrent distressing dreams of the event...(3) acting or feeling as if the traumatic event were recurring...(4) intense psychological distress at the exposure to internal or external cues that symbolises or resemble an aspect of the traumatic event...(5) physiological reactivity on exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event.” (APA, 1994, p. 428).

According to Herman (1992), long after the traumatic event has occurred the traumatised person relives the event as though it was happening in the present. The traumatised memory appears to be encoded in an ‘abnormal’ form of memory that enters into consciousness both during waking and sleeping states (Herman, 1992). Seemingly insignificant events may trigger memories of the trauma. It has been postulated that the repetitive reliving of the traumatic experience may represent an attempt to gain mastery over the traumatic experience (Davidson & Foa, 1993; Herman, 1992). However, the reliving of the traumatic experience carries the “...emotional intensity of the original event” (Herman, 1992, p. 42), hence, the traumatised individual may be fearful and may try avoid reliving the experience.

Bard and Sangrey (1986) describe how victims of crime often re-experience the events surrounding the crime over and over again. They “...may be tormented by intrusive memories of the crime or by persistent dreaming of it” (Bard & Sangrey, 1986, p. 47), or they may feel as though the crime was happening again when

confronted with stimuli which were associated with the traumatic experience.

Kilpatrick and Resnick (1993) conducted a literature review of studies of criminal victimisation and they found that intrusive thoughts and the re-experiencing of exposure to criminal violence was a highly common response amongst individuals exposed to a variety of crimes. The presence of intrusive thoughts and the re-experiencing of the traumatic event was highest when the trauma was life threatening or involved injury (Kilpatrick & Resnick, 1993). These types of traumas were also associated with high levels of avoidance behaviours and increased arousal. Kilpatrick and Resnick (1993) argue that trauma involving threat to life and injuries incurred are particular dimensions of criminal victimisation which are likely to lead to higher levels of PTSD symptoms. Green (1993) and other authors (Markesteyn, 1992; Ullman & Filipas, 2001; Zoellner, Goodman & Foa, 2000) also included these dimensions of trauma as important in predicting disturbance, and confirm significant levels of traumatisation associated with both of these facets of trauma (i.e. degree of life threat and injury).

In terms of indirect traumatic stress responses, Figley (1995) suggests that the individual re-experiences, in fantasy, the traumatic event that occurred to the significant other. This is corroborated by Amick-McMullan et al. (1989), who, for example, found that when a homicide occurred within a family there was a high frequency of symptoms of intrusive thoughts as measured by the Impact of Event Scale. Amick-McMullan et al. (1989, p. 31) argue that reminders of the homicide elicited "...aversive intrusive thoughts and feelings" about the homicide of the significant family member. Thus, it appears that intrusive symptoms may be experienced by particular populations of indirectly traumatised people (Friedland,

1999). Friedland (1999) argues that further research is required in this area. This research aims to add to studies examining, in particular, responses to indirect and direct exposure to criminal violence, in a population of 1st year university students in Gauteng, South Africa. Furthermore, responses to both direct and indirect traumatic exposure and traumatic symptomatology will be examined.

Avoidance of stimuli associated with the trauma

The persistent avoidance of stimuli associated with the trauma constitutes another important response to trauma, and may be indicated by three or more of the following:

“(1) efforts to avoid thoughts, feelings, or conversations associated with the trauma...(2) efforts to avoid activities, places or people that arouse recollections of the trauma...(3) inability to recall an important aspect of the trauma...(4) markedly diminished interest or participation in significant activities...(5) feeling of detachment or estrangement from others...(6) restricted range of affect (e.g. unable to have loving feelings)...(7) sense of a foreshortened future (e.g. does not expect to have a career, marriage, children or a normal life span)” (APA, 1994, p.428).

While avoidance may have been adaptive in a traumatic environment, this response may continue in the posttraumatic period, and may no longer serve a useful function (van der Kolk, 1994). Avoidance is both a response of individual's who have been directly traumatised, and those suffering from indirect traumatic stress (Figley, 1995). According to the DSM-IV, trauma can either be continually re-experienced or the “...stimuli associated with the trauma are persistently avoided” (APA, 1994, p.424). In many cases the individual experiences both extremes of retention and forgetting.

Herman (1992) describes avoidance as a numbing response that is characterised by estrangement, detachment and avoidance of the stimuli, which may bring back memories of the traumatic event. Avoidance of the trauma may reflect an attempt by traumatised individuals to “...create some sense of safety and to control their pervasive fear, traumatised people restrict their lives.” (Herman, 1992, p. 46). However, avoidance tends to restrict an individual’s relationships, since, by avoiding the traumatic stimuli the individual forgoes the opportunity to gain some mastery over the effects of the traumatic event (Herman, 1992).

Bard & Sangrey (1986) found that victims of crime often alternate between thinking about their traumatic experience and then try to defend against their memories by denying them. Many victims can go through a period of direct denial in which “...they feel emotionally detached, unable to respond with much feeling to anything” (Bard & Sangrey, 1986, p. 42). Many victims experience “...specific fears about specific details of the crime” (Bard & Sangrey, p. 44) and avoid particular places or people which arouse recollections of the trauma. Bard & Sangrey (1986) have outlined a response, in accordance with the DSM-IV’s (APA, 1994) description of avoidance symptoms, to criminal victimisation. They view the avoidance of the traumatic event as part of the process of traumatising and concur with Herman (1992) that this hampers the victim’s opportunity to deal with and overcome their trauma.

Kilpatrick and Resnick (1993) found that individuals who have been exposed to criminal victimisation do not always display all the symptoms of avoidance, but argue that sometimes certain avoidant behaviours may be more prevalent. Different subjects have been found to “...endorse different symptom types, as opposed to

complete homogeneity in the symptom pattern.” (Kilpatrick & Resnick, 1993, p. 137). Responses may depend on the type of criminal victimisation and pre-existing factors relating to the victim. Kilpatrick and Resnick (1993) discuss this point in relation to the symptom of avoidance, however, this also applies to the symptoms of intrusion and hypervigilance.

The persistent avoidance of stimuli associated with the traumatic event was also shown, by Amick-McMullan et al.(1989) to be a relevant feature in relation to indirect trauma. High levels of avoidant behavior were found amongst the sample that had experienced the murder of a family member. The study suggested that such individuals tried to avoid thoughts, feelings and cues that reminded them of the homicide of their family member. It was also reported that places would be avoided that reminded them of the traumatic event (Amick-McMullan et al., 1989).

Detachment or estrangement from others was also reported. Thus, it would appear that indirect traumatising may produce very similar, if not identical features of avoidance to those caused by direct exposure to a traumatic event (Friedland, 1999; Figley, 1995). However, it is important to note that this particular study (Amick-McMullan, 1989) comprised of a sample of individuals who had been exposed to the homicide of a family member. Thus, the impact of a very specific and severe type of criminal offence was assessed, and consequently it is not possible to extrapolate and/or generalise the findings of this study to other forms of criminal violence. In South Africa, however, murder and attempted murder rates have been very high and hence it can be hypothesised that similar effects, distress and features may be found amongst direct and indirect victims of this type of criminal violence.

Increased arousal

Increased arousal, as occurring in response to the persistent expectation of danger is another important response to trauma (Herman, 1992). Persistent symptoms of increased arousal (not present prior to the trauma), may be indicated by two or more of the following:

“(1) difficulty falling or staying asleep (2) irritability or outbursts of anger (3) difficulty concentrating (4) hypervigilance (5) exaggerated startle response.” (APA, 1994, p. 428)

Following a traumatic experience, the human system “...of self preservation seems to go onto permanent alert, as of the danger may return at any stage” (Herman, 1992, p. 35). Thus, it appears that increased arousal is a mechanism for dealing with traumatic stress (Herman, 1992). However, if increased arousal continues unabated it may become an inappropriate response. Increased arousal is viewed as a response to both direct and indirect trauma (Figley, 1995; Friedland, 1999).

Bard and Sangrey (1986) found that hypervigilance is a common response to criminal victimisation, and the victim is often vigilant within their environment. There is the anticipation that they may be exposed to another traumatic experience. In Gauteng, this is a very real and not unrealistic threat (Nedcor, ISS Crime Index, 2001). This vigilance does reduce with intensity over time (Bard & Sangrey, 1986). However, in South Africa this is complicated since, as noted earlier, crime is ongoing, thus it is possible that hypervigilance may persist over a longer period, since the perception of risk is reinforced by contextual elements.

Further studies (e.g. Sales, Baum and Shore, 1984) found the presence of hyperarousal symptoms in victims who had been assaulted, especially noted was

sleeping difficulties and an exaggerated startle response. Kilpatrick and Resnick (1993) report that hyperarousal was a common response to criminal victimisation, and it was equally as prevalent as the symptoms of avoidance and intrusive thoughts. In terms of indirect trauma, it appears that few studies have examined hyperarousal in relation to indirect victims of violent crime (Kilpatrick & Resnick, 1993). This study aims to add to literature regarding this construct (i.e. hyperarousal) in this sample of indirect victims in South Africa.

PTSD in South Africa

In terms of South African literature on trauma, there has been an upsurge in research on the effects of trauma on both children and adults over the past decade. Dawes (1994) notes that there has been a preponderance of studies on children. The majority of these studies have focused on the emotional reactions of children to political violence, coping with this trauma and effects of therapeutic intervention (Dawes, 1994). Studies such as Carrolissen (1987, cited in Dawes, 1994) and Lab (1987, cited in Dawes, 1994, p. 183) found evidence that exposure to street battles and security raids in townships led to negative effects on emotions of children in these townships.

There has been an increase of research into the effects of trauma on adults living in South Africa. Huber (1995) notes that there have been several studies on former political prisoners in South Africa. These studies have identified difficulties in integration of these former political prisoners that included; confusion around identity, “relationships difficulties, and financial problems, finding accommodation and employment and psychosomatic complaints” (Huber, 1995, p. 3). Esprey (1996) examined the effects of exposure to civil violence in a particular community in South

Africa. Esprey (1996) found significant levels of traumatisation within the sample, and concluded that the exposure of individuals to ongoing, intense civil violence results in the occurrence of symptoms of posttraumatic stress disorder. This finding is similar to Michelson's (1994) study on Kwa-Zulu Natal refugees affected by political violence.

To date, there is a dearth of literature in South Africa examining the effects of criminal violence on individuals (Butchart & Kruger, 1998; Benatar, 1996; Eagle, 1998; Friedland, 1999). There has been an increase in international studies relating to criminal violence (Amick-McMullan et al., 1989; Green et al., 2000; Kilpatrick & Resnick, 1993; McCann & Pearlman, 1990; Ullman & Filipas, 2001). However, there is arguably a need to research criminal victimisation in South Africa, especially since violent crime is so prevalent. In terms of exposure to criminal violence in South Africa, Benatar (1996) studied 'adult reactions to multiple trauma'. Benatar (1996) was unable to conclude that a higher frequency of exposure to traumatic events led to increased symptoms of intrusion and avoidance. Benatar (1996) argued that measurement of traumatic responses should extend beyond symptoms such as avoidance and intrusion, and should include other measures of traumatisation. Friedland (1999) found high levels of indirect exposure (36%) to violent crime and high levels of PTSD (75% on the Traumatic Stress Institute Belief Scale) in a sample of Gauteng University students. Blumberg (2000) found high levels of traumatic exposure (36.15%) and PTSD in another university student sample in Gauteng.

Conclusion

This chapter, and the prior chapter, have focused on trauma and traumatic stress literature and factors (e.g. comorbidity patterns) that are implicated in the

debates regarding PTSD. Furthermore, responses to trauma, and more specifically criminal victimisation, have been examined through a brief discussion of physiological and psychological responses to trauma. The symptoms of posttraumatic stress disorder, as set out by the DSM-IV (APA, 1994) were discussed. It appears that physiological responses to trauma may have an impact on certain psychological processes, and important research is currently being conducted in the field (van der Kolk, 1994; Orr & Kaloupek, 1997). However, this study is focusing on psychological, not physiological responses.

Hence, the symptoms of trauma, namely, intrusive thoughts, avoidant behaviour and increased arousal were discussed with particular reference to criminal victimisation. Although there is little research on the effects of indirect traumatising, research has shown that indirect exposure may lead to similar symptoms to those who have been directly traumatised, however, the intensity of the symptoms may differ (Blumberg, 2000). This study aims to examine the experience of those who were directly and indirectly exposed to violent crime. The researcher will now examine factors that may affect the development of PTSD since these encompass the major focus of this study.

Thus, the following chapter will examine the constructs that highlight the relational aspect of the research, for example, the possible relationship between the nature of the traumatogenic event with regards to both traumatic exposure to violent crime and traumatic symptomatology. The final chapter of the literature review will examine epidemiological findings in the field of PTSD and findings with regards to criminal victimisation in particular. PTSD in South Africa will be discussed since this study is researching the prevalence of both traumatic exposure to violent crime, in Gauteng, and any resultant traumatic symptomatology.

CHAPTER FOUR

Factors Which Influence the Development of Posttraumatic Stress Disorder (PTSD)

Introduction

A review of the literature suggests that there are three broad factors that influence or predispose the individual to the development of PTSD. These are the nature of the traumatogenic event, the posttrauma recovery environment and individual differences or personal characteristics (Green et al., 2000; Horowitz et al., 1999; Joseph, Williams & Yule, 1993; Ullman & Filipas, 2001; Yehuda & McFarlane, 1999). All of these factors can also interact to determine outcome. As Green (1993) argues, the traumatic event sets the processing of traumatic material into motion. Adaptation to the trauma is more or less difficult depending on the nature of the event itself, and the impact of personal strengths and deficits and social/environmental forces on its processing (Blumberg, 2000).

In order to explore some of the factors that influence the development of PTSD, the current research examines some of the features of the three broad factors mentioned above (i.e. the nature of the traumatogenic event, the posttrauma environment and individual differences or personal characteristics). With regards to the nature of the traumatogenic event the researcher will focus on the nature, severity and subjective perception of the stressor.

Following this, elements of the posttrauma environment will be discussed i.e. counselling, social support and previous exposure to trauma.

Finally, personal factors will be explored which include demographics, health status, psychiatric and family psychiatric history, substance abuse and a sense of

coherence (a global personality disposition). All of the above constructs are examined in relation to both traumatic exposure and traumatic symptomatology.

The Nature of the Traumatogenic Event

The Nature and Severity of the Traumatic Stressor

The severity of the stressor is widely considered to be the critical mediating variable between the impact of other predisposing variables and adjustment, following exposure to subsequent traumatic experiences (Davidson & Foa, 1993; Emery et al., 1991; Green, 1993; 1994; Horowitz et al., 1999; Wilson & Keane, 1997; March, 1993; Ullman & Filipas, 2001). Contrarily, however, there has been research, which has found that the role of the trauma can be overshadowed by such vulnerability factors as neuroticism, previous adverse life events and previous psychiatric disorders (Davidson & Fairbank, 1993). This finding, should, however, be seen in the light of other studies, which suggest that massive trauma overrides other vulnerability factors (Blumberg, 2000). For example, Kulka et al. (1990, cited in Davidson & Fairbank, 1993), in their study of Vietnam combat veterans, found that exposure to extreme events made a significant contribution to the prevalence of PTSD that was independent of the effects of personal background features.

As noted by March (1993), it is difficult to separate stressor characteristics from the related dimensions of intensity and subjective impact. Bearing this in mind, there are, however, a number of generic stressor characteristics relating to the nature of the stressor, which have been identified by authors (Brewin, Andrews & Rose, 2001; Green 1993; 1994; Green et al., 2000; Ullman & Filipas 2001) as impacting negatively on adaptation to trauma. These include: threat to life; severe physical harm

or injury; situations in which harm or injury is intentionally inflicted (as opposed to occurring in the context of a natural disaster); violent or sudden loss of a loved one; witnessing or learning of violence to a loved one; learning of exposure to a noxious agent; rape; torture; torture and causing death or harm to another (e.g. context of combat situation). March (1993) corroborates some of these findings, arguing that the dimensions of threat to life, severe physical harm or injury, exposure to the grotesque and loss and/or injury of a loved one are all at least moderately correlated with the likelihood of developing PTSD. Other research studies confirm these findings (see for example Green et al., 1985; Kilpatrick & Resnick, 1993; Ullman & Filipas, 2001). With regard to the magnitude or intensity of the stressor, it appears that factors such as the victim's lack of preparedness, the duration of the experience, frequency, and the unpredictability of the event have an impact on the outcome (Davidson & Foa, 1993; March, 1993).

Subjective Perception of the Traumatic Stressor

Subjective perception of the traumatic event is also highlighted in the literature as an important factor mediating PTSD reactions, explaining, to some extent, the variation in individual responses to similar traumas (Brewin et al., 2001; Green, 1993; Horowitz, 1999; Ullman & Filipas, 2001; Wolfe & Kimerling, 1997). Since, under some horrendous circumstances a large proportion of individuals do not develop PTSD, while in some cases, exposure to stressors of an objectively low magnitude (e.g. may not involve horror, fear, helplessness) can result in PTSD (Brewin et al., 2001). Subjective factors that appear to have an impact on adaptation to trauma include, higher levels of perceived threat, perception of suffering, and cognitive perception of low controllability as well as the idiosyncratic meaning of the event to

the individual (March, 1993; Green et al., 1985). Perceived responsibility for the event, as well as a sense of having failed to act in a socially approved manner are significant in this regard (March, 1993). The relationship to the perpetrator also appears to be a significant factor contributing to the development of PTSD. Kilpatrick and Resnick (1993) found that victims of sexual abuse had rates of PTSD which were higher when the perpetrator was the child's natural father, as opposed to the perpetrator being another adult or an older child.

The Posttrauma Environment

There is conclusive evidence that factors in the survivor's posttrauma environment mediate the effects of trauma (Horowitz, 1999; Scott & Stradling, 1992; Ullman & Filipas, 2001; Wolfe & Kimerling, 1997; Yehuda & McFarlane, 1999). There are numerous factors to consider, however, for the purpose of this study provision of counselling, levels of social support and previous exposure to trauma are focused upon.

Counselling

Studies of nonclinical (Kilpatrick, et al., 1987; Kilpatrick & Resnick, 1993, Sabbagh, 1995; Zoellner, et al., 2000) and clinical populations (Brewin, et al., 2000; Eth & Pynoos, 1994; New & Berliner, 2000; Wolfe & Kimerling, 1997), examining the psychological consequences of criminal victimisation, have documented elevated symptom levels and psychiatric disorders in adult and child crime victims.

Researchers note that PTSD and other trauma related symptoms occur in a substantial percentage of victims, although the rates vary, both between specific types of victimisation and within victim groups (Foa & Davidson, 1993; New and Berliner,

2000; Resnick et al., 1993). These results, and those noted above, indicate that many victims of crime have psychological conditions that could benefit from, or require mental health services. New and Berliner (2000) state that little is known about treatment-seeking among crime victims, or how patterns of use compare with other populations. Only a minority of adult crime victims have been found to seek treatment, even though they may be suffering from crime-related psychological conditions (New & Berliner, 2000). In a general population study, Norris et al. (1990) found that 12% of crime victims (7% nonviolent crime, 23% violent crime) contacted mental health professionals in the first three months following the crime. Victims of violent crime, those who had been previously victimised, and those who were depressed were more likely to seek treatment. New and Berliner (2000) note that a somewhat higher use is reported in crime victims who have involvement in the criminal justice system. In another study (Kimerling & Calhoun, 1994), only one fifth of rape victims obtained mental health counselling, despite the presence of psychological symptoms. Female crime victims, however, showed an increased use of medical services in the year following the crime incident (Kimerling & Calhoun, 1994). Adult crime and trauma victims appear to be reluctant or delay treatment even though they have psychological symptoms (New & Berliner, 2000). These results suggest that, unlike individuals in the general population who seek treatment because of symptoms, the nature of posttrauma distress may lead to the avoidance of psychological care. New and Berliner (2000) note that there is an increasing recognition, in the US, of the mental health needs of victims and the health care delivery systems have been undergoing rapid change. Hamber (1999) argues that, in South Africa, mental health resources are highly inadequate to meet the needs of the population affected by traumatic exposure to, amongst other trauma, violent crime.

Perhaps research will highlight the importance of greater mental health resources, once the effects are documented, and greater priority can be given to supporting and helping victims.

New and Berliner (2000), in their study of mental health service utilisation by crime victims, found that most treatment seekers were women and girls, in part because these crimes disproportionately affect females. It may also be accounted for by the fact that women are more likely to develop PTSD (New & Berliner, 2000). The results above are consistent with findings, from literature on adults (Norris et al., 1990), that few victims of nonsexual assault, robbery and homicide seek treatment. Two variables were associated with both child and adult utilisation: sexual assault experiences and the diagnosis of PTSD (New & Berliner, 2000). Sexual crimes may have an especially pernicious impact and are more likely to lead to PTSD (New & Berliner, 2000). The other crime variable that predicted mental health service utilisation was more chronic physical abuse for adults. Interestingly, in this study, severity was not associated with utilisation, suggesting that other variables, such as subjective experience of life threat may be more predictive (New & Berliner, 2000).

Bearing the above in mind, the traumatic stress literature strongly emphasises the importance of counselling following a traumatic event, suggesting that this reduces the risk of developing PTSD or ameliorates its effects (Scott & Stradling, 1992; Wilson & Raphael, 1993). This is, primarily because counselling serves to contain the victim's overwhelming emotions of the 'shock phase' within a safe environment. It also facilitates the 'working through process' so that it is not delayed or blocked. In so doing, it aids the assimilation and integration of traumatic material (Peterson et al., 1991; Scott & Stradling, 1992). The length and type of intervention have, however, been debated (Blumberg, 2000). There has been contradictory

evidence regarding the efficacy of debriefing as a treatment modality for posttraumatic stress (Marinus, 1997; Raphael, et al., 1995; Wilson, 1998). Researchers at the Institute for Employment Studies in the United Kingdom (Rick & Hannaford, 2001, p. 5) argue that “...(b)y forcing the victim to relive the event...debriefing sessions could deepen the psychological damage suffered.” Rather, other forms of counselling which helped people come to terms with events gradually were highly beneficial (Rick & Hannaford, 2001). According to the abovementioned research, at best debriefing makes no difference to the victim and at worst can actually worsen the trauma.

Different models for the treatment of PTSD include the brief-term psychodynamic approach (Horowitz et al., 1999; Eagle, 1998a) and the more cognitive behavioural approaches (see for example, Foa, Olasov & Rothbaum, 1998; Scott & Stradling, 1992), as well as other more integrative approaches (see for example, Eagle, 1998a). There are, however, four therapeutic strategies, which are common to most forms of therapy for PTSD. These are: supporting adaptive ego skills; normalising frightening and overwhelming emotions, with the assurance that what the person is experiencing is a normal reaction to an abnormal situation; decreasing avoidance behaviours and attempting to alter the attribution of meaning that the person had made to the trauma (Peterson et al., 1991).

Counselling appears to be particularly important after crime-related traumas, such as assault or rape, which are intentionally perpetrated by others (Peterson et al., 1991). The subsequent shattering of the survivor’s belief system poses a threat to healing and results in trauma beliefs such as, that it is dangerous to get close to, or to trust anyone, because one will be hurt or exploited (Scott & Stradling, 1992). This observation has major implications for the current study with regard to the high

incidence of exposure to violent crime, whether it is directly or indirectly. The effects on the people, and on the country in general have far-reaching implications.

Social Support

Social support is highlighted in the trauma literature as having a significant buffer effect on outcomes after traumatisation, and the absence of social support is thought to reduce victim's coping abilities (Green et al., 1985; Kleber & Brom, 1992; McCann & Pearlman, 1990; Ullman & Filipas, 2001; Wolfe & Kimerling, 1997). Definitions of external support systems include the family, friends, therapists/trauma counsellors, medical support, relief organisations and those involved in recreating order or cleaning up after the event (police lawyers, municipalities etc.). The individual's perception of support can also contribute to buffering the stressors effects. Yule and Williams (1990, p.282) emphasise the role played by family members and parents,

...families who did not share their immediate reactions to disaster may have had more trouble with their long-term adjustment...and experienced a greater degree of estrangement.

Benatar (1996) states that in close-knit communities, the sense of loss experienced by individuals can be intensified by the impact on others of the traumatogenic event (Sewell, 1993). The level of intactness of the immediate community will therefore have an impact on the survivor and the survivor's family. The role of the community in socially constructing the traumatogenic event, as well as constructing the role of the victim and legitimising certain coping responses will also have an impact on whether PTSD develops (Sewell, 1993). Quarentelli (cited in Gibbs, 1989) maintains that the shared experience of trauma can serve in the recovery process to bind and integrate a

traumatised community, and in this process protect the individual by providing new and more acceptable social meanings of traumatogenic events. Straker (1992) presents examples of the role of traditional healers and community rituals in defining such events, and shows how these may help individuals become re-integrated into the community (Benatar, 1996).

Social support is multidimensional and can encompass the provision of cognitive support, such as information and explanations for the traumatic event, the provision of financial or legal assistance, as well as social sanction and emotional support (Blumberg, 2000). However, social support may not always have a positive influence and that it is the victim's perception and psychological experience of available social support that must be examined (Kleber & Brom, 1992; McCann & Pearlman, 1990; Ullman & Filipas, 2001). Often family and friends may subtly or overtly encourage victims to 'pull themselves together' and get on with their lives, which while well-intentioned, may have the effect of causing victims to withdraw and become alienated from their social networks (McCann & Pearlman, 1990). In a similar vein, even health professionals have been found to exert pressures on victims to feel and behave in manners not congruent with their inner experiences (Peterson et al., 1991). This contributes to their estrangement from others (Peterson et al., 1991). In addition, family and friends are often frightened and distressed by the traumatic incident themselves, and often discourage discussion around the trauma. This can have extremely negative consequences including a sense of abandonment, alienation and subsequent withdrawal (Kleber & Brom, 1992; Peterson et al., 1991). Furthermore, the sequelae of trauma often include the victims' "...being ignored, actively avoided and devalued" (Peterson et al., 1991, p. 23). This is not only due to the process of social construction, but also to the fact that the intense emotions such as

anger and irritability and behavioural changes, that can occur as a result of the traumatic event, can sour interpersonal relationships (Kleber & Brom, 1992; Scott & Stradling, 1992).

Moreover, it is also important to note that not all trauma survivors are able to engage and make use of available support systems. Survivors' pre-existing coping styles may tend more towards avoidance than towards approach or action. Alternatively, the trauma may have altered their belief systems in such a way that they come to believe, for example, that others cannot be trusted (McCann & Pearlman, 1990). Furthermore, as Scott and Stradling (1992, p. 26) have pointed out, once PTSD becomes established, the survivor is:

...less likely to be problem oriented and will not be searching for the best coping response or for supportive friends or family, but is likely to sit immobile. In this way, a vicious cycle is set up of disorder, insufficient coping responses, inadequate support and perpetuated or amplified disorder.

However, social support's exact role in an individual's experience of posttraumatic stress symptoms is unclear (Joseph et al., 1992; Flannery, 1990), although it has been intuitively assumed that social support acts as a buffer in times of extreme stress (Leavy, 1983; Sarason et al., 1990). This study is examining social support as a feature of the posttrauma environment and whether it (social support) is related to traumatic stress manifestations.

Definitions and Studies of Social Support

Social support has been studied prolifically (Flannery, 1990; Ullman & Filipas, 2001; Wolfe & Kimerling, 1997; Yehuda & McFarlane, 1999). However, it is a difficult construct to define and the relationship between social support and

psychological and physiological well-being is complex. Flannery (1990) argues that studies on social support need to disaggregate the support construct into its component parts.

Social support has been defined as the comfort, assistance, and/or information one receives through formal or informal contacts with individuals or groups (Cohen & Wills, 1985). These contacts may be verbal or nonverbal, and the need to be perceived as helpful (Cohen & Wills, 1985). The need for social support appears to be biologically rooted (Bowlby, 1990; Goldsmith & Campos, 1982 cited in Flannery, 1990), and present at birth (van der Kolk, 1987).

House (1981, cited in Murphy, 1988) defines social support as an

...interpersonal transaction involving one or more of the following: emotional concern; instrumental aid; information or advice and appraisal or information relevant to selfevaluation.

For the purpose of this study, House's conceptualisation of social support will be used, since the Crisis Support Questionnaire used in this study (Joseph et al., 1992) measures the abovementioned features of support. These constructs will be examined, because, as Wolfe and Kimerling (1997) argue social support is critical in the assessment of posttrauma functioning. Social support has been widely theorised to buffer the harmful effects of stress (Cohen & Wills, 1985), in some cases preventing chronic PTSD. Although pretrauma support is influential in determining subsequent social support, Wolfe and Kimerling (1997) state that, factors such as gender and the type of trauma also can create obstacles for obtaining posttrauma support from the community and family. Ullman & Filipas (2001) state that, in a study of a sample of 102 community-residing rape survivors (Campbell et al., 1999, cited in Ullman &

Filipas, 2001) neither victim demographics nor rape characteristics were associated with posttraumatic stress symptoms, but victims of known attackers who received few community services and experienced high secondary victimization postassault had more symptoms. Ullman and Filipas (2001) also argue that few studies examine the characteristics of the recovery environment (e.g. support system responses). As pointed out by Ullman and Filipas (2001), theoretically, reactions from other people to disclosure of a stigmatised experience like sexual assault should be an important variable which effects the survivor's appraisal of the experience and how he or she responds to it.

Ullman and Filipas (2001) state that although little research has focused on the survivors recovery environment in relation to PTSD, several studies have shown that negative social reactions are related to more psychological symptoms and poorer self-rated recovery in sexual assault victims (Campbell et al., 1999; Ullman, 1996a; McAuslan & Abbey, 1998, all cited in Ullman & Filipas, 2001).

Ullman and Filipas (2001) examined correlates of PTSD symptom severity and both negative and positive social reactions received by female sexual assault victims disclosing their assaults to informal and formal support providers. They hypothesised that positive social reactions were expected to be unrelated to PTSD symptoms, based on past research showing little significance of supportive responses on symptomatology (Ullman, 1999 cited in Ullman & Filipas, 2001). Ullman and Filipas (2001) found that a range of negative social reactions including victim blame, treating the victim differently, distraction, egocentric reactions and controlling responses are related to greater PTSD symptom severity. Specifically, being treated differently (e.g. stigmatising responses) was most predictive of PTSD symptom

severity in a multivariate analysis. This led to victims feeling like the incident had permanently transformed them (Ullman and Filipas, 2001). These findings are highly relevant to the South African context where sexual assault and rape statistics are extremely high. These results have implications for the kind of support that victims need and for psychotherapy interventions. There have been interventions in South Africa whereby police officials and court officials have been trained to be more sensitive to rape victims (e.g. not blaming the victim)(Nedbank ISS Crime Index, 1999).

Manifestations of PTSD symptoms can also have the effect of eroding existing support systems in relationships with both family and friends (Wolfe & Kimerling, 1997). Research of male Vietnam War veterans shows that symptoms of emotional numbing increased irritability and angry outbursts (or rage), significantly affected marital discord, substantially decreasing a partner's support (Herndon & Law, 1985, cited in Wolfe & Kimerling, 1997). Wolfe and Kimerling (1997) also found that individuals in the larger social network often respond to trauma survivor's reluctance to disclose aspects of the trauma with feelings of estrangement or even resentment.

Wolfe and Kimerling (1997) also stress how important support from the survivors' community is (not just the immediate social network) and how critical it is in facilitating adjustment. For example, in many cases of sexual and physical assault, the perpetrator is frequently a friend or partner, thus, a former source of intimate support has turned into a threat. On a broader scale this can disrupt previously available social networks especially if the assailant was popular with others(Wolfe & Kimerling, 1997). In the case of domestic violence social and cultural pressures to maintain the integrity of the marital or family structure can erode support. Similarly, in work-based sexual harassment, contact with supportive individuals may be lost if

the victim must leave work to protect herself from the perpetrator. All these experiences, named here, are likely to impact the development of symptoms (Wolfe & Kimerling, 1997).

Previous Exposure to Trauma

According to Green et al. (2000), most studies ignore prior trauma exposure when evaluating outcomes of target events. In their study of outcomes of single versus multiple trauma Green et al. (2000) found that, interpersonal trauma was associated with elevated symptoms; multiple exposure participants had significantly higher symptoms than all other groups. Hence, they argue that complex trauma histories should be accounted for, even in studies of one target event (Green et al., 2000). More recent studies have, however, shown that repeated traumatising seems to intensify and reify PTSD symptoms (Green et al., 2000; Zoellner, Goodwin & Foa, 2000). Berkman (cited in Solomon, 1993, p. 209) states that “...(t)rauma does not heal trauma. Trauma only adds to trauma. Trauma deepens trauma”. In this vein, Solomon (1993) reports that two-time survivors of traumatic events experienced significantly more intrusive symptoms, greater general distress and higher levels of depression than their counterparts exposed to only one traumatic event. One explanation provided for these reactions is that, such survivors of multiple traumas have increased vulnerability and depleted coping resources, which in turn have an impact on their day to day functioning (Blumberg, 2000).

In this light, survivors of multiple traumas are reported to have poor social, familial and occupational adjustment following their second traumatic event. Solomon (1993, p. 207), in a study of Israeli war veterans, found that “...(r)etraumatization left a deeper imprint on all areas of the casualties lives - from their psychiatric and social

status to their perception of themselves and their world - than one time trauma”.

Furthermore, Scott and Stradling (1992) argue that multiple traumatisation reactivates old themes and unresolved issues related to the previous traumatic event. Solomon (1993, p. 208) suggests that this “imprint” left from the initial traumatic event is embedded in the psyche and that the victim of multiple traumatic events thus has to contend “...with not one failure but two - with two sets of appalling memories, guilt stacked upon guilt, rage upon rage, and stress upon stress”.

On the basis of such research (Green et al., 2000), it appears that exposure to multiple traumatic events increases the risk for the development of PTSD, however further research in this area is required (Benatar 1996; Green et al., 2000; Wolfe & Kimerling, 1997). It is important to note that in this study, it is highly probable that a number of participants have experienced multiple traumatic events, including direct and indirect exposure to traumatic events. Furthermore, the threat of becoming a victim of further exposure to violent crime, once already having been a victim, is an ever present and not unrealistic concern in South Africa. Authors of the Nedbank ISS Crime Index (2001) note that in many cases “...individual feelings of safety are closely related to the actual risk of crime.”

Current Life Events or Life Change

In a review on coping with desirable life events in general, Silver & Wortman (1980) suggest that the presence of other stressors in the victim’s life may reduce coping ability. This may occur due to the fact that these prevent the possibility of a complete focus on healing (Silver & Wortman, 1980). Such stressors may include family difficulties, relationship problems and problems in the employment setting. These stressors may stem, in part, from repercussions associated with the traumatic

event, such as impairments in social and occupational functioning, or may be independent of the trauma (Green, 1993). Such situations, whatever their origin, can lead to depletion in coping mechanisms, already heavily taxed by the trauma. Thus, further stressful life events are hypothesised to act as triggers for the development of PTSD and may also trigger the emergence of other complicating psychological conditions (Scott & Stradling, 1992; Yehuda & McFarlane, 1999).

The current study is not focusing on current life stressors or life change except by measuring other types of traumatic stressors, for example motor vehicle accidents, that individuals may recently have experienced. However, current life stressors or life changes appear to be important factors in relation to traumatic stress responses (Yehuda & McFarlane, 1999), hence, they have been briefly mentioned here. It can be argued that the ongoing threat of crime in South Africa could be viewed as an ever-present stressor in individual's lives. Furthermore, factors like social transition and economic pressures, for instance, high rates of unemployment in South Africa and fluctuations in the international economic climate, could be considered as current life stressors for many South Africans, besides other factors.

Personal Factors

The variability in individuals' responses to trauma can, in part, be attributed to personal characteristics and idiosyncrasies (Kleber & Brom, 1992). One way of examining personal factors that are related to responses to trauma, which is a focus of this study, is to discuss demographic factors (e.g. gender, age, socio-economic status), additional personal factors (e.g. health status, substance abuse, previous exposure to trauma) and psychological resource factors (e.g. a sense of coherence, Antonovsky, 1987). While these, and the above factors, have been separated for the purpose of

discussion, it is important to note that all the variables discussed thus far can interact with each other. The variables that the researcher has chosen to examine have been shown, in the literature, to be implicated in trauma exposure and traumatic stress responses.

Demographic Characteristics

Demographic variables are potentially a source of valuable insight, since such descriptive characteristics, that differentiate one person or population from the next (Roucek & Warren, 1957), can provide much more than illustrative information. Many societal allocation decisions are made on the basis of demography - one's marital status, number of children, age, race, gender, level of education and health status are just some of the variables that may determine your access to resources and conditions within a particular society. Resources would include access to education, employment, housing, etc., while some conditions could refer to prejudices, favourable treatment, inclusive/exclusive behaviours and constructions of pathology. For example, gender and race categorisation may place one in terms of prejudice or constructions with regards to different ideologies (Wolfe & Kimerling, 1997). Hence, depending on the observer and/or how one places oneself within such constructions certain ways of behaving or ascribing characteristics, for example, to different gender or racial demographics may occur. Furthermore, it can be argued that demographic data is indicative of an individual's access to societal resources (Pol, 1992). This social position creates an access point to information, processes and goods, and as such, is likely to influence one's attitudes and perceptions of a range of related constructs. Hence, this study is examining whether demographic variables impact on exposure to criminal violence and any resultant traumatic stress symptomatology. For

example, In South Africa, there have been great imbalances in terms of access to resources. In terms of violent crime, wealthier individuals have access to private security and security devices in their homes, whereas, those who do not have the resources available to them are not able to protect themselves and their families with the abovementioned devices. The researcher is then also examining how the above-mentioned demographics, for example socio-economic status and gender, are related to and impact on disorder, in this instance on traumatic exposure to violent crime and traumatic stress manifestations.

Furthermore, Tajfel's (1981) social identity and self-categorisation theory argues that people's psychological processes change within group settings. They argue that people's perceptions are influenced by the manner in which they categorise themselves, whether it is along racial, religious or marital status (to name a few categories) lines. Hence, demographic variables play a central role in epidemiological studies regarding disease and disorder. Three of the crucial substrates of epidemiology are concerned with elements of person, time and place (Dunn & Janes et al. (1986). This study focuses on disorder with regards to traumatic stress manifestations. Furthermore, the researcher will examine demographics with regards to person and the current climate of violent crime in South Africa with regards to time and place.

The importance of demographic variables as impacting on a range of events and experiences of people has been recognised by, among others, sociologists, economists, anthropologists and psychologists alike (Dunn & Janes, 1986; Schlenger et al., 1997). Within the field of demography [social science discipline concerned with the study of human populations] (Pol, 1992; Higgs, 1993) demographic variables have received extensive research attention. Demographic variables have been researched in relation to, among others, crime, health behaviour, child development, as well as

psychiatric disorder (Pol, 1992; Wolfe & Kimerling, 1997; Manson, 1997)).

Demographic research also examines interactions between demographic variables (e.g. a married man with four children differs greatly from a single man with no children). This research aims to examine the relationship between demographic indicators and both traumatic exposure to violent crime and traumatic symptomatology.

Psychological research has typically highlighted demographic data such as age, sex/gender, level of education and social class as being the variables most significantly related to the occurrence of psychological disorders and illnesses (Gibbs, 1989; Kleber & Brom, 1992). Demographic variables chosen as part of the study will now be discussed.

Age and PTSD

Horowitz et al. (1999) examined the effect of age on the configuration of a stress response syndrome and in their study they concluded that there were no noteworthy differences between the older and the younger subgroups examined. However, Blumberg (2000) notes that findings with regard to the impact of age on adaptation to trauma are conflicting. Studies conducted by researchers (e.g. Huerta & Horton, 1978; Ollendick & Hoffman, 1982 both cited in Kleber & Brom, 1992), have reported no differences in post-disaster responses of older and younger individuals. Gleser et al. (1981, cited in Gibbs, 1989), in their research around the effects of the Buffalo Creek flood disaster, found that mid-range victims, aged 25-54 were more severely affected than those aged 16-24, or older than 54. Blumberg (2000) notes that research in the area has largely dealt with children and with the aged and that there has

been little focus on young adult populations such as those, which constitute the sample group of this study.

Markesteyn (1992) notes that the elderly experience worse economic, psychological, physical and social effects than younger victims, not including children (Kilpatrick et al., 1985). Conversely, regarding the elderly, some studies have either failed to find a positive correlation between age and adverse reactions (Markesteyn, 1992), or have found that younger victims suffer more than adults (Kilpatrick et al., 1989; Sales et al., 1984; Sorenson & Golding, 1992). These findings have led to suggestions that the exacerbated impact of crime on older victims can be attributed to their impoverishment and powerlessness, both of which are common among the very old and very young rather than on chronology per se (Bard & Sangrey, 1986). It appears that these results, regarding age as a vulnerability factor for the development of PTSD, are inconclusive and warrant further investigation.

Gender and PTSD

Horowitz et al. (1999) investigated gender effects on the configuration of a stress response syndrome in a sample of men and women. They interpreted their findings as showing no major gender differences in response. However, they had a small sample of men and, hence, state that caution should be used in interpretation of their data. Blumberg (2000) argues that it is unclear whether sex/gender differences occur in reactions to extreme events. However, women tend to be over represented in prevalence studies of traumatic stress reactions (Kleber & Brom, 1992). It appears that this phenomenon is linked to women's greater readiness to acknowledge emotional problems and their tendency to turn more quickly to available resources and to accept help. Hence, they are available at centres to participate in research studies (Blumberg,

2000). In addition, this over representation may also be the result of distortion due to high rape/sexual assault statistics. Men, on the other hand, have been found to view acknowledgment of emotional distress as a sign of weakness (Gibbs, 1989; Kleber & Brom, 1992) and therefore may not feel comfortable presenting for counselling for fear of being perceived as weak.

In the field of disaster research, several studies have suggested that women are more affected than men (e.g. Lopez-Ibor et al., 1985, cited in Gibbs, 1989). However, other studies have found the rates of psychopathology in males and females after disasters to be equivalent (see for example Myers et al., 1984, cited in Gibbs, 1989). Differences in reaction between males and females may reflect different styles of coping and defense (Gibbs, 1989). In this regard McCann and Pearlman (1990a) report that husbands in crime victim couples, often behave very differently, demonstrating the need to take action to solve the problem. In this light, men who are unable to restore a sense of power are likely to be depressed. Janoff-Bulman (1989a, cited in McCann and Pearlman, 1990a) found that victimised men tend to be more depressed than victimised women. Solomon et al. (1987, cited in Gibbs, 1989), found that male victims of disasters were more prone to alcohol abuse, while women victims tended to somatise more than men. In research dealing with violent crimes, women also seem to show greater psychological distress than men. This seems likely to be related to the fact that in our society, women are more often the targets of physical and sexual assault than men, thus leaving women with a greater sense of vulnerability to recurrence (Creamer, Burgess & Pattison, 1992).

Similarly, Wolfe & Kimerling (1997) state that, of the few studies directly comparing the prevalence of PTSD between women and men, some preliminary differences have been found (see for example, Breslau & Davis, 1992). Women were

four times more likely than men to develop chronic, but not non-chronic forms of PTSD following Criterion A stressor exposure (Wolfe & Kimerling, 1997). No gender differences emerged for the development of PTSD following specific types of exposure except for rape, where approximately 80% of the sample met the criteria for the disorder (Wolfe & Kimerling, 1997). Norris (1990) found gender differences in both traumatic exposure and associated traumatic stress. Women were more likely to have suffered sexual assault, whereas men were at greater risk for motor vehicle accidents, physical assault and combat exposure, experiences producing higher overall exposure rates for males (Norris, 1992). Furthermore, a number of significant interactions pertaining to gender, event typology and distress emerged (Wolfe & Kimerling, 1997). It was found that rape yielded the highest rates of PTSD, women demonstrated a trend for higher rates of PTSD (though failing to reach statistical significance here) and, among participants of criminal victimisation, women were significantly more likely to meet PTSD criteria than men (Wolfe & Kimerling, 1997). Thus, these results suggest a differential gender risk for stressor exposure as well as for the subsequent development of PTSD. Similarly, prevalence data in special populations (e.g. natural and technological disasters, homeless people) suggest that rates of PTSD in women are "...appreciable, often exceeding levels found in men" (Wolfe & Kimerling, 1997, p. 198). The reliability of these findings, however, may be limited given methodological issues such as failure to account for multiple stressor exposures and differential impact ascribed to exposure categories (Wolfe & Kimerling, 1997).

Wolfe and Kimerling (1997) reviewed Resnick et al.'s (1993) comprehensive study on the effects of particular stressors, notably rape and sexual assault. Findings on rates of current and lifetime exposure and trauma in women revealed the following.

The lifetime rate for exposure to trauma was 69%, with 36% of women reporting exposure to sexual or aggravated assault, or the homicide of a close friend or family member. Thus, severe personal assault or loss was common (Wolfe & Kimerling, 1997). The sample's (4008 American women, 85.2% White, 11.6% Black) prevalence for lifetime PTSD was 12.3%, 4.6% of whom had the disorder within the past six months. Wolfe and Kimerling (1997) note that, consistent with previous findings, rates of PTSD were appreciably higher for survivors of crime- versus noncrime-related traumas (26% vs. 9%). As shown earlier (Green et al, 2000; Ullman & Filipas, 2001) experiences involving direct threat to life or the receipt of physical injury emerged as the strongest risk factors for PTSD.

Resnick et al. (1992, cited in Wolfe & Kimerling, 1997) studied 295 female crime victims aged 18 and older for their pre-crime psychiatric status, level of crime stress and subsequent PTSD. They found that high crime stress (defined as perceived threat to life, actual injury or completed rape) was more strongly associated with a PTSD diagnosis than low crime stress exposure (35% vs. 13%). Whereas pre-crime psychiatric status was not associated with high crime exposure, a significant interaction was found among crime stress level, pre-crime depression and PTSD (Wolfe & Kimerling, 1997). PTSD was greatest in women in the high crime group with pre-existing histories of depression. Hence, at least for women, there is preliminary evidence that pre-existing affective status impacts adaptation following subsequent trauma exposure, with depression in particular contributing to the risk for developing PTSD (Wolfe & Kimerling, 1997).

Wolfe and Kimerling (1997) note that the majority of PTSD studies involving clinical samples have involved males, typically treatment-seeking Vietnam combat veterans. However, in other settings, Rose (1991, cited in Wolfe & Kimerling, 1997)

found that gender was related to certain types of earlier abuse, notably childhood sexual abuse in females (in a sample of persistently mentally ill individuals). Briere and Runtz (1987, cited in Wolfe & Kimerling, 1997) found that nearly 44% of female clients at a mental health crisis centre reported childhood sexual victimisation. These histories were strongly associated with more symptoms of dissociation, anxiety, rage, sleep disturbance, substance abuse, suicidality and revictimisation. Gordon (1990, cited in Wolfe & Kimerling, 1997) found that certain demographic characteristics were specific to female (but not male) adult childhood sexual abuse survivors, defined as occurring before age 18. Women were substantially more likely to be younger and assaulted by a family member or relative. In contrast, male victims were typically older and closer in age to the perpetrator of the assault. Early family environment is increasingly thought to play a role in the development and progression of trauma symptoms (Wolfe & Kimerling, 1997). Wolfe and Kimerling (1997) note that there appears to be a complex relationship among gender, early trauma experiences and adult outcomes.

Wolfe and Kimerling (1997) do caution that the above gender study results must be looked at bearing the following in mind. Most gender studies reviewed were not well controlled for differing rates of gender-linked exposure. Accordingly, it is possible that the high rates of sexual assault in women and the extremely high rates of PTSD in sexual assault survivors contribute to the appearance that female gender is a risk factor for PTSD. Gender-role socialisation may also contribute to the individual's impression of the acceptability of either reporting victimisation experiences or psychological distress related to such experiences. Wolfe and Kimerling (1997) argue that methodological issues may also substantially impact outcome findings (e.g. gender-bias instrumentation limitations and flaws). They also argue that further

research is required in this area, arguing that there is clearly an interplay among gender, personal characteristics and the content and context of trauma exposure that is exceedingly complex. Wolfe and Kimerling (1997) argue that, since there are data showing that PTSD diagnosis or PTSD chronicity have different prevalence rates with respect to gender, it is important to compile data that directly compare differential gender-based prevalence rates in terms of risk factors for PTSD. They argue (Wolfe & Kimerling, 1997) that this issue could be effectively explored by examining data in conjunction with findings from research of special populations, for example, war veterans. This study aims to examine gender differences in this special population, i.e. victims of violent crime, in relation to other studies. The researcher will also bear methodological constraints such as instrumentation limitations and flaws in mind when analysing the data. Gender differences in exposure, for instance greater exposure to sexual assault in women, when noting higher prevalence rates of PTSD across gender will be acknowledged.

Race and PTSD

The DSM-IV (APA, 1994) "...marks a dramatically new level of acknowledgment of the role of culture in shaping the symptoms, expression and course of major mental illness" (Manson, 1997). The mood and anxiety disorders are among those that benefited most from the revision, especially PTSD (Manson, 1997). Manson (1997) argues that much still needs to be done to extend our understanding of the nature, recognition and meaning of trauma, as well as its representation as PTSD among different cultures. Assessment methods are also questioned by Manson (1997), who states that unfortunately, little is known regarding the performance of tools when applied to populations that are culturally distinct from those among whom said

methods were initially developed. Race or ethnicity, according to Betancourt and Lopez, (1995) is a component of cultural identity/culture, and thus culture has been referred to here. Manson (1997) argues that the traumatic stress field needs to think critically regarding the importance of ethnicity and culture in regard to risk of PTSD. For example, Breslau et al. (1991, cited in Manson, 1997) found that early life stressors have been shown to contribute substantially to added risk of PTSD. In this instance, socio-economic status and ethnicity are tightly interwoven, increasing exposure to the requisite antecedents of PTSD and confounding causal attributions that may invoke cultural explanations (Manson, 1997).

Certain populations or subgroups, namely, refugees, immigrants, veterans, concentration camp survivors and other victims of torture are at high risk of trauma and, by extension, PTSD. Manson (1997) states that ethnic minorities as well as people from other nations figure prominently in these findings. However, the evidence suggests that the greater visibility of ethnically and culturally diverse victims in these studies is due, more to their differential exposure to precipitating stressors than to factors intrinsic to the cultural milieus within which they live. In this light the following is considered. Kulka et al. (1990, cited in Manson, 1997) report the prevalence of PTSD among White Vietnam veterans as 15%, African American veterans as 19% and Hispanic veterans as 28%. Controlling for differential exposure to war-zone trauma- often a function of military occupational status, which has been shown to vary by socio-economic status and ethnicity - the differences disappeared between Whites and African Americans and were dramatically reduced between Whites and Hispanics. Other studies have shown that a history of substance abuse increases the frequency of exposure to adverse circumstances (e.g. domestic violence, motor vehicle accidents, homicide), which in turn elevates risk of PTSD (Manson,

1997). Greater rates of substance abuse are known to be significantly associated with lower socio-economic status as well as membership in certain ethnic groups (Manson, 1997). Thus, risk of PTSD distributes unevenly across the social structure as a consequence of substance abuse, indirectly, at best, due to either ethnic or cultural factors. Manson (1997) is not arguing against the importance of ethnicity and culture with regard the risk of PTSD. However, they believe that the field has not thought critically about the matter, nor struggled much beyond a static conceptualisation of either as independent variables to be accounted for in epidemiological and clinical study designs. Considering that this study is examining prevalence of traumatic exposure to violent crime and any resultant traumatic symptomatology, demographics (e.g. race) feature as an important component of the analysis. In particular, the following will be considered in the current study.

The researcher will think critically regarding, for instance, instrumentation bias, conflating socio-economic status and race and will bear the above in mind when analysing the data. Since, it has been found that there are more within-group differences than between-group differences in the characteristics used to define the three so-called races (Caucasoid, Negroid and Mongoloid)(Zuckerman, 1990, cited in Betancourt & Lopez, 1995). Furthermore, studies of genetic systems (e.g. blood groups, serum proteins, enzymes) have found that differences between individuals within the same 'tribe' or nation account for more of the variance (84%) than do racial groupings (10%) (Betancourt & Lopez, 1995). This indicates that racial groups are more alike than they are different. Betancourt and Lopez (1995) argue in favour of a focus on the cultural and social variables associated with racial groupings. However, they note that they do not imply that biological factors associated with such groupings are of no scientific interest. For example, in the study of hypertension in Afro- and

Anglo Americans, they argue that what is of scientific interest is not the race of these individuals but the relationship between the identified biological factors (e.g. plasma renin levels and sodium excretion) and hypertension (Betancourt & Lopez, 1995). In summary, Betancourt and Lopez (1995, p. 92) suggest that

...when behavioral variations are studied in relation to race, the so-called racial variable under study should be defined, measured and the proposed relationships tested. The role of specific cultural and social variables could be clearly separated from that of biological and other variables. The area of research will determine the relative importance of any one of these variables. The important point is that the research be on the relevant variable and not on racial groupings alone.

Contrarily, Ullman and Filipas (2001) found some race differences in assault characteristics in their study of sexual assault victims. They argue that these differences may reflect real differences in actual risk for different kinds of assaults by race or may reflect race differences in disclosure of different types of assaults. Specifically, Hispanic women and mixed race women experienced more injury and more life threatening assaults. This was a small sample hence the results must be treated with caution. George, Winfield and Blazer (1992, cited in Ullman & Filipas, 2001) found that sexual assault prevalence was lower among Hispanics than among Whites, and they attributed these results, in part, to greater religious devotion expressed by Hispanics.

These studies have been included in order to highlight problems and issues relating to examining race with regard to trauma. Race has been a particular source of injustice and oppression in South Africa. Since this study examines the prevalence of exposure to violent crime and traumatic symptomatology demographics are an

important factor in terms of epidemiology (see next chapter). Demographics are necessary factors to consider in the study of criminal victimisation (e.g. those with less resources may be more vulnerable) as noted below.

With regards to demographics (such as race, age and socio-economic status) and violent crime in South Africa, the following statistics were found. According to the HSRC National Victims of Crime Survey (1999), 7% of Black and so-called Coloureds were victims of violent individual crimes such as assault, sexual offenses and robbery, followed by Whites (5%) and Asians (3%). ISS victim surveys support the finding that Blacks and so-called Coloureds are disproportionately likely to be victims of violent crime, while Asians and Whites are more likely to fall victim to property crimes (Nedbank ISS Crime Index, 2001). In terms of age, young people are disproportionately likely to be victims of crime, especially young urban males (Nedbank ISS Crime Index, 2001). The National Victims of Crime Survey (1999) found that all individuals who had experienced at least one violent crime in South Africa in 1997, almost a third were aged 16-25. Furthermore, in terms of lifestyle, the wealthiest households are at greatest risk of falling victim to household-related property crime. In respect of violent household-related crime the correlation is weaker. The wealthiest households experience less violent crime than middle-class households, but more than very poor households. Individuals living in the wealthiest households are the most likely victims of individual property crimes but the least likely victims of violent crimes (Nedbank ISS Crime Index, 2001). The opposite is the case for individuals living in the poorest households (Nedbank ISS Crime Index, 2001). In terms of where people live and safety, with the exception of Pretoria, metropolitan (e.g. Johannesburg, Durban) respondents were right in feeling less safe than their urban and rural counterparts (Nedbank ISS Crime Index, 2001). The above

statistics highlight demographic characteristics, which are a focus in this study, as highly relevant factors in terms of exposure to violent crime in South Africa. We can observe, here, how issues regarding race and socio-economic status could be conflated. Traditionally in South Africa, the aforementioned has been the case.

Socio-Economic Status and PTSD

As Blumberg (2000) states, level of education and income are widely used as measures of social class and are considered to be interrelated (Gibbs, 1989; Kleber & Brom, 1992). On this basis, it is reasonable to expect that those from higher socio-economic groups have better access to resources and better socialised coping skills and will thus fare better following a traumatic event (Blumberg, 2000). There is some support for this position, especially with regard to education, where studies showed that better educated survivors of both hijackings (Kleber & Brom, 1992) and sexual assault (Ullman & Filipas, 2001) were less severely affected than their counterparts. This finding may be related to the possibility that individuals with a higher level of education have more skills, confidence and a stronger sense of being able to control their environment (Kleber & Brom, 1992). Burgess and Holstrom (1979, cited in Kleber & Brom, 1992) found that women with financial problems did not recover as quickly from rape as those without such difficulties. This may be due to the fact that their lack of financial resources prevented them from bringing about important changes in their lives, such as moving to a safer area. Similarly, Solomon et al. (1986, cited in Emery et al., 1991) reported that soldiers of lower social class and lower educational level were more vulnerable to combat stress reactions than their higher-ranking counterparts.

Some studies, within the field of disaster research, have not found a relationship between education or income and post-disaster symptomatology (Gibbs, 1989). Gibbs (1989) warns that, even where there are consistent findings regarding relationships between social class, education and income and the presence of psychopathology after disaster, such findings should still be interpreted with care. This is due to the fact that physical and economic impacts of disasters may be more severe for low-income individuals. In addition, Gibbs (1989) notes that social class, education and income might affect pre-disaster psychopathology, which could then show up in post-disaster levels of psychopathology.

McCann and Pearlman (1990a) argue that the internalisation of 'higher-class' values and the concurrent need to present the self in a favourable light, in the community, may prevent the reporting of sexual abuse or violence.

In conclusion, it appears that, while the aforementioned demographic variables may be associated, to greater or lesser degrees, with the consequences of traumatic experiences, the relationships between these variables and the development of PTSD is complex and inconclusive. Their influence appears to be dependent on other mediating factors, including the nature of the traumatic event and individual psychological resource factors. This suggests that factors such as demographic background, traumatic event characteristics and postassault victim responses all may be predictive of PTSD (Ullman & Filipas, 2001).

Substance Abuse

Substance abuse is a further component, which will be examined as a personal factor in the current study. As Wolfe and Kimerling (1997) note, substance abuse is a personal factor that has been widely observed in both men and women diagnosed with

PTSD. However, like depression, Wolfe and Kimerling (1997) warn that causal relationships are difficult to ascertain. One study assessed (Wolfe & Kimerling, 1997) regarding the prevalence of PTSD in substance abusers, using epidemiological data, found the following. It was shown that 16% of respondents described exposure to a DSM criterion A event. When other variables were statistically controlled, female gender and use of either cocaine or opiates significantly predicted a PTSD diagnosis. Wolfe and Kimerling (1997) argue that, given the magnitude of substance abuse problems in society generally, the relationship of these conditions to traumatisation and gender (or gender experiences) are areas for further study.

Health Status

Another personal factor noted in the posttraumatic stress literature is health status (Ullman & Filipas, 2001). Traumatic experiences are not only associated with mental health difficulties such as PTSD, but they can also affect the victim's physical health as reflected in an increase in health complaints and utilisation of health services (Kimerling & Calhoun, 1994; Zoellner et al., 2000).

The stress literature points strongly to an effect between stressor exposure and increased reporting of physical symptoms and poor health in victims (Wolfe & Kimerling, 1997). Decreased immunocompetence has been found in various studies (see for example Cohen & Williamson, cited in Wolfe & Kimerling, 1997). Reports of poor health have been found to be especially pronounced in women who describe exposure to high-magnitude events such as physical assault, criminal victimisation and sexual assault (Kimerling & Calhoun, 1994). In a study of sexual assault victims (Kimerling & Calhoun, 1994) initial and continuing health problems separated women with sexual trauma from those without these experiences. Wolfe et al. (1994, cited in

Wolfe & Kimerling, 1997) found that female veterans with PTSD reported significantly more cardiovascular, gastrointestinal, gynaecological, dermatological, ophthalmological and pain symptoms than women without this diagnosis. Few studies, however, have compared the posttrauma health status of men and women directly, testing of gender-linked issues in this manner appears to be needed (Wolfe & Kimerling, 1997). Wolfe and Kimerling (1997) argue that the documented effect between reported poorer health following trauma exposure or traumatic stress is important, particularly in light of emerging evidence that stress reactions substantially mediate the relationship between the exposure to trauma and resulting health conditions.

Sabbagh (1995) argues that there might be a silent epidemic of posttraumatic stress (PTSD) going undetected by primary care physicians. According to research victims of violent crimes may suffer undiagnosed PTSD for many years, at a great cost to their health and the healthcare system (Sabbagh, 1995). They argue that primary care practitioners are under increasing pressure to assess, diagnose, treat and make appropriate referrals for patients who are heavy users of healthcare services (victims of crime use health care more than non-victims). Sabbagh (1995) outlined possible reasons for increased use following a violent assault, undetected physical injuries resulting from the assault, alterations in health behaviours; physical symptoms of emotional reactions to assault mislabelled as biomedical disease; compromised immune system functioning and stress induced health problems. Given high levels of violent crime exposure and possibly traumatic stress symptoms in South Africa individuals experiencing PTSD may be going undetected by primary care physicians with great costs associated for individuals and the health care system.

Sabbagh (1995) argues that understanding more about victims of violent crime and their problems have particular relevance for the primary health care physician because victims are more likely to seek care from them than from mental health professionals. Violent crimes like rape, physical assault and homicide affects the lives of millions of Americans each year and produce persistent emotional effects, such as PTSD, which can last for many years (Sabbagh, 2001). It can be hypothesised that many South African individuals are suffering such effects from violent crime exposure. Hence, it appears to be relevant that South African primary care physicians are informed regarding PTSD manifestations. The current study will examine health status as a component of personal factors with regards to traumatic stress manifestations.

Sense of Coherence

A further personal factor that will be examined is a sense of coherence (Antonovsky, 1979). As noted in the literature (Green, 1993; Horowitz, 1999; Kleber & Brom, 1992; Yehuda & McFarlane, 1999) the traumatic stressor alone cannot be seen as being responsible for a traumatic stress response. Rather, an individual exists in a context that is composed of situational, individual and social influences. Authors stress the need to include variables, in traumatic stress studies, that could impact on the traumatic stress reaction (Horowitz, 1999; Manson, 1997; Wolfe & Kimerling, 1997). With this in mind, the researcher examines isolated variables like previous traumatic experience, perceived social support and a sense of coherence with regard to traumatic exposure and traumatic stress reactions.

As noted by Green (1994; 1985), the subjective perception of the traumatic event is a central factor in determining PTSD outcome. Furthermore, it has been found

that there are a number of factors such as social support and previous exposure to trauma that can exacerbate or relieve PTSD symptomatology (Emery et al., 1991; Kleber & Brom, 1992; Yehuda & McFarlane, 1999). For the purpose of this study the psychological resource factor that will be discussed is a sense of coherence (Antonovsky, 1979). This personality disposition is being measured as part of the current research, since, an individual's sense of coherence (SOC) is an internal resource which has been identified in the literature as playing a significant role in the management of stressful events (Blumberg, 2000).

Antonovsky (1979) explains that sense of coherence can be understood as the extent to which an individual has an enduring sense of confidence in the belief that there is meaning to life, even if it is sometimes not evident. In his study of healthy survivors of World War II concentration camps, Antonovsky found that they all shared a strong SOC. Antonovsky (1979) found that people with a strong SOC tend to be able to make sense of even the worst situations. They have also been shown to have confidence that they can either manage the stressor itself, or their response to it (Blumberg, 2000). Antonovsky does not suggest, however, that such people always overcome stressors, yet, in comparison to those with a weaker SOC, they do appear to manage stressors better and also seem better able to cope with problems which cannot be solved (Antonovsky, 1987).

The focus of the salutogenic model is on successful coping, a radically different mode of thinking about coping with life's stressors (Antonovsky, 1987). The central thesis of this model is that stressors are omnipresent in human existence, and even with a high stressor load many people survive and even do well (Antonovsky, 1979; 1987). Thus, the salutogenic question asked is: Why do some people cope successfully in spite of omnipresent stressors, and others do not (Cilliers, Viviers &

Marais, 1998). In attempting to answer this question, Antonovsky (1979) presented his salutogenic model of health, which refers to a cyclical process to explain an individual's position on what he termed the health ease/disease continuum.

Antonovsky (1979) argues that, through life experiences, individuals develop 'generalised resistance resources' (GRRs), which he defines as any characteristic of the individual that facilitates avoiding or combating a wide variety of stressors (Cilliers et al., 1998). GRRs may be material such as food or money, cognitive such as intelligence or knowledge, interpersonal such as social support, as well as macro social such as religion (Strumpfer, 1995). When the individual regularly experiences the availability of GRRs, personality constructs develop which prevent the individual from being subjected to some stressors (Cilliers et al., 1998). Subsequently, individuals' define stressors as 'welcome', following this the personality construct will decisively operate the extent to which the individual will move on the health ease/disease continuum. There is an hypothesised feedback loop from the GRRs to the salutogenic personality constructs (Antonovsky, 1979). Depending on previous experience of overcoming stressors, the GRRs will enhance the strength of the salutogenic personality constructs, which in turn will enhance the strength of the GRR (Antonovsky, 1979). Individuals with a salutogenic orientation will search for meaning and resolution and not seek to escape the burden of stressors (Antonovsky, 1993). For example, they would appraise work demands as benign and challenging, rather than threatening (Viviers, 1998). It is thought that a strong sense of coherence enables a person to mobilise GRRs to combat stressors thereby strengthening the person's sense of coherence via a feedback loop (Antonovsky, 1979). On the other hand, it is thought that those with a weak sense of coherence are likely to be unable to mobilise adequate resources, culminating in health breakdown (Antonovsky, 1987).

Antonovsky (1987, p. 19) defines the three-component personality construct of a sense of coherence as:

...a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable [Comprehensibility]; (2) the resources available to one meet the demands posed by these stimuli [Manageability]; and (3) these demands are challenges, worthy of investment and engagement [Meaningfulness].

A strong SOC is seen to develop when people frequently experience availability of these resources during their personal development. Hence, it is a general way of appraising the world, both cognitively and emotionally, which is associated with effective coping, health-enhancing behaviours and better social judgement. It is not a particular coping style but rather a disposition, which allows individuals to select appropriate strategies to deal with stressors confronting them (Strumpfer & Mlonzi, 2001).

Ortlepp (1998) found a statistically significant and strong (inverse) relationship between the construct, sense of coherence (Antonovsky, 1979), and the various indicators of secondary traumatic stress, namely burnout and compassion fatigue. Ortlepp (1998) notes that these findings are consistent with those of other researchers in the areas (Flannery & Flannery, 1990; Virtue and Jansen, 1996).

Furthermore, Ortlepp (1998) found strong statistically positive relationships between a sense of coherence and its sub-components and compassion satisfaction. Ortlepp (1998) notes that this finding is consistent with Virtue and Jansen's (1996) who found

statistically positive correlations between a sense of coherence and general psychological well-being.

Ortlepp and Friedman's (2001) findings on STSD are relevant to this study, since, as Figley (1995) has noted, PTSD and STSD are almost, if not identical, in terms of symptomatology. These authors found that SOC and its component parts exert strong main effects on the variance of the indicators of secondary traumatic stress. Ortlepp and Friedman (2001) argue that their and others (Flannery and Flannery, 1990; Semmer, 1996 cited in Ortlepp & Friedman, 2001) finding that SOC be considered as a global predisposition to responding to life stress, rather than a specific moderating variable, supports Antonovsky's contention that SOC addresses the overall quality of an individual's specific response to specific events. Ortlepp and Friedman (2001, p. 45) state that "... (t)his finding is of significance to the conceptual understanding of the dynamic nature of secondary traumatic stress and supports theories in which the role of personality disposition, as it influences a person's cognitive appraisal, is given key prominence".

CHAPTER FIVE

Epidemiology

Introduction

Schlenger, Fairbank, Jordan and Caddel (1997) note that, by epidemiological studies of PTSD, one means studies aimed at assessing the prevalence and/or incidence of PTSD in specific population groups, assessing the relationship of PTSD to other psychiatric disorders and identifying risk and other etiological factors for the development of PTSD. Community epidemiological studies are aimed at assessing specific exposures and/or disorders among a specified population, regardless of whether individuals have sought treatment or otherwise come to the attention of the treatment system (unlike clinical epidemiological studies)(Schlenger et al., 1997). Hence, samples are selected for reasons other than their exposure or disease status (Schlenger et al., 1997). Samples should be representative of the specific population or subgroup to which inference is to be made (e.g. Vietnam veterans, crime victims, incest survivors) (Schlenger et al., 1997). According to Schlenger et al. (1997) community studies rule out an inherent bias that limits the utility of clinical studies (although also important) for enhancing our understanding of the basic epidemiology of PTSD. The bias arises from the well-recognised fact (see for example, Shapiro et al., 1984, cited in Schlenger et al., 1997, p. 140) that only a relatively small portion of those who meet the criteria for a specific psychiatric diagnosis, seek treatment for it.

The impact of the biases introduced by this self-selection of treatment-seeking populations cannot be definitively determined (since the bias cannot be studied

in the context of a randomised experiment), which limits the contribution that clinical studies can make to the basic epidemiology of psychiatric disorders. Furthermore, Dunn and Janes (1986) state that increasing interest has emerged in the contribution that the social sciences might make to the epidemiological study of patterns of health and disease. They argue that as epidemiology has expanded its concerns to encompass the full range of human disease and disorder, researchers have been forced to grapple with complex assemblages of psychological, social, cultural, demographic and genetic factors in their quest to identify etiologic relationships and improve health phenomena as acculturation, anomie, ethnicity, and poverty has led epidemiologists to look to the social sciences for help in explaining the relationship of social and cultural processes to health (Dunn & Janes, 1986).

As noted by Dunn and Janes (1986) it has now been recognised that any human disease or disorder is the result of many factors within what may be described as a “causal web”, or a web of determinants. These webs, their extent varying with population characteristics such as size and density; include exogenous factors, biological and non-biological; endogenous (genetic factors); and behaviour as governed by psychological, social and cultural factors (see for example Dunn 1976a, cited in Dunn & Janes, 1986). Within any such causal web, many of the determinants of disease and disorder are behavioural. It is epidemiology’s goal to identify and measure the relative importance of factors within the causal web of disease and disorder. Because it is thought that all diseases are caused, in part, by the behaviour of individuals, groups or communities, epidemiology must be a behavioural science. Epidemiology is primarily concerned with the relationship of behaviour to disease (Dunn & Janes, 1986).

Epidemiology is usually defined as the study of the distribution and determinants of disease and disorder in human populations (Dunn & Janes, 1986). The primary units of analysis are large population aggregates identified in terms of geographic, administrative or demographic boundaries. There is no assumption in epidemiology that members of the groups under scrutiny are related to each other, or see themselves related to each other, in any other way than as defined by the epidemiologist (i.e., being a member of a specific ethnic, sex, age or residential group). Descriptive epidemiology is quantitative and closely related in its “horizontal” methods to those of social survey research. Population-based data, often archival or based on the analysis of morbidity or mortality records, are collected from many demographic units, and the range of questions is restricted and usually specified prior to the initiation of the research (Dunn & Janes, 1986).

Three major research questions are characteristic of nearly all epidemiological research: (1) what are the social, behavioural, demographic and biological characteristics of persons who develop a disease; (2) what is the relationship of the disease to geographic, ecological and social locales; and (3) what is the relationship of disease onset to suspected risk factors (Mausner & Bahn, 1974, cited in Dunn & Janes, 1986). These three questions are often associated with descriptive epidemiology, which seeks primarily to identify the amount and distribution of disease or disorder within a population. In this context it is fairly routine to focus on the demographic characteristics of person, (question 1); place (question 2); and time (question 3). For example, typical categories of data gathered in descriptive studies include age, sex, ethnicity, occupation, marital status, place of residence, age cohort, and differences in disease rates occurring over time (Dunn & Janes, 1986). This study will examine the prevalence of traumatic exposure to violent crime, and any resultant

traumatic stress symptomatology with regard various demographic variables. Hence, descriptive epidemiological concepts were utilised to analyse the data.

Epidemiology of Posttraumatic Stress Disorder

Yehuda and McFarlane (1999) state that epidemiological studies of “high risk” individuals (e.g., defined as those surviving a traumatic event, such as combat veterans or rape victims) have generally suggested that the occurrence of PTSD following a traumatic event is the exception rather than the rule (Card, 1987; Freedy, Shaw & Jarrel, 1992). In the DSM-IV (1994), estimates of the prevalence of PTSD among those exposed to a Criterion A stressor range from 3% to 58%. One of the classic epidemiological studies found a 15% prevalence of current PTSD and a 30% prevalence of lifetime PTSD among Vietnam veterans (Kulka et al., 1993). The prevalence of PTSD was found to be substantially lower in Desert Storm veterans. Only 9% could be diagnosed with PTSD 6 months following their return from the Persian Gulf (Southwick et al., 1993). Yehuda and McFarlane (1999) note that studies of civilians have shown that PTSD is relatively rare compared to the prevalence of trauma. A study of a random sample of 1007 young adults from a large health maintenance organisation in Detroit found that of the 39% of individuals exposed to trauma, 23.6% had developed PTSD at some time in their life (Breslau et al., 1991 cited in Yehuda & McFarlane, 1999). Furthermore, also of note is the relatively high prevalence rate of persistent and chronic PTSD among prisoners of war and concentration camp survivors (Goldstein et al., 1987; Yehuda & McFarlane, 1999). However, even among those who are exposed to very severe and prolonged trauma, there is usually a substantial number of individuals who do not develop PTSD or other psychiatric illnesses (Yehuda & McFarlane, 1999). Moreover, in documented

epidemiological studies it is difficult to find even transitory symptoms in more than 50% of the population, and in the majority the symptoms will have usually resolved within 2-3 years (Green et al., 1996). Thus, some of the available epidemiological data show that PTSD, and certainly chronic PTSD, is more unusual than usual following exposure to a variety of traumatic events (Green et al., 1996).

Studies of the prevalence of PTSD in civilian populations exposed to specific traumatic events yield similar statistics. For instance, the study of Mount Saint Helen's volcanic eruption demonstrated that only 4% of those exposed to this natural disaster had PTSD. Most of the above civilian sample's symptoms had resolved in the 2 years following the event (Shore et al, 1986). Similarly, in a representative sample of 469 volunteer firefighters exposed to severe bushfires, a PTSD prevalence rate of 16% was observed immediately following exposure, and less than half of those cases had gone into remission at 42 months (Yehuda & McFarlane, 1997).

Yehuda and McFarlane (1999) argue that, in evaluating these results it is important to consider the nature and severity of the traumatic event, since a number of investigators have documented a relationship between severity of the trauma and the development of chronic PTSD. In contrast to the low prevalence rates reported for natural disasters, for example, the lifetime prevalence rates of PTSD among crime victims has been estimated to vary from 19% to 75% (Kilpatrick et al., 1993). The current study research will examine prevalence rates among crime victims, in this sample in South Africa, and whether or not the above results are supported.

It has been found that typically PTSD-inducing events are generally outside of individual control, unpredictable, involve the potential for physical injury or death, and possess the capacity to elicit affect-laden visual imagery (March, 1993). However, there is tremendous variation in the prevalence of PTSD found between studies of

different events (Rubonis & Bickman, 1991) raising the question of whether different events leads to different rates of disorder and different symptoms (Joseph et al., 1997). There also needs to be more uniformity of measurement with regard to prevalence studies and PTSD (Horowitz, 1999).

Epidemiology of PTSD - Criminal Victimization

In an American survey, it is estimated that the prevalence of civilian trauma and crime-related PTSD was around 1% in the general population (Helzer, Robbins & McEvoy, 1987 cited in Joseph, Williams & Yule, 1997). There is evidence from a variety of studies that the experience of criminal victimisation is associated with poorer mental health (Brewin et al., 2000; Blumberg, 2000; Friedland, 1999; New & Berliner, 2000; Sorenson & Golding, 1990; Ullman & Filipas, 2001). The immediate aftermath of crime can be particularly distressing (Joseph et al., 1997). Davis and Friedman (1985, cited in Joseph et al., 1997) in a study of victims of burglary, robbery and assault found that 45% of victims were experiencing distress 1-3 weeks after the incident, and if sleeping disorders were included this rose to 75%.

Crime involving random violence can also be particularly distressing (Joseph et al., 1997). Several studies have been carried out following multiple shooting events. Following a shooting in a McDonald's restaurant in San Ysidro, killing 21 people and injuring 15, it was found that nearly a third of the community surveyed reported that they were seriously affected by the incident. Those who reported having family or friends involved in the incident were the most likely to exhibit PTSD symptoms (Joseph et al., 1997). In another study multiple shooting in an Arkansas town, 80% exhibited some symptoms of PTSD (Joseph et al., 1997). A later study by North, Smith and Spitznagel (1994) investigated the emotional reactions of people after a

gunman mounted a firearm assault for almost 15 minutes on a crowd of nearly 150 civilians in a cafeteria in Texas. Interviews were carried out within 6-8 weeks with those present. Overall, nearly all had symptoms of PTSD and 20% of men and 36% of women met the full criteria for PTSD. Other research has shown PTSD symptoms in children at one month and at 14 months following a fatal sniper shooting in a Californian school (Nader, Pynoos, Fairbanks & Frederick, 1990). Other research has reported a 19% prevalence rate of PTSD in children after a mass-shooting incident at school (Schwarz & Kowalski, 1991).

Solomon and Horn (1986) studied police officers following post-shooting incidents and they found that 37% of victims experienced a mild reaction, 35% moderate and 28% severe distress. Similarly, Gersons (1989) investigated the degree and intensity of post-traumatic reactions in 37 police officers in the Amsterdam police force who were involved in serious shooting incidents (from 1977 - 1984). Out of the 37, only 3 were found to be symptom free, 17 suffered from some PTSD symptoms and 17 fulfilled PTSD criteria (it is not clear whether this was a representative sample). Gersons (1989) reported that none had looked for help or treatment from doctors, psychologists or social workers within the police force. It was suggested that this was because of police culture in which officers do not generally complain about psychological issues or discuss emotional reactions. Duckworth (1986) found that 35% of sample of police officers involved with the Bradford football club fire were suffering from PTSD, and a further 21% met three of the four DSM-III criteria for PTSD. This area, namely criminal victimisation and PTSD, is a key focus in this investigation and, hence, seeks to add to data in this under-researched field in South Africa (Friedland, 1999; Sorenson & Golding, 1990).

Epidemiology of PTSD - Sexual Assault

Given the high rates of sexual assault perpetrated in South Africa, especially against women and children, (Nedcor ISS Crime Index, 2000), the researcher will examine epidemiological studies relating to sexual assault and traumatic stress syndromes. Furthermore, the focus of the current study regards violent crime with regards to traumatic exposure and sexual assault qualifies as such. Moreover, a great deal of violent crime and traumatic stress literature has focused on sexual assault and hence greater epidemiological data is available than is the case with other types of violent crime (Friedland, 1999). The current study is focusing on more extended types of violent exposure and hopes to add to literature in the field of traumatic stress. However, sexual assault epidemiological data has been included since the harmful effects thereof have been shown to be particularly traumatising and long-lasting (e.g. rape) (Horowitz, 1999; Yehuda & McFarlane, 1999).

A survey of 4000 American women found that one-third had experienced a crime such as physical or sexual assault (Resnick et al., 1993). For those exposed to such events, PTSD is a likely outcome (Joseph et al., 1997). Kilpatrick, Saunders, Veronen, Best and Von (1987) found a 75% lifetime prevalence rate of exposure to a variety of crimes in a community sample of women. Furthermore, 28% of those women exposed to any crime-acquired lifetime PTSD. In addition, Kilpatrick et al. (1987), found that there was an overall rate of sexual assault of around 50% and a rate of approximately 20% for completed rape. The crime of rape was associated with a lifetime PTSD prevalence rate of 57%. This and other evidence suggests that rape is one of the most traumatic events and produces rates of PTSD higher than that produced by other events (Breslau, Davis, Andreski & Peterson, 1991; Kilpatrick et al., 1989; Norris, 1992). Other survey work indicates that over 30% of all rape victims

may develop PTSD at some time in their lives (National Victims Centre, 1992).

Resnick, Veronen, Saunders, Kilpatrick and Cornelison (1989) found that 76% of rape victims met the diagnostic criteria for PTSD at some point within a year of the assault. Similarly high results have been reported by others (Crummier & Green, 1991). In a prospective study by Rothbaum, Foa, Riggs, Murdock and Walsh (1992), 64 women who had been subjected to rape or attempted rape were interviewed within a month following the event. Those women who had a prior history of mental disorder were excluded from the study, most of the remaining women were Black, unmarried, have low income and had been referred by the police. Further interviews were conducted weekly over 12 weeks. Rothbaum et al. (1992) found that although the incidence of PTSD decreased over the 12 weeks, at the initial interview 94% of the women met the criteria for PTSD. By assessment 4, when the DSM-III-R duration criterion of one-month was met, the incidence of PTSD was 65% and by assessment 12 the incidence of PTSD was 47%.

In addition, there is evidence that women who have experienced sexual assault are likely to suffer from a range of psychological problems including anxiety and fear (Calhoun, Atkeson & Resnick, 1982; Kilpatrick, Resnick & Veronen, 1981), depression (Atkeson, Calhoun, Resnick & Ellis, 1982; Kimerling & Calhoun, 1994), sexual dysfunction (Becker, Skinner, Abel & Treacy, 1982; Orlando & Koss, 1983) and problems in social adjustment (Kilpatrick et al., 1979; Resnick, Calhoun, Atkeson & Ellis, 1982). Given high rates of rape in Gauteng, these epidemiological findings were included. Arguably, this is an important area of study given the high number of victims and the effects of rape/sexual assault on them.

Epidemiology of Event Factors and PTSD

There are currently multiple studies in the psychological and psychiatric literature that document the frequency and psychological impact of traumatic events (Elliot & Briere 1995; Norris, 1992; Resnick et al., 1993; Ullman & Filipas, 2001; Zoellner, Goodwin, Foa, 2000; Yehuda & McFarlane, 1999). These studies have produced similar rates of trauma exposure, indicating that over half, and up to three quarters of individuals have experienced events that are potentially traumatic and that likely meet Criterion A1 (the stressor criterion) for PTSD (APA, 1994). Kessler et al. (1995) found that 61% of men and 51% of women experienced at least one of the events they assessed, and Resnick, Kilpatrick, Dansky, Saunders & Best (1993) reported that lifetime exposure was 69% in their national sample of women. Multiple trauma was common in these samples as well. Kessler et al. (1995) found that 34% of men and 25% of women experienced two or more events, and Resnick et al. (1993) found that, among those respondents who had experienced some type of crime victimisation, over half reported more than one episode. Thus, there is evidence that many individuals in the general population have experienced some type of trauma, and a substantial minority have experienced multiple events.

As mentioned earlier, in their study of outcomes of single versus multiple trauma exposure, Green et al. (2000) found that, interpersonal trauma was associated with elevated symptoms and multiple exposure participants had significantly higher symptoms than all other groups. They argue that complex trauma histories should be accounted for, even in studies of one target event (Green et al., 2000). Green et al. (2000) note that, although, few studies have made direct comparisons of non-interpersonal (e.g. disaster, accident) and interpersonal trauma (e.g. rape, molestation, physical assault), a number have reported rates of disorder or levels of symptoms

associated with a range of different types of events and these studies conclude that interpersonal trauma is more distressing, or related to higher rates of disorder than non-interpersonal trauma. Resnick et al. (1993) found that lifetime rates of PTSD associated with interpersonal trauma ranged from 31% to 39%, whereas the rate of PTSD associated with non-crime trauma (disaster, accident) was only 9%. Kessler et al. (1995) found that lifetime PTSD was associated with rape, molestation, physical abuse and physical attack ranged from 2% to 65% in men and from 21% to 49% in women, whereas rates from accident, natural disaster, or witnessing a traumatic event happening to someone else ranged from 4% to 6% in men and 5% to 9% in women. Except for the low rate of PTSD of 2% for men who were physically attacked, rates for interpersonal trauma ranged from 12% to 65%, indicating that there was otherwise no overlap of rates between the two types of events. Furthermore, Norris and Kaniasty (1994) directly compared victims of violent crime to those exposed only to property crimes, and found that those exposed to violent crimes were significantly more distressed, even controlling for pre-crime social status and psychological functioning. This finding has major implications given the high levels of violent crime exposure in South Africa. We can begin to hypothesise regarding the effects on individuals in South Africa given the findings regarding the impact of violent crime exposure in the United States of America.

Although there is evidence throughout the epidemiological literature that bereavement is associated with more severe and chronic disturbance (Shore et al., 1986), and generally the higher the death rate occurring during a traumatic event, the higher the later psychological disturbance, these factors alone do not account for the individual differences in reactions among any group of survivors or between groups of survivors (Joseph et al., 1997). As noted throughout, various researchers have tried to

identify what it is about traumatic events that is most distressing and much research has accumulated showing that the extent of personal injury as well as the degree of life-threat also influence the course of symptomatology in combat veterans (Breslau & Davis, 1987; Orner, Lynch & Seed, 1993; Yehuda, Southwick & Geller, 1992) as well as in civilian survivors of a variety of events (Kilpatrick et al., 1989). It would seem that some events could be so traumatic, i.e. involve a high degree of life-threat and personal injury, that almost everyone who is exposed will develop PTSD. For example, Kilpatrick et al. (1989) found that for those women who had experienced rape, life-threat and physical injury, 80% went on to develop PTSD. The prevalence of the disorder thus depends on the nature and intensity of the experience. For example, Kilpatrick et al. (1989) quote a study, which found a prevalence rate of about 3.5% in Vietnam veterans who were not wounded in battle compared to about 20% in veterans who were.

Furthermore, Lund, Foy, Sipprelle and Strachan (1984) suggested that stress might build cumulatively through exposure to a traumatic event. Events involving repeated and prolonged exposure may be most harmful. For example the duration and frequency of child sexual abuse has been shown to be associated with PTSD diagnostic status (Elliot & Briere, 1995). In a survey of over 3000 Los Angeles residents it was found that criminal victimisation was associated with increased thought of suicide and depression. Furthermore, those reporting two or more victimising experiences were more likely to suffer depression than those people reporting only one such event (Elliot & Briere, 1995).

Epidemiology of PTSD in South Africa

Blumberg (2000) states that South African figures regarding current overall prevalence rates for PTSD are not available, except for those stemming from specific population studies. For example, Dawes, Tredoux and Feinstein (1989 cited in Simpson, 1993a), assessed the effects of the Crossroads tragedy in the Western Cape, where 4 squatter camp communities were deliberately burnt to the ground, 53 people were killed and more than 70 000 people were left homeless in a brutal forced removal. In this study, the incidence of PTSD in adult women was 63.1% and in adult men the incidence was 32% (Blumberg, 2000). In children, the overall incidence of PTSD was found to be 9.2%. Blumberg (2000) and Friedland (1999) found high rates of both direct and indirect violent crime exposure and PTSD in samples of Gauteng university students. Esprey (1996) found high rates of PTSD in a study regarding political violence in South Africa. These studies were conducted on specific populations and allow us to infer that levels of PTSD are likely to be high.

As noted in chapter one, current statistics of violent crime rates in South Africa also provide some indication of the frequency of exposure to precipitants of PTSD (Blumberg, 2000). In this light some further crime statistics will be added here. The SAPS Quarterly Crime Report (1999, pp.5-6) reports the following crime ratios per 100 000 of the population for the year 1998: Murder = 52.0 per 100 000; Attempted murder = 62.7 per 100 000; Rape = 104.1 per 100 000; Assault with resultant grievous bodily harm = 489.9 per 100 000; Housebreaking = 567.2 per 100 000. These statistics are viewed as constituting, an exceptionally high level of crime, relative to other countries and on this basis it seems justified to assume that PTSD rates are also reasonably high (Blumberg 2000). This is supported by the argument that victims of crime are highly vulnerable to the development of PTSD (Kilpatrick &

Resnick, 1993). Further, Blumberg (2000) and Wigfall-Williams (1997) state that inadequate resources, in terms of provision of support for trauma survivors in this country seems likely to increase the potential for the development of PTSD.

American prevalence studies (Kaplan et al., 1994) found that 1% to 3% of the population developed PTSD, while an additional 5% to 15% were estimated to experience sub-clinical forms of the disorder. Foa, Olasov and Rothbaum (1998) provide a higher estimate, suggesting that 9% to 15% of the American population develop PTSD. Among high-risk groups whose members experienced traumatic events, the lifetime prevalence rates range from 5% to 75% (Kaplan et al., 1994). Studies of combat veterans and rape victims, for example, indicate that PTSD rates can be as high as 50% or more in such at-risk populations (Davidson & Fairbank, 1993; Foa & Olasov, 1998). Blumberg (2000) argues that one can infer, from the discussion above that South African statistics are comparable to these American estimates, if not higher. This study will add to empirical studies with regards to prevalence rates of PTSD in different populations.

Individuals of all ages and from all socio-economic and cultural backgrounds are vulnerable to the development of PTSD, although because of precipitating circumstances, such as combat, the disorder is found most commonly among young adults. The trauma most likely to precipitate PTSD in men is combat exposure, while for women it is rape (Kaplan et al., 1994). The disorder is most commonly found in those who are single, widowed, divorced, economically handicapped or socially withdrawn (Kaplan et al., 1994). This phenomenon suggests that social circumstances may increase vulnerability to the disorder (Horowitz, 1999). Hence, this study is examining the context in Gauteng, South Africa with regards to both traumatic exposure to violent crime and traumatic symptomatology.

Conclusion of Part One

In the literature review the researcher has discussed the key areas requiring research and the focus of the current study. Literature in the traumatic stress field in South Africa has highlighted the need for the study of violent crime victims since this population has been relatively under-researched (Dawes, 1994; Eagle, 1998; Friedman, 1999). Furthermore, there has been a call by various researchers for special populations, in these instance violent crime victims, to be studied empirically with regards to traumatic exposure and traumatisation (Esprey, 1996; Horowitz, 1999; Yehuda & McFarlane, 1999). In addition, those with multiple trauma exposure histories require research (Benatar, 1996; Green et al., 2000; Ullman & Filipas, 2001).

Moreover, young adult populations have had little focus in the traumatic stress field in relation to criminal violence and this age demographic has been found to be disproportionately likely to be victims of violent crime (Nedcor ISS Crime Index, 1999). In addition, different types of violent crime and their relationship to posttraumatic stress symptomatology has been under-researched (Friedman, 1999; Green et al., 2000), hence, various forms of violent crime will be included in the current study. A further motivation for undertaking the current study links to the crime statistics moratorium, which was enforced by the South African Police Services in South Africa for two years prior to the data collection for the research. Hence, the prevalence of traumatic exposure and traumatic symptomatology is a focus of the study utilising epidemiological concepts for the analysis. Moreover, the literature in the traumatic stress field suggests that social circumstances may increase vulnerability to the disorder (Green et al., 2000; Horowitz, 1999; Kaplan et al., 1994; Yehuda & McFarlane, 1999). Hence, the literature has focused on constructs, for example,

demographics, which examine social circumstances, which may impact on an individual's exposure to violent crime and/or any resultant traumatic symptomatology.

The researcher contextualised the current study, examined literature in the traumatic stress field and discussed epidemiology as a construct and epidemiological findings in the traumatic stress arena. The research will focus on the prevalence of both violent crime exposure and traumatic stress symptomatology in a sample of 1st year university students in Gauteng, South Africa. Furthermore, the literature examined the nature of the traumatogenic event, the posttrauma environment and personal factors with regards to both violent crime exposure (traumatic exposure) and traumatic symptomatology.

Part two will focus on the rationale, aim and research questions for the current study. Furthermore, part two will include the methodology, results and discussion chapters with regards to the current study.

PART TWO: THE CURRENT STUDY

Rationale

At the time of writing the proposal for this study, and for two years prior to this (July 2000 - August 2001) there was a moratorium on crime statistics released by the South African Police Services, allegedly due to inaccurate reporting and recording of crime. Further, authors of the Nedcor ISS Crime Index (1998) and Louw (1998) state that it has become accepted practice in South Africa to argue that official crime statistics provide a poor indication of levels of crime in the country. This study may provide some information on respondents who have been victimised in the last two years and may access those who do not report crimes to the police.

Further, the study will research a non-patient population, which also broadens the scope in terms of identifying psychiatric disorders, such as PTSD, outside of the primary healthcare setting. Community studies involve the study of samples selected for reasons other than their exposure or disease status (Schlenger et al., 1997). Clinical studies are extremely valuable in terms of improving understanding of those who seek treatment for PTSD, however, such studies contain an inherent bias, i.e. only a relatively small portion of those who meet the diagnostic criteria for a specific psychiatric disorder seek treatment for it (Schlenger et al., 1997). Furthermore, the impact of the bias introduced by the self-selection of treatment-seeking populations cannot be definitively determined (since this cannot be studied as a randomised experiment), which limits the contribution that clinical studies can make to further understanding the basic epidemiology of psychiatric disorders (Schlenger et al., 1997). To add to this problem, it is evident that not everyone who seeks treatment for a given

disorder actually has that disorder (Schlenger et al., 1997). Schlenger et al. (1997) argue that, with PTSD, issues of secondary gain (e.g. malingering) are sometimes important for those seeking treatment, and represent another source of potential bias. Furthermore, many of those exposed to trauma may experience symptoms of PTSD, not all will develop the disorder (Schlenger et al., 1997). According to the literature many people suffering from posttraumatic stress are unidentified, and, hence, untreated and unsupported (Hamber, 1995; Wigfall-Williams, 1997). Given the high levels of violent crime in South Africa, this appears to be an area of grave concern, especially knowing the possible effects and distress that individuals may be experiencing.

The consequences of the high levels of violent victimisation permeate increasingly widely into South African society, and few, if any, South Africans can remain unaffected. Vast numbers of South Africans are likely to struggle to relate to other individuals due to shattered trust, and feelings of grief and loss; to have difficulty in the workplace due to intrusive trauma symptoms; and to be left with an overwhelming sense of anxiety, anger and vulnerability. This leaves many South Africans with raised levels of fear, suspicion and aggression - all of which deleteriously affect their daily functioning. (Hamber & Lewis, 1997, p.14).

Hamber and Lewis (1997) note that the majority of South African victims of violent crime are likely to feel unsupported and hopeless and have lost faith in the effectiveness of the criminal justice system. Hamber and Lewis (1997) argue that these feelings are likely to intensify if no psychological and social support is received. Of concern is that, if ignored, certain victims of past violence are at risk of becoming perpetrators of retributive violence or displaced social and domestic violence (NCPS,

1996; Simpson, 1996, cited in Hamber & Lewis, 1997). Research cited by Dawes and Tredoux (1990) and Malepa (1990, both cited in Hamber & Lewis, 1997) note the fact that children exposed to violence will more readily become perpetrators of violence themselves. Furthermore, studies found that women who were beaten were at least twice as likely to beat their children than mothers who were not abused (Domestic Abuse Project, 1996, cited in Hamber & Lewis, 1997). As noted by the NCPS (1996), regarding this danger, in the case of violent crime, victim empowerment and effective support can break the cycle of violence and therefore can be viewed as preventative. Thus, according to Hamber and Lewis (1997), trauma counselling and a range of other interventions with traumatised individuals, can be considered effective in alleviating and preventing the consequences and effects of violent victimisation.

Multiple levels of prevention are necessary to combat violence and trauma. These include primary prevention (e.g. education), secondary prevention initiatives (e.g. psycho-social and medical services), and finally, tertiary preventative services, such as trauma counselling. At the same time accurate information is needed concerning violent “hot-spots”, as well as reliable epidemiological data and a range of practical research endeavours that could help understand and minimise the incidence of violence. (Hamber & Lewis, 1997, p. 12).

Hamber (1997) points out that South Africa has extremely limited mental health and social services.

Authors (e.g. Friedland, 1999; Sorenson & Golding, 1990) argue that young adult populations have had little focus in the traumatic stress field in relation to criminal violence, hence, this study is utilising this age sample. It has been found that young people also stand a greater chance than average of falling victim to crime,

especially violent crime. Young people have been found to be disproportionately likely to be victims of crime (Nedcor ISS Crime Index, 1999). The Victims of Crime survey conducted by Statistics South Africa and the Department of Safety and Security found that of all individuals who had experienced at least one violent crime in 1997, almost a third (31.5%) were aged 16-25 (Nedcor ISS Crime Index, 1999).

It has also been found that different types of criminal violence and their relationship to posttraumatic stress symptomatology have been under-researched (Friedman, 1999; Green et al., 2000). Sexual assault is often the focus of criminal victimisation studies (Markestyn, 1992; Ullman & Filipas, 2001; Green et al., 2000), in the current study various forms of violent crime will be included.

Kaplan et al. (1994) and Horowitz (1999) suggest that social circumstances may increase vulnerability to the disorder. Hence, this study aims to examine both the possible likelihood of traumatic exposure and of traumatic symptomatology with regard to social circumstances in Gauteng, South Africa (e.g. demographics).

This study will look at the cost of violent crime in specific psychological terms (traumatic stress symptomatology). The research will also examine demographic variables in relation to traumatic exposure. This appears to be relatively innovative, since the traumatic stress field has largely focused on variables in relation to traumatic symptomatology. By examining variables related to traumatic exposure, one can begin to examine the bridging domain of psychology into criminology.

This study also examines a South African population and these results will be compared to international epidemiological studies and statistics compiled on traumatic exposure (to criminal violence) and traumatic stress symptomatology.

Aim

The aim of the current research is to adopt an epidemiological lens and focus on the prevalence of both exposure, direct and indirect, to violent crime in a sample of 1st year South African university students, and the prevalence of any resultant traumatic stress symptomatology.

A further aim of this study regards an examination of the relationship between the nature of the traumatogenic event (i.e. the nature, severity, subjective perception of the stressor and previous exposure to trauma), the posttrauma environment (i.e. counselling, social support and previous trauma exposure) and personal factors (i.e. demographics, health status, substance abuse, psychiatric and family psychiatric history and a sense of coherence) and both traumatic exposure to violent crime and traumatic symptomatology.

Finally, the study aims to examine whether there is a relationship between traumatic exposure to violent crime and traumatic symptomatology.

Research Questions

As noted above, the focus of this study is threefold. Hence, the initial question focuses on the epidemiological dimension of the current study, i.e. the prevalence of both traumatic exposure to violent crime and traumatic symptomatology. The second, third, and fourth questions focus on the relational aspects of the study. The fifth question focuses on the relationship between traumatic exposure to violent crime and traumatic symptomatology.

1a. What is the prevalence of traumatic exposure to violent crime in a sample of 1st year university students in Gauteng, South Africa?

1b. What is the prevalence of traumatic symptomatology in a sample of 1st year university students in Gauteng, South Africa?

2. Is there a relationship between the nature of the traumatogenic event (i.e. the nature, severity and the subjective perception of the traumatic stressor) and traumatic symptomatology?

3a. Is there a relationship between the posttrauma environment (i.e. counselling, levels of social support and previous exposure to trauma) and traumatic exposure to violent crime.

3b. Is there a relationship between the posttrauma environment (e.g. counselling, levels of social support and previous exposure to trauma) and traumatic symptomatology?

4a. Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history and a sense of coherence) and traumatic exposure to violent crime.

4b. Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history and a sense of coherence) and traumatic symptomatology?

5. Is there a relationship between traumatic exposure to violent crime and traumatic symptomatology?

CHAPTER SIX

Methodology

Research Design

Descriptive research's objective is to map out a situation or set of events (Rosenthal & Rosnow, 1992). The research objective is to describe what is happening behaviourally (Rosnow & Rosenthal, 1996). Causal explanations are not of direct concern except perhaps speculatively. This descriptive orientation is usually considered a necessary first step in the development of a program of research because it establishes the cornerstone of any future undertaking (Rosenthal & Rosnow, 1992). However, it is rarely regarded as sufficient, because inevitably one will want to know why something happens or how what happens is related to other events (Rosnow & Rosenthal, 1996). Descriptive research, which maps out a situation, tells, "how things are". Hence, this study is descriptive in nature, the epidemiological aspect of the study explores prevalence of traumatic exposure and traumatisation and the relational aspect highlights relationships that exist between variables specified prior to the data collection.

Furthermore, the current study utilises a non-experimental research design. These are normally used in situations where the investigator cannot manipulate the independent variable/s, as was the case in the current study, and is thus unable to conduct an experimental investigation (Rosenthal & Rosnow, 1992).

Kerlinger (1973) p. 406, cited in Kerlinger (1986) states the following:

It is well, to recognise...that there are activities preliminary to hypothesis-testing in scientific research. In order to achieve the desirable aim of hypothesis-testing, preliminary methodological and measurement investigations must often be done.

Non-experimental research is particularly useful in settings in which the investigator is unable to exercise control, or for the purpose of hypothesis formation (Rosenthal & Rosnow, 1992). There are, however, many potential threats to the internal validity of non-experimental designs, of which the researcher has to be aware. Chief among these threats is the third-variable problem. This is a condition in which a variable correlated with X and Y is the cause of both (Rosnow & Rosenthal, 1996). Furthermore, confounding variables regard the mixing up of the effect of one variable with the effect of another variable (Rosnow & Rosenthal, 1996).

In summary, in non-experimental research:

- the IV is not manipulated
- there is no or limited control over extraneous variables
- there is not random assignment of participants to different conditions

In non-experimental research, the role of the investigator is essentially an observer (Rosenthal & Rosnow, 1996). X and Y are measured to see if there is a correlation/co-variation. Non-experimental research is thus most useful for descriptive and construction-seeking rather than for inferential purposes. Its explanatory power can, however, be raised through replication (Rosenthal & Rosnow, 1996).

In addition, the current study utilises a cross-sectional design. Rosenthal and Rosnow (1991, p. 617) define cross-sectional designs as “...(r)esearch that takes a slice of time and compares subjects on one or more variables simultaneously.”

Sampling Procedure

The sample for the current study consisted of 1st year students ($n = 367$) at the University of the Witwatersrand, Johannesburg, Gauteng. The sample was thus demographically heterogeneous in order to meet the general aims of the research questions above. Following ethical consent from the Ethics Board of the University of the Witwatersrand the researcher began the sampling procedure. The sample was obtained by approaching first year university lecturers to request their permission to collect data in their classes, two obliged, one from the psychology department and one from the biological sciences department. The 1st year psychology class participants consisted of Bachelor of Arts, Bachelor of Science and Bachelor of Commerce students ($n=336$). The biological sciences students ($n=31$) were 1st year Bachelor of Science students.

Nonprobability convenience sampling was utilised by the researcher. This particular sample was chosen specifically in order to examine the effects of violent crime on this age demographic and subset of the population (i.e. largely middle-class 1st year university students). In nonprobability sampling the probability that any person from a specified population will be selected is not known, effectively reducing the generalisability of the study's results (Kerlinger, 1986). Although nonprobability sampling is an expedient and at times necessary procedure, its principal weakness is the subjectivity involved in sample selection. Unlike random sampling, the subjective nature of the process adds uncertainty when the sample is used to represent the population as a whole (Henry, 1990).

Procedure

Once the Ethics Board at the University of the Witwatersrand had given ethical consent for the current study, the research data was collected in single sessions in a lecture room context. The researcher supervised this process. Informed consent was required and it was emphasised that participation in the research was voluntary and respondents could discontinue at any point. Anonymity of the participants, and hence confidentiality, was guaranteed as students were not required to sign consent forms. Instead, returning a form attached to the questionnaires indicated their consent. It was made explicit that, by returning this form, the participant was giving informed consent (see Appendix 1). Each participant completed the questionnaires once they had voluntarily consented to participate (see Appendix 1). The completed questionnaires, with the attached consent forms, were placed in boxes in the lecture hall. The researcher introduced the study by explaining the importance of researching the effects of violent crime in South Africa. Since it was possible that participants may have become more sensitive to their own levels of traumatisation, during the completion of the questionnaires, a detachable form (at the beginning of the questionnaire) with the WITS Trauma Clinic telephone number and the researcher's telephone number were provided for respondents requiring follow-up (see Appendix 1). Furthermore, the researcher provided a follow-up time for students who wished to meet with her privately in an office in the psychology department.

Authors (e.g. Hamber, 1997; Simpson, 1993b) argue that many traumatised individuals have not been identified nor presented for treatment, either due to lack of awareness of services available and/or a lack of awareness of posttraumatic stress

reactions. By providing respondents with referral details, the researcher hoped to contribute in this regard.

Self-report methods were the method of data collection applied in this study, they are techniques of data collection in which the research participants describe their own behaviour or state of mind (e.g. interviews, questionnaires)(Rosnow & Rosenthal, 1996).

Measuring Instruments

In order to answer the current study's research questions the following measuring instruments were used.

Demographic Questionnaire

The researcher designed a demographic questionnaire in order to examine the relationship between personal factors (e.g. demographics, substance abuse, psychiatric history, health status) and both traumatic exposure to violent crime and traumatic symptomatology. Areas in which questions were asked and demographics, which were utilised, include age, gender, race, religion, and social support. Racial groups measured in the current study included Black, White, Indian, so-called Coloured and Asian respondents in accordance with the Nedcor ISS Crime Index (1997) demographic presentations with regards violent crime statistics. Geographical location of exposure to violent crime, marital status, course of study and socio-economic status are further demographic variables that were investigated by the researcher (see Appendix 1 for a copy of the demographic questionnaire).

Further questions assessed whether or not the individual had received any treatment, himself or herself, following the traumatic exposure, or due to knowing of

someone who had been traumatised. Information regarding the type of treatment received and the amount of sessions attended was also requested via semi-structured questions. Respondents were asked whether they reported direct exposure to violent crime to the relevant authority e.g. South African Police Services. These questions were asked since a dimension of the current research is to assess underreporting of violent crime and to access those exposed during the period of the crime statistics moratorium in South Africa which has since been lifted.

There are a number of variables that may constitute demographic descriptors of an individual. It is not possible to include all such descriptors in this study. Hence, in light of the research questions and aims of this research, the most suitable descriptors, such as those highlighted in the literature requiring further research, have been selected for examination by the researcher. Even within these parameters there are many demographic variables one could look to, and no research can hope to be exhaustive in this regard. Rather, it appears to be important to include questions that will provide an adequate amount of information about the area of interest here. Further descriptors may be the focus of future research studies.

Measurement of Traumatic Exposure to Violent Crime

In order to answer the current study's research questions, the following scales were used to measure both direct and indirect exposure to violent crime.

The Direct and Indirect Exposure to Violent Crime event scales were utilised in order to measure the prevalence and nature of traumatic exposure to violent crime (e.g. mugging). Aspects/dimensions of violent crime exposure were measured utilising the Dimensions of Trauma Scale in order to assess the nature, severity and subjective experience of the stressor (e.g. My life was threatened). The Traumatic

Stress Schedule was utilised to assess prior trauma exposure with regards to recent violent crime exposure (e.g. a motor vehicle accident). The above scales will be discussed in-depth below.

Exposure to Criminal Violence Event Scales: Direct and Indirect Exposure to Violent Crime.

Following the demographic section of the questionnaire, direct and indirect exposure to violent crime was assessed utilising event scales constructed by the researcher. Direct exposure refers to being an actual victim of violent crime and indirect exposure refers to knowing someone who was a victim of direct exposure. The scales asked whether the objective event occurred (e.g. mugging), and the respondent was also asked to indicate the emotional effect of the violent crime (e.g. -3 extremely badly, -2 moderately badly etc.) on them. This 16-item direct exposure scale was extended allowing for indication of violent crimes, which were not listed by the researcher. The same type of scale was utilised to measure indirect exposure, some of the events listed differed (e.g. exposure to someone who had been murdered, exposure to a child sexual abuse victim) to those on the direct exposure scale. The 18-item indirect exposure scale was also extended allowing for indication of violent crimes not listed by the researcher. The Direct and Indirect Exposure to Violent Crime event scales were modelled on Esprey's (1996) Dimensions of Trauma Scale. Respondents were required to tick whether an event occurred within the last two years. The severity and subjective perception of the stressor (research question 2) and their relationship to traumatic symptomatology was assessed utilising the 'effect' dimensions of the scales. The 'occurrence' dimensions of the scales were used to examine the prevalence of both direct and indirect exposure to violent crime.

In order to ensure the Face validity of the scales they were developed in consultation with experts and with regards to literature in the traumatic stress field. For instance, since the Direct and Indirect Exposure to Violent Crime Scales are event scales the researcher used definitions of violent crime incidents, e.g. Block & Block's (1984) definition, in choosing the items (e.g. armed robbery, rape, mugging, assault, attempted murder). The Dimensions of Trauma Scale (Esprey, 1996), discussed below, is an established event scale that was included, as an added traumatic exposure measure since the above scales are new and were developed for the purpose of the current study.

The Dimensions of Trauma Scale (DTS)(Esprey, 1996)

The researcher utilised the Dimensions of Trauma Scale (DTS) subscale (DTS effect) in order to assess dimensions/aspects of violent crime exposure for the purpose of examining the relationship between the severity and subjective nature of the traumatogenic stressor and traumatic symptomatology. The Dimensions of Trauma Scale, included a violent crime subscale (DTS violence), added by the researcher, in order to differentiate aspects of violent crime exposure from other traumatic events. The scale was also utilised to assess the prevalence of aspects of violent crime exposure in the sample. The DTS was utilised in the current study as it differs from the direct and indirect exposure scales discussed above. The DTS measures the aspects/dimensions of objective exposure to violent crime since the traumatic stress literature suggests, for instance, that events involving threat to life and threat of injury are strongly implicated with regards to direct and indirect traumatic stress manifestations. Hence, the researcher included an examination of aspects of the event (e.g. I was badly harmed or injured, I observed a close friend or relative being killed),

as well as whether an event occurred, for instance, mugging or armed robbery.

Furthermore, as noted previously, the DTS was included in the current study since it is an established traumatic event scale. It was used as a further measure of traumatic exposure since the Direct and Indirect Exposure to Violent Crime Scales are new and were developed for the current study.

Furthermore, the DTS measures the reported emotional effect of the aspect/ dimension of traumatic exposure that occurred. The DTS was utilised in this study since it provides a further measure of the nature, severity and subjective perception of the event (e.g. I saw the dead body of someone I knew) which may have had an effect on individuals, as opposed to only assessing whether an event occurred or not (e.g. murder).

The DTS assesses the objective occurrence of an event, as well as its subjective impact on the individual experiencing the event (Esprey, 1996). It is comprised of eight subscales, each of which taps one of the generic dimensions of trauma suggested by Green (1990). The dimensions are as follows:

- threat to one's life or bodily integrity (3 items)
- severe physical harm or injury (1 item)
- receipt of intentional harm or injury (2 items)
- exposure to the grotesque (21 items)
- violent or sudden loss of a loved one (1 item)
- witnessing or learning of loss to a loved one (14 items)
- causing death or severe harm to another (6 items)
- destruction of one's home or community (7 items)

According to Esprey (1996), the conception of the DTS is a response to a call, made by Green (1990; 1993), for the construction of instruments, which tap generic stressor

dimensions that can be applied to any traumatic event. Assessment of the impact of discrete dimensions would then allow for the comparison and generalisation of traumatic stress responses across unrelated traumatic events (Rubonis & Bickman, 1991), effectively providing a framework within which events could be described and assessed (Esprey, 1996). Esprey (1996) utilised this scale to assess political violence in a South African sample. It was recommended that this instrument to be utilised on specific populations in order to allow for the comparison and generalisation of traumatic stress response across unrelated traumatic events. Furthermore, strict definition would allow for the development of a more consistent information pool about which stressor dimensions put people more at risk for psychological problems and symptoms (Esprey, 1996). It would also allow for more specific investigation into the relationship between these generic stressors and other factors which have been found to influence the psychological outcome (e.g. social support, premorbidity and previous trauma experience).

The DTS consists of 55 items, each of which is a neutral statement regarding an experience, which the respondent may have had (e.g. I saw a dead body). The DTS utilises the structure of the Life Experiences Survey (Sarason et al., 1978). Respondents are initially requested to endorse or denounce the occurrence of an event (Esprey, 1996). The original scoring procedure of the Life Events Scale (Sarason et al., 1978) was adopted for the DTS (Esprey, 1996). The subjective impact of each event experienced is then rated on a separate, 7 - point scale ranging from extremely badly (-3) to extremely well (+3). The occurrence index (the sum of all events experienced) is used as a measure of objective traumatic stress, while the impact index offers a representation of subjective traumatic stress experienced. The final open-

ended question, allows the respondents to discuss and rate any idiosyncratic experiences not mentioned in the scale.

In keeping with the DSM-IV (1994) delineation of the stressor criterion, the categories of the DTS focus on an individual's exposure to the event rather than at the collective level, which allows for the assessment of the impact of an event on a particular individual (Esprey, 1996).

Measurement of Traumatic Stress Symptomatology

In order to answer the research questions in the current study regarding traumatic symptomatology, traumatic stress manifestations were measured utilising the Impact of Event Scale - Revised (Weiss & Marmar, 1997).

The Impact of Event Scale - Revised (Weiss & Marmar, 1997)

The IES was developed to reflect Horowitz's (1976) information processing formulation of stress response as consisting of alternating phases of intrusion and avoidance. The items on the IES were developed from statements most frequently used to describe episodes of distress by people who had experienced recent life events (Joseph, 2000). Each of the 15 IES items were administered by Horowitz, Wilner and Alvarez (1979) using 4-point frequency scales (i.e., 0 = not at all, 1 = rarely, 3 = sometimes, and 5 = often) in relation to the past week so that total scores on the IES have a possible range of 0 to 75. Higher scores on the IES indicate a greater frequency of intrusive thoughts and attempts at avoidance. Subscale scores can also be computed for the 7 intrusion items, with a possible range of 0-35, and the 8 avoidance items, with a possible range of 0-40. Horowitz (1982) identified thresholds for low, medium and high symptom levels corresponding to levels of clinical concern using the IES total score: low, < 8.5; medium, 8.6 to 19.0; and high, > 19). The cut-offs were

utilised to differentiate no, low and significant PTSD symptoms in the current sample. Furthermore, the IES (Horowitz et al., 1979) cut-off scores were utilised to measure PTSD manifestations in the current study.

The dependent variable of posttraumatic stress symptomatology was measured using the Horowitz (1979) Impact of Event Scale (IES). The Revised Impact of Events Scale (IES-R)(Esprey, 1996) included, as subscale, the third posttraumatic stress disorder (PTSD) symptom category of increased arousal. The Impact Of Event Scale - Revised total scores range from 0-105 since it includes the arousal subscale. The arousal symptom cluster was measured utilising the IES-R in the current study.

The Impact of Events Scale-Revised is a self-report measure consisting of 21 items (Blumberg, 2000). It includes a set of seven additional items, designed to tap the arousal symptom cluster, in compliance with the DSM-IV diagnostic criteria (Blumberg, 2000). These additional items were interspersed between the seven existing intrusions and eight avoidance items of the original IES (Horowitz et al., 1979). Participants are required to respond to items indicating whether they have experienced them over the past seven days. On a scale consisting of four degrees: “not at all”, “rarely”, “sometimes” and “often”, a score of 0 is given for negative endorsement and scores of 1, 3 or 5 for the three degrees of positive endorsement (Weiss & Marmar, 1997). Data were collected on a number of sample groups to establish the psychometric properties of the IES-R (Weiss & Marmar, 1997). On the basis of this data, internal consistency was found to be high, with the coefficient alpha ranging from 0.79 and 0.92 across all the sub-scales on four sets of data. The additional hyperarousal scale was found to have good internal consistency with alphas ranging from 0.79 to 0.90 across different samples, as well as good predictive validity with regard to trauma (Briere, 1997). Item-to-scale correlations both across and within

sub-scales found that each item was positively correlated with its assigned sub-scale. Test-retest reliability was found to be satisfactory (Weiss & Marmar, 1997). The overall reliability of the IES-R is of a high level, as are the reliability's of the individual subscales of Intrusion, Avoidance and Hyperarousal (Rosenthal & Rosnow, 1992). This finding is consistent with those arising from other studies utilising this measure (see for example, Weiss and Marmar, 1997) which have found that the IES-R has strong reliability and validity in terms of measuring the three characteristic symptom clusters of PTSD outlined in the DSM-IV (APA, 1994).

Scoring of the IES-R yields subscores for the individual response sets (intrusion, avoidance, increased arousal), as well as a total scale score that indicates total subjective stress. The mean total stress score on the initial administration of the IES was 39.5, with mean intrusion being 21.4, and avoidance being 18.2 (Horowitz et al., 1979). Although no formal PTSD cut-offs have been specified, these original Horowitz (1979) scores are generally accepted as a yardstick against which other populations are measured (Bisby, 1995). In the current study, the researcher measured PTSD using the IES and the Horowitz (1979) cut-off scores. The arousal subscale of the IES-R will be used to measure this symptom cluster, however, no cut-off score were published for this subscale (Weiss & Marmar, 1997). Hence, intrusion, avoidance and overall posttraumatic stress symptoms were measured according to Horowitz's (1979) cut-off scores.

It was found that split-half reliability of the IES was 0.86 and internal consistencies measured by Cronbach's coefficient alpha were: intrusion = 0.78; avoidance = 0.82 (Horowitz et al., 1979). Correlations between the intrusion and avoidance subscales were 0.42, which is small enough to infer substantial independence, while indicating some degree of covariation. Test-retest reliability for

the whole scale was 0.87, and for intrusion = 0.89, and avoidance = 0.79 (Horowitz et al., 1979).

The original IES was found to be sensitive to discrimination between different populations experiencing different kinds of life events (Horowitz et al., 1979). The scale is short, easy to administer and individuals of various educational, cultural and economic backgrounds have been able to use it. Horowitz (1979) also notes that respondents are comfortable with the scale and do not feel that it probes excessively. The IES has been used widely as a self-report measure of posttraumatic stress manifestations (Elliot & Briere 1995; Hendrix, Jurich & Schumm, 1994; Johnsen, Eid, Lovstad & Michelsen, 1997; Joseph, 2000). Furthermore, it has often been used in South African Traumatic Stress Studies (Blumberg, 2000; Esprey, 1996; Friedland, 1999).

Measurement of Prior Traumatic Exposure

The current study investigated the relationship between prior traumatic experience/s and both recent traumatic exposure to violent crime and posttraumatic symptomatology. Norris's (1990) Traumatic Stress Schedule (TSS) was used to measure prior trauma exposure.

The Traumatic Stress Schedule (Norris, 1990)

The Traumatic Stress Schedule (TSS) was developed by Fran Norris as a short screening instrument for assessing traumatic stress in the general population (Norris & Riad, 1997). Norris (1990) stated that the format of the scale follows from two basic assumptions: (1) the importance of assessing rates of impairment within specific event-defined populations (e.g. crime victims), in addition to the assessment of rates within the population at large; and (2) the importance of quantifying stressful

experiences generally, using descriptors such as life threat, loss and scope that are not unique to any one event (Norris & Riad, 1997). Norris and Riad (1997) note that the event portion of the scale has performed well in research on several different samples (e.g. Norris, 1992). Norris and Perilla (1996) reported a test-retest correlation of .88 between English and Spanish versions completed by 53 bilingual volunteers 1 week apart (Norris & Riad, 1997). Estimates of exposure to trauma have been stable across purposive and random community samples. Sample frequencies of exposure to one or more traumatic event(s) (using an 'ever' time frame) has ranged from 62% to 75%, with an average of 69% (Norris & Riad, 1990).

The principal aim of the Traumatic Stress Schedule (TSS) is to detect the occurrence and impact of traumatic events (Norris, 1990). It was constructed to assess the common traumata defined in the DSM-III-R (1987) and it looks at violent encounters with nature, technology, or humankind (Norris, 1990).

The events included in the scale are marked by extreme and/or sudden force, involve an external agent, and are typically capable of arousing intense fear or aversion (Esprey, 1996). The 8-item schedule covers the following traumatic events:

- loss of a loved one, through accident, homicide, or suicide.
- a motor vehicle accident serious enough to cause injury to one or more passengers
- robbery, a theft involving force or threat of force.
- physical assault
- rape
- personal injury or property loss as a result of fire, severe weather, or disaster (natural or technological).

- being forced to evacuate - or otherwise learning of an imminent hazard in the environment.

Norris (1990) did not provide any psychometric details of the schedule (Esprey, 1996). As noted by Monroe (1982, cited in Ortlepp, 1998), due to the fact that the TSS is a life events scale, internal consistencies are not available.

The TSS is short and easy to administer. It has been suggested that it is best when used on a sample of traumatised individuals (Esprey, 1996). Although it was originally constructed to detect occurrence and impact of traumatic events, Norris (1990) suggests that the TSS can be used to measure life stress as a control measure. The current study utilised the TSS for this purpose in order to measure prior exposure to traumatic events and their relationship to both recent traumatic exposure to violent crime and traumatic symptomatology. Respondents were asked to recall events from two years before the data collection whereas the current violent crime scales measured events for two years up until the data collection. The violent crime event scales utilised in the current study asked respondents to note recent violent crime experiences and they did not include events such as natural disaster and motor vehicle accidents. The other trauma exposure scales measured only current violent crime events for the purpose of the study. The TSS was used since the researcher is investigating the relationship between previous exposure to trauma, as a feature of the posttrauma environment, with regards to both current traumatic exposure to violent crime and traumatic symptomatology.

The researcher added questions to the TSS (i.e. the TSS_N) relating to child sexual, physical and verbal abuse in order to further examine previous traumatic exposure and its relationship to both recent traumatic exposure to violent crime and traumatic symptomatology. The TSS_N will not be scored as part of the instrument,

rather, this material will be examined separately with regards to prevalence of recent traumatic exposure to violent crime and traumatic symptomatology. The original TSS scale has been criticised for the lack of explicit assessment of childhood physical and sexual abuse (Norris & Riad, 1997).

Measurement of Social Support

The Crisis Support Questionnaire (CSQ)(Joseph et al., 1992)

In the current study social support was assessed with regards to both recent traumatic exposure to violent crime and traumatic symptomatology. Social support was examined as an aspect of the posttrauma environment and it was measured using the Crisis Support Questionnaire (CSQ)(Joseph et al., 1992).

The Crisis Support Questionnaire (Joseph et al., 1992) was developed from the Crisis Support Instrument (Andrews and Brown, 1988; Brown et al., 1986) which is a semi-structured interview employing investigator-based ratings. The questionnaire assesses support perceived to be available to an individual following a traumatic event (Esprey, 1996). The items in the questionnaire tap the following dimensions of social support:

- availability of others
- contact with others victims
- confiding in others
- emotional support
- practical support
- negative responses received from support sources
- satisfaction with support

Emotional and instrumental support [2 of the 4 types of social support delineated by House (1981)] is measured by the CSQ (Esprey, 1996). The CSQ also includes an item on perceived negative support, which Ullman & Filipas (2001) suggest could potentially counteract the benefits of positive support relationships.

The CSQ is a self-report instrument containing 7 items, each requiring the respondent to answer on a four-point scale ranging from never to always (Joseph et al., 1992). The higher the rating obtained, besides the negative support item, the greater the level of support. A total score is obtained by summing all item scores. Two studies assessing social support (Joseph et al., 1992; Joseph et al., 1991) revealed the following psychometric details. Internal consistencies were found to be moderate with Cronbach's $\alpha = .67$ and $.69$ (Joseph et al., 1992) and $= .80$ (Joseph et al., 1991).

As Esprey (1996) noted, the CSQ focuses directly on victims of traumatic events, hence, it has been selected as a social support scale due to its applicability. The CSQ has also been used successfully in conjunction with the Impact of Events Scale (Horowitz et al., 1979; Joseph et al., 1992).

Esprey (1996) amended the CSQ by incorporating a question about support resources, since Joseph et al., (1992) suggested that further research, which utilises the CSQ should also look at who provides which aspects of support. The amendment includes, for example: "Whenever you want to talk, how often was there someone willing to listen? Who was willing to listen?" The current study has utilised this format in the assessment of social support.

Measurement of a Sense of Coherence

The research question regarding personal factors in relation to both violent crime exposure and traumatic stress symptomatology includes the measurement of a

sense of coherence (Antonovsky, 1987). Antonovsky's 13-item Orientation to Life Questionnaire (1987) was used to measure a sense of coherence. The Orientation to Life Questionnaire (OLQ) incorporates three sub-scales related to the constructs of manageability, meaningfulness and comprehensibility. Empirical support for reliability and criterion validity for the OLQ was reported by Flannery, Perry, Penk and Flannery (1994, cited in Ortlepp, 1998).

Antonovsky (1987) constructed the 29-item SOC Scale (SOC-29), with a 13-item short form (SOC-13). The researcher utilised the short form (SOC-13) since the entire questionnaire for the current study was fairly long (about 30-45 minutes) and had to be completed during a single one-hour lecture slot. Antonovsky (1987, pp. 189-194) measures three components of the construct viz. comprehensibility (e.g. "Do you have the feeling that you are in an unfamiliar situation and don't know what to do?"), manageability (e.g. "Do you have the feeling that you are in an unfamiliar situation and don't know what to do?"), and meaningfulness (e.g. "How often do you have the feeling that there's little meaning in the things you do in your daily life?"). The components should, however, not be considered as sub-scales (Antonovsky, 1993), since, firstly, the items were constructed utilising a facet analysis design, in order to vary the content systematically along a number of dimensions; secondly, Antonovsky (1993), from his review of studies, concluded that factor analysis of the scale is likely to produce a single factor solution which will not reflect the three components. Responses are on 7-point semantic differentials assessed by wordings related to the contents of each item. In Strumpfer and Mlonzi's (2001) study they state that, as before (see e.g. Antonovsky, 1993; Ortlepp, 1998), the SOC-29 and the SOC-13 both showed highly acceptable coefficients alpha.

The alpha's of 16 studies using the 13 item version, SOC-13, ranged from .74 to .91 (Antonovsky, 1993). The relatively few test-retest correlations showed considerable stability (e.g. .54 over a two year period among retirees)(Antonovsky, 1993). Criterion validity was examined by presenting correlational data between the SOC and measures in four domains, namely: a global orientation to oneself and one's environment; stressors; health, illness and well-being; and attitudes and behaviour. Most correlations were found to be significant (Antonovsky, 1993).

Data Analysis

The statistical procedures utilised to analyse the data and answer the research questions are discussed below.

Research questions 1a. and 1b., i.e. the prevalence rates of traumatic exposure to violent crime and traumatic symptomatology were analysed by means of simple descriptive statistics (e.g. frequency distributions).

Research question 2., i.e. 'Is there a relationship between the nature of the traumatogenic event (i.e. the nature and severity of the traumatic stressor, the subjective perception of the traumatic stressor) and traumatic symptomatology', was analysed using the following statistical techniques. Variables regarding the nature of the traumatogenic event, for instance the nature of the stressor (e.g. mugging, assault), were statistically analysed in relation to traumatic symptomatology utilising correlations, one-way ANOVAs and Bonferroni (Dunn) T-Tests.

Research Question 3., i.e. 'Is there a relationship between the posttrauma environment (i.e. counselling, levels of social support and previous exposure to trauma) and (a) traumatic exposure to violent crime and (b) traumatic symptomatology', was analysed using the following statistical techniques. Variables

regarding the posttrauma environment, for instance prior exposure to trauma, were analysed statistically in relation to recent traumatic exposure to violent crime and traumatic symptomatology utilising correlations, one-way ANOVAs and Bonferroni (Dunn) t Tests.

Research question 4., i.e. ‘Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history, sense of coherence) and (a) traumatic exposure to violent crime and (b) traumatic symptomatology’, was measured utilising the following statistical techniques. Variables (e.g. demographics) in relation to the dependent variables traumatic exposure and traumatic symptomatology were statistically analysed using one-way ANOVAs, correlations and multiple comparison Bonferroni (Dunn) t-Tests).

Research question 5., i.e. ‘Is there a relationship between traumatic exposure to violent crime and traumatic symptomatology’, was measured using correlations and one-way ANOVAs.

Definitions of statistical techniques employed

Rosnow and Rosenthal (1996, p. 405) define descriptive statistical analysis as “statistical techniques used to compute population values”. Hence the prevalence of traumatic exposure to criminal violence and resultant symptomatology were computed according to these techniques. This study utilised quantitative methods (i.e. observational methods in which the raw data exists in a numerical form)(Rosnow & Rosenthal, 1996), including the following. Frequency or incidence of occurrence (Rosnow & Rosenthal, 1996) was the statistical technique utilised to answer the research questions regarding prevalence of traumatic exposure to violent crime and

traumatic symptomatology in this sample. Sample demographics were analysed using frequency distributions.

The relational aspects of the research were analysed according to the statistical procedures listed below. The coefficient of correlation or the index of correlation, typically Pearson r or related product-moment correlation, provides the statistical information required to examine whether relationships exist between variables and the degree thereof (Rosenthal & Rosnow, 1992). The product-moment correlation or Pearson r is a standard index of linear relationship (Rosnow & Rosenthal, 1996). Correlation, or the degree of relationship between variables, was a further statistical method employed to analyse the current study's data (Rosnow & Rosenthal, 1996).

A further statistical technique, analysis of variance (ANOVA), which is a subdivision of the total variance of a set of scores into its components (Rosnow & Rosenthal, 1996), is used to analyse the current study's data. Here, the alpha (α) or the probability of a type I error (other synonyms include significance level and p value) provides the statistical information required i.e. "...the table of variance gives the probability p that an F of the size obtained or larger could have been obtained if the null hypothesis were true and there were really no differences in the population between the means of the conditions of (the) research investigation." (Rosenthal and Rosnow, 1991, p.323).

Post hoc analyses refer to tests computed only after the data were examined (Rosenthal & Rosnow, 1992). In the current study multiple comparison Bonferroni (Dunn) t -Tests were utilised to further analyse the data once relationships were found between variables on the correlation matrix and one-way ANOVAs. T -Tests refer to a test of significance used to judge the tenability of the null hypothesis of no relation between two variables (Rosnow & Rosenthal, 1996). T tests are a common method of

“comparing two means” where the hypothesis is that “...there is in the populations from which we have drawn our samples either (a) no difference between the two means or, equivalently (b) no relationship between the independent variable of membership in one of the groups and the dependent variable score on the response variable.”(Rosenthal and Rosnow, 1996, p. 301). A Bonferroni procedure refers to redefining the alpha level of significance to protect against post hoc selection for largest effects (Rosenthal & Rosnow, 1992).

Cronbach’s Alphas, which are a measure of internal-consistency reliability, also called the alpha coefficient, (Rosnow & Rosenthal, 1996) are provided in the results chapter. These confirm the reliability of the scales utilised in the current study. The required Cronbach’s alphas are provided for the relevant scales administered as part of this research.

Scores lying far outside the normal range, i.e. outliers, were removed from the current study’s data analysis (Rosnow & Rosenthal, 1996). For instance, upon entering the data it was found that some of the respondents had ticked every item on the questionnaires.

CHAPTER SEVEN

Results

The results that emerged from the data analysis are presented in this chapter. The sample description and demographics are presented in table form as are the, simple statistics and reliabilities of the relevant scales. Following these tables the analyses conducted in order to answer the research questions of the current study are presented. The statistical procedures included frequencies, correlational analyses, analyses of variance and t-tests. The researcher will discuss statistically significant relationships with regards to the results of the correlational analysis of the study and will discuss statistically significant effects with regards to the analysis of variance results of the current study. The results of the t-tests, conducted post-hoc will be discussed with regards to statistically significant differences found between means ($p < .05$).

Only the statistically significant results are presented given the scope of this thesis and the number of variables and hence observations possible.

Sample Description

Sample Demographics

Demographic frequencies for the sample will be presented here. The age range for the sample was 17 to 50 years, with most participants (87%) falling between the ages of 17 and 21. The sample ($n = 367$) consisted of first year University of the Witwatersrand students. The majority of the students ($n = 235$) were Bachelor of Arts students; there were Bachelor of Science students ($n = 91$) and Bachelor of Commerce students ($n = 26$). The majority of students ($n = 336$) attended the first year

Psychology class. The remaining data was collected from 1st year Bachelor of Science students ($n = 31$) in a biological sciences lecture. The frequencies of all the sample demographics will follow. They are presented in table format.

Table 1- Description of sample by age

Age	Total sample (N = 367)	%
17 –21	319	87
22-25	34	9
26 – 50	14	4

Table 2 -Description of the sample by gender

	Total sample (N= 364)	%
Male	117	32
Female	247	68

Table 3 - Description of sample by race

Race	Total sample (N = 362)	%
Black	170	47
White	133	37
Coloured	14	4
Asian	16	4
Indian	29	8

Table 4 - Description of sample by home language

Home Language	Total sample (N = 353)	%
Venda	6	2
Sotho	24	7
Tswana	26	7
Siswati	8	2
Tsonga	9	3
Zulu	41	12
Xhosa	13	4
Pedi	21	6
English	188	53
Afrikaans	2	1
Ndebele	4	1
Other	11	3

Table 5 - Description of sample by marital status

Marital status	Total sample (N = 358)	%
Single	338	94
Married	8	2
Living with partner	4	1
Other	7	2

Table 6 - Description of sample by income (in South African currency - Rands)

Income	%
0	9
50-500	46
550-1000	31
1100-2500	11
3000-8000	3
Total sample (n = 367)	

Table 7 - Description of sample by parental financial support

Parental Financial Support	Total sample (N = 367)	%
None	154	42
Financial support	213	58

Table 8 - Description of sample by participants with/without a bursary

Bursary	Total sample (N = 367)	%
Non reported	337	92
Bursary	30	8

Table 9 - Description of sample by participants with/without a job

Job	Total sample (N = 367)	%
None	271	74
Job	96	26

Table 10 - Description of sample by parent's living arrangements

Parent's property	Total sample (N = 356)	%
Own property	303	85
Rent property	31	9
Informal settlement	14	4
Other	5	2

Table 11 - Description of sample by parent's marital status

Parents relationship	Total sample (N = 351)	%
Married	248	71
Divorced	41	12
Single	24	7
Separated	17	5
Other	12	3
Re-married	9	2

Table 12 - Description of sample by religion/no religion

Religion	Total sample (N = 367)	%
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No religion reported	59	16
Jewish	41	11
Christian	213	58
Muslim	15	4
Hindu	11	3
Zionist Christian	5	2
Buddhist	4	1
Other	19	5

In order to assess the relationship between the participant's current health status and both traumatic exposure to violent crime and traumatic symptomatology the researcher asked participants to list health conditions they may have experienced in the last two years. These are listed in the table below (Health Status 1). Those participants's having more than one health condition is listed in Table 14, i.e., Health Status 2.

Table 13 - Description of sample by health status 1

Health 1 (1 health condition in last 2 years)	Total sample (N = 367)	%
No condition	318	87
Hospitalisation	34	9
Operation	10	3
Psychiatric medication	4	1
Other	1	0

Table 14 - Description of sample by health status 2

Health 2 (more than 1 health condition in last 2 years)	Total sample (N = 367)	%
No condition	341	93
Hospitalisation	19	5
Operation	6	2
Chronic medication	1	0

In order to assess the relationship between the participant's psychiatric and family psychiatric history and both traumatic exposure to violent crime and traumatic

symptomatology the researcher asked participants to mention psychiatric disorders diagnosed currently (last six months) and in the past (before last six months). The frequency of diagnosis is listed in Tables 15- 18 below.

Table 15 - Description of sample by current psychiatric history (last six months)

	Total sample (N = 367)	%
No condition	335	91
Condition	32	9

Table 16 - Description of sample by previous psychiatric history (before last six months)

	Total sample (N = 367)	%
No condition	323	88
Condition	44	12

Table 17 - Description of sample by family current psychiatric history (last six months)

	Total sample (N= 367)	%
No condition	304	83
Condition	63	17

Table 18 - Description of sample by family previous psychiatric history (before last six months)

	Total sample (N = 367)	%
No condition	308	84
Condition	59	16

Tables 19-24 include the types and frequency of disorder/s participants and their family members may have been diagnosed with, the time frame when they were

diagnosed and the family members diagnosed with the disorder/s. The researcher included these questions in order to examine the relationship between the personal factor 'psychiatric history' and both traumatic exposure to violent crime and traumatic symptomatology.

Table 19 - Description of sample by type of current psychiatric disorders (last 6 months)

	Total sample (N =367)	%
No condition	335	91
Anxiety	5	1
Depression	13	4
Eating disorder	9	3
Panic attacks/disorder	5	1

Table 20 - Description of sample by type of previous psychiatric disorder (before last 6 months)

	Total sample (N = 367)	%
No condition	322	88
Anxiety	8	2
Depression	23	6
Eating disorder	9	3
Panic attacks/disorder	2	0
Other	3	1

Table 21 - Description of sample by family member with current psychiatric disorder (last six months)

	Total sample (N = 367)	%
No family member	308	84
Parent	33	9
Sibling	17	5
Grandparent	1	0
Extended family	8	2

Table 22 - Description of sample by type of family psychiatric disorder (last 6 months)

	Total sample (N = 367)	%
No condition	307	84
Anxiety	12	3
Depression	39	11
Other	9	2

Table 23 - Description of sample by family member with previous psychiatric history (before last 6 months)

	Total sample (N = 367)	%
No family member	315	86
Parent	37	10
Sibling	13	3
Grandparent	1	0
Extended family	7	1

Table 24 - Description of sample by type of previous family psychiatric disorder (before last 6 months)

	Total sample (N = 367)	%
No condition reported	308	84
Anxiety	7	2
Depression	37	10
Eating disorder	3	1
Panic attacks/disorder	1	0
Other	7	2

In order to assess the relationship between substance use and both traumatic exposure to violent crime and traumatic exposure the researcher asked respondents to report on their substance use/no substance use patterns and the frequency of use is listed in Tables 25-27.

Table 25 - Description of sample by substance use/no substance use

	Total sample (N = 367)	%
No use	61	17
Substances used	306	83

Table 26 - Description of sample by when substances used

	Total sample (N = 367)	%
No use	119	32
Never	47	13
Daily	9	3
Weekly	83	22
Monthly	54	15
Six monthly	18	5
Other	37	10

(The other category included responses like, substances used on special occasions, once a year)

Table 27 - Description of sample by type of substance used

	Total sample (N = 367)	%
No use	170	46
Alcohol	192	53
Marijuana	5	1

In order to assess where violent crime exposure may have occurred the researcher asked participants to list where they had been exposed. The frequency of participants being exposed in various geographical locations was assessed and both the area and frequency are listed in Table 28 below.

Table 28 - Description of sample by frequency of violent crime exposure at various geographical locations

Where Violent Crime Occurred	Total sample (N = 367)	%
No response given	256	70
At home	50	14
On campus	13	4
At a club	5	1
Shopping	2	0
Driving	6	2
On street	8	2
Other	20	5
Outside campus	1	0
Park	3	1
School	2	0
Street	1	0

Table 29 - Description of sample by frequency of violent crime exposure reported to the South African Police Services

	Total sample (N = 367)	%
No report	308	84
Reported	59	16

Table 30 - Description of sample by counselling received/not received following violent crime exposure

	Total sample (N = 367)	%
No counselling	342	93
Counselling	25	7

Table 31- Description of sample by counselling type following violent crime exposure

	Total sample (N = 367)	%
No counselling	341	93
Psychologist	18	5
Trauma centre	1	0
Counsellor	3	1
Other	4	1

Table 32 - Description of sample by number of counselling sessions attended following violent crime exposure

	Total sample (N = 367)	%
No sessions	347	95
1	8	2
2	1	0
3	2	0
4	2	0
6 –50	7	2

Measuring Instruments

Table 33 - Cronbach Alpha's

<u>Cronbach's Alphas for Whole Scales & Subscales</u>		
Scale	Alpha Raw	Alpha standardised
Orientation to Life Questionnaire – SOC-13	0.8	0.8
Impact of Event Scale - Revised	0.94	0.94
IES-R Subscales		
1. Intrusion	0.88	0.88
2. Avoidance	0.88	0.88
3. Arousal	0.75	0.75
Crisis Support Questionnaire	0.75	0.73

An acceptably high level of reliability was found on the Orientation to Life Questionnaire (0.8), which measures a sense of coherence (SOC-13, Antonovsky, 1987). High reliability levels were found on the Impact of Event Scale Revised and its subscales. The overall reliability of the IES-R is 0.94, the intrusion subscale is (0.88), the avoidance subscale is (0.88) and the arousal subscale is (0.75)(slightly lower yet still acceptable). On the Crisis Support Questionnaire (CSQ) the Cronbach Alpha yielded an acceptable reliability of 0.73 (Rosenthal & Rosnow, 1992).

Table 34 - Simple statistics

	N	Mean	Std Dev	Minimum	Maximum
Orientation to Life Questionnaire	336	53.13	12.67	13	84.5
Crisis Support Questionnaire	304	11.11	4.39	0	21
Traumatic Stress Schedule - Revised (TSS_N)	367	1.66	1.60	0	8
Traumatic Stress Schedule	367	0.75	1.3	0	6
Direct event -violent crime	367	0.81	2.05	0	16
Indirect event - violent crime	367	1.55	2.06	0	18
Direct effect of violent crime	366	1.85	4.43	0	48
Indirect effect of violent crime	367	3.15	4.26	0	34
Dimensions of Trauma Scale (DTS) Subscales					
1.Occurrence of aspects of general trauma	367	4.50	6.69	0	55
2. Effect of aspects of trauma exposure	367	8.93	14.09	0	142
3. Aspects of violent crime exposure	367	2.30	5.72	0	55
Impact of Events Scale - Revised (IES-R) subscales					
1.intrusion	289	12.86	10.21	0	35
2.avoidance	287	14.99	11.8	0	40
3.arousal	288	10.24	8.08	0	30
IES-R total	279	37.62	26.84	0	105

The table above reflects the means, standard deviations and the minimum and maximum scores for the scales administered in the current study.

Prevalence of Traumatic Exposure to Violent Crime

Research Question 1a: What is the prevalence of traumatic exposure to violent crime in a sample of 1st year university students in Gauteng, South Africa?

Table 35 - Frequency of sample directly exposed to violent crime (e.g. armed robbery) on the Direct Exposure to Violent Crime Scale (n = 367)

Number of incidents	%
0	64
1	18
2	10
3	4
4	1
5	2
6	0
15	0
16	1
Overall percentage of sample directly exposed to violent crime	35%

The table above reflects the frequency of direct exposure to violent crime in the sample. Thirty-five percent of the sample (n= 367) reported direct exposure to violent crime. Of the 35% reporting direct violent crime exposure 18% of the sample experienced one incident of violent crime exposure, 10% experienced two incidences, 3% of the sample experienced three incidences and the remaining 4% of the sample reported between 4-16 incidences.

Table 36 - Frequency of sample indirectly exposed to violent crime (e.g. armed robbery) on the Indirect Exposure to Violent Crime Scale (n = 367)

Number of incidents	%
0	38
1	24
2	16
3	11
4	5
5	2
6	2
7	1
9	0
12	0
15	0
18	0
Overall percentage of sample indirectly exposed to violent crime	62%

The table above reflects the frequency of indirect violent crime exposure in the sample. Sixty-two percent of the sample reported indirect exposure to violent crime. Of the 62% reporting indirect exposure to violent crime 24% of the sample reported one incident of indirect exposure, 16% reported two incidences, 11% three incidences, 5% four incidences and 7% of the sample reported between 5-18 incidences.

Table 37 - Percentage of sample exposed to direct and/or indirect aspects of violent crime (e.g. I had to flee for my life) on the Dimensions of Trauma Scale Subscale (n = 367)

Overall percentage of sample experiencing aspects of violent crime exposure
45%

The table above reflects the percentage of the sample exposed to direct and/or aspects of exposure to violent crime specifically (e.g. I saw the dead body of someone I knew) on the subscale of the Dimensions of Trauma Scale which only assessed traumatic exposure to violent crime. Forty-five percent reported aspects/dimensions of exposure to violent crime.

Prevalence of Traumatic Symptomatology

Research Question 1b: What is the prevalence of traumatic symptomatology in a sample of 1st year university students in Gauteng, South Africa?

The researcher used the Impact of Event Scale (Horowitz et al., 1979) in order to measure the prevalence of traumatic symptomatology in the current study's sample. The table below reflects the prevalence of PTSD symptomatology in the sample.

Table 38 - Overall PTSD frequency and percentage in the sample

	Total sample (N = 367)	%
No PTSD	296	81
PTSD	71	19

The table above reveals that overall, 81% of the sample's mean score on the IES fell below Horowitz's cut-off scores for a PTSD diagnosis (43.7). Nineteen percent (n = 71) of the sample's scores fell above Horowitz's mean cut-off score, hence, qualifying for a PTSD diagnosis.

Table 39 - Percentage of intrusion symptoms in the sample (n = 367)

PTSD Symptomatology (IES Intrusion Subscale)	%
No symptoms of intrusion	87
Highly significant symptoms of intrusion (Horowitz (1979), cut-off score)	13

On the table above the intrusion subscale of the IES showed that 87% of the sample reported no significant intrusive symptoms. Thirteen percent of the sample's scores fell above Horowitz's cut-off mean score indicating significant intrusion symptoms.

Table 40 - Percentage of avoidance symptoms in the sample (n = 367)

PTSD Symptomatology (IES Avoidance Subscale)	%
No significant symptoms of avoidance	74
Highly significant symptoms of avoidance – Horowitz (1979), cut-off score)	26

On the avoidance subscale of the IES, 74% of the sample did not report significant avoidance symptoms. Twenty-six percent of the sample fell above Horowitz's (1979) cut-off mean score for avoidance indicating that significant avoidance symptoms were found.

No cut-offs were published for the IES-R arousal symptom cluster (Weiss & Marmar, 1997). Thus, only the prevalence of intrusion and avoidance symptoms was noted in the current study since the IES (Horowitz et al., 1979) had published cut-off scores. The IES does not include the arousal symptom subscale. The IES-R was used in the current study in order to examine arousal symptoms, however, no prevalence scores can be provided.

Relational Focus of Current Study

Research Question 2: Is there a relationship between the nature of the traumatogenic event (i.e. the nature, severity and subjective perception of the traumatic stressor) and traumatic symptomatology?

Table 41 - Correlations between violent crime exposure scores and traumatic symptomatology scores on the Impact of Event Scale-Revised

	Traumatic symptomatology			
	Impact of Event Scale- Revised Subscales	2. avoidance	3. arousal	IES-R Total
	1.intrusion			
Direct exposure to violent crime	0.09	0.96	0.11	0.12**
Indirect exposure to violent crime	0.10	0.17**	0.12**	0.14**
Effect of direct exposure to violent crime	0.06	0.07	0.1	0.1
Effect of indirect exposure to violent crime	0.17**	0.2**	0.16**	0.2**
DTS Subscale- 1. effect of aspects of violent crime exposure	0.07	0.02	0.04	0.06
DTS Subscale- 2. aspects of violent crime exposure	0.2**	0.14**	0.22**	0.21**

** p < .05

* p < .0001

Total exposure scores on the Direct Exposure to Violent Crime Scale, the Indirect Exposure to Violent Crime Scale and the Dimensions of Trauma Scale were correlated with total scores on the Impact of Event Scale-Revised, which measures traumatic symptomatology. These scores were correlated in order to examine the relationship between violent crime exposure (i.e. the nature of the traumatogenic

event) and traumatic symptomatology. The results of the correlations above indicate that the greater the direct exposure to violent crime (e.g. armed robbery) the greater the traumatic symptomatology, or vice versa. The results of the correlational analysis indicate that the greater the indirect exposure to violent crime (e.g. armed robbery) the greater the avoidance, arousal and overall traumatic symptomatology, or vice versa. The results indicate that the greater the subjective effect of indirect violent crime exposure the greater the traumatic symptomatology on the three symptom clusters (intrusion, avoidance and arousal) and overall, or vice versa. The results indicate that the greater the exposure to aspects of violent crime (e.g. I had to flee for my life) the greater the traumatic symptomatology on all three symptom clusters and overall, or vice versa.

Since, statistically significant positive relationships were found, in the correlational analysis, between direct and indirect violent crime exposure and traumatic symptomatology, t-test were conducted, post hoc, in order to analyse which events (e.g. mugging, rape) were implicated with regards to traumatic symptomatology. Thus, each item (i.e. categorical variables), on the Direct and Indirect Exposure Violent Crime Exposure Scales, was examined with regards to traumatic symptomatology scores on the IES-R. The t-tests revealed that statistically significant differences in means were found between the incidents discussed below, with regards to direct exposure to violent crime events on the Direct Exposure Scale and traumatic symptomatology on the Impact of Event Scale. The results with regards to indirect exposure to violent crime and traumatic symptomatology follow the direct exposure findings.

Table 42 - t -Test of comparisons between means for the direct exposure to mugging/no mugging item in relation to traumatic symptomatology scores on the IES-R

Variable	Mugging	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No mugging	230	35.97	25.94	1.71	0	105
IES-R	Mugging	49	45.34	29.81	4.26	0	101
IES-R	Diff (1-2)		-9.37	26.65	4.19		

Variable	Method	Variances	DF	T Value	Pr > t
IES-R	Pooled	Equal	277	-2.23	0.03*
IES-R	Satterthwaite	Unequal	64.4	-2.04	0.05*

* p < .05

The t-Test table above shows statistically significant differences between mean Impact of Event Scale- Revised (IES-R) scores with regards to mugging and no mugging. Hence, these results indicate that the levels of traumatic symptomatology were higher were, on average, for those who were mugged than for those who were not.

Table 43 - t-Test of comparisons between means for direct exposure to attempted sexual assault/no exposure item in relation to traumatic symptomatology scores on the IES-R

Variable	attempt sexual assault	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No attempt	262	36.56	26.59	1.64	0	105
IES-R	Attempt	17	53.94	26.06	6.32	8	101
IES-R	Diff (1-2)		-17.39	26.56	6.65		

Variable	Method	Variances	DF	t Value	Pr > t
IES-R	Pooled	Equal	277	-2.62	0.01*
IES-R	Satterthwaite	Unequal	18.2	-2.66	0.02*

* p < .05

As shown on the t-Test table above statistically significant differences in mean IES-R scores were found between no attempt and attempted sexual assault with

regards to traumatic symptomatology on the Impact of Event Scale. Hence, these results indicate that the levels of traumatic symptomatology were higher were, on average, for those those who experienced attempted sexual assault than for those who did not.

Since relationships were found, in the correlational analysis, between indirect violent crime exposure and traumatic symptomatology t-tests were conducted, post hoc, in order to analyse where said relationships were occurring. The additional analyses revealed that statistically significant differences in means were found between the IES-R scores with regards to the incidents discussed below.

Table 44 - t-Test for comparisons between means of indirect exposure to mugging/no exposure item in relation to traumatic symptomatology scores on the IES-R

Variable	Mugging	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No Mugging	188	31.7	27.29	1.99	0	105
IES-R	Mugging	91	40.73	24.81	2.6	0	101
IES-R	Diff (1-2)		9.56	26.5	3.39		
Variable	Method	Variances		DF	t Value	Pr > t	
IES-R	Pooled	Equal		277	2.82	0.01*	
IES-R	Satterthwaite	Unequal		194	2.92	0.00*	

* p < .05

The t-Test table above shows statistically significant differences in means found between the no mugging group and the mugging group with regards to traumatic symptomatology on the Impact of Event Scale. Hence, these results indicate that the levels of traumatic symptomatology were higher were, on average, for those who experienced indirect exposure to mugging than those who did not.

Table 45 - t-Test for comparisons between means for indirect exposure to attempted car hi-jacking/no exposure item in relation to traumatic symptomatology scores on the IES-R

Variable	attempt car hi-jacking	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No attempt	224	27.82	26.11	1.74	0	105
IES-R	Attempt	55	40.02	27.78	3.75	0	97
IES-R	Diff (1-2)		12.2	26.44	3.98		

Variable	Method	Variances	DF	T Value	Pr > t
IES-R	Pooled	Equal	277	3.07	0.00*
IES-R	Satterthwaite	Unequal	79.1	2.95	0.00*

* p < .05

The t-Test table above shows statistically significant differences in means between the IES-R scores for those who experienced indirect exposure to attempted car hi-jacking and those who did not. Hence, these results indicate that the levels of traumatic symptomatology were higher were, on average, for those who experienced indirect exposure to attempted car hi-jacking than for those who did not.

Table 46 - t-Test for comparisons between means for indirect exposure to car hi-jacking/no exposure item in relation to traumatic symptomatology scores on the IES-R

Variable	car hi-jacking	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No attempt	218	30.74	27.52	1.86	0	105
IES-R	Attempt	61	39.01	22.89	2.93	0	81
IES-R	Diff (1-2)		9.73	26.58	3.85		
Variable	Method	Variances		DF	T Value	Pr > t	
IES-R	Pooled	Equal		277	2.53	0.01*	
IES-R	Satterthwaite	Unequal		113	2.80	0.01*	

* p < .05

The t-Test table above shows statistically significant differences in means between the no car hi-jacking group and the group with car hi-jacking with regards to indirect exposure to car hi-jacking and traumatic symptomatology on the Impact of Event Scale. Hence, these results indicate that the levels of traumatic symptomatology were higher were, on average, for those who experienced indirect exposure to car hi-jacking than for those who did not.

Table 47 - t-Test for comparisons between indirect exposure to armed robbery/no exposure item in relation to traumatic symptomatology scores on the IES-R

Variable	armed robbery	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No	234	26.43	27.27	1.78	0	105
IES-R	Yes	45	39.77	21.5	3.2	0	81
IES-R	Diff (1-2)		13.33	26.43	4.30		

Variable	Method	Variances	DF	t Value	Pr > t
IES-R	Pooled	Equal	277	3.10	0.00*
IES-R	Satterthwaite	Unequal	74.1	3.64	0.00*

* p < .05

The t-Test table above shows statistically significant differences in means between the no armed robbery group and the armed robbery group with regards to indirect exposure to armed robbery and traumatic symptomatology on the Impact of Event Scale. Hence, these results indicate that the levels of traumatic symptomatology were higher were, on average, for those who experienced indirect exposure to armed robbery than for those who did not.

Table 48 - t-Test for comparisons between indirect exposure to kidnapping/no exposure item and traumatic symptomatology scores on the IES-R

Variable	kidnapping	N	Mean	Std Dev	Std Err	Minimum	Maximum
IES-R	No	273	16.24	26.78	1.62	0	105
IES-R	Yes	6	38.09	22.18	9.05	0	55
IES-R	Diff (1-2)		21.85	26.7	11.02		

Variable	Method	Variances	DF	t Value	Pr > t
IES-R	Pooled	Equal	277	1.98	0.05*
IES-R	Satterthwaite	Unequal	5.33	2.38	0.06*

* p < .05

The t-Test table above shows statistically significant differences in means between the no kidnapping group and the kidnapping group with regards to indirect exposure to kidnapping and traumatic symptomatology on the Impact of Event Scale. Hence, these results indicate that the levels of traumatic symptomatology were higher, on average, for those who experienced indirect exposure to kidnapping than for those who did not.

Research Question 3a: Is there a relationship between the posttrauma environment (i.e. counselling, levels of social support and previous exposure to trauma) and current traumatic exposure to violent crime.

Table 49 - Correlations between counselling, social support and previous exposure to trauma (e.g. motor vehicle accident) and current traumatic exposure to violent crime.

	Direct exposure to violent crime	Indirect exposure to violent crime	Effect of direct exposure to violent crime	Effect of indirect exposure to violent crime	Dimensions of Trauma Subscale - aspects of violent crime exposure
Number of counselling sessions after violent crime exposure	0.15	-0.05	0.26	-0.01	0.68*
Crisis Support Questionnaire (CSQ)	-0.09	-0.1	-0.1	0.05	-0.05
CSQ Subscale - Worsen (-ve support)	0.12	0.05	0.11	0.01	0.11
Traumatic Stress Schedule Revised TSS_N i.e. prior child &/or adult trauma	0.24*	0.09	0.22*	0.08	0.32*
Traumatic Stress Schedule -TSS i.e. prior trauma	0.24*	0.06*	0.25*	0.04	0.23*

** p < .05

* p < .0001

In order to examine the relationship between posttrauma environment (i.e. counselling, levels of social support and previous exposure to trauma) and current traumatic exposure to violent crime the above correlational analysis was conducted. Total scores on the Crisis Support Questionnaire (CSQ), Traumatic Stress Schedule

(TSS) and the adapted Traumatic Stress Schedule (TSS_N) were correlated with total scores on the Direct Exposure to Violent Crime Scale, Indirect Exposure to Violent Crime Scale and the Dimensions of Trauma Scale. The number of counselling sessions attended following violent crime exposure were correlated with the violent crime exposure scales. The results of the correlational analysis indicate that the following statistically significant relationships were found.

With regards to ‘counselling sessions’ the results indicate that the greater the number of counselling sessions the greater the traumatic exposure to aspects of violent crime (e.g. my life was threatened) or vice versa. Previous traumatic exposure (e.g. motor vehicle accident) was positively correlated with current direct exposure to violent crime (e.g. mugging) and with exposure to aspects of violent crime (e.g. I had to flee for my life). These results indicate that respondents in the sample had experienced both previous traumatic exposure (on the TSS and TSS_N) and current violent crime exposure. Hence, multiple exposure to trauma was evident in the current study.

In order to examine which types of previous trauma, social support and counselling were correlated with having experienced current violent crime exposure additional analyses were conducted, post hoc, on each item of the CSQ, TSS and TSS_N and the number of counselling sessions attended. The findings of the additional analyses revealed no further statistically significant results with regards to social support and counselling, hence, no t-tests table were presented here. The tables below show the statistically significant results, of the multiple comparison t-tests that were conducted, with regards to previous trauma exposure on the TSS and the TSS_N.

Table 50 - Multiple comparison t-Tests between previous exposure to childhood and/or adult trauma items (e.g. motor vehicle accident) on the TSS N in relation to direct exposure to violent crime on the Direct Violent Crime Exposure Scale

TSS_N Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
8 – 6	6.50	1.58	11.42	*
8 – 3	7.77	3.27	12.26	*
8 – 4	7.87	3.28	12.46	*
8 – 2	8.05	3.58	12.51	*
8 – 1	8.28	3.84	12.71	*
8 – 5	8.38	3.66	13.11	*
8 – 0	8.73	4.28	13.17	*
8 – 7	9.00	1.38	16.62	*

* $p < .05$

In the table above the results of the t-tests show the following differences in means with regards to prior traumatic exposure and current direct exposure to violent crime. Statistically significant differences in means were found between property damage because of fire, severe weather, or natural or manmade disaster (shown as item (8) on the above table) and the following traumatic events: (6) a vehicle accident serious enough to cause injury to self or one or more passengers, (3) made to have sex by force or threat of harm, as child made to perform sexual act by known other through force, coercion or threat of harm, (4) have been beaten up or attacked, (1) something taken by force or threat of force, such as in a robbery, mugging or hold-up, (5) as a child made to perform sexual act by using force, coercion or threat of harm by unknown other, (0) no incident and (7) loved one died because of accident, homicide or suicide. Hence, these results indicate that the item that occurred the most, on average, in relation to having also experienced current direct exposure to violent crime was property damage because of fire, severe weather, or natural or manmade disaster. Hence, respondents in the current study's sample reported this type of previous trauma

(before the last two years) the most, on average, in conjunction with having experienced current (within last two years) direct exposure to violent crime. Thus, multiple exposure to trauma was evident in the current study's sample.

Table 51 - Multiple comparison t-Tests between means of previous trauma exposure (TSS) items in relation to direct exposure to violent crime on the Direct Exposure to Violent Crime Scale

TSS Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
4 – 0	1.72	0.45	2.99	*
2 – 0	0.83	0.19	1.47	*

* $p < .05$

On the tables above statistically significant differences in the following means with regards to current direct exposure to violent crime and prior traumatic exposure on the Traumatic Stress Schedule. The following differences in means were found: (4) as a child made to perform sexual act by use of force, coercion or threat of harm by a known other and (0) no incident. Furthermore, differences in means were found between (2) has anyone beaten you up or attacked you and (0) no incident. Hence, these results indicate that the items which, on average, differed significantly from other items with regards to having also experienced current direct exposure to violent crime was item four and item two. Hence, respondents in the current study's sample reported having experienced item four and item two, on average, more than having experienced no incident of previous trauma (before the last two years), in conjunction with having experienced current (within last two years) direct exposure to violent crime. Thus, multiple exposure to trauma was evident in the current study's sample.

When post hoc t-tests were conducted no statistically significant differences were found between the means with regards to different incidents of prior traumatic

exposure on the TSS and TSS_N and current indirect exposure to violent crime.

Hence, these results indicate that no specific previous traumatic event was experienced more than another with regards to current indirect exposure to violent crime.

In order to examine the statistically significant (positive) relationships found, in the correlational analysis, with regards to prior adult and/or childhood trauma (on the TSS_N) t-tests were conducted, post hoc, examining each item of the TSS_N in relation to aspects of violent crime exposure (e.g. My life was threatened) on the Dimensions of Trauma Scale. The results of the t-tests are shown in Table 53 below.

Table 52 - Multiple comparison t-Tests between means of previous exposure to trauma (TSS_N) items in relation to aspects of violent crime exposure on the DTS

TSS_N Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
7 – 4	18.05	0.8	35.30	*
7 – 6	21.13	3.22	39.05	*
7 – 3	23.21	6.14	40.28	*
7 – 2	23.8	6.78	40.82	*
7 – 5	24.93	7.4	42.45	*
7 – 1	25.12	8.15	42.08	*
7 – 0	25.85	8.88	42.83	*
4 – 3	5.16	0.86	9.46	*
4 – 2	5.75	1.66	9.85	*
4 – 5	6.88	1.02	12.74	*
4 – 1	7.07	3.19	10.94	*
4 – 0	7.81	3.9	11.72	*

* $p < .05$

In the table above the results of the multiple comparison t- Tests showed statistically significant differences in means that were found between prior childhood and/or adult trauma on the TSS_N and aspects of violent crime exposure on the Dimensions of Trauma Scale. The following statistically significant differences were found between the means of: (7) a loved one died because of an accident, homicide or

suicide and all of the following incidents: (6) a motor vehicle accident serious enough to cause injury to self or one or more passengers, (3) made to have sex by use of threat of harm, (2) been beaten up or attacked, (5) as a child made to perform a sexual act by an unknown other by use of force, coercion or threat of harm, (1) someone taken something by force or threat of force, such as in a robbery, mugging or hold-up and (0) no incident. Hence, these results indicate that the item, a loved one died because of an accident, homicide or suicide, differed significantly, on average, from the other items listed above with regards to having also experienced current aspects of violent crime exposure on the DTS. Hence, respondents in the current study's sample reported having experienced this item, a loved one died because of an accident, homicide or suicide, on average, more than having experienced the other previous trauma (before the last two years) items listed above, in conjunction with having experienced current (within last two years) aspects of violent crime exposure. Thus, multiple exposure to trauma was evident in the current study's sample.

In Table 53 above the scores for the TSS_N prior trauma exposure items (4) as a child being made to perform a sexual act by a known other by use of force, coercion or threatening harm, were significantly greater, on average, than for items (3) has anyone ever made you have sex by using force or threatening to harm you, (2) has anyone beaten up or attacked you, (1) someone taken something by force or threat such as in a robbery, mugging or hold-up, and (0) no incident. Hence, respondents in the current study's sample reported having experienced item (4), as a child being made to perform a sexual act by a known other by use of force, coercion or threatening harm, on average, more than having experienced the other previous trauma (before the last two years) items listed above, in conjunction with having

experienced current (within last two years) aspects of violent crime exposure on the DTS. Thus, multiple exposure to trauma was evident in the current study's sample.

In order to examine the positive statistically significant relationships found, in the correlational analysis, with regards to prior adult and/or childhood trauma (on the TSS_N) t-tests were conducted, post hoc, examining each item of the TSS in relation to aspects of violent crime exposure on the Dimensions of Trauma Scale. The results of the t-tests are shown in Table 54 below.

Table 53 - Multiple comparison t-Tests between means of previous exposure to trauma (TSS) items in relation to aspects of violent crime exposure on the DTS

TSS Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
4 – 2	4.44	0.73	8.14	*
4 – 0	6.42	2.91	9.94	*
2 – 0	1.99	0.21	3.77	*

* $p < .05$

The t-tests results shown in the table above reveal statistically significant differences found between prior trauma and aspects of current violent crime exposure on the Dimensions of Trauma Scale. Post hoc t-tests were conducted in order to assess where the statistically significant differences in the means were found and these were between (4) as a child made to perform sexual act by known other through force, coercion or threat of harm and both (2) been beaten up or attacked and (0) no incident. Statistically significant differences in the means were found between (2) been beaten up or attacked and (0) no incident with regards to aspects of current violent crime exposure and the above prior traumatic exposure. Hence, these results indicate that the item 'as a child made to perform sexual act by a known other through force, coercion or threat of harm', differed significantly, on average, from the item 'been beaten up or

attacked’ and having experienced no prior trauma incident with regards to aspects of current violent crime exposure. Furthermore, the having experienced the item ‘been beaten up or attacked’ differed significantly, on average, from no prior traumatic event experienced. Hence, respondents in the current study’s sample reported having experienced these two items, ‘as a child made to perform sexual act by a known other through force, coercion or threat of harm’ and ‘been beaten up or attacked’ on average, more than having experienced the other previous trauma (before the last two years) items listed, in conjunction with having experienced current (within last two years) aspects of exposure to violent crime. Thus, multiple exposure to trauma was evident in the current study’s sample.

Research Question 3b: Is there a relationship between the posttrauma environment (e.g. counselling, levels of social support and previous exposure to trauma) and traumatic symptomatology?

Counselling, Social Support and Previous exposure to Trauma

Table 54 - Correlations between counselling, social support and previous exposure to trauma scores and traumatic symptomatology scores on the Impact of Event Scale - Revised

	Traumatic symptomatology			
	Impact of Event Scale- Revised subscales 1. intrusion	2.avoidance	3.arousal	Impact of Event Scale – Revised Total
Number of counselling sessions after violent crime exposure	0.44**	0.35**	0.47**	0.45**
Crisis Support Questionnaire (CSQ)	-0.12**	-0.11	-0.09	0.12

CSQ subscale(-ve 0.08 support) worsen		0.13*	0.19**	0.13**
Traumatic Stress 0.28*		0.26*	0.3*	0.33*
Schedule Revised (TSS_N) i.e. prior child &/or adult trauma				
Traumatic Stress 0.15**		0.18**	0.18**	0.2**
Schedule i.e. prior trauma (TSS)				
** p < .05				
* p < .0001				

In order to examine the relationship between the posttrauma environment (e.g. counselling, levels of social support and previous exposure to trauma) and traumatic symptomatology the following correlational analyses were conducted. Total scores on the Crisis Support Questionnaire (CSQ), Traumatic Stress Schedule (TSS) and the adapted TSS, i.e. the TSS_N, were correlated with total scores on the Impact of Event Scale – Revised, and on the total scores of the IES-R subscales of intrusion, avoidance and arousal. The number of counselling sessions attended following violent crime exposure were correlated with total scores on the Impact of Event Scale – Revised, and on the total scores of the IES-R subscales of intrusion, avoidance and arousal.

The following statistically significant relationships were found. The number of counselling sessions attended following violent crime exposure was positively correlated with the three symptom clusters (intrusion, avoidance and arousal) and overall traumatic stress symptoms on the IES-R. These results indicate that the greater the traumatic symptomatology the greater the number of counselling sessions attended or vice versa. A statistically significant inverse relationship was found between crisis social support and intrusion symptoms on the IES-R. This result indicates that the greater the social support the less the intrusion symptoms, or the less the social support the greater the intrusion symptoms. In addition, negative social support was

positively correlated with avoidance, arousal and overall traumatic stress symptoms. These results indicate that the greater the negative support the greater the symptomatology or, the greater the traumatic symptomatology the greater the negative support. Previous exposure to trauma on the TSS_N was positively correlated with the three symptom clusters and overall traumatic stress on the IES-R. These results indicate that the greater the prior childhood and/or adult trauma the greater the traumatic symptomatology, or, the greater the traumatic symptomatology the greater the prior childhood and/or adult trauma exposure on the TSS_N. Strong positive correlations were found between prior trauma on the original Traumatic Stress Schedule (TSS) and all the symptom clusters and overall traumatic stress symptomatology. These results indicate that the greater the prior traumatic exposure the greater the traumatic symptomatology or, the greater the traumatic symptomatology the greater the prior trauma exposure.

In order to examine which types of previous traumatic events, social support and counselling were implicated with regards to traumatic symptomatology on the IES-R additional analyses were conducted, post hoc, on each item of the CSQ, TSS and TSS_N and the number of counselling sessions attended. The findings of the additional analyses revealed no further statistically significant results with regards to social support and counselling in relation to traumatic symptomatology on the IES-R, hence, no t-test tables were presented here. The table below shows the statistically significant results found with regards to previous trauma exposure items on the TSS_N in relation to traumatic symptomatology on the IES-R.

Previous Exposure to Trauma

Table 55 - t-Tests of multiple comparisons between the means of previous traumatic exposure (TSS_N) items in relation to traumatic symptomatology on the Impact of Event Scale

TSS_N Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
6 – 1	35.04	0.19	69.9	*
6 – 0	39.45	3.92	74.98	*

* $p > .05$

In the table above the results of the multiple comparison t- Tests showed statistically significant differences in means that were found between prior childhood and/or adult trauma (on the TSS_N) and traumatic symptomatology on the IES-R. Statistically significant differences were found between the following means: (6) a motor vehicle accident serious enough to cause injury to self or one or more passengers and both (1) something taken by force or threat of force such as in a robbery, mugging or hold-up and (0) no incident. Hence, respondents in the current study's sample reported having experienced the prior trauma item 'a motor vehicle accident serious enough to cause injury to self or one or more passengers', on average, more than having experienced the items 'something taken by force or threat of force such as in a robbery, mugging or hold-up' and 'no incident' in relation to higher levels of traumatic symptomatology on the IES-R.

4a. Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history and a sense of coherence) and traumatic exposure to violent crime.

4b. Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history and a sense of coherence) and traumatic symptomatology?

The results of the analyses of variance statistical procedures undertaken to answer the research questions above will follow.

Demographic characteristics and (a) traumatic exposure to violent crime and (b) traumatic symptomatology.

In order to examine whether there were statistically significant effects with regards to demographic characteristics on both traumatic exposure to violent crime and traumatic symptomatology one-way ANOVAs were conducted, with each demographic (e.g. race, gender, age) as the independent variable and the measures of both exposure to violent crime and traumatic symptomatology as the dependent variables. The table below reflects the beginning of the analysis of variance results that emerged.

Race

Table 56 -ANOVA of statistically significant effects on traumatic symptomatology and traumatic exposure to violent crime with regards to race (n = 367)

Source-RACE - Independent Variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent Variables					
Direct exposure to violent crime	4	29.92	7.48	1.78	0.13
Indirect exposure to violent crime	4	180	45	11.77	<.0001**
Dimensions of Trauma Scale Subscales - 1. occurrence of aspects of general trauma exposure	4	551.62	137.91	3.13	0.015*

DTS subscale - 2. effect of aspects of trauma exposure	4	1997.92	499.48	2.54	0.04
DTS subscale- 3. aspects of violent crime exposure	4	904.77	226.19	7.32	<.0001**
Effect of direct exposure to violent crime	4	1906.39	476.6	2.4	0.05*
Effect of indirect exposure to violent crime	4	1963.54	490.88	10.78	<.0001**
Impact of event Scale -Revised subscales 1. Intrusion	4	1807.14	451.79	4.54	0.0*
2. Avoidance	4	3775.11	943.78	7.39	<.0001**
3. Arousal	4	754.42	188.6	2.98	0.02*
IES-R Total	4	18868.28	4717.07	7.15	<.0001**

* $p < .05$

** $P < .0001$

Statistically significant effects found on measures of both traumatic exposure to violent crime and traumatic symptomatology with regards to the participant's race demographic are shown in the ANOVA table above. Race was significantly affected ($p < .0001$) with regards to indirect exposure to violent crime. Race was significantly affected ($p < .05$) with regards to the Dimensions of Trauma Scale subscale, i.e. DTS occurrence of aspects of general trauma exposure. Race was significantly affected with regards to the DTS violent crime exposure subscale. A statistically significant effect was found on the reported effect of direct exposure to violent crime by race ($p < .05$) and statistically significant effects ($p < .0001$) were found on the reported effect of indirect exposure to violent crime by race. Statistically significant effects were found by race on traumatic symptomatology, as measured by the Impact of Event Scale, and on the subscales of intrusion, avoidance and arousal that emerged as follows, intrusion ($p < .05$), avoidance ($p < .0001$), arousal ($p < .05$) and full-scale traumatic symptomatology (IES-R) ($p < .0001$). The above results indicate that different racial groups were significantly affected with regards to both traumatic exposure and traumatic symptomatology.

Additional analyses were conducted since statistically significant effects were found on traumatic exposure to violent crime and traumatic symptomatology by demographic characteristics (e.g. race) on the one-way analysis of variance. It was beyond the scope of this dissertation to further analyse each demographic with regards to traumatic exposure to violent crime and traumatic symptomatology. Thus, the researcher selected race, gender, health status, substance use and psychiatric status for further analysis, since further research with regards to these constructs was recommended by some traumatic stress theorists (Schlenger et al., 1997; Manson, 1997). The statistically significant results are presented in this results chapter.

Since statistically significant effects were found, shown in the ANOVA table above, on direct exposure to violent crime by race as a demographic additional analyses, were conducted, post hoc, in order to examine where the statistically significant effects were found. The table below reflects the results of the multiple comparison t-Tests conducted with regards to direct exposure to violent crime (e.g. mugging) with race as a demographic. Statistically significant differences in means were found between (4) Asian participants and (2) White participants with regards to direct exposure to violent crime. These results show that, on average, the scores for the Asian racial group were greater than the scores for the White racial group with regards to direct exposure to violent crime. This result indicates, that on average, Asian respondents experienced greater amounts of direct exposure to violent crime than White respondents.

Table 57 - t-Tests for multiple comparisons in means between racial groups in relation to direct exposure to violent crime

RACE Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
Asian – Coloured	1.19	-1.11	3.49
Asian - Indian	1.61	-0.41	3.64
Asian - Black	1.76	-0.02	3.53
Asian - White	1.91	0.12	3.71
Coloured – Indian	0.43	-1.43	2.28
Coloured – Black	0.57	-1.02	2.16
Coloured – White	0.73	-0.88	2.33
Indian - Black	0.14	-1.01	1.29
Indian - White	0.30	-0.87	1.47
Black - White	0.16	-0.51	0.83

* $p < .05$

The table below reflects the results of the multiple comparison t-Tests conducted in order to examine where the statistically significant effects occurred (on the ANOVA) with regards to race on indirect exposure to violent crime (e.g. mugging). The following statistically significant differences in means were found. The scores for the Asian racial group were, on average, greater than the scores for the White, Indian, so-called Coloured and Black racial groups with regards to indirect exposure to violent crime. The scores for the White racial group were, on average, greater than the scores for the Black racial group with regards to indirect exposure to violent crime. Hence, the Asian respondents and White respondents were on average, exposed to greater amounts of indirect exposure than the other racial groups in the current study.

Table 58 - Multiple comparison t-Tests between racial group means with regards to indirect exposure to violent crime

RACE Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
Asian - White	1.91	0.19	3.63	*
Asian - Indian	2.61	0.67	4.55	*
Asian – Coloured	3.09	0.88	5.3	*
Asian - Black	3.13	1.43	4.84	*
White - Indian	0.70	-0.42	1.83	
White – Coloured	1.18	-0.36	2.72	
White - Black	1.23	0.59	1.87	*
Indian – Coloured	0.48	-1.3	2.26	
Indian - Black	0.52	-0.58	1.63	
Coloured – Black	0.04	-1.48	1.57	

* $p < .05$

The table below shows the results of the multiple comparison t-Tests conducted in order to examine where the statistically significant effects occurred (on the ANOVA) on aspects of violent crime exposure (e.g. I had to flee for my life), on the Dimensions of Trauma Scale, by race. The following statistically significant differences in means were found. The scores for the Asian racial group were, on average, greater than the scores for the Indian, White, and Black racial groups with regards to amounts of aspects of violent crime exposure. The scores for the so-called Coloured racial group were, on average, greater than the scores for the Indian, White and Black racial groups with regards to amounts of exposure to aspects of violent crime exposure on the DTS. Thus, Asian and so-called Coloured respondents reported greater amounts, on average, of exposure to aspects of violent crime than the other racial groups in the current study.

Table 59 - Multiple comparison t-Tests between racial group means with regards to aspects of violent crime exposure on the DTS

RACE Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
Asian - Coloured	1.56	-4.39	7.51	
Asian - Indian	7.15	1.92	12.38	*
Asian - White	7.88	3.25	12.52	*
Asian - Black	7.94	3.34	12.54	*
Coloured – Indian	5.58	0.78	10.39	*
Coloured - White	6.32	2.17	10.48	*
Coloured - Black	6.38	2.27	10.49	*
Indian - White	0.74	-2.3	3.77	
Indian - Black	0.79	-2.18	3.76	
White - Black	0.05	-1.67	1.78	

* $p < .05$

Statistically significant effects were found (on the ANOVA) by race, as a demographic, on traumatic symptomatology on the Impact of Event Scale. The table below reflects the results of the multiple comparison t-Tests conducted, post hoc, in order to examine where the statistically significant effects occurred between racial groups in relation to traumatic symptomatology. The following statistically significant differences in means were found. The scores for the Black racial group were, on average, greater than the scores for the White racial group with regards to levels of traumatic symptomatology on the IES-R. The scores for the Indian racial group were, on average, greater than the scores for the White racial group with regards to traumatic symptomatology on the IES-R. Thus, these results indicate that, on average, Black respondents had higher levels of traumatic symptomatology than White respondents in the current study. Indian respondents had, on average, higher levels of traumatic symptomatology than White respondents in the current study's sample.

Table 60 - Multiple comparison t-Tests between racial group means with regards to traumatic symptomatology scores on the Impact of Event Scale-Revised

RACE Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
Black - Indian	0.35	-15.57	16.26
Black - Asian	4.49	-18.92	27.91
Black - Coloured	16.84	-4.7	38.38
Black - White	17.61	8.04	27.18
Indian - Asian	4.14	-22.63	30.91
Indian - Coloured	16.49	-8.65	41.64
Indian - White	17.26	1.14	33.38
Asian - Coloured	12.35	-18.10	42.80
Asian - White	13.12	-10.44	36.68
Coloured - White	0.77	-20.93	22.46

* $p < .05$

Table 61 - ANOVA of statistically significant effects on traumatic symptomatology and traumatic exposure to violent crime with regards to gender (n = 367)

Source -Gender – independent variables	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent Variables	1				
Direct exposure to violent crime	1	2.92	2.92	0.69	0.41
Indirect exposure to violent crime	1	5.96	5.96	1.4	0.24
Dimensions of Trauma Scale Subscales - 1.occurrence of aspects of general trauma exposure	1	657.4	657.4	15.19	0.0*
DTS subscale- 2. effect of aspects of trauma exposure	1	4828.48	4828.4	25.87	<.0001**
DTS subscale- 3. aspects of violent crime exposure	1	235.09	235.09	7.26	0.01*
Effect of direct exposure to violent crime	1	4846.05	4846.05	4.43	0.04*
Effect of indirect exposure to violent crime	1	1186.29	1186.29	2.83	0.09
Impact of event Scale -Revised Subscales 1.Intrusion	1	1106.94	1106.94	11	0.0*
2.Avoidance	1	716	716	5.22	0.02*
3.Arousal	1	642.56	642.56	10.14	0.0*
IES-R Total	1	5769.51	5769.51	8.22	0.0*

* $p < .05$

** $p < .0001$

On the table above statistically significant effects were found on the following dependent variables by the independent variable gender as follows. Statistically significant effects ($p < .05$) by gender were found on exposure to aspects of trauma on the Dimensions of Trauma Scale (DTS occurrence of general trauma). Statistically significant effects were found on the reported effect of trauma exposure on the DTS and exposure to violent crime specifically on the DTS, ($p < .0001$ and $p < .05$) respectively, by gender as the independent variable. Statistically significant effects were found on the reported effect of direct exposure to violent crime by gender as the independent variable ($p < .05$). Statistically significant effects ($p < .05$) were found by gender on the total score of the IES-R and on each traumatic symptomatology subscale (intrude, avoid and arouse). Thus, the above results of the current study indicate that either male or female respondents (i.e. gender) were significantly affected with regards to traumatic exposure to violent crime and traumatic symptomatology.

Statistically significant effects were found (on the ANOVA) on traumatic exposure to violent crime by gender. Additional analyses (multiple comparison t-tests) were conducted, post hoc, in order to examine where the said effects found were occurring. The table below shows the statistically significant differences in means found with regards to gender and violent crime exposure. The scores for male respondents were, on average, greater than the scores for the female respondents with regards to aspects of violent crime exposure (e.g. My life was threatened) on the Dimensions of Trauma Scale. This result indicates that male respondents were, on average, more exposed to aspects of violent crime than female respondents in the current study's sample.

Table 62 - t-Test for comparisons between gender means with regards to aspects of violent crime on the DTS

GENDER Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
Male – Female	1.84	0.66	3.01	*

* $p < .05$

Statistically significant effects were found (on the ANOVA) on traumatic symptomatology by gender. Additional analyses (multiple comparison t-tests) were conducted, post hoc, in order to examine where the said effects found were occurring. The table below shows the statistically significant differences in means found with regards to gender and traumatic symptomatology. The scores for female respondents were, on average, greater than the scores for the male respondents with regards to levels of traumatic symptomatology on the Impact of Event Scale. This result indicates that female respondents had, on average, higher levels of traumatic symptomatology than male respondents in the current study's sample.

Table 63 - t-Tests for comparisons between gender means with regards to traumatic symptomatology (IES-R) scores

GENDER Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
female – male	9.19	2.79	15.58	*

* $p < .05$

Home language

Table 64 - One-way analysis of variance of effects on traumatic exposure to violent crime and traumatic symptomatology with regards to home language (n = 367)

Source – Home Language - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent Variables					
Direct exposure to violent crime	11	48.59	4.42	1.02	0.42
Indirect exposure to violent crime	11	134.07	12.19	3.07	0.0*
Dimensions of Trauma Scale Subscales - 1. occurrence of aspects of general trauma exposure	11	418.73	38.07	0.82	0.62
DTS subscale - 2. effect of aspects of trauma exposure	11	3027.89	275.26	1.36	0.19
DTS subscale - 3. aspects of violent crime exposure	11	344.2	31.29	0.92	0.52
Effect of direct exposure to violent crime	11	4487.17	407.92	1	0.45
Effect of indirect exposure to violent crime	11	6368.12	636.81	3.68	<.0001**
Impact of event Scale -Revised Subscales 1.Intrusion	11	2488.05	226.19	2.27	0.01*
2.Avoidance	11	4794.15	435.83	3.38	0.0
3.Arousal	11	612.8	55.71	0.84	0.6
IES-R Total	11	19239.07	1749.01	2.56	0.0*

* $p < .05$

** $p < .0001$

On the table above statistically significant effects were found on the following dependent variables by the independent variable home language as follows.

Statistically significant effects were found on the reported occurrence of indirect exposure to violent crime ($p < .05$) and the effect of indirect exposure to violent crime ($p < .0001$) by home language. Statistically significant effects were found on the traumatic stress symptoms of intrusion and avoidance by home language as the independent variable ($p < .05$). Statistically significant effects were found on the total IES-R score ($p < .05$), which measures overall traumatic stress symptoms, by home language as the independent variable. The results above indicate that respondents of different home languages were significantly affected with regards to traumatic exposure to violent crime and traumatic symptomatology.

Marital Status

Table 65 - One-way analysis of variance of effects on traumatic exposure to violent crime and traumatic symptomatology with regards to marital status (n = 367)

Source –marital status - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent Variables					
Direct exposure to violent crime	3	62.02	15.5	4.43	0.0*
Indirect exposure to violent crime	3	70.72	17.68	4.26	0.0*
Dimensions of Trauma Scale	3	467.46	116.87	2.62	0.03*
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale – 2. effect of aspects of trauma exposure	3	2394	598.5	3.04	0.02*
DTS subscale – 3. aspects of violent crime exposure	3	765.93	191.48	6.05	0.0*
Effect of direct exposure to violent crime	3	334.72	83.68	3.03	0.02*
Effect of indirect exposure to violent crime	3	987.33	246.83	1.55	0.19
Impact of event Scale -Revised	3	520.23	173.41	1.68	0.17
Subscales 1.Intrusion					
2.Avoidance	3	369.27	123.09	0.88	0.45
3.Arousal	3	217.1	72.37	1.1	0.35
IES-R Total	3	3481.41	1160.47	1.62	0.19

* p < .05

** p < .0001

On the table above statistically significant effects were found on the following dependent variables by the independent variable, the participant's marital status as follows. Statistically significant effects were found on direct and indirect exposure to violent crime ($p < .05$) by marital status. Statistically significant effects were found on the occurrence of aspects of exposure to general trauma, the reported effect thereof and, more specifically the experience of aspects of violent crime ($p < .05$) by marital status as the independent variable. Statistically significant effects were found on a further measure of the reported effect of direct exposure to violent crime ($p < .05$) by

marital status as the independent variable. The results above indicate that marital status (e.g. being single, married) was significantly affected with regards to direct and indirect exposure to violent crime.

Bursary

Table 66 -One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'having a bursary/no bursary' (n = 367)

Source -Bursary - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent variables					
Direct exposure to violent crime	1	0.08	0.08	0.03	0.86
Indirect exposure to violent crime	1	12.05	12.05	3.41	0.07
Dimensions of Trauma Scale	1	169.16	169.16	2.84	0.09
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	1	84.28	84.28	0.31	0.58
DTS subscale - 3. aspects of violent crime exposure	1	148.32	148.32	4.66	0.03
Effect of direct exposure to violent crime	1	65.38	65.38	0.00	0.97
Effect of indirect exposure to violent crime	1	47.25	47.25	1.98	0.16
Impact of event Scale -Revised	1	956.02	956.02	10.84	0.0*
Subscales 1.Intrusion					
2.Avoidance	1	947.27	947.27	8.58	0.0*
3.Arousal	1	6958.18	6958.18	11.89	0.0*
IES-R Total	1	570.364	570.364	11.23	0.0*

p < .05

p < .0001

The table above demonstrates statistically significant effects that were found on the following dependent variables by the independent variable, the participants with a bursary, as follows. Statistically significant effects were found on all of the traumatic stress symptoms, measured by the IES-R (intrusion, avoidance and arousal), including the overall traumatic stress score (IES-R total) (p < .05) by 'bursary' as the

independent variable. The above results indicate that ‘those with a bursary/no bursary’ were significantly affected with regards to traumatic symptomatology.

Job

Table 67 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to ‘having a job/ no job’ (n = 367)

Source -job -independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	1	5.21	5.21	2.51	0.11
Indirect exposure to violent crime	1	21.64	21.64	6.37	0.01*
Dimensions of Trauma Scale Subscales - 1. occurrence of aspects of general trauma exposure	1	15.84	15.84	0.31	0.58
DTS subscale - 2. effect of aspects of trauma exposure	1	21.14	21.14	0.09	0.76
DTS subscale - 3. aspects of violent crime exposure	1	238.29	238.29	7.3	0.01*
Effect of direct exposure to violent crime	1	403.54	403.54	1.72	0.19
Effect of indirect exposure to violent crime	1	5906.08	5906.08	18.72	<.0001**
Impact of event Scale -Revised Subscales 1.Intrusion	1	0.28	0.28	0	0.96
2.Avoidance	1	8.83	8.83	0.07	0.79
3.Arousal	1	153.05	153.05	2.65	0.11
IES-R Total	1	69.14	69.14	0.11	0.75

p < .05

p < .0001

The table above reveals statistically significant effects that were found on the following dependent variables by the independent variable, the participants with a job, as follows. Statistically significant effects were found on the Dimensions of Trauma Scale - aspects of violent crime exposure subscale - and indirect exposure to violent crime (p < .05) and the reported effect of indirect exposure to violent crime (p < .0001) by ‘job’ as the independent variable. The above results indicate that ‘those with

a job/no job' were significantly affected with regards to traumatic exposure to violent crime.

Parent's marital status

Table 68 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'parent's marital status' (n = 367)

Source -parents marital status - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	5	10.49	2.1	0.48	0.79
Indirect exposure to violent crime	5	14.86	2.97	0.68	0.64
Dimensions of Trauma Scale	5	105.8	21.16	0.54	0.75
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	5	556.63	111.33	0.54	0.75
DTS subscale - 3. aspects of violent crime exposure	5	147.28	29.46	1.14	0.34
Effect of direct exposure to violent crime	5	2894.33	578.87	0.48	0.79
Effect of indirect exposure to violent crime	5	671.57	134.31	0.77	0.57
Impact of event Scale -Revised	5	1036.58	207.32	2.02	0.76
Subscales 1. Intrusion					
2. Avoidance	5	1656.43	331.29	2.44	0.03*
3. Arousal	5	726.34	145.27	2.29	0.05*
IES-R Total	5	9495.09	1899.02	2.74	0.02*

* = $p < .05$

** = $p < .0001$

$p < .05$

$p < .0001$

The table above reveals statistically significant effects that were found on the following dependent variables by the independent variable, the participant's parent's relationship/marital status, as follows. Statistically significant effects were found on the traumatic stress symptoms of avoidance and arousal revealed and the total score on the IES-R ($p < .05$) by parent's marital status as the independent variable. The

results above indicate that those with different parental relationships were significantly affected with regards to traumatic symptomatology.

Health Status

Table 69 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to health status 1 (n = 367)

Source - Health 1 (1 health condition) - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	4	7.32	1.83	0.7	0.59
Indirect exposure to violent crime	4	4.25	1.06	0.28	0.89
Dimensions of Trauma Scale	4	63.69	15.92	0.41	0.80
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	4	622.76	155.69	0.6	0.67
DTS subscale - 3. aspects of violent crime exposure	4	49.79	12.45	0.94	0.45
Effect of direct exposure to violent crime	4	1797.71	449.43	0.93	0.45
Effect of indirect exposure to violent crime	4	823.63	205.91	0.35	0.84
Impact of event Scale -Revised	4	1597.88	399.47	4.33	0.0*
Subscales 1.Intrusion					
2.Avoidance	4	777.5	194.38	1.58	0.18
3.Arousal	4	229.45	57.36	1	0.41
IES-R Total	4	6288.35	1572.09	2.35	0.06

p < .05

p < .0001

On the table above a statistically significant effect was found on the following dependent variable and the independent variable, the participant's health status 1 (1 condition), as follows. Statistically significant effects were found on the traumatic stress symptom of intrusion, on the IES-R, (p < .05), by Health Status 1 on the one-way analysis of variance. The above results indicate that those with different health conditions were significantly affected with regards to traumatic symptomatology. Post hoc analyses did not reveal significant differences in means between health conditions

with regards to traumatic symptomatology, hence, no further results were included here.

Table 70 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to health status 2 (n = 367)

Source - Health 2 (more than 1 health condition) - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	3	0.66	0.22	0.08	0.97
Indirect exposure to violent crime	3	17.69	5.9	1.4	0.25
Dimensions of Trauma Scale	3	103.43	34.48	0.83	0.48
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale- 2. effect of aspects of trauma exposure	3	282.23	94.08	0.34	0.78
DTS subscale - 3. aspects of violent crime exposure	3	220.88	73.63	6.08	0.0*
Effect of direct exposure to violent crime	3	1643.86	547.95	0.18	0.91
Effect of indirect exposure to violent crime	3	990.93	330.31	2.11	0.10
Impact of event Scale -Revised	3	301.5	100.5	1.13	0.34
Subscales 1.Intrusion					
2.Avoidance	3	413.44	137.81	1.19	0.32
3.Arousal	3	271.93	90.64	1.72	0.17
IES-R Total	3	2457.89	819.3	1.31	0.28

p < .05

p < .0001

On the table above participants having more than one health condition are included here (Health 2) and the following statistically significant effects was found. Statistically significant effects were found on aspects of exposure to violent crime (p < .05), on the DTS, by health 2 as the independent variable. The above results indicate that those with more than one health condition were significantly affected with regards to traumatic exposure to violent crime.

Post hoc analyses did not reveal significant differences in means between health conditions with regards to aspects of violent crime exposure, hence, no further results were included here.

Counselling

Table 71 -One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to ‘number of counselling sessions’ (n = 367)

Source - Number of counselling/therapy sessions after violent crime exposure - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	11	41.21	3.75	0.89	0.55
Indirect exposure to violent crime	11	101.65	9.24	1.8	0.07
Dimensions of Trauma Scale Subscales - 1. occurrence of aspects of general trauma exposure	11	3284.78	298.62	4.76	<.0001**
DTS subscale - 2. effect of aspects of trauma exposure	11	3784.29	344.03	0.87	0.57
DTS subscale- 3. aspects of violent crime exposure	11	4206.73	382.43	31.81	<.0001**
Effect of direct exposure to violent crime	11	4721.16	472.12	2.12	0.03*
Effect of indirect exposure to violent crime	11	993.45	99.35	1.43	0.18
Impact of event Scale –Revised Subscales 1.Intrusion	11	2094.63	232.74	2.75	0.01*
2.Avoidance	11	2104.49	233.83	2.02	0.06
3.Arousal	11	1145.29	127.25	2.54	0.02*
IES-R Total	11	14194.9	1577.21	2.65	0.01*

* p < .05

** p < .0001

On the table above statistically significant effects were found on the means of the following dependent variables by the independent variable, the participant's number of therapy or counselling sessions, as follows. Statistically significant effects

were found on the occurrence of aspects of general and violent crime exposure on the DTS ($p < .0001$) and on the effect of direct exposure to violent crime ($p < .05$) by the number of counselling/therapy sessions as the independent variable. Statistically significant effects were found on traumatic stress symptoms on the intrusion and arousal subscales, and the total IES-R score, by number of counselling/therapy sessions as the independent variable ($p < .05$). The results above indicate that the number of counselling session attended following violent crime exposure was significantly affected with regards to traumatic exposure to violent crime and traumatic symptomatology.

Table 72 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'counselling type' (n = 367)

Source -counselling type - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	4	4.71	1.18	0.28	0.89
Indirect exposure to violent crime	4	18.43	4.61	0.84	0.50
Dimensions of Trauma Scale	4	95.66	23.91	0.24	0.91
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	4	242.53	60.63	0.16	0.96
DTS subscale - 3. aspects of violent crime exposure	4	504.75	126.19	1.98	0.11
Effect of direct exposure to violent crime	4	157.15	52.38	0.46	0.76
Effect of indirect exposure to violent crime	4	821.68	205.42	0.35	0.84
Impact of event Scale –Revised	4	559.53	139.88	1.32	0.27
Subscales 1.Intrusion					
2.Avoidance	4	229.32	57.33	0.42	0.8
3.Arousal	4	99.5	24.87	0.39	0.81
IES-R Total	4	2051.03	512.76	0.68	0.61

* $p < .05$

** $p < .0001$

On the table above no statistically significant effects were found on the dependent variables by 'counselling type' (e.g. psychotherapy, trauma counselling) as the independent variable. The above results indicate that counselling type attended following violent crime exposure was not significantly affected with regards to traumatic exposure to violent crime and traumatic symptomatology.

Table 73 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'counselling received' (n = 367)

Source -Counselling Y/N - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	1	0.45	0.45	0.09	0.76
Indirect exposure to violent crime	1	0.04	0.04	0.01	0.92
Dimensions of Trauma Scale	1	58.43	58.43	1.06	0.30
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	1	56.86	56.86	0.25	0.62
DTS subscale - 3. aspects of violent crime exposure	1	249.12	249.17	6.46	0.01*
Effect of direct exposure to violent crime	1	221.82	221.82	0.00	0.95
Effect of indirect exposure to violent crime	1	197.05	197.05	0.01	0.92
Impact of event Scale –Revised	1	263.25	263.25	2.54	0.11
Subscales 1.Intrusion					
2.Avoidance	1	58.3	58.3	0.41	0.53
3.Arousal	1	51.98	51.98	0.78	0.38
IES-R Total	1	1120.85	1120.85	1.47	0.23

* p < .05

** p < .0001

On the table above, statistically significant effects were found on exposure to aspects of violent crime, on the Dimensions of Trauma Scale subscale, by 'counselling attended' as the independent variable (p < .05). The above results

indicate that attending counselling following exposure to violent crime was significantly affected with regards to traumatic exposure to violent crime.

Psychiatric Status

Table 74 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'current psychiatric status' (n = 367)

Source -Current Psychiatric Status (last 6 months) -independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	3	13.76	4.59	1.04	0.38
Indirect exposure to violent crime	3	8.74	2.91	0.69	0.56
Dimensions of Trauma Scale	3	403.05	403.05	3.05	0.03*
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	3	1474.33	491.44	1.7	0.17
DTS subscale - 3. aspects of violent crime exposure	3	242.66	80.89	3.86	0.01*
Effect of direct exposure to violent crime	3	669.07	223.02	1.38	0.25
Effect of indirect exposure to violent crime	3	216.45	108.23	0.38	0.76
Impact of event Scale –Revised Subscales 1.Intrusion	3	1157.96	578.98	6.93	0.0*
2.Avoidance	3	1170.92	585.46	5.68	0.0*
3.Arousal	3	692.06	230.69	4.81	0.0*
IES-R Total	3	8673.58	4336.79	7.73	0.0*

* p < .05

** p < .0001

On the table above statistically significant effects were found on the following dependent variables by the independent variable, the participant's current psychiatric history (last six months), as follows. Statistically significant effects were found on exposure to aspects of general and violent crime, on the DTS ($p < .05$), by current psychiatric history as the independent variable. Statistically significant effects were found on the subscales (intrusion, avoidance & arousal) and the total IES-R score ($p < .05$) by the above independent variable on the one-way analysis of variance. The

above results indicate that current psychiatric history was significantly affected with regards to exposure to violent crime and traumatic symptomatology.

Post hoc analyses did not reveal significant differences in means between any of the respondents or their family's psychiatric conditions, assessed in the current study (e.g. depression, anxiety) with regards to aspects of violent crime exposure and traumatic symptomatology, hence, no further results were included here.

Table 75 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'previous psychiatric status' (n = 367)

Source -Previous psychiatric history - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent variables					
Direct exposure to violent crime	1	2.96	2.96	0.71	0.4
Indirect exposure to violent crime	1	1.41	1.41	0.3	0.58
Dimensions of Trauma Scale	1	56.19	56.19	1.28	0.26
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS - 2. effect of aspects of trauma exposure	1	136.01	136.01	0.49	0.48
DTS - 3. aspects of violent crime exposure	1	229.7	229.7	14.47	0.0*
Effect of direct exposure to violent crime	1	145.07	145.07	0.86	0.36
Effect of indirect exposure to violent crime	1	1.55	1.55	0	0.95
Impact of event Scale –Revised Subscales 1.Intrusion	1	547.89	547.89	5.91	0.02*
2.Avoidance	1	279.61	279.61	2.53	0.11
3.Arousal	1	409.71	409.71	7.16	0.01*
IES-R Total	1	3188.3	3188.3	5.18	0.02*

* p < .05

** p < .0001

On the table above the independent variable - the participant's previous psychiatric history (before last six months) - revealed statistically significant effects on the following dependent variables. Statistically significant effects were found on aspects of violent crime exposure, on the DTS (p < .05), by previous psychiatric

history as the independent variable. Statistically significant effects were found on the traumatic stress symptoms of intrusion and arousal, and the total IES-R score ($p < .05$) by 'previous psychiatric history as the independent variable'. The above results indicate that previous psychiatric history was significantly affected with regards to traumatic exposure to violent crime and traumatic symptomatology.

Table 76 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'family current psychiatric status' (n = 367)

Source - Family current psychiatric history (last 6 months)- independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent variables					
Direct exposure to violent crime	2	7.98	3.99	0.77	0.46
Indirect exposure to violent crime	2	3	1.5	0.47	0.63
Dimensions of Trauma Scale	2	101.82	50.91	1.42	0.24
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma of exposure	2	279.43	139.72	0.6	0.55
DTS subscale - 3. aspects of violent crime exposure	2	203.1	101.55	6.84	0.0*
Effect of direct exposure to violent crime	2	623.91	311.96	0.85	0.43
Effect of indirect exposure to violent crime	2	724.48	362.24	0.73	0.48
Impact of event Scale –Revised	2	98.7	49.35	0.54	0.59
Subscales 1. Intrusion					
2. Avoidance	2	148.51	74.25	0.66	0.52
3. Arousal	2	225.45	112.73	2.18	0.12
IES-R Total	2	1266.27	633.14	1.03	0.36

* $p < .05$

** $p < .0001$

The ANOVA table above shows the statistically significant effect found on aspects of violent crime exposure on the DTS, by participant's family's current psychiatric history ($p < .05$) as the independent variable. The above result indicates that family current psychiatric history was significantly affected with regards to traumatic exposure to violent crime.

Table 77 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'family previous psychiatric status' (= 367)

Source - Family previous psychiatric history (before last 6 months) - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	1	1.25	1.25	0.32	0.57
Indirect exposure to violent crime	1	0.29	0.29	0.09	0.76
Dimensions of Trauma Scale	1	2.04	2.04	0.05	0.82
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	1	218.86	218.86	0.92	0.34
DTS subscale - 3. aspects of violent crime exposure	1	89.14	89.14	8.98	0.0*
Effect of direct exposure to violent crime	1	38.2	38.2	0.53	0.47
Effect of indirect exposure to violent crime	1	255.23	255.23	0.36	0.55
Impact of event Scale –Revised	1	564.75	564.75	6.04	0.02*
Subscales 1. Intrusion					
2. Avoidance	1	3.5	3.5	0.03	0.86
3. Arousal	1	126.99	126.99	2.24	0.14
IES-R Total	1	971.22	971.22	1.61	0.2

* $p < .05$

** $p < .0001$

The ANOVA table above shows the statistically significant effect found on exposure to aspects of violent crime on the DTS, and on the traumatic stress intrusion subscale of the IES-R ($p < .05$), by family previous psychiatric history as the independent variable on the one-way analysis of variance. The above results indicate that family previous psychiatric history was significantly affected with regards to traumatic symptomatology.

Substance use

Table 78 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'substance use' (n = 367)

Source - Substance use Yes/No -	DF	ANOVA	Mean Square	F Value	Pr > F
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independent variable	SS				
dependent variables					
Direct exposure to violent crime	3	36.65	12.22	2.86	0.04*
Indirect exposure to violent crime	3	21.66	7.22	1.72	0.16
Dimensions of Trauma Scale	3	184.11	61.37	1.35	0.26
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	3	1095.66	365.22	1.81	0.14
DTS subscale - 3. aspects of violent crime exposure	3	35.3	11.77	0.35	0.79
Effect of direct exposure to violent crime	3	2266.23	755.41	6.81	0.0*
Effect of indirect exposure to violent crime	3	5777.21	1925.74	4.2	0.01*
Impact of event Scale -Revised Subscales 1.Intrusion	3	582.97	194.32	1.92	0.13
2.Avoidance	3	1135.22	378.41	2.82	0.04*
3.Arousal	3	859.4	286.47	4.64	0.0*
IES-R Total	3	8244.02	2748.01	4.04	0.01*

* p < .05
** p < .0001

The ANOVA table above shows the statistically significant effects found on the following dependent variables by the independent variable - whether the participants use substances or not (e.g. alcohol, marijuana)- as follows. Statistically significant effects were found on direct exposure to violent crime and the reported effect of direct and indirect exposure to violent crime ($p < .05$) by 'substance use' as the independent variable. Statistically significant effects were found on the avoidance and arousal subscales, and the overall IES-R score ($p < .05$), by the above independent variable. The above results indicate that 'substance use' was significantly affected with regards to violent crime exposure and traumatic symptomatology.

Table 79 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'when substances were used' (n = 367)

Source –when use substances (e.g. daily) - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
dependent variables					
Direct exposure to violent crime	6	17.37	2.89	0.97	0.44
Indirect exposure to violent crime	6	21.56	3.59	0.9	0.5
Dimensions of Trauma Scale	6	124.87	20.81	0.46	0.84
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	6	1154.95	192.49	0.97	0.45
DTS subscale - 3. aspects of violent crime exposure	6	58.89	9.81	0.31	0.93
Effect of direct exposure to violent crime	6	3448.22	574.7	1.42	0.21
Effect of indirect exposure to violent crime	6	5332.77	888.8	1.76	0.11
Impact of event Scale -Revised	6	366.22	61.04	0.6	0.73
Subscales 1.Intrusion					
2.Avoidance	6	690.72	115.12	0.87	0.52
3.Arousal	6	345.17	57.53	0.94	0.47
IES-R Total	6	3589.48	598.25	0.89	0.05*

* $p < .05$

** $p < .0001$

On the table above statistically significant effects were found on overall traumatic symptomatology on the IES-R by the frequency participant's use substances (e.g. daily, weekly, monthly) as the independent variable. The above results indicate that 'when substances were used' was significantly affected with regards to traumatic symptomatology.

The table below reflect the results of the multiple comparison t-Tests conducted, post hoc, in order to examine where the statistically significant effects occurred on traumatic symptomatology by 'when substances were used'. The following statistically significant differences in means were found. The scores for weekly substance use were significantly greater, on average, than the scores for daily and no use of substances with regard traumatic symptomatology on the IES-R. These

results indicate that levels of traumatic symptomatology were, on average significantly higher for respondents using substances weekly than for those using substances daily and not at all.

Table 80 - t-Tests for comparisons between 'when substances were used' and traumatic symptomatology scores on the Impact of Event Scale-Revised

When substances used Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
Weekly - other	0.06	-69.7	69.83
Weekly - daily	9.96	0.45	19.45
Weekly - never	16.01	2.28	29.74
Other - daily	9.89	-59.68	79.46
Other - never	15.95	-54.33	86.22
Daily - never	6.06	-6.65	18.78

* $p < .05$

Table 81- One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'which substances were used' (n = 367)

Source - Which substances used - independent variable	DF	ANOVA SS	Mean Square	F Value	Pr > F
Dependent variables					
Direct exposure to violent crime	3	4.98	1.66	0.57	0.63
Indirect exposure to violent crime	3	36.66	12.22	3.2	0.02*
Dimensions of Trauma Scale Subscales - 1. occurrence of aspects of general trauma exposure	3	160.18	53.39	1.21	0.31
DTS subscale - 2. effect of aspects of trauma exposure	3	679.1	226.37	1.15	0.33
DTS subscale - 3. aspects of violent crime exposure	3	63.73	21.24	0.68	0.56
Effect of direct exposure to violent crime	3	2560.79	853.6	0.71	0.55
Effect of indirect exposure to violent crime	3	8041.63	2680.54	22.1	<.0001**
Impact of event Scale -Revised Subscales 1.Intrusion	3	292.13	97.38	0.97	0.41
2.Avoidance	3	240.79	80.26	0.61	0.61

3.Arousal	3	288.31	96.1	1.59	0.19
IES-R Total	3	2126.18	708.71	1.05	0.37

* $p < .05$

** $p < .0001$

On the ANOVA table above, which substance/s were used (e.g. alcohol, marijuana), as the independent variable, yielded statistically significant effects on the following dependent variables. Statistically significant effects were found on indirect exposure to violent crime by 'which substances used' as the independent variable ($p < .05$). Statistically significant effects were found on the reported effect of indirect exposure to violent crime ($p < .0001$) by 'which substances used' as the independent variable. The above results indicate that 'which substances were used' was significantly affected with regards to traumatic exposure to violent crime. Post hoc analysis, i.e. multiple comparison t-tests, did not reveal statistically significant differences between which substances were used in relation to traumatic exposure to violent crime.

Violent crime exposure reported to South African Police Services

Table 82 - One-way analysis of variance of effects on both traumatic exposure to violent crime and traumatic symptomatology with regards to 'crime reported to South African Police Services' (n = 367)

crime reported to South African Police Services – independent variable	DF	ANOVA SS	Mean Square	F Value	Pr >F
dependent variables					
Direct exposure to violent crime	2	19.08	9.54	1.51	0.22
Indirect exposure to violent crime	2	38.37	19.18	3.65	0.03*
Dimensions of Trauma Scale	2	31.48	15.74	0.27	0.76
Subscales - 1. occurrence of aspects of general trauma exposure					
DTS subscale - 2. effect of aspects of trauma exposure	2	304.83	152.42	0.48	0.62
DTS subscale - 3. aspects of violent crime exposure	2	23.89	11.94	0.28	0.75

Effect of direct exposure to violent crime	2	813.68	813.68	3.06	0.05*
Effect of indirect exposure to violent crime	2	1372.35	686.18	3.43	0.03*
Impact of event Scale -Revised	2	230.94	115.47	1.13	0.33
Subscales 1.Intrusion					
2.Avoidance	2	163.06	81.53	0.59	0.56
3.Arousal	2	0.74	0.37	0.01	0.99
IES-R Total	2	370.63	185.32	0.25	0.78

* $p < .05$

** $p < .0001$

On the ANOVA table above, whether participants reported violent crime exposure to the police - as the independent variable - yielded statistically significant effects on indirect exposure and the reported effect of direct and indirect exposure to violent crime as the dependent variables ($p < .05$). The above results indicate that reporting violent crime exposure to the police services was significantly affected with regards to exposure to violent crime.

Sense of coherence (Antonvosky, 1987)

Table 83 - Correlations between sense of coherence scores on the OLOQ and traumatic exposure to violent crime

	Direct exposure to violent crime	Indirect exposure to violent crime	Effect of direct exposure to violent crime	Effect of indirect exposure to violent crime	Dimensions of Trauma Scale subscale- aspects of general trauma exposure	DTS subscale- aspects of violent crime exposure	DTS subscale - effect of aspects of violent crime exposure
Orientation to Life Questionnaire	-0.09	0.01	-0.08	0.07	-0.17**	-0.16**	-0.07

** $p < .05$

* $p < .0001$

In order to measure the relationship between sense of coherence and traumatic exposure to violent crime the following correlational analyses were conducted. Total scores on the OLQ, which measures a sense of coherence, were correlated with total scores on the violent crime exposure scales, i.e. the Direct Exposure to Violent Crime Scale, the Indirect Exposure to Violent Crime Scale and the Dimensions of Trauma Scale. Total subscale scores on the violent crime exposure subscales were also correlated with the total OLQ score. The results of the correlational analyses, shown on the table above, indicate that the greater the exposure to aspects of violent crime (e.g. My life was threatened) the less the sense of coherence, or the less the exposure to aspects of violent crime the greater the sense of coherence.

Table 84 - Correlations between sense of coherence scores on the OLQ and traumatic symptomatology scores on the IES-R

	Impact of Event Scale - Revised Subscales. 1. intrusion	2.avoidance	3.arousal	IES-R Total
Orientation to Life Questionnaire	-0.34*	-0.35*	-0.37*	-0.41*

** p < .05

* p < .0001

In order to measure the relationship between sense of coherence and traumatic symptomatology the following correlational analyses were conducted. Total scores on the OLQ, which measures a sense of coherence, were correlated with the three symptom cluster total scores and the overall traumatic symptomatology total scores on the Impact of Event Scale-Revised. The results of the current study, shown on the table above, indicate that the greater the sense of coherence the less the intrusion, avoidance, arousal and overall traumatic stress symptoms. Or, the results of the study

indicate that the less the sense of coherence the greater the intrusion, avoidance, arousal and overall traumatic stress symptomatology.

Research Question 5: Is there a relationship between traumatic exposure to violent crime and traumatic symptomatology?

Table 85 - Correlations between traumatic exposure to violent crime and traumatic symptomatology

	Impact of Event Scale- Revised Subscales - 1. intrusion	2.avoidance	3.arousal	IES-R Total
direct exposure to violent crime	0.09	0.96	0.11	0.12**
indirect exposure to violent crime	0.10	0.17**	0.12**	0.14**
DTS subscale - aspects of general trauma exposure	0.21**	0.16**	0.18**	0.22**
DTS subscale- aspects of violent crime exposure	0.2**	0.14**	0.22**	0.21**

** $p < .05$

$p < .0001$

In order to examine the relationship between traumatic exposure and traumatic symptomatology the following correlational analyses were conducted. The results, shown on the table above, indicate that direct exposure to violent crime was positively correlated with overall traumatic stress symptomatology on the Impact of Event Scale-Revised. This result indicates that the greater the direct exposure to violent crime the greater the traumatic symptomatology, or vice versa. Indirect exposure to violent crime was positively correlated with avoidance, arousal and overall traumatic stress symptoms on the IES-R. This result indicates that the greater the indirect exposure to violent crime the greater the avoidance, arousal and overall traumatic stress symptoms

or vice versa. Aspects of violent crime exposure on the Dimensions of Trauma Scale were positively correlated with all symptom clusters and overall traumatic stress symptomatology. These results indicate that the greater the exposure to aspects of violent crime the greater the intrusion, avoidance, arousal and overall traumatic symptomatology or vice versa.

CHAPTER EIGHT

Discussion of Research Questions 1a and 1b

Introduction

As highlighted in the literature review, criminal violence is currently widespread, random and ongoing in South Africa (NCPS, 1996). Hence, the overall environment is potentially traumatic since there is the continual stress of anticipating becoming a victim, and the possibility of further exposure to violent crime once already having been exposed (). Furthermore, the context of widespread crime means that there is a large group of individuals who may be indirectly affected by criminal violence. In addition, some individual's are experiencing 'continuous' traumatic stress (Straker, 1987), for instance, ongoing domestic violence, which has profound psychological effects on South Africans living under such conditions (Govender & Killian, 2001). Epidemiological studies in the U.S. indicate that the prevalence of traumatic exposure and the resultant posttraumatic stress disorder is a problem of great magnitude (Schlenger et al., 1997). Arguably, the same is true for South Africa and from the results of the current study it appears that the effects of violent crime are far-reaching, the implications of which will be discussed in the following chapters. The researcher will discuss the results of this study in relation to the literature and the current debates in the traumatic stress field.

This research has focused on the prevalence of recent direct and indirect exposure to violent crime in a sample of 1st year South African university students and the prevalence of any resultant traumatic stress symptomatology. A further focus

of this study was an examination of the relationship between the nature of the traumatogenic event (i.e. the nature, severity and subjective perception of the stressor), the posttrauma environment (i.e. counselling, social support and previous exposure to trauma) and personal factors (i.e. demographics, health status, substance abuse, psychiatric and family psychiatric history and a sense of coherence) and both traumatic exposure to violent crime and traumatic symptomatology. Finally, the study examined whether there was a relationship between traumatic exposure to violent crime and traumatic symptomatology. The discussion of the above investigation will now follow. The researcher has to a large degree looked at constructs separately for the purpose of this study, however, arguably there is overlap and interaction amongst said constructs (e.g. the nature, severity and subjective perception of the stressor) and where possible the study will comment on the combination of factors implicated in the development of PTSD. There may be repetition at times given the abovementioned constraints and distinctions such as these are largely false but necessary for the purpose of examination.

The results of the current study, which are discussed in the following chapters, were derived from questions and scales administered to measure the chosen constructs. Generally, only the statistically significant results have been presented in the results and discussion chapters given the scope of this thesis and the number of variables and hence observations possible. Where relevant the researcher will comment on the non-significant results and their relevance to the current study.

Research Question 1a: What is the prevalence of traumatic exposure to violent crime in a sample of 1st year university students in Gauteng, South Africa?

Research Question 1b: What is the prevalence of traumatic symptomatology in a sample of 1st year university students in Gauteng, South Africa?

Since this study focused on the prevalence of both exposure to violent crime and traumatic symptomatology epidemiological constructs were utilised by the researcher. Hence, the sample was selected for reasons other than its exposure or disease status (Schlenger et al., 1997). As noted previously samples should be representative of the specific population or subgroup to which inference is to be made (e.g. Vietnam veterans, crime victims, incest survivors) (Schlenger et al., 1997). Epidemiology is the study of the distribution and determinants of disease and disorder in human populations and, as is the case in the current study, factors regarding person, place and time are focused upon (Dunn & Janes, 1986). Increasing interest has emerged in the contribution that the social sciences make to the epidemiological study of patterns of health and disease (Dunn & Janes, 1986) and the current study has endeavoured to contribute in this area.

The following section answers research questions 1a and 1b, i.e. the prevalence rates of both direct and indirect traumatic exposure to violent crime and the prevalence rates of traumatic symptomatology in the current study's sample are presented.

Direct Exposure to Violent Crime

The results of the current study showed that 35% (n = 367) of the participants were directly exposed to violent crime (e.g. mugging, assault, armed robbery, rape). It was found that 18% of the above participants, who were directly exposed to violent crime (of the 35% noted above), experienced one incident of violent crime, 10% two incidents, 4% three incidents and the remaining 4% experienced 4 - 16 incidents. Hence, high levels and multiple experiences of direct exposure to violent crime were evident in the current study's sample.

Indirect Exposure to Violent Crime

The results of the study showed that 62% (n = 367) of the participants in the sample were indirectly exposed to violent crime. It was found that 24%, of the 62% noted above, reported one indirect incident, 16% two incidents, 11% three incidents, 5% four incidents and the remaining 7% experienced 5-18 incidents of exposure to indirect violent crime. Multiple exposure to violent crime appears to be common amongst a high proportion of this sample, both directly and indirectly. The above figures reflect extremely high levels of indirect exposure. Furthermore, the results reflect high levels of direct exposure to violent crime, in the current study's sample, which occurred during the period of a crime statistics moratorium. Furthermore, the prevalence rates of violent crime exposure contain victims of indirect exposure and possibly those who may not have reported violent crime exposure to the police services. In the current sample (n = 367) it was found that 16% (n = 59) of the sample responded that they reported violent crime exposure to the South African Police Services.

Prevalence of traumatic symptomatology

In the current study 13% ($n = 48$) of the sample reported significant intrusive symptoms. It was found that 26% ($n = 94$) of the sample reported significant avoidance symptoms. Overall, it was found that 19% ($n = 71$) of the sample reported substantial levels of PTSD symptomatology as measured by the IES.

In terms of available epidemiological data regarding PTSD, it has been found that PTSD and certainly chronic PTSD, is more unusual than usual following exposure to a variety of traumatic events (Horowitz, 1999; Yehuda & McFarlane, 1999). Furthermore, Yehuda and McFarlane (1999) argue that epidemiological studies of 'high risk' individuals (e.g. defined as survivors of traumatic events such as combat or rape victims) have generally suggested that the occurrence of PTSD following a traumatic event is the exception rather than the rule (Card, 1987; Freedman et al., 1992). Contrarily to the theorists quoted above who argue that PTSD is generally rare even in "high-risk" individuals like rape victims, Joseph et al. (1997) state that for those exposed to such events PTSD is a likely outcome. Kilpatrick et al. (1987) found that 27.8% of women exposed to a variety of crimes in a community sample acquired lifetime PTSD. The crime of rape was associated with a lifetime PTSD prevalence rate of 57%. Although lifetime prevalence rates of PTSD were not being measured, the current study found a PTSD prevalence rate of 19% suggesting that PTSD manifestations, with regards to violent crime exposure, were not rare in the current sample. In the DSM-IV (1994), estimates of the prevalence of PTSD among those exposed to a Criterion A stressor range from 3% to 58%. It appears that different types of civilian trauma may lead to different rates of PTSD. Furthermore, there appears to be wide variations in the range with regards to PTSD prevalence found in traumatic stress studies. Perhaps this relates to different types of traumatic exposure and

methodological variations across studies. However, even among those who are exposed to very severe and prolonged trauma, there are usually a substantial number of individuals who do not develop PTSD or other psychiatric illness (Yehuda & McFarlane, 1999) which was found in the current study. The results of the current study showed that 81% of the sample reported no significant traumatic symptomatology, sub-clinical or low significant symptomatology was not assessed in the current study.

However, it appears that higher PTSD prevalence rates are found in criminal victimisation samples than is estimated or found in other populations (DSM-IV, 1994) as was the case in the current study. Since, in contrast to the low prevalence rates reported for natural disasters, the lifetime prevalence rates of PTSD among crime victims have been estimated to vary from 19% to 75% (Kilpatrick et al., 1993). In the current study 19% of the sample were experiencing PTSD symptoms. The duration of symptoms is unknown in the sample since the IES measures symptoms occurring in the last seven days prior to the data collection. Furthermore, significant intrusion symptoms were found in 13% of the sample and 26% reported significant avoidance symptoms. Wolfe and Kimerling (1997) reviewed Resnick et al's, 1993 study on the effects of particular stressors - notably rape and sexual assault. It was noted that consistent with previous findings, rates of PTSD were appreciably higher for survivors of crime versus non-crime-related traumas (26% vs. 9%)(Wolfe & Kimerling, 1997). The current study's results confirm that rates of PTSD were high for violent crime victims.

Studies have found that experiences involving direct threat to life or the receipt of physical injury emerged as the strongest risk factors for PTSD (Resnick et al., 1993). South African police service statistics reveal high rates, in Gauteng, of

experiences involving direct threat to life and the receipt of physical injury with regards to violent crime (SAPS, 2001). The South African Institute of Race Relations publishes surveys in South Africa Survey. In their millennium edition 1999/2000 they reported the following crime statistics from a national Victims of Crime Survey conducted in 1997. Some 21% of South African households had experienced at least one household crime (such as hijacking or murder), one household in 200 had experienced at least one incidence of murder, 3.8 million South Africans over the age of 16 had been the victim of at least one individual crime (such as assault), and one in every 250 had been the victim of a sexual offence. According to this survey, some 17% of White and so-called Coloured respondents were the victims of at least one individual crime in 1997, compared with 14% of African and 11% of Indian respondents.

Further Gauteng violent crime statistics reveal the following. In particular violent crime categories recorded crime has increased significantly (Bruce, 2001). From 1994 to 2000, common assault has increased from 502 to 569 per 100000, while assault (grievous bodily harm) has increased from 544 to 624 per 100 000. The category of violent crime that had reflected the most striking increases in this period was robbery (Bruce, 2001). While robbery with aggravating circumstances increased from 220 to 251 per 100 000 during the 1994 to 2000 period (it reached a low of 167 per 100 000 in 1996), 'other robbery' has increased steadily and dramatically from 84 to 198 per 100 000, an increase of 135%. While there has been an overall decline in theft of, and out of vehicles, the increase in robbery - which amounts to 'violent property crime' - is also matched by increases in some categories of property crime such as 'residential housebreaking'. Statistics indicate that hijacking (of cars and trucks), cash in transit heists and bank robberies, have all declined a few percentage

points over the last few years (Bruce, 2001). One of the latest available national crime statistics reports states that in the first nine months of 2001, "...except in the case of other theft and two categories of robbery (which are still a major concern), all 17 other crimes have at least stabilised." (SAPS, 2001, p. 1). However, the South African crime figures for 1999, measured against those of 90 other Interpol member countries indicate that South Africa measures unacceptably high with regard to violence, for instance murder, rape, robbery and assault (SAPS, 2001). The current study is examining factors regarding exposure to violent crime, in Gauteng, South Africa in a sample of 1st year university students during the time frame mentioned above, from September 1999- 2001. As noted previously, the epidemiological constructs of time, place and person were utilised in the current study with regards to the examination of the prevalence and effects of violent crime exposure and traumatic symptomatology.

The results of the current study revealed high levels of direct (35%) and indirect (62%) exposure to violent crime. Violent crime events measured in the current study included those described above, for instance, robbery, car hi-jacking, and assault. Furthermore, multiple exposure to violent crime was reported in the current study's sample. For instance, it was found that, of the 35% of the sample reporting direct exposure to violent crime, 10% reported two incidents, 4% reported three incidents and the remaining 4% reported between 4-16 incidents.

Resnick et al. (1993) found that lifetime rates of PTSD associated with interpersonal trauma ranged from 31% to 39%, whereas the rate of PTSD associated with non-crime trauma (disaster, accident) was only 9%. It appears that violent crime exposure yields higher PTSD prevalence rates than other traumatic events (e.g. natural disaster) suggesting different rates of PTSD for different events. The current study found statistically significant differences, in groups exposed to direct and indirect

interpersonal trauma (e.g. mugging, armed robbery, attempted and actual car hi-jacking, attempted sexual assault), with regards to levels of traumatic symptomatology that will be discussed below. Furthermore, the researcher hypothesises that findings in the literature, with regards to interpersonal trauma (Resnick et al., 1993), may be relevant to the current study since, generally, the nature of violent crime is that it is interpersonal. The current study found high levels of substantial PTSD (19%) and high levels of both direct and indirect exposure to violent crime in the sample. Thirty-five percent of the participants reported direct exposure to violent crime. Sixty-two percent of the participants reported indirect exposure to violent crime. Furthermore, high levels of multiple exposure to both direct and indirect violent crime events were reported in the current sample. For instance, of the 62% of the sample reporting indirect exposure to violent crime, 16% reported two incidences, 11% reported three incidences, 5% reported four incidences and the remaining 7% reported between 5-18 incidences.

Furthermore, in the current study some support was given to the literature with regards to the relationship between events involving threat to life and threat of physical injury and traumatic symptomatology (e.g. Eagle, 1998; Resnick et al., 1993; Kilpatrick et al., 1997; Yehuda & McFarlane, 1999). The following statistically significant differences were found between the violent crime events, noted below, which potentially involve direct threat to life and the receipt of physical injury, either to oneself or to a significant other, and traumatic symptomatology. The statistically significant results of the current study show that those exposed to mugging had, on average, higher levels of traumatic symptomatology than those who were not exposed. The results of the current study indicated that those who experienced exposure to attempted sexual assault had, on average, significantly higher levels of traumatic

symptomatology than those who did not. Statistically significant differences in means were found between the group reporting indirect exposure/no exposure to mugging, attempted and actual car hi-jacking, armed robbery and kidnapping with regards to traumatic symptomatology. These results indicate that levels of traumatic symptomatology were significantly higher for those experiencing the aforementioned indirect exposure to violent crime events and those who did not. This suggests that events involving threat to life and threat of physical harm may be indirectly traumatising too, confirming findings in the literature with regards to these types of traumatic events (Figley, 1995; DSM-IV, APA, 1994).

As noted in the literature review, Hamber and Lewis (1997) state that a pattern of effect emerges in both the victims of crime and their supporters. The results of the current study confirm the DSM-IV's (APA, 1994, p.376) assertion that post-traumatic stress symptoms may occur following an individual witnessing or "...learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate." Violent crime is currently widespread, ongoing, and to some extent random in South Africa (NCPS, 1996). Hence, the overall environment in which individuals experience criminal violence is in itself traumatic, and this may negatively influence responses to stress and trauma, especially as there is the continual stress of anticipating becoming a victim of crime (). There is also the possibility that individuals who have been exposed to criminal violence may be further exposed to crime, or that someone close to an individual may experience criminal violence at any time (). Furthermore, as evident in the current study, the context of widespread crime means that there is a large group of individuals who are indirectly affected by criminal violence (Friedland, 1999).

Crime involving random violence has been found to be particularly distressing (Joseph et al., 1997). For instance, indirect victims of a multiple shooting event in a McDonald's in San Ysidro i.e. those having family or friends involved in the incident were the most likely to exhibit PTSD symptoms (Hough et al., 1990). The number of 'victims' of violent crime is greatly underestimated because only those directly in harms way are counted (Figley, 1995). In another South African study of university students in Gauteng, Friedman (1999) found high levels of PTSD following direct and indirect exposure to violent crime. The current study found that 35% of the sample reported direct exposure to violent crime and 62% of the sample reported indirect exposure to violent crime. Police statistics only include those crimes reported by individuals who are directly harmed. The results of the current study showed that only a small proportion of those directly exposed to violent crime reported the event to the South African Police services. In the current sample ($n = 367$), it was found that 16% ($n = 59$) of the sample reported violent crime exposure to the South African Police Services. These finding suggests that the numbers of those affected are underestimated, in crime statistics, for both direct and indirect exposure in Gauteng, South Africa. In South Africa then, it is suggested that many individuals, families, institutions/organisations and the country at large have been and continue to be affected by violent crime exposure. The current study contributes to literature regarding the prevalence of direct and indirect exposure to violent crime in a sample of 1st year university students in Gauteng over the period when there was a crime statistics moratorium in South Africa.

In an American survey, it is estimated that the prevalence of civilian trauma and crime-related PTSD was around 1% in the general population (Helzer et al., 1987, cited in Joseph et al., 1997). The South African equivalent figure is not known,

however, it is known that South Africa has one of the highest rates of violent crime in the world (Nedbank, ISS Crime Survey, 1999; SAPS, 2001). In the current study 19% of the sample reported PTSD symptomatology, the effects of which may be deleterious as discussed below. Sorenson and Golding (1990) note that there is evidence from a variety of studies that the experience of criminal victimisation is associated with poorer mental health, with the immediate aftermath of crime being particularly distressing (Joseph et al., 1997). Davis and Friedman (1985) (in a study of burglary, robbery and assault) found that 45% of victims were experiencing distress 1-3 weeks after the incident, and if sleeping disorders were included this rose to 75%. Norris and Kaniasty (1994) who directly compared victims of violent crime to property crime victims and found that those exposed to violent crimes were significantly more distressed, even controlling for pre-crime social status and psychological functioning. The current study found statistically significant positive relationships between violent crime exposure, direct and indirect, and traumatic symptomatology suggesting that the deleterious affect of exposure is being experienced by violent crime victims.

As has been shown, there are currently multiple studies in the psychological and psychiatric literature that document the frequency and psychological impact of traumatic events (Elliot & Briere 1995; Norris, 1992; Resnick et al., 1993; Ullman & Filipas, 2001; Zoellner et al., 2000). These studies have produced similar rates of trauma exposure, indicating that over half, and up to three quarters of individuals have experienced events that are potentially traumatic and that likely meet the stressor criterion for PTSD (APA, 1994). Kessler et al. (1995) found that 61% of men and 51% of women experienced at least one of the events they assessed. Resnick et al. (1993) reported that lifetime exposure was 69%. Multiple trauma exposure was also

common. Resnick et al. (1993) found that, among those respondents who had experienced some type of criminal victimisation, over half reported more than one episode. The current study cannot comment on lifetime rates of PTSD, however, high rates of multiple exposures to both direct and indirect violent crime were found in this sample. For instance, of those participants ($n = 367$) experiencing direct exposure to violent crime (35%) in the current study, 10% reported two incidences, 4% three incidences and 4% of the sample reporting 4-16 incidences.

The above studies suggest that traumatic exposure/s to various events, including criminal victimisation, are high in populations other than those in Gauteng, South Africa. Hence, it appears that traumatic exposure is not rare, but rather relatively common, in many populations in the world. However, rates of violent crime exposure do appear to be relatively high in the current sample and in related South African studies (Eagle, 1998; Blumberg, 2000; Friedland, 1999). Furthermore, violent crime exposure rates appear to be high in Gauteng, South Africa as noted by police (SAPS, 2001) and further available statistics (Nedbank, ISS Crime Survey, 2001).

However, in terms of exposure, Kilpatrick and Resnick (in Davidson & Foa, 1993) collated findings across eleven studies of populations of victims of crime. They found that many crimes are not isolated events and that in many cases crime victims have been exposed to “other” trauma (28.7% in one study), complicating assessment of the direct impact of one criminal event specifically (Davidson & Foa, 1993). This appears to be confirmed in the current study and will be discussed later with regards to previous exposure to various incidents (e.g. motor vehicle accident, natural disaster, suicide of a known other). Furthermore, multiple exposure to both direct and indirect violent crime was found in the current study. For instance, of those participants ($n = 367$) experiencing direct exposure to violent crime (35%) in the current study, 10%

reported two incidences, 4% three incidences and 4% of the sample reporting 4-16 incidences.

In conclusion, Eagle (1998, p. 164-165) notes that, although clients seeking treatment clearly have higher levels of PTSD, "...it is evident that crime victims in general face not inconsiderable risk of developing full blown psychiatric symptoms." A study examining prevalence rates post the traumatic incident, reflect substantial vulnerability to PTSD (Eagle, 1998). "Rates observed in populations assessed from 1 to 36 months post-crime generally ranged from 24% or 25% in a criminal justice system exposed sample...to 48.4%...and 70% in clinical and crisis agency referred samples respectively." (Kilpatrick & Resnick, in Davidson & Foa, 1993, p. 124). In the current study 19% of the sample reported PTSD symptomatology, though symptom duration was not known. Hence, it appears that criminal victimisation yields high rates of PTSD symptomatology. Thus, it appears that the study of the longitudinal course and prognosis of PTSD, following violent crime exposure, is an important area of investigation (see recommendations for further research).

In the current study the results of research questions 1a and 1b appear to confirm prevalence rates found in the literature with regards to exposure to traumatic events and high traumatic symptomatology prevalence rates for victims of violent crime. Furthermore, the results of the current study appear to confirm findings in the literature with regards to multiple exposure to traumatic events, including violent crime, being prevalent. Rates of multiple exposure to violent crime, both directly and indirectly, were found to be high in the current study's sample.

The current chapter examined the findings with regards to the prevalence of violent crime exposure and traumatic symptomatology in the sample. The following chapters will examine the findings with regards to the relational aspects of the current

study. The next chapter will examine the findings with regards to the relationship between the traumatogenic event (i.e. the nature, severity and subjective perception of the traumatic stressor) and traumatic symptomatology.

CHAPTER NINE

Discussion of Research Question 2

Research Question 2: Is there a relationship between the nature of the traumatogenic event (i.e. the nature, severity and subjective perception of the traumatic stressor) and traumatic symptomatology?

In the following discussion chapters the researcher will discuss the results found in the current study. The results will be discussed in relation to the statistically significant relationships with regards to the correlational analysis and as statistically significant effects with regards to the analysis of variance results. The results of the t-tests will be discussed with regards to statistically significant differences found between means.

In the current study 19% of the sample were experiencing substantial levels of PTSD as measured by the Impact of Events Scale. Furthermore, significant intrusion symptoms were found in 13% of the sample and 26% reported significant avoidance symptoms. The Dimensions of Trauma Scale (DTS) was one of the instruments utilised in the current study to measure the nature, severity and subjective perception of the traumatic stressor with regards to direct and/or indirect violent crime exposure and traumatic symptomatology. On the DTS subscale, which measures the dimensions or aspects of violent crime exposure, 45% of the sample reported aspects of violent crime exposure (e.g. 'My life was threatened', 'I had to flee for my life'). Direct and indirect exposure, measured by the Direct and Indirect Exposure to Violent Crime Scales, assessed events, such as mugging, armed robbery and rape.

Blumberg (2000) notes that adaption to trauma exposure is more or less difficult depending on the nature of the event itself, and the impact of personal strengths and deficits and social/environmental forces on its processing. Green et al.

(1985) confirm that the nature of the trauma alone does not dictate the course of PTSD, subjective perception of the traumatic event is the central factor in determining outcome. Furthermore, there are a number of other factors that can exacerbate or relieve PTSD symptomatology, for example, the perceived availability of support (Scott & Stradling, 1992), family history and family circumstances (Yule & Williams, 1990), previous exposure to traumatic experiences (Green et al. 2000; Wolfe & Kimerling, 1997) and pre-existing personality variables (Kleber & Brom, 1992). In the later chapters the current study examines the above factors, however, here the nature of the traumatogenic event, i.e. the nature, severity and subjective perception of the stressor will be discussed in relation to traumatic symptomatology.

In terms of the nature and severity of the traumatic stressor, the literature has shown that experiences involving direct threat to life or the receipt of physical injury emerged as the strongest risk factors for PTSD (Kilpatrick et al., 1993; Resnick et al., 1993). In the current study some support was given to the literature with regards to the relationship between events involving threat to life and threat of physical injury and traumatic symptomatology (e.g. Eagle, 1998; Resnick et al., 1993; Kilpatrick et al., 1997; Yehuda & McFarlane, 1999). The following statistically significant differences in levels of traumatic symptomatology were found, as noted below, with regards to events that potentially involve direct threat to life and the receipt of physical injury. The results of the current study show that levels of traumatic symptomatology were significantly higher, on average, for those reporting direct exposure to mugging than those who did not. The results of the current study indicate that those who were exposed to attempted sexual assault had significantly higher levels of PTSD symptomatology than those who were not. Thus, the results of the current study

suggest that, in relation to direct exposure to violent crime, the traumatogenic events listed above may be implicated with regards to traumatic stress symptomatology.

In the current study statistically significant positive correlations were found between the traumatic stress symptom clusters of intrusion and arousal and overall traumatic stress symptoms, and aspects of direct and/or indirect violent crime exposure on the Dimensions of Trauma Scale (e.g. I saw the dead body of someone I knew, My Life was threatened). Hence, it appears that aspects of violent crime exposure were significantly related to PTSD symptomatology in the current study's sample. The aforementioned results lend weight to the notion that the nature, severity and subjective perception of the stressor are implicated in traumatic stress manifestations. Subjective perception of the traumatic event is also highlighted in the literature as an important factor mediating PTSD reactions, explaining, to some extent, the variation in individual responses to similar traumas (Brewin, Andrews & Rose, 2001; Green, 1993; Horowitz, 1999; Ullman & Filipas, 2001; Wolfe & Kimerling, 1997). Since, under some horrendous circumstances a large proportion of individuals do not develop PTSD, while in some cases, exposure to stressors of an objectively low magnitude (e.g. may not involve horror, fear, helplessness) can result in PTSD (Brewin et al., 2001). The results of the current study highlighted statistically significant relationships between the subjective perception of the stressor and traumatic symptomatology. These statistically significant results were found with regards to the reported effect of direct and indirect exposure to various events (e.g. mugging) and the reported effect of aspects of violent crime exposure (My life was threatened) in relation to traumatic symptomatology. Thus, for instance, the results of the current study indicate that the greater the reported effect of direct exposure to violent crime the greater the traumatic symptomatology.

With regards to the nature of the event and traumatic symptomatology, discussed broadly as direct and indirect violent crime exposure, the following results were found. Statistically significant results were found between overall traumatic symptomatology and direct exposure to violent crime. Indirect exposure and the reported effect thereof were significantly related to traumatic symptomatology. Indirect exposure was significantly related to avoidance and arousal symptoms and overall traumatic stress symptoms. These results are discussed below with regards to indirect exposure to violent crime and traumatic symptomatology. The effect of indirect exposure was related to all the symptom clusters and overall traumatic symptomatology. This result suggests a statistically significant relationship between the subjective perception of the stressor, i.e. the reported effect of indirect exposure, and traumatic symptomatology. Furthermore, direct exposure to violent crime was found to be significantly related to the traumatic stress symptom cluster of arousal. Hence, the results of the study suggest that there was a statistically significant relationship between the nature of the stressor, direct and indirect exposure to violent crime, and traumatic stress manifestations on the three symptom clusters of intrusion, avoidance and arousal and overall traumatic stress symptomatology. In the current study 13% of the sample reported intrusion symptoms and a high percentage of the sample (26%) reported avoidance symptoms. Published arousal symptom cut-off scores were not provided for the IES-R (Weiss & Marmar, 1997). The arousal subscale is not part of the IES which includes Horowitz's (1979) significant symptom cut-off scores that were used, in the current study, to measure the prevalence of intrusion and avoidance symptoms. Overall traumatic stress symptomatology or substantial levels of PTSD were reported by 19% of the sample. The results of the current study confirm findings in the literature with regards to violent crime victims

experiencing arousal, intrusion and avoidance symptoms (Bard & Sangrey, 1986). In addition, the results of the current study suggest that victims of indirect exposure to violent crime experience symptoms from all three traumatic stress clusters.

Furthermore, the current study found that in this sample the victims of violent crime experienced intrusive symptoms when exposed to various aspects of violent crime (e.g. I was badly harmed or injured) as found in other violent crime and PTSD studies (Bard & Sangrey, 1986; Kilpatrick & Resnick, 1993). Bard and Sangrey (1986) describe how victims of crime often re-experience the events surrounding the crime over and over again. They “...may be tormented by intrusive memories of the crime or by persistent dreaming of it” (Bard & Sangrey, 1986, p. 47), or they may feel as though the crime was happening again when confronted with stimuli which were associated with the traumatic experience. Kilpatrick and Resnick (1993) conducted a literature review of studies of criminal victimisation and they found that intrusive thoughts and the re-experiencing of exposure to criminal violence were highly common responses amongst individuals exposed to a variety of crimes. In the current study some support was given to the findings in the literature, since intrusion symptoms were significantly related to direct and indirect violent crime exposure. This was found in relation to a variety of events (e.g. armed robbery, mugging, attempted sexual assault) and different aspects of exposure (e.g. My life was threatened, I had to flee for my life).

In addition, the results of the current study show that the traumatic stress symptom cluster of avoidance was reported by a large proportion (26%) of the respondents with regards to traumatic exposure to violent crime. This confirms findings in the traumatic stress field with regards to victims of violent crime (Bard & Sangrey, 1986; Herman, 1992; Kilpatrick & Resnick, 1993) and the implications for

victims and their relationships are highlighted below. Herman (1992) describes avoidance as a numbing response which is characterised by estrangement, detachment and avoidance of the stimuli which may bring back memories of the traumatic event. Avoidance of the trauma may reflect an attempt by traumatised individuals to “...create some sense of safety and to control their pervasive fear, traumatised people restrict their lives.” (Herman, 1992, p. 46). However, avoidance tends to restrict an individual’s relationships, since, by avoiding the traumatic stimuli the individual forgoes the opportunity to gain some mastery over the effects of the traumatic event (Herman, 1992).

Furthermore, Bard & Sangrey (1986) found that victims of crime often alternate between thinking about their traumatic experience and then try to defend against their memories by denying them. Many victims can go through a period of direct denial in which “...they feel emotionally detached, unable to respond with much feeling to anything” (Bard & Sangrey, 1986, p. 42). Many victims experience “...specific fears about specific details of the crime” (Bard & Sangrey, p. 44) and avoid particular places or people which arouse recollections of the trauma. Bard & Sangrey (1986) have outlined a response, in accordance with the DSM-IV’s (APA, 1994) description of avoidance symptoms, to criminal victimisation. They view the avoidance of the traumatic event as part of the process of traumatisation and concur with Herman (1992) that this hampers the victim’s opportunity to deal with and overcome their trauma. The results of the current study found statistically significant relationships between direct and indirect exposure to violent crime and avoidance symptoms. Hence, there are serious implications in terms of the consequences for individuals, their significant others and for the country as a whole given the effects of avoidance symptoms as discussed above. Relationship difficulties, parenting

difficulties, and work performance are all areas, besides others, which may suffer as a result of criminal victimisation and the consequences thereof.

Further effects for respondents in the current study regards statistically significant relationships which were found between the traumatic symptoms of arousal and direct exposure to violent crime and aspects of violent crime exposure (e.g. I was badly harmed or injured). This confirms findings in violent crime studies, for instance, Bard and Sangrey (1986) found that hypervigilance is a common response to criminal victimisation, and the victim is often vigilant within their environment. There is the anticipation that they may be exposed to another traumatic experience. In Gauteng, this is a very real and not unrealistic threat (Nedcor, ISS Crime Index, 2001). This vigilance has been found to reduce with intensity over time (Bard & Sangrey, 1986). However, in South Africa this is complicated since, as noted earlier, crime is ongoing, thus it is possible that hypervigilance may persist over a longer period, since the perception of risk is reinforced by contextual features (Friedland, 1999). Eagle (1994) notes that in situations of multiple and ongoing trauma, the symptom of hyperarousal is increased. Eagle (1994) argues that survivors may be highly vigilant of their environment, which may result in startle responses, sleeplessness and concentration problems. According to Eagle (1994, p. 15) increased arousal may only be maintained for a limited period, and then more chronic depressive symptoms "...of numbing and depressed mood, withdrawal and hopelessness" may develop. Furthermore, Friedland (1999) notes that there is a dearth of research with regards to arousal symptoms and indirect exposure to violent crime, hence, the current study has endeavoured to contribute in this area. The findings with regards to indirect exposure to violent crime are discussed below.

With regards to the nature of the traumatogenic event, in the current study indirect exposure to violent crime yielded significantly higher levels of PTSD symptomatology for those exposed to mugging, armed robbery, attempted and actual car hi-jacking and kidnapping than for those who were not. This suggests that events involving threat to life and threat of physical harm may be indirectly traumatising confirming findings with regards to these types of violent crime events. Furthermore, the results of the current study indicate statistically significant (positive) relationships between the nature of indirect traumatogenic events and traumatic stress symptomatology. Furthermore, a statistically significant relationship was found, in the current study, between indirect exposure to violent crime and avoidance and arousal symptoms on the Impact of Event Scale-Revised. The three symptom clusters of intrusion, avoidance and arousal and overall traumatic stress symptomatology were significantly related to the effect of indirect exposure. Hence, the results of the study indicate that there was a statistically significant relationship between the effect (i.e. the subjective perception of the stressor) of indirect exposure to violent crime and traumatic symptomatology.

The above results confirm findings in the traumatic stress field with regards to indirect exposure to trauma (Bard & Sangery, 1986; Figley, 1995; Friedland, 1999), here violent crime, and traumatic symptomatology. This finding with regards to indirect exposure also appears to confirm the validity of the DSM-IV's (APA, 1994) inclusion of 'witnessing' or 'learning about' the occurrence of harm as potentially traumatising. In terms of indirect traumatic stress responses, Figley (1995) suggests that the individual re-experiences, in fantasy, the traumatic event that occurred to the significant other. Furthermore, it appears that intrusive symptoms may be experienced by particular populations of indirectly traumatised individuals (Friedland, 1999). The

persistent avoidance of stimuli associated with the traumatic event was also shown, by Amick-McMullan et al. (1989), to be a relevant feature in relation to indirect trauma. High levels of avoidant behavior were found amongst a sample that had experienced the murder of a family member (Amick-McMullan et al., 1989). It was also reported that places would be avoided that reminded them of the traumatic event (Amick-McMullan et al., 1989). Detachment or estrangement from others was also reported. Thus, it would appear that indirect traumatising may produce very similar, if not identical features of avoidance to those caused by direct exposure to a traumatic event (Friedland, 1999; Figley, 1995).

In terms of the nature of the traumatogenic event, the implications for those respondents who experienced attempted sexual assault and physical attack are highlighted below. There is evidence that women who have experienced sexual assault are likely to suffer from a range of psychological problems including anxiety and fear (Calhoun et al., 1982; Kilpatrick et al., 1981), depression (Atkeson et al., 1982; Kimerling & Calhoun, 1994), sexual dysfunction (Becker et al., 1982; Orlando & Koss, 1983) and problems in social adjustment (Kilpatrick et al., 1979; Resnick et al., 1982). Kessler et al., (1995) found that lifetime PTSD was associated with rape, molestation, physical abuse and physical attack ranged from 2% to 65% in men and from 21% to 49% in women, whereas rates from accident, natural disaster, or witnessing a traumatic event happening to someone ranged from 4% to 6% in men and 5% to 9% in women. Exposure rates to the above traumatic events (i.e. rape, molestation, physical abuse and physical attack) have been shown to be high in Gauteng, South Africa (SAPS, 2001), hence, it is possible that rates of PTSD will be equivalent, at least, to those quoted above and the effects deleterious for those who have been exposed. Arguably, the effects for those in the current study's sample were

deleterious, since, it was found that, on average, significantly higher levels of PTSD symptomatology were found for those who were exposed to mugging and attempted sexual assault than for those who were not.

Moreover, Sorenson and Golding (1990) note that there is evidence from a variety of studies that the experience of criminal victimisation is associated with poorer mental health, with the immediate aftermath of crime being particularly distressing (Joseph et al., 1997). Davis and Friedman (1985) (in a study of burglary, robbery and assault) found that 45% of victims were experiencing distress 1-3 weeks after the incident, and if sleeping disorders were included this rose to 75%. In the current study, on average, significantly higher levels of PTSD symptomatology were found for those directly exposed to mugging and attempted sexual assault than those who were not. Furthermore, on average, significantly higher levels of PTSD symptomatology were found for those indirectly exposed to mugging, armed robbery and attempted and actual car hi-jacking than those who were not. Hence, the distress experienced by the respondents in the current study's sample, who reported the above symptomatology, is arguably comparable to the findings above. Norris and Kaniasty (1994) who directly compared victims of violent crime to property crime victims and found that those exposed to violent crimes were significantly more distressed, even controlling for pre-crime social status and psychological functioning.

The finding that PTSD is not an inevitable consequence of trauma has required theorists to be more precise in the formulation of the effects of trauma and to search for other vulnerability factors that give rise to and perpetuate the course of PTSD (Yehuda & McFarlane, 1999). The current study has examined various variables in order to add to discussions regarding the complexities of traumatic stress manifestations. The statistically significant results of the current study appear to

confirm that the nature of the traumatogenic event was related to traumatic symptomatology in the sample. The following chapters will examine further variables, for instance, social support, previous exposure to trauma and personal factors that have been implicated in the traumatic stress literature with regards to PTSD. Furthermore, the novel aspect of the current research will be to include looking at these variables in relation to traumatic exposure.

CHAPTER TEN

Discussion of Research Questions 3a and 3b

Research Question 3a: Is there a relationship between the posttrauma environment (i.e. counselling, levels of social support and previous exposure to trauma) and traumatic exposure to violent crime.

Research Question 3b: Is there a relationship between the posttrauma environment (e.g. counselling, levels of social support and previous exposure to trauma) and traumatic symptomatology?

Introduction

Kaplan and Saddock (1994, p.618) note that, “(b)y definition, the stressor is the prime causative factor in the development of posttraumatic stress disorder.” However, the stressor is not sufficient to cause the disorder and individual pre-existing biological and psychosocial factors and events that happened after the trauma have to be considered. In this chapter the researcher will examine some features of the posttrauma environment and their relationship to traumatic exposure and traumatic symptomatology. In order to answer the research questions above the researcher examined counselling, social support and previous exposure to trauma and their relationship to current traumatic exposure to violent crime and traumatic symptomatology. These three factors have been highlighted in the traumatic stress literature as relevant areas of study (New & Berliner, 2000; Ullman & Filipas, 2001)

Counselling

The results of the current study indicate that there were statistically significant relationships between whether counselling was attended or not and number of counselling sessions, in the posttrauma environment, and both exposure to violent crime and traumatic symptomatology. These results indicate that the greater the traumatic exposure to violent crime the greater the number of counselling sessions attended, or vice versa. Furthermore, the results indicate that the greater the traumatic symptomatology the greater the number of counselling sessions attended, or vice versa. However, it is important to note that these results should be treated with caution since only seven percent ($n = 25$) of the sample ($n = 367$) reported attending counselling/therapy following violent crime exposure. This appears to support literature which states that few victims of violent crime present for help following exposure (New & Berliner, 2000). However, studies of non-clinical (Kilpatrick, et al., 1987; Kilpatrick & Resnick, 1993; Sabbagh, 1995; Zoellner, et al., 2000) and clinical populations (Brewin, et al., 2000; Eth & Pynoos, 1994; New & Berliner, 2000; Wolfe & Kimerling, 1997), examining the psychological consequences of criminal victimisation, have documented elevated symptom levels and psychiatric disorders in adult and child crime victims. New and Berliner (2000) note that PTSD and other trauma related symptoms occur in a substantial percentage of victims, although the rates vary, both between specific types of victimisation and within victim groups (see also Foa & Davidson, 1993; Resnick et al., 1993). The findings above and the current study's prevalence rates of violent crime exposure and substantial levels of PTSD suggest that many victims of crime have psychological conditions that could benefit by or require mental health services. New and Berliner (2000) state that little is known

about treatment-seeking among crime victims, or how patterns of use compare with other populations. The current study has endeavoured to contribute in this regard.

Some research on adult crime victims finds that only a minority seeks treatment, even though they may be suffering from crime-related psychological conditions (New & Berliner, 2000). In a general population study, Norris et al. (1990) found that 12% of crime victims (7% non-violent crime, 23% violent crime) contacted mental health professionals in the first three months following the crime. As noted above, the current sample yielded low rates of therapy/counselling attendance following violent crime exposure. This was found even though statistically significant positive relationships were found between traumatic exposure to violent crime, and, whether counselling was attended or not and the number of counselling sessions attended. Hence, the results indicate that the more violent crime exposure was experienced the more counselling was attended and the greater the number of counselling sessions attended. Furthermore, in the current study, statistically significant effects were found between exposure to dimensions of violent crime (e.g. I had to flee for my life) and whether counselling was received or not. This result indicates that statistically significant effects were found on whether counselling was attended, following violent crime exposure, with regards to aspects of direct and/or indirect exposure to violent crime. In the current study, aspects of violent crime exposure (e.g. I was badly harmed or injured) were positively correlated with counselling attended following violent crime exposure and with the number of sessions attended. Hence, it appears that the greater the exposure to aspects of violent crime the more counselling was attended and the greater the number of sessions attended. Aspects of violent crime exposure were also found to be significantly related to traumatic symptomatology in the current study. These results

indicate that the greater the exposure to aspects of violent crime the greater the traumatic symptomatology, or vice versa. These results confirm that the nature of the event is an important factor in the study of traumatic stress responses, and where intervention, for instance counselling, may be beneficial. Violent crime appears to be a particularly distressing form of traumatic exposure and victims could arguably benefit from intervention.

As noted above, in the current study a statistically significant relationship was found between the number of counselling sessions attended following violent crime exposure and aspects of violent crime exposure (e.g. I saw someone being hurt). This result indicates that the greater the exposure to aspects of violent crime the greater the number of counselling sessions attended. Furthermore, statistically significant effects were found between the reported effect of direct violent crime exposure and the number of sessions attended. These results indicate that the greater the reported effect of violent crime exposure the greater the number of counselling sessions attended, or vice versa. The results of the study appear to suggest that counselling, in the posttrauma environment, was affected by the severity and subjective nature of the violent crime exposure since both the subjective effect of exposure and aspects of exposure (e.g. My life was threatened) were found to be related to whether counselling was attended or not and the number of sessions attended. These results confirm findings in the traumatic stress literature (DSM-IV, APA, 1994; Esprey, 1996; Friedland, 1999; Green, 1985; Kilpatrick & Resnick, 1993) regarding the subjective perception of the stressor being an important factor in the study of traumatic stress. Moreover, the results of the current study suggest that both the objective and subjective experience of violent crime exposure were significantly related to whether

counselling was attended or not the number of therapy/counselling sessions attended following traumatic exposure to violent crime.

Furthermore, the results of the current study highlighted strong statistically significant (positive) relationships between the number of counselling sessions attended following violent crime exposure and each of the symptoms clusters of intrusion, avoidance, arousal and overall traumatic stress symptoms on the Impact of Event Scale- Revised. Hence, these results indicate that the greater the intrusive, avoidance and arousal traumatic stress symptoms were experienced the greater the number of counselling sessions attended following violent crime exposure, or vice versa. Thus, these results suggest that there was a statistically significant relationship between the number of therapy/counselling sessions attended following violent crime exposure and traumatic symptomatology. Furthermore, it appears that the number of sessions attended following violent crime exposure was significantly affected by the traumatic stress symptoms of intrusion and arousal, and overall levels of PTSD symptomatology. It appears that the symptoms of intrusion and arousal may be disturbing and, in some cases, may have encouraged the respondent to attend therapy/counselling. Furthermore, a discussion with regards to the avoidance symptom cluster and counselling will follow.

New and Berliner (2000) found that victims of violent crime, those who had been previously victimised, and those who were depressed were more likely to seek treatment. New and Berliner (2000) note that a somewhat higher use is reported in crime victims who have involvement in the criminal justice system. In another study (Kimerling & Calhoun, 1994), only one fifth of rape victims obtained mental health counselling, despite the presence of psychological symptoms. Female crime victims,

however, showed an increased use of medical services in the year following the crime incident (Kimerling & Calhoun, 1994). Adult crime and trauma victims appear to be reluctant or delay treatment even though they have psychological symptoms (New & Berliner, 2000). These results suggest that, unlike individuals in the general population who seek treatment because of symptoms, the nature of posttrauma distress may impact on the avoidance of psychological care (New & Berliner, 2000). Hence, it appears that there may be a link between the phenomenon of avoidance of psychological care and the ‘avoidance’ traumatic stress symptom cluster, as a feature of the victims response to violent crime, which is discussed below.

In the current study the traumatic stress symptom cluster of avoidance was reported by a substantial proportion (26%) of the respondents with regards to traumatic exposure to violent crime. In accordance with the above hypothesis regarding the avoidance of psychological care and the avoidance traumatic stress symptom cluster the following was noted. Herman (1992) describes avoidance as a numbing response that is characterised by estrangement, detachment and avoidance of the stimuli which may bring back memories of the traumatic event. Avoidance of the trauma may reflect an attempt by traumatised individuals to “...create some sense of safety and to control their pervasive fear, traumatised people restrict their lives.” (Herman, 1992, p. 46). It has been found that avoidance tends to restrict an individual’s relationships, since by avoiding the traumatic stimuli the individual forgoes the opportunity to gain some mastery over the effects of the traumatic event (Herman, 1992). Hence, avoidance of psychological care may be related to the phenomenon described by Herman (1992).

Thus, the importance of identifying those who may benefit from psychological care, and the need for education and support for victims of violent crime who may not otherwise seek out assistance, appears to be relevant. Further effects were noted by Bard & Sangrey (1986) who found that victims of crime often alternate between thinking about their traumatic experience and then try to defend against their memories by denying them. Many victims can go through a period of direct denial in which "...they feel emotionally detached, unable to respond with much feeling to anything" (Bard & Sangrey, 1986, p. 42). Many victims experience "...specific fears about specific details of the crime" (Bard & Sangrey, p. 44) and avoid particular places or people which arouse recollections of the trauma. Bard & Sangrey (1986) have outlined a response, in accordance with the DSM-IV's (APA, 1994) description of avoidance symptoms, to criminal victimisation. They view the avoidance of the traumatic event as part of the process of traumatisation and concur with Herman (1992) that this hampers the victim's opportunity to deal with and overcome their trauma. Perhaps a consequence of violent crime exposure is the avoidance of seeking help and support even when symptoms are experienced. In the current study statistically significant effects were found on the number of counselling sessions attended following violent crime exposure with regards to both traumatic exposure to violent crime and traumatic symptomatology. However, in the current study it was found that seven percent ($n = 25$) of the sample ($n = 367$) reported attending counselling following violent crime exposure. Hence, in the current study it was found that few participants attended counselling following violent crime exposure. Furthermore, perhaps avoidant symptoms, besides other factors, are also linked to the underreporting of violent crime in the sample and as a phenomenon generally. This

hypothesis is discussed in chapter eleven with regards to the reporting of violent crime exposure and traumatic symptomatology.

The current study endeavoured to contribute in the area of counselling/therapy and traumatic stress. The current research may have been beneficial for some respondents, since, some victims of violent crime in a non-clinical population were identified and provided with education regarding traumatic stress and access to helping profession resources. The literature (Eagle, 1994; 1998; Friedman, 1999; Hamber & Lewis, 1997; Horowitz, 1999; Ullman & Filipas, 2001) has cited the effects of violent crime, hence, support for victims, their significant others and communities appears to be indicated. New and Berliner (2000) note that there is an increasing recognition, in the U.S.A., of the mental health needs of victims and the health care delivery systems have been undergoing rapid change. Hamber (1999) argues that, in South Africa, mental health resources are highly inadequate to meet the needs of the population affected by traumatic exposure to, amongst other trauma, violent crime. This research highlights the importance of and the need for greater mental health resources in Gauteng. Furthermore, there is documented evidence in the studies quoted above and in the current study regarding the effects of traumatic exposure to violent crime with regards to traumatic symptomatology.

Bearing the above in mind, the traumatic stress literature strongly emphasises the importance of counselling following a traumatic event, suggesting that this reduces the risk of developing PTSD or ameliorates its effects (Scott & Stradling, 1992; Wilson & Raphael, 1993). Counselling appears to be particularly important after crime-related traumas, such as assault or rape, which are intentionally perpetrated by others (Peterson et al., 1991). In the current study levels of PTSD symptomatology were, on average, significantly higher for those directly exposed to attempted sexual

assault and mugging than for those who were not. Furthermore, in the current study levels of traumatic symptomatology were, on average, significantly higher for those indirectly exposed to armed robbery and car hi-jacking than for those who were not. It has been found that the subsequent shattering of the survivor's belief system poses a threat to healing and results in trauma beliefs such as, that it is dangerous to get close to, or to trust anyone, because one will be hurt or exploited (Scott & Stradling, 1992). This observation has major implications for this study with regard to the high incidence of exposure to violent crime, whether it be directly or indirectly. The effects on the people, and on the country in general have far-reaching implications.

In conclusion, Gee (1994) notes that insufficient research has been conducted regarding the longitudinal course of PTSD, however, existing research suggests that it may be a very long lasting disorder, especially without treatment intervention. Hence, it appears that treatment intervention, in the posttrauma environment, is indicated given the high rates of violent crime exposure in Gauteng and the relationship shown between exposure and traumatic symptomatology in the current sample.

Social Support

The results of the current study showed a statistically significant inverse relationship between crisis social support, as measured by the Crisis Support Questionnaire, and the intrusion subscale of the IES-R which measures traumatic stress symptomatology. Hence, it appears that the less perceived support received in the posttrauma environment the higher the intrusion symptoms, or the more support received the less intrusion symptoms were experienced. These results appear to confirm findings in the literature, for instance, Yule and Williams (1990) emphasise the role played by social support for victims. Hence, from the results of the study it appears that there were statistically significant relationships between perceived social

support, in the posttrauma environment, and the traumatic stress symptom cluster of intrusion. It is interesting to note, that in the current study, avoidance, arousal and overall traumatic stress symptoms were significantly related to negative social support. These results indicate that the greater the perceived negative support the greater the avoidance, arousal and overall levels of PTSD symptomatology. Or, these results indicate that the greater the avoidance, arousal and overall traumatic symptomatology the greater the perceived negative support. These results appear to confirm findings in some studies. For instance, Ullman & Filipas's (2001) found that negative social support was implicated in traumatic stress manifestations where as positive social support was not found to be related to traumatic symptomatology. It appears that perceived negative social support is as important a factor as perceived positive social support, in the posttrauma environment, with regards to the study of traumatic symptomatology. Furthermore, the results of the current study appear to give some support to studies which have suggested that different types of perceived support (e.g. positive or negative) may be implicated with regards to diminishing or exacerbating symptoms experienced (Blumberg, 2000). This is hypothesised, since, in the current study perceived positive support was inversely related to intrusion symptoms and perceived negative support was positively related to arousal, avoidance and overall traumatic stress symptoms.

It has been shown that individuals of all ages and from all socio-economic and cultural backgrounds are vulnerable to the development of PTSD (Kaplan et al., 1994). However, because of precipitating events, such as combat, the disorder is found most commonly among young adults. In the current study the male respondents were, on average, significantly more exposed to violent crime than the female respondents, furthermore, the age demographic of the sample was young adults. The

trauma most likely to precipitate PTSD in men is combat, while for women it is rape (Kaplan et al., 1994). The disorder is most commonly found in those who are single, widowed, divorced, economically handicapped or socially withdrawn (Kaplan et al., 1994). This phenomenon suggests that social circumstances may increase vulnerability to the disorder (Horowitz, 1997). The results of the current study appear to reflect this phenomenon in terms of social support, highlighting statistically significant relationships between social support and traumatic stress symptomatology. Furthermore, in the current study, counselling, in the posttrauma environment, was significantly related to traumatic symptomatology. The researcher included the above demographics with regards to PTSD since the disorder has been most commonly found in those who are single, widowed, divorced or socially withdrawn arguably highlighting social support as an important factor with regards to PTSD. An in-depth discussion of the current study's results and literature with regards to personal factors in relation to traumatic exposure and traumatic symptomatology will be discussed in chapter eleven.

Social support is highlighted in the trauma literature as having a significant buffer effect on outcomes after traumatisation, and the absence of social support is thought to reduce victim's coping abilities (Green et al., 1985; Kleber & Brom, 1992; McCann & Pearlman, 1990; Ullman & Filipas, 2001; Wolfe & Kimerling, 1997). The individual's perception of support can also contribute to buffering the stressor's effects. However, social support may not always have a positive influence which was confirmed in the current study. The researcher included analyses with regards to negative social support since studies (Ullman & Filipas, 2001; Wolfe & Kimerling, 1997) have found that negative support is implicated in the development and maintenance of PTSD. Negative support, such as victim-blaming behaviour, can

contribute to feelings of estrangement from others (Ullman & Filipas, 2001). In addition, family and friends are often frightened and distressed by the traumatic incident themselves, and often discourage discussion around the trauma. This can have extremely negative consequences including a sense of abandonment, alienation and subsequent withdrawal (Kleber & Brom, 1992; Peterson et al., 1991).

Furthermore, the sequelae of trauma often include the victims' "...being ignored, actively avoided and devalued" (Peterson et al., 1991, p. 23). This is not only due to the process of social construction, but also due to the fact that the intense emotions (such as anger and irritability) and behavioural changes that can occur as a result of the traumatic event, can sour interpersonal relationships (Kleber & Brom, 1992; Scott and Stradling, 1992).

Furthermore, not all trauma survivors are able to engage and make use of available support systems (Kleber & Brom, 1992). Survivors' pre-existing coping styles may tend more towards avoidance than towards approach or action. In the previous section regarding counselling in the posttrauma environment, the researcher and other theorists (Herman, 1992; Kilpatrick & Resnick, 1993) hypothesised that avoidance symptoms appear to be a feature of the response to criminal victimisation. In the current study perceived negative social support was found to be significantly related to avoidance, arousal and overall IES-R traumatic stress symptoms. The implications for respondents in the current study may include experiences such as those noted above, for instance, feelings of estrangement, abandonment and alienation and withdrawal. Furthermore, trauma has been found to alter belief systems in such a way that individuals come to believe, for example, that others cannot be trusted (McCann & Pearlman, 1990). Hence, it appears that perceived positive and negative support were both implicated in the traumatic exposure/traumatic symptomatology

relationship. Social support appears to be an important factor in the posttrauma environment, and like counselling, which is arguably a form of social support, seems to be an area of possible intervention for violent crime victims and their supporters. Wolfe and Kimerling (1997) argue that social support is critical in the assessment of posttrauma functioning, hence, the researcher included this factor in the current study. Wolfe and Kimerling (1997) note that factors such as gender and the type of trauma can create obstacles for obtaining posttrauma support from the community and family. These are areas where intervention is required given the results of the current study and others (Wolfe & Kimerling). A possible area of intervention regards the family of violent crime victims since education may improve the quality of support provided (Wolfe & Kimerling, 1997). It appears that it is also important for families of victims to receive support themselves in order to provide adequate support and deal with their own possible indirect exposure symptoms. The high levels of direct (35%) and indirect exposure (62%) to violent crime exposure and traumatic symptomatology (19%) found in the current study suggest that social support is an important factor given the above implications for victims.

Previous exposure to trauma

For the purpose of this study the researcher adapted the Traumatic Stress Schedule (TSS_N) in order to include prior childhood physical, psychological and sexual abuse. The original TSS was included in the analysis in order to assess various forms of prior trauma (e.g. natural disaster, violent crime, motor vehicle accident) and it's relationship to both recent traumatic exposure to violent crime and traumatic symptomatology. Prior trauma exposure was measured as occurring two years earlier

than the data collection. Recent/current traumatic exposure to violent crime was measured as occurring in the two years up until the data collection.

As has been shown, there are currently multiple studies in the psychological and psychiatric literature that document the frequency and psychological impact of traumatic events (Elliot & Briere 1995; Norris, 1992; Resnick et al., 1993; Ullman & Filipas, 2001; Zoellner et al., 2000). These studies have produced similar rates of trauma exposure, indicating that over half, and up to three quarters of individuals have experienced events that are potentially traumatic and that likely meet the stressor criterion for PTSD (APA, 1994). Kessler et al. (1995) found that 61% of men and 51% of women experienced at least one of the events they assessed. Resnick et al. (1993) reported that lifetime exposure was 69%. Multiple exposure to trauma was also common. Resnick et al. (1993) found that, among those respondents who had experienced some type of criminal victimisation, over half reported more than one episode. These findings were confirmed in the current study since prior exposure to trauma (e.g. motor vehicle accident serious enough to cause injury to self or others, being beaten up or attacked) was reported and multiple exposure to violent crime was found in the current study. For instance, 35% of the sample ($n = 367$) reported direct violent crime exposure. Eighteen percent of those directly exposed (35%) reported one incidence, 10% reported two incidences, 4% reported three incidences, and the remaining 4% reported between 4-16 incidences of direct violent crime exposure. Sixty-two percent of the sample ($n = 367$) reported indirect exposure to violent crime. Twenty-four percent of those indirectly exposed (62%) reported one incidence, 16% reported two incidences, 5% reported three incidences and the remaining 7% reported between 5-18 incidences of indirect exposure to violent crime.

Furthermore, in terms of exposure, Kilpatrick and Resnick (1987, cited in Davidson & Foa, 1993) collated findings across eleven studies of populations of victims of crime. They found that many crimes are not isolated events and that in many cases crime victims have been exposed to “other” trauma (28.7% in one study), complicating assessment of the direct impact of one criminal event specifically (Davidson & Foa, 1993). As noted above, this appears to be confirmed in the current study with regards to previous exposure to various incidents (e.g. a loved one died because of accident, suicide or homicide, being made to have sex by use of force or threat of harm), as discussed below, and current exposure to violent crime since multiple exposure to both direct and indirect violent crime was found in the current study.

Further results of the current study confirm a statistically significant relationship between previous childhood and/or adult trauma (TSS_N) and current direct and indirect exposure to violent crime. This result indicates that there is a positive correlation between having experienced prior traumatic events and current violent crime exposure, suggesting that multiple exposure to trauma was evident in the current study’s sample. Examples of previous trauma exposure include motor vehicle accidents, natural disaster and child sexual abuse. The results of the current study indicate statistically significant positive correlations between previous childhood and /or adult trauma and direct and indirect exposure, in the last two years, to violent crime. As noted above, these results confirm findings in the traumatic stress literature, for instance, Davidson and Foa (1993) found that many crimes are not isolated events and that in many cases crime victims have been exposed to “other” trauma (28.7% in one study), complicating assessment of the direct impact of one criminal event specifically (Davidson & Foa, 1993).

Further results in the current study confirm this phenomenon noted above. On the original Traumatic Stress Schedule (TSS) the following statistically significant results were found. Recent/current direct exposure to violent crime was found to be significantly related to prior trauma (e.g. a motor vehicle accident serious enough to cause injury to yourself or one or more passengers). This result indicates that there was a positive correlation between prior trauma and current exposure to violent crime, suggesting multiple exposure to traumatic exposure in the current study's sample. Thus, in the current study statistically significant relationships were found between an element of the posttrauma environment, here previous exposure to trauma, and recent traumatic exposure to violent crime.

The following results highlight which prior childhood and/or adult traumatic events were implicated with regards to current direct exposure to violent crime, since, in the current study statistically significant (positive) relationships were found between current direct exposure to violent crime and prior childhood and/or adult traumatic exposure. Further analysis revealed that, on average, the score (on the TSS_N) for the category 'having suffered injury or property damage because of fire, severe weather, or natural or manmade disaster' was significantly greater than the scores on the following categories of previous traumatic events: a vehicle accident serious enough to cause injury to self or one or more passengers, made to have sex by force or threat of harm, as child made to perform sexual act by known other through force, coercion or threat of harm, have been beaten up or attacked, something taken by force or threat of force, such as in a robbery, mugging or hold-up, as a child made to perform sexual act by using force, coercion or threat of harm by unknown other, no incident and a loved one died because of accident, homicide or suicide with regards to previous childhood and/or adult traumatic exposure and current direct exposure to

violent crime. Hence, these results indicate that the previous traumatic event experienced most, on average, with regards to having also experienced current direct exposure to violent crime, was 'having suffered injury or property damage because of fire, severe weather, or natural or manmade disaster'. A possible reason for these results may be that participants in the sample responded to certain events and not others, hence, on average, significantly greater scores were found for certain events.

Bearing the above in mind, a report by the South African Police services, with regards to the reported serious crime situation in South Africa, for the period January-September 2001 noted 103 495 reported cases of malicious damage to property (SAPS, 2001). Residential housebreaking yielded 223 045 reported cases (12.1% of reported crime from January-September, 2001). The report highlights that according to analyses done over the past six years the assault categories, Grievous Bodily Harm and common assault, which account for the second largest proportion of serious crimes reported in South Africa (20.1%) are mostly committed within the domestic/family environment and the drinking environment. A very close association was found between malicious damage to property, accounting for 5.6% of all serious crime, and both categories of assault. Malicious damage to property is frequently committed during assaults (SAPS, 2001) and consequently listed as another charge. These statistics were included since the previous traumatic event found to be statistically significant with regards to current direct exposure to violent crime, i.e. having suffered injury or property damage because of fire, severe weather, or natural or manmade disaster, may relate to the above experiences. These statistics reveal violent crime events that have been on the increase in South Africa, though some types of violent crime have stabilised, since 1994 (SAPS, 1998; 2001).

Statistically significant relationships were found between current direct exposure to violent crime and prior traumatic exposure on the original version of the Traumatic Stress Schedule, hence, additional analyses were conducted in order to examine which items were implicated with regards to current violent crime exposure. The statistically significant results of the additional analyses show that the average score (on the TSS) for the category 'as a child made to perform sexual act by use of force, coercion or threat of harm by a known other' was significantly greater than the average score for category 'no incident', with regards to previous traumatic exposure and current direct exposure to violent crime. This result indicates that 'having experienced child sexual abuse' was the previous traumatic event found most, on average, in relation to having also experienced current violent crime exposure. Furthermore, the average scores for the previous trauma exposure category 'has anyone beaten you up or attacked you' was significantly greater than the score for the category indicating no incident had occurred with regards to current direct exposure and previous trauma exposure. This result indicates that having experienced 'being beaten up or attacked' was another previous traumatic event found in relation to having also experienced current violent crime exposure. Hence, it appears that the prior traumatic events of 'as a child being made to perform sexual acts by use of force, coercion or threat of harm by an unknown other' and 'being beaten up or attacked' were previous traumatic events which were experienced, in the current study's sample, as well as current direct exposure to violent crime. The results above may reflect an area of the current research where the bridging domain between psychology and criminology occurs. Perhaps some individuals are more vulnerable to multiple exposure to trauma than others. For instance, social circumstances may be implicated with regards to violent crime exposure, since, individuals may be unable to

chose to live in a safer area, or have access to private security without having the financial resources to do so.

Furthermore, in the current study the average scores for the previous trauma exposure category ‘as a child being made to perform sexual acts by use of force, coercion or threat of harm by a known other’ and the category ‘being beaten up or attacked yielded, on average, significantly greater scores than for the other traumatic events listed above suggesting that a greater number of participants could have responded to having experienced these prior traumatic events. These results suggest that exposure to child sexual abuse and being beaten up or attacked was evident in the current study’s sample. These results also indicate that those who have experienced the aforementioned prior traumatic exposure have also been exposed to current violent crime, since the current study examined previous traumatic events in relation to current exposure to violent crime. As discussed previously, these results appear to confirm findings in the traumatic stress field, for instance, studies have shown that over half, and up to three quarters of individuals have experienced events that are potentially traumatic and that likely meet the stressor criterion for PTSD (APA, 1994). Kessler et al. (1995) found that 61% of men and 51% of women experienced at least one of the events they assessed. Resnick et al. (1993) reported that lifetime exposure was 69%. Multiple exposure to trauma was also common. Resnick et al. (1993) found that, among those respondents who had experienced some type of criminal victimisation, over half reported more than one episode. Literature relevant to the current study’s results, noted above, and further results regarding sexual assault and physical attack and the implications thereof will be discussed later in the chapter.

Statistically significant relationships were found between prior adult and/or childhood trauma and current indirect exposure to violent crime. However, when post

hoc t-tests were conducted no statistically significant differences in means were found with regards to different incidents of prior traumatic exposure and indirect exposure to violent crime. Hence, no further results were included here. This result indicates that, although indirect exposure to violent crime and previous traumatic incidents had occurred, no particular prior trauma event was experienced more than another with regards to also having experienced indirect exposure to violent crime. However, these results indicate that multiple exposure to traumatic events, including violent crime, was found in the current study. The current study's results give some support to research which found that many crimes are not isolated events and that in many cases crime victims have been exposed to "other" trauma (28.7% in one study), complicating assessment of the direct impact of one criminal event specifically (Davidson & Foa, 1993).

Moreover, as discussed above, it appears that, a number of participants in the sample reported having experienced prior trauma exposure to sexual abuse and physical attack, over and above current exposure, in the last two years, to violent crime. The implications of which could link to the following findings. There is evidence that women who have experienced sexual assault are likely to suffer from a range of psychological problems including anxiety and fear (Calhoun et al., 1982; Kilpatrick et al., 1981), depression (Atkeson et al., 1982; Kimerling & Calhoun, 1994), sexual dysfunction (Becker et al., 1982; Orlando & Koss, 1983) and problems in social adjustment (Kilpatrick et al., 1979; Resnick et al., 1982). Kessler et al., (1995) found that lifetime PTSD was associated with rape, molestation, physical abuse and physical attack ranged from 2% to 65% in men and from 21% to 49% in women, whereas rates from accident, natural disaster, or witnessing a traumatic event happening to someone ranged from 4% to 6% in men and 5% to 9% in women.

Exposure rates to the above traumatic events (i.e. rape, molestation, physical abuse and physical attack) have been shown to be high in Gauteng, South Africa (SAPS, 2001). Furthermore, on average, significantly higher levels of traumatic symptomatology were found, in the current study, for those directly exposed to both mugging and attempted sexual assault than for those who were not. Hence, it can be hypothesised that those respondents may be experiencing deleterious effects such as those noted above.

Furthermore, in the literature the following studies examined prior trauma with regards to PTSD. Wolfe and Kimerling (1997) note that, in a PTSD study involving a clinical sample of persistently mentally ill individuals, gender was related to certain types of earlier abuse, notably childhood sexual abuse in females. Briere and Runtz (1987, cited in Wolfe & Kimerling, 1997) found that nearly 44% of female clients at a mental health crisis centre reported childhood sexual victimisation. These histories were strongly associated with more symptoms of dissociation, anxiety, rage, sleep disturbances, substance abuse, suicidality and revictimisation. Early family environment is increasingly thought to play a role in the development and progression of trauma symptoms (Wolfe & Kimerling, 1997). Similarly, Breslau et al. (1991) found that early life stressors have been shown to contribute substantially to added risk of PTSD. The researcher will examine personal factors - with regards to traumatic exposure and traumatic symptomatology - for example, family psychiatric history, in the next chapter. The current chapter has focused upon prior trauma, as an element of the posttrauma environment, with regards to traumatic exposure and traumatic symptomatology.

A discussion with regards to traumatic symptomatology and prior trauma will now follow. The above results suggest that prior traumatic exposure and current

violent crime exposure was found in the current study's sample suggesting that multiple exposure to different types of trauma appear to be evident. These results suggest that the study of traumatic stress is a complex and multi-dimensional endeavour, as found in the results of the current study, up until this point, and with those still to follow.

Green et al. (1985) confirm that the nature of the trauma alone does not dictate the course of PTSD and previous exposure to traumatic experiences was cited by theorists (Green et al., 2000; Wolfe & Kimerling, 1997) as one of the factors that can exacerbate or relieve PTSD symptomatology. In the current study previous exposure to trauma was found to be significantly related to traumatic symptomatology, confirming findings in the literature which notes that previous trauma exposure is implicated with regards to traumatic stress manifestations (Green et al., 2000; Wolfe & Kimerling, 1997). The statistically significant relationships found in the current study indicate that the greater the previous trauma the greater the traumatic symptomatology, or vice versa, as noted below.

In the current study a statistically significant relationship (i.e. positive correlation) was found between prior adult and/or childhood trauma (TSS_N) and traumatic stress symptomatology. A statistically significant relationship (i.e. positive correlation) was found between prior adult and/or childhood trauma and the three traumatic stress symptom clusters of intrusion, avoidance and arousal, and overall traumatic stress symptomatology. Hence, the results of the current study indicate a statistically significant relationship between previous childhood and/or adult trauma exposure, in the posttrauma environment, and traumatic symptomatology.

Furthermore, statistically significant relationships were found between the symptom clusters of intrusion, avoidance, arousal and overall traumatic stress symptoms and

previous exposure to trauma on the original TSS. Hence, the results of the study again indicate a statistically significant relationship between previous exposure to trauma, in the posttrauma environment, and the three symptom clusters and overall traumatic symptomatology.

Responses to current exposure to violent crime may be impacted upon by previous exposure to trauma, since, studies, for instance, Berkman (cited in Solomon, 1993, p. 209) have found that “...(t)rauma does not heal trauma. Trauma only adds to trauma. Trauma deepens trauma”. In this vein, Solomon (1993) reports that two-time survivors of traumatic events experienced significantly more intrusive symptoms, greater general distress and higher levels of depression than their counterparts exposed to only one traumatic event. One explanation provided for these reactions is that, such survivors of multiple traumas have increased vulnerability and depleted coping resources, which in turn have an impact on their day to day functioning (Blumberg, 2000). In this light, survivors of multiple traumas are reported to have poor social, familial and occupational adjustment following their second traumatic event. Solomon (1993, p. 207), in a study of Israeli war veterans, found that

...(r)etraumatization left a deeper imprint on all areas of the casualties lives - from their psychiatric and social status to their perception of themselves and their world - than one time trauma.

Furthermore, Scott and Stradling (1992) argue that multiple traumatization reactivates old themes and unresolved issues related to the previous traumatic event. Solomon (1993, p. 208) suggests that this “imprint” left from the initial traumatic event is embedded in the psyche and that the victim of multiple traumatic events thus has to contend “...with not one failure but two - with two sets of appalling memories, guilt stacked upon guilt, rage upon rage, and stress upon stress”. It is plausible that in the

current study the respondents who have reported prior, current and multiple exposure to direct and indirect traumatic events, including violent crime, are suffering the deleterious effects described above, for instance, traumatic stress symptoms and greater general distress. In the current study statistically significant (positive) relationships were found between both direct and indirect exposure to violent crime and traumatic symptomatology. Furthermore, statistically significant (positive) relationships were found between prior traumatic exposure and traumatic symptomatology. The researcher discussed some of the implications of experiencing intrusion, avoidance and arousal symptoms in the prior chapter with regards to the nature, severity and subjective perception of the stressor.

Statistically significant differences were found between prior adult and/or childhood trauma (TSS_N) and traumatic symptomatology on the Impact of Event Scale. Further analysis revealed that, on average, the score (on the TSS_N) for the category 'a motor vehicle accident serious enough to cause injury to self or one or more passengers' was significantly greater than the score on both the category 'something taken by force or threat of force such as in a robbery, mugging or hold-up' and no incident with regards to prior adult and/or childhood trauma on the TSS_N in relation to significantly higher levels of traumatic symptomatology in the current study's sample. Hence, it appears that the prior traumatic event of 'a motor vehicle accident serious enough to cause injury to self or one or more passengers' was experienced, on average, more than the other events listed above with regards to significantly higher levels of traumatic symptomatology. These results suggest that it is possible that a greater amount of participants reported this prior traumatic experience than the category 'something taken by force or threat of force such as in a robbery, mugging or hold-up' and 'no incident' with regards to traumatic

symptomatology. Or, it is possible that a motor vehicle accident has a greater impact than, for instance, the violent crime event noted above. It appears that a motor vehicle accident serious enough to cause injury to self or one or more others is extremely distressing. Furthermore, it is possible that the traumatic symptomatology reported in the current study's sample was related to prior traumatic exposure, current traumatic exposure, multiple traumatic exposure, indirect exposure and/or a combination of exposures to traumatic events. These findings once again highlight the complexity of studying traumatic stress manifestations. One-off exposure to traumatic events is arguably non-existent if indirect exposure to violent crime is considered and the literature suggests that PTSD manifestations for indirect exposure are similar, if not identical to those in relation to direct exposure (DSM-IV, APA, 1994; Figley, 1995; Friedman, 1999). The current study found statistically significant positive correlations between indirect exposure to violent crime and traumatic symptomatology.

Statistically significant relationships were found between prior adult trauma, on the original Traumatic Stress Schedule, and traumatic symptomatology on the Impact of Event Scale. However, further analysis did not reveal statistically significant differences in means between different prior trauma incidents with regards to traumatic symptomatology on the IES-R, hence no further results were included here.

In conclusion, the results of the current study suggest that previous trauma exposure is significantly related to both current traumatic exposure to violent crime and traumatic symptomatology in this sample. Green et al. (2000) note that most studies ignore prior exposure to trauma when evaluating outcomes of target events, hence, the current study included an examination of previous trauma exposure. Green et al. (2000), in a study of outcomes of single versus multiple trauma, found that multiple trauma exposure participants had significantly higher symptoms than all

other groups. Hence, they argue that complex trauma histories should be accounted for, even in the studies of one target event (Green et al., 2000). Recent studies have shown that repeated traumatisation seems to intensify and reify PTSD symptoms (Green et al., 2000; Zoellner et al., 2000).

It is important to note that strong statistically significant relationships were found between intrusive, avoidance, arousal and overall PTSD symptoms and previous trauma exposure on the Traumatic Stress Schedule suggesting that the effects of prior trauma are far-reaching and impact on later events. These results indicate that the greater the previous exposure to trauma the greater the levels of traumatic symptomatology, or, vice versa. However, individuals may be experiencing PTSD symptoms related to the prior and current incidents or an interaction of effects from each exposure may be occurring. This complicates the measurement and assessment of traumatic stress responses.

The following chapter focuses on personal factors, such as demographics, substance use and health status, with regards to both traumatic exposure to violent crime and traumatic symptomatology. The current chapter examined features of the posttrauma environment, i.e. counselling, social support and previous exposure to trauma in relation to both traumatic exposure to violent crime and traumatic symptomatology.

CHAPTER ELEVEN

Discussion of Research Questions 4a and 4b

Research Question 4a. Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history and a sense of coherence) and traumatic exposure to violent crime.

Research Question 4b. Is there a relationship between personal factors (i.e. demographic characteristics, substance abuse, health status, psychiatric history and family psychiatric history and a sense of coherence) and traumatic symptomatology?

Introduction

The following chapter will answer the research questions listed above. The research questions have been divided into sections, for example, the relationship between the personal factors ‘demographics’ and traumatic exposure to violent crime will be answered first. The chapter will continue in order of the personal factors stipulated in the research questions.

Demographics

Many societal allocation decisions are made on the basis of demography - one’s marital status, number of children, age, race, gender, level of education and health status are just some of the variables that may determine access to resources and conditions within a particular society (Roucek & Warren, 1957; Pol, 1992). Resources would include access to education, employment, housing etc., while some

conditions could refer to prejudices, favourable treatment, inclusive/exclusive behaviours and constructions of pathology. It can, therefore, be argued that demographic data is indicative of an individual's access to societal resources. This social position creates an access point to information, processes and goods, and as such, is likely to influence one's attitudes and perceptions of a range of related constructs (Higgs, 1993; Pol, 1992).

Furthermore, the variability in individual's response to trauma can, in part, be attributed to personal characteristics and idiosyncrasies (Kleber & Brom, 1992). One way of examining personal factors is to discuss demographic factors, additional personal factors (e.g. health status, substance abuse) and psychological resource factors (e.g. sense of coherence) (Blumberg, 2000). The global personality disposition of a sense of coherence (Antonovsky, 1979) was examined in the current study with regards to psychological resources factors. In the current study all of the above factors were examined with regards to personal factors and both traumatic exposure to violent crime and traumatic symptomatology and the results will be discussed in this chapter.

It has been shown that individuals of all ages and from all socio-economic and cultural backgrounds are vulnerable to the development of PTSD (Kaplan et al., 1994). However, because of precipitating events, such as combat, the disorder is found most commonly among young adults. The trauma most likely to precipitate PTSD in men is combat, while for women it is rape (Kaplan et al., 1994). The disorder is most commonly found in those who are single, widowed, divorced, economically handicapped or socially withdrawn (Kaplan et al., 1994). This phenomenon suggests that social circumstances may increase vulnerability to the disorder (Horowitz, 1997). The results of the current study appear to reflect this phenomenon in terms of highlighting relationships between personal factors and both traumatic exposure and

traumatic stress symptomatology. The discussion of the findings in this regard will now follow.

Race and traumatic exposure to violent crime

In the current study statistically significant effects were found on race, as a demographic, with regards to indirect exposure to violent crime (e.g. rape, armed robbery). There were statistically significant effects on race with regards to aspects of violent crime exposure (e.g. My life was threatened, I was badly harmed or injured) and race. Statistically significant effects were found on race with regards to the reported effect, or the subjective experience, of direct and indirect exposure to violent crime. Hence, there appears to be statistically significant effects on the personal factor - race as a demographic – with regards to direct and indirect traumatic exposure to violent crime. Further analysis was conducted, in order to examine where the statistically significant effects were occurring, with regards to differences in rates of violent crime exposure in relation to race.

Further analysis revealed that, on average, the score for Asian participants was significantly greater than the score for White participants on the Direct Exposure to Violent Crime Scale with regards to direct exposure to violent crime and race. The results of the current study suggest that Asian respondents in the sample experienced, on average, more incidents of direct exposure to violent crime than White respondents. According to the Human Sciences Research Council National Victims of Crime Survey (1999), 7% of Blacks and so-called Coloureds were victims of violent individual crimes such as assault, sexual offences and robbery, followed by Whites (5%) and Asians (3%). ISS victim surveys support the finding that Black and so-called Coloureds are disproportionately likely to be victims of violent crime, while Asians

and Whites are more likely to fall victim to property crimes (Nedbank ISS Crime Index, 2001). Further studies found that some 17% of White and so-called Coloured respondents were the victims of at least one individual crime in 1997, compared with 14% of African and 11% of Indian respondents (South Africa Survey, 1999/2000). These findings were not confirmed in the current study since Asian respondents reported, on average, greater direct exposure scores than other racial groups with regards to race. The difference in mean direct exposure scores between Asian students ($n = 16$), who represented 5% of the sample ($n = 362$), and White students ($n = 133$) who represented 37% of the sample, was 1.91. The results suggest that other racial groups in the sample did not, on average, report greater exposure to direct violent crime than each other, for instance Black and White and so-called Coloured and Indian participants. These results suggest that no statistically significant inter-racial differences, with regards to direct exposure to violent crime were found in the sample, besides those between the Asian and White respondents disconfirming the findings above. In the current study Asian students in the sample, reported, on average, greater direct exposure to violent crime scores. The statistics quoted above reflect a 3% exposure to violent crime rate for Asian people in one study (HSRC National Crime Survey, 1999), furthermore, Asian and White people were more likely exposed to property crime than violent crime. However, a possible hypothesis regards outlier scores effecting the statistical analysis since endorsement of particular items, for instance kidnapping, can skew the data if not responded to by all respondents. The Asian, so-called Coloured students and Indian students represented a small proportion of the sample and hence these results may have skewed the data and should be treated with caution. The results discussed below, with regards to indirect exposure to violent crime, should then also be treated with caution.

Furthermore, in the current study statistically significant effects were found on race with regards to indirect violent crime exposure. Further analysis revealed that the Indirect Exposure to Violent Crime Scale scores for the Asian participants were, on average, significantly greater than the scores for White participants with regards to indirect exposure to violent crime. The score for the Asian participants ($n = 16$) was, on average, significantly greater than the Indian ($n = 29$) score with regards to indirect exposure to violent crime. The score for the Asian respondents was, on average, significantly greater than the score for so - called Coloured participants ($n = 14$) with regards to indirect exposure to violent crime. The score for Asian participants was, on average, significantly greater than the score for Black participants ($n = 170$) with regards to indirect exposure to violent crime. The score for White participants was, on average, significantly greater than the score for Black participants with regards to race and indirect exposure to violent crime. Hence, it appears that Asian and White participants reported, on average, greater indirect exposure to violent crime than Indian, so-called Coloured and Black respondents in the current study's sample. In addition, Asian participants reported, on average, greater indirect and direct exposure to violent crime than White participants. The researcher did not find indirect exposure prevalence rates with regards to race and violent crime in the literature. The results of the current study confirm differences with regards to race and indirect exposure to violent crime. However, as noted above the results need to be treated with caution given small sample sizes for some groups.

In the current study race was significantly affected with regards to aspects of violent crime exposure (e.g. My life was threatened, I had to flee for my life). Further analysis revealed that, on average, the score for Asian participants was significantly

greater than the score for Indian participants with regards to amounts of exposure to aspects of violent crime. The same applied to the following participants with the first category of participants having, on average, significantly greater scores than the second category of participants with regards to amounts of exposure to aspects of violent crime as follows: Asian and White, Asian and Black, Coloured and Indian, Coloured and White and Coloured and Black participants. Some support, with regards to the differences found between so-called Coloured participants and the racial groups noted above, in relation to amounts of exposure to aspects of violent crime exposure, was found in the literature. According to the Human Sciences Research Council National Victims of Crime Survey (1999), 7% of Blacks and so-called Coloureds were victims of violent individual crimes such as assault, sexual offences and robbery, followed by Whites (5%) and Asians (3%). ISS victim surveys support the finding that Black and so-called Coloureds are disproportionately likely to be victims of violent crime, while Asians and Whites are more likely to fall victim to property crimes (Nedbank ISS Crime Index, 2001). Further studies found that some 17% of White and so-called Coloured respondents were the victims of at least one individual crime in 1997, compared with 14% of African and 11% of Indian respondents (South Africa Survey, 1999/2000). In the current study small sample sizes of some racial groups (e.g. so-called Coloured and Asian participants) suggest that the results with regards to race and traumatic exposure to violent crime be treated with caution.

However, there appears to be some support for the findings above since the results of the current study reveal that race was significantly affected with regards to aspects of violent crime (e.g. My life was threatened, I had to flee for my life), suggesting that different racial groups are exposed, on average, to differing amounts

of aspects of violent crime exposure. However, no causal inferences can be made given the nature of the statistical analyses of the current study, however, the statistically significant effects found suggest that further research in this area is indicated. The bridging domain between criminology and psychology may provide further insight with regards to demographics and violent crime exposure. For instance, those who may be more vulnerable to violent crime exposure may be identified and preventative measures put in place. For example, those with less availability to resources, such as private security, may be advised to take preventative measures such as walking in a group as opposed to alone. The implementation of the National Crime Combating Strategy, for instance, is an example of drives and initiatives in South Africa created to identify factors, such as demographics, in an attempt to combat violent crime (SAPS, 2001).

Moreover, Manson (1997) argues that the traumatic stress field needs to think critically regarding the importance of ethnicity and culture in regard to risk of PTSD. For example, Breslau et al., (1991) found that early life stressors have been shown to contribute substantially to added risk of PTSD. Here, socio-economic status and ethnicity are tightly interwoven, increasing exposure to the requisite antecedents of PTSD and confounding causal attributions that may invoke cultural explanations (Manson, 1997). This is important to note, since traditionally in South Africa, race and socio-economic status have been conflated. Moreover, access to resources has traditionally been unequal with regards to race. The researcher hypothesises that the statistically significant effects found above with regards to race and traumatic exposure to violent crime may reflect the interwoven relationship between socio-economic status and ethnicity in Gauteng, South Africa. For instance, in terms of

lifestyle and socio-economic status in South Africa it has been found that the wealthiest households are at greatest risk of falling victim to household-related property crime (Nedbank ISS Crime Index, 2001). In respect of violent household-related crime the correlation is weaker. The wealthiest households experience less violent crime than middle-class households, but more than very poor households (Nedbank ISS Crime Index, 2001). Individuals living in the wealthiest households are the most likely victims of individual property crimes but the least likely victims of violent crimes (Nedbank ISS Crime Index, 2001). The opposite is the case for individuals living in the poorest households (Nedbank ISS Crime Index, 2001).

Race and traumatic symptomatology

In the current study race was found to be significantly affected with regards to overall traumatic stress symptoms, on the Impact of Event Scale, and with the subscale symptoms of intrusion, avoidance and arousal. Hence, there appears to be a statistically significant effect on the personal factor - race as a demographic – with regards to traumatic symptomatology. Further analysis revealed that the levels of PTSD symptomatology were, on average, higher for Black participants than for White participants in the current study's sample. The levels of traumatic symptomatology were, on average, higher for Indian participants than for the White participants in the current study's sample. These results confirm differences with regards to race and traumatic symptomatology as found in some studies (Manson, 1997), however, no causal inferences can be made in the current study. The above results do not link to the current study's exposure to violent crime findings with regards to race. However, the differing exposure rates in the current study, with regards to race, were difficult to explain since they were not in accordance with violent crime statistics for the country

(e.g. SAPS, 2001). The researcher hypothesised with regards to small sample sizes that may have affected the results. The results with regards to traumatic exposure to violent crime and traumatic symptomatology, in relation to race, could arguably benefit from an in-depth analysis. Statistically significant effects were found with regards to race and traumatic symptomatology, however, the current study does not have enough evidence to make meaningful hypotheses regarding these findings.

Home language

In the current study differing home languages were significantly affected with regards to indirect exposure to violent crime. Furthermore, in the current study, differing home languages were significantly affected with regards to both of the traumatic stress symptoms of intrusion and avoidance. The aforementioned results may reflect the push to forget, i.e. avoidance symptoms, and the pull to remember, i.e. intrusions symptoms, found in trauma victims (Herman, 1992). Moreover, differing home languages were significantly affected with regards to overall traumatic stress symptoms. In the South African context, where social class and race has historically been emeshed, home language can provide some indication of socio-economic status and particularly of financial resource access (Blumberg, 2000). Cultural differences can also be assessed through home language (Blumberg, 2000). However, further evidence is required in order to hypothesise regarding home language and both traumatic exposure to violent crime and traumatic symptomatology.

Gender and traumatic exposure to violent crime

Gender was significantly affected with regards to aspects of violent crime exposure on the Dimensions of Trauma Scale (e.g. My home was threatened) in the current study's sample. Gender was significantly affected with regards to the reported

effect, or the subjective experience, of direct exposure to violent crime. Additional analyses revealed that male respondent's scores were, on average, significantly greater than the female scores with regards to aspects of violent crime exposure in the sample. These results indicate that male respondents were exposed, on average, to greater amounts of aspects of violent crime exposure (e.g. My life was threatened, I saw the dead body of someone I knew) than female respondents in the sample. These results confirm findings with regards to a differential trauma exposure prevalence rate with regards to gender as discussed below.

As Eagle (1998) notes, much of the demographic data on criminal victimisation reflects a greater risk to men of exposure to violent crime. In a Dutch study of traumatic injury risk the difference in male and female victims treated in the category labelled "violence" was 80.7% to 19.3% (Kingma, 1994, p. 921, cited in Eagle, 1998). Thus statistics from several varied sources tend to confirm that men are in the majority as victims of violent crime. Eagle (1998) hypothesises that it could be suggested that since in the main men are still primary breadwinners and tend to spend more time in the public domain, they may be at greater risk for crime motivated by financial gain. The results of the current study found significantly greater amounts, on average, of aspects of violent crime exposure for male respondents than for the female respondents. Thus, the current study's results appear to confirm similar findings in the traumatic stress field with regards to gender and violent crime exposure.

Gender and traumatic symptomatology

In the current study gender was significantly affected with regards to overall traumatic stress symptoms and each symptom cluster of intrusion, avoidance and arousal. Further analysis revealed that, on average, levels of PTSD symptomatology

were significantly higher for female participants than for male respondents. As noted above, it has been found that, although men are more likely to experience traumatic events, traumatised women are twice as likely to develop PTSD than men (10.4% vs. 5%, Kessler et al., 1995). In the current study some support was given to the above findings. Hence, the results of the current study appear to confirm a differential gender risk for stressor exposure to violent crime as well as for manifestations of PTSD symptomatology in this sample. Similarly, prevalence data with regards to PTSD in special populations (e.g. natural & technological disasters, homeless people) suggest that rates of PTSD are higher in women (Wolfe & Kimerling, 1997). Results have to be treated with caution given methodological issues (e.g. failure to account for multiple stressor exposures)(Wolfe & Kimerling, 1997) and the non-representativeness of the current sample.

Horowitz et al. (1999) investigated gender effects on the configuration of a stress response syndrome in a sample of men and women. They interpreted their findings as showing no major gender differences in response. However, they had a small sample of men and, hence, state that caution should be used in interpretation of their data. However, women tend to be over represented in prevalence studies of traumatic stress reactions (Blumberg, 2000; Eagle, 1998; Kleber & Brom, 1992). This over representation may be the result of distortion due to high rape/sexual assault statistics (Kleber & Brom, 1992). In the current study, levels of traumatic symptomatology were, on average, significantly greater for those who had experienced attempted sexual assault than those who did not. Hence, it can be hypothesised that exposure to attempted sexual assault could impact on the, on average, higher traumatic symptomatology scores found for female respondents. This may be possible if one hypothesises that more female participants may have reported

sexual assault than male participants given statistics quoted, by amongst others (Nedbank ISS Crime Index, 2000), the South African Police Services (2001) with regards to sexual assault perpetrated against women and children in Gauteng, South Africa.

Socio-Economic Status

As Blumberg (2000) states, level of education and income are widely used as measures of social class and are considered to be interrelated (Gibbs, 1989; Kleber & Brom, 1992). On this basis, it is argued that those from higher socio-economic groups have better access to resources and better socialised coping skills and will thus fare better following a traumatic event (Blumberg, 2000). There is some support for this position, especially with regard to education, where better educated survivors of both hijackings (see for example Bastiaans et al., 1979, cited in Kleber & Brom, 1992) and sexual assault (Ullman & Filipas, 2001) were less severely affected than their counterparts. This finding may be related to the possibility that individuals with a higher level of education have more skills, confidence and a stronger sense of being able to control their environment (Kleber & Brom, 1992).

In the current study statistically significant effects on those having/not having a bursary as a demographic with regards to traumatic symptomatology (on all the PTSD symptom clusters and overall). Hence, there appears to be a statistically significant effect on the personal factor - bursary as a demographic – with regards to traumatic symptomatology.

Statistically significant effects were found on participants with/without a job, with regards to aspects of violent crime exposure (e.g. I had to flee for my life). Statistically significant effects were found on those participants with a job/without a

job with regards to both the occurrence and effect of indirect exposure to violent crime (e.g. mugging). The results of the study do not provide enough evidence with regards to the relationship between socio-economic status and traumatic exposure to violent crime and traumatic symptomatology. It seems plausible that the relationship found between 'job' and traumatic exposure may relate to the sample's age demographic, i.e. young adults, being vulnerable to traumatic exposure to violent crime (Nedcor ISS Crime Index, 1999). Furthermore, those students with a bursary may not be socio-economically challenged. However, it seems plausible that some students with a bursary do have less access to resources than those without. A tentative hypothesis is made with regards to the effects between 'bursary' as a demographic being related to socio-economic status and traumatic symptomatology. As noted previously and below, those with less resources have been found to be more exposed to violent crime than those with the greatest resources (Nedbank, ISS Crime Index, 2001).

In terms of lifestyle and socio-economic status in South Africa it has been found that the wealthiest households are at greatest risk of falling victim to household-related property crime (Nedbank ISS Crime Index, 2001). In respect of violent household-related crime the correlation is weaker. The wealthiest households experience less violent crime than middle-class households, but more than very poor households (Nedbank ISS Crime Index, 2001). Individuals living in the wealthiest households are the most likely victims of individual property crimes but the least likely victims of violent crimes (Nedbank ISS Crime Index, 2001). The opposite is the case for individuals living in the poorest households (Nedbank ISS Crime Index, 2001). The above statistics highlight demographic characteristics as highly relevant factors in terms of exposure to violent crime in South Africa. We can observe, here,

how issues regarding race and socio-economic status could be conflated. Traditionally in South Africa, the aforementioned has been the case.

Marital Status

The results of the study indicate that marital status (e.g. being single, married) was significantly affected with regards to direct and indirect exposure to violent crime, and the reported effect thereof. These results indicate that marital status was significantly affected with regards to violent crime exposure and the subjective effect thereof. This result indicates that being exposed to direct and indirect exposure to violent crime was affected by marital status. High levels of violent crime exposure were found in the current sample. Most of the current sample's marital status was 'single' confirming crime statistics regarding this age and marital status demographic being vulnerable to violent crime exposure in Gauteng, South Africa (Nedcor ISS Crime Index, 1999). Vulnerability to violent crime exposure may be affected by being single, since, for instance, the respondent may live/drive/walk alone. Furthermore, statistically significant effects were found on the participant's marital status with regards to exposure to aspects of violent crime on the Dimensions of Trauma subscale (e.g. I had to flee for my life). This result indicates that being exposed to different aspects of violent crime exposure was affected by marital status. Furthermore, these results and those above indicating that violent crime exposure and the subjective effect thereof were affected by marital status may link, besides other factors, to age and social support as discussed below.

It has been shown that individuals of all ages and from all socio-economic and cultural backgrounds are vulnerable to the development of PTSD (Kaplan et al., 1994). However, because of precipitating events, such as combat, the disorder is

found most commonly among young adults. In South Africa, young people are disproportionately likely to be victims of crime, especially young urban males (Nedbank ISS Crime Index, 2001). The National Victims of Crime Survey (1999) found that all individuals who had experienced at least one violent crime in South Africa in 1997, almost a third were aged 16-25. In the current study the male respondents were, on average, significantly more exposed to aspects of violent crime than the female respondents. Furthermore, the demographic of the current study's sample was generally single (94%) adults with 87% of the sample being between the ages of 17-21. It has been found that the disorder is most commonly found in those who are single, widowed, divorced, economically handicapped or socially withdrawn (Kaplan et al., 1994). This phenomenon suggests that social circumstances may increase vulnerability to the disorder (Horowitz, 1999).

Furthermore, in the current study statistically significant effects were found on the participant's parents' differing marital status with regards to the traumatic stress symptoms of avoidance and arousal and overall traumatic stress symptoms. Hence, it appears there levels of avoidance and arousal symptoms and overall traumatic stress symptomatology were significantly affected for participants by their parents' marital status. Perhaps this result links to family relationships with regards to traumatic symptomatology. However, the results of the current study do not provide enough evidence regarding this hypothesis, perhaps further research in the area could elaborate on the above findings. Since, for example, Breslau et al., (1991) found that early life stressors have been shown to contribute substantially to added risk of PTSD. Early family environment is increasingly thought to play a role in the development and progression of trauma symptoms (Wolfe & Kimerling, 1997). Since, as Blumberg (2000) notes adaption to trauma exposure is more or less difficult depending on the

nature of the event itself, and the impact of personal strengths and deficits and social/environmental forces on its processing. Green et al. (1985) confirm that the nature of the trauma alone does not dictate the course of PTSD and there are a number of other factors that can exacerbate or relieve PTSD symptomatology, for example, the perceived availability of support (Scott & Stradling, 1992) and family history and family circumstances (Yule & Williams, 1990).

Reporting of violent crime exposure to the South African Police Services (SAPS)

The results of the current study indicate that statistically significant differences were found between those who were and those who were not directly exposed to violent crime with regards to the reporting of exposure to the police services. The researcher included this variable (i.e. the reporting of crime to the South African Police Services) since a feature of the rationale with regards to conducting the current study relates to the crime statistics moratorium which occurred in South Africa (Nedcor ISS Crime Index, 1998), the researcher assessed the prevalence of violent crime exposure that occurred, in the sample, during this period.

Furthermore, studies have shown trends in underreporting of violent crime (Nedcor ISS Crime Index, 1998). In the current sample ($n = 367$), 59 respondents reported crime exposure to the SAPS. Thus, these results confirm an underreporting of crime in the current sample. Police crime statistics do not include victims of indirect exposure to violent crime, hence, the number of violent crime victims appears to be largely underestimated with regards to both direct and indirect criminal victimisation. Furthermore, violent crime statistics may be misleading if similar trends, regarding the underreporting of violent crime exposure, are found in the general population. This has been shown, for instance, in studies that report the

estimated underreporting figures for women who are victims of sexual assault (between 30-41% in one sample) (Nedcor ISS Crime Index, 1998). The researcher hypothesised previously that a prominent feature of traumatic symptomatology following violent crime exposure is avoidance symptoms which may relate to the underreporting of crime found in the current study and in general (Nedcor ISS Crime Index, 1998), besides other factors.

Health Status

Another personal factor noted in the posttraumatic stress literature is health status (Ullman & Filipas, 2001), thus, the researcher included this variable in the current study. Traumatic experiences are not only associated with mental health difficulties such as PTSD, but they can also affect the victim's physical health as reflected in an increase in health complaints and utilisation of health services (Kimerling & Calhoun, 1994; Zoellner et al., 2000). In the current study statistically significant differences were found between those with/without health conditions with regards to aspects of exposure to violent crime (e.g. My life was threatened). Further analysis revealed that no health condition was significantly different, on average, from another with regards to aspects of violent crime exposure, hence, no further results were included here. These results did not identify any one particular health condition with regards to aspects of violent crime exposure.

No causal inferences can be made in the current study, however, it is important to note that statistically significant effects were found on health status with regards to aspects of violent crime exposure. Bearing this in mind perhaps further research may explore the relationship between health status and traumatic symptomatology. Since, the stress literature points strongly to an association between stressor exposure and increased reporting of physical symptoms and poor health in victims (Wolfe &

Kimerling, 1997). Decreased immunocompetence has been found in various studies (see for example Cohen & Williamson, cited in Wolfe & Kimerling, 1997). Reports of poor health have been found to be especially pronounced in women who describe exposure to high-magnitude events such as physical assault, criminal victimisation and sexual assault (Kimerling & Calhoun, 1994). In a study of sexual assault victims, initial and continuing health problems separated women with sexual trauma from those without these experiences.

Wolfe et al. (1994) found that female veterans with PTSD reported significantly more cardiovascular, gastrointestinal, gynaecological, dermatological, ophthalmological and pain symptoms than women without this diagnosis. Wolfe and Kimerling (1997) argue that the documented association between reported poorer health following trauma exposure or traumatic stress is important, particularly in light of emerging evidence that stress reactions substantially mediate the relationship between the exposure to trauma and resulting health conditions. In the current study health status (e.g. chronic illness) was significantly affected with regards to the traumatic stress symptom cluster of intrusion. Further research in the field could possibly unpack health status manifestations with regards to traumatic exposure to violent crime and traumatic symptomatology (e.g. analysing physiological responses to trauma) since the current study's results do not provide evidence for causal inference with regards to various health conditions. Further analysis revealed that no health condition was significantly different, on average, from another with regards to traumatic symptomatology, hence, no further results were included here. These results did not identify any one particular health condition with regards to intrusion symptoms.

Substance Use

A further personal factor, as Wolfe and Kimerling (1997) note, is substance abuse, which has been widely observed in both men and women diagnosed with PTSD. However, like depression and other variables examined in the current study (e.g. health status), Wolfe and Kimerling (1997) warn that causal relationships are difficult to ascertain. It is interesting to note the high prevalence rate of substance use in the current study with 83% (n= 306) of the sample (n = 367) reporting using substances. Furthermore, 53% (n = 192) of the sample (n = 367) reported using alcohol and 1% (n = 5) reported using marijuana. In the current study statistically significant differences were found between those using/not using substances with regards to direct exposure to violent crime. Statistically significant differences were found between those using/not using substances with regards to the reported effect of both direct and indirect exposure to violent crime. However, additional analysis (e.g. post hoc t-Tests) revealed no statistically significant differences in means with regards to substance use, for instance, between which substances were used and higher levels of traumatic exposure to violent crime, hence, no further results were included here.

In the current study statistically significant differences were found between those using/not using substances with regards to levels of the traumatic stress symptoms of avoidance, arousal and overall traumatic stress symptoms. Further analysis revealed that the average scores for weekly use were significantly greater than for daily substance use with regards to higher levels of traumatic symptomatology. Furthermore, the average scores for weekly use were significantly greater than the average score for no substance use with regards to when substances were used and higher levels of traumatic symptomatology. The results of the current study appear to give some support to findings that substance use is a complex and multidimensional

phenomenon, inviting further investigation with regards to traumatic stress (Wolfe & Kimerling, 1997). However, in the current study no causal inferences can be made.

In the current study statistically significant differences were found between ‘whether substances were used or not’ with regards to both traumatic exposure to violent crime and traumatic symptomatology. The current study’s results appear to give some support to findings with regards to both traumatic exposure and symptomatology and substance use. For instance, Cottler et al. (1992, cited in Wolfe & Kimerling, 1997) assessed the prevalence of PTSD in substance abusers, using epidemiological data. They found that 16% of respondents described exposure to a DSM criterion A event. When other variables were statistically controlled, female gender and use of either cocaine or opiates significantly predicted a PTSD diagnosis. Wolfe and Kimerling (1997) argue that, given the magnitude of substance abuse problems in society generally, the relationship of these conditions to traumatised areas are areas for further study. Hence, the researcher included substance use in the current study.

Psychiatric status

The researcher assessed the relationship between the participants and their family’s psychiatric history, for instance, conditions such as depression, anxiety and panic disorder, and both traumatic exposure to violent crime and traumatic symptomatology. However, like depression and other variables examined in the current study (e.g. health status, substance use), Wolfe and Kimerling (1997) warn that causal relationships are difficult to ascertain. Furthermore, the statistical analyses of the results for the current study do not allow for causal inference since correlational analyses and analysis of variance methods were utilised. No formal measure of psychiatric status, was utilised by the researcher, respondents were asked to comment

on their family and their own psychiatric status, for example, participants were asked the following, ‘Have you currently (or in the last six months) been diagnosed with a psychiatric illness (e.g. anxiety, depression). Please specify which illness you have been diagnosed with.’

In the current study 9% (n= 32) of the sample (n = 367) reported a current psychiatric history, i.e. in the last six months. The participant’s current psychiatric history (last six months) was significantly affected with regards to exposure to aspects of violent crime (e.g. My life was threatened). Further analysis revealed that no current psychiatric condition (last six months) was significantly different, on average, from another with regards to aspects of traumatic exposure to violent crime, hence, no further results were included here. These results did not identify any one particular psychiatric condition (e.g. depression, anxiety) with regards to aspects of violent crime exposure. Furthermore, in the current study 12% (n = 44) of the sample (n = 367) reported a previous psychiatric history, i.e. before the last six months. The results of the current study indicate that the participant’s previous psychiatric history (before last six months) was significantly affected with regards to aspects of violent crime exposure. Hence, it appears that there were statistically significant effects on current and previous psychiatric history with regards to traumatic exposure to violent crime. No causal inferences can be made with regards to the above findings. The current study’s results suggest a bridging domain between psychology and criminology, as have other results in the current research, for instance, between demographics like marital status, gender and race, and here between psychiatric status and violent crime exposure. The researcher is not suggesting that the bridging gap between criminology and psychology makes reference to victim blaming discourse, rather that factors, for instance, a lack of resources may impact on an individual’s vulnerability to trauma

exposure. Those with adequate resources may, for instance, be able to afford private security and may have more choice in terms of where they live. The data in the current study does not allow for hypotheses regarding these statistically significant effects found since further evidence is required. In the current study additional analysis (e.g. post hoc t-Tests) revealed that no psychiatric condition was significantly experienced, on average, more than another with regards to higher levels of exposure to violent crime, hence, no further results were included here. These results did not identify any one particular psychiatric condition (e.g. depression, anxiety) with regards to traumatic exposure to violent crime.

In the current study the participant's current psychiatric history (last six months) was significantly affected with regards to the three symptom clusters (intrusion, avoidance & arousal) and overall traumatic stress symptoms. This result indicates that there were statistically significant effects on the participant's current psychiatric history with regards to levels of traumatic symptomatology. Furthermore, a statistically significant effect on the participant's previous psychiatric history was found with regards to intrusion, arousal and overall traumatic stress symptoms. Additional analysis did not reveal differences in means, between previous psychiatric conditions and traumatic symptomatology, even though statistically significant effects were found. Further analysis revealed that no previous psychiatric condition (before last six months) was significantly experienced, on average, more than another with regards to higher levels of traumatic symptomatology, hence, no further results were included here. These results did not identify any one particular psychiatric condition (e.g. depression, anxiety) with regards to traumatic symptomatology.

As Yehuda and McFarlane (1999) argue, the presence of psychiatric comorbidity is another issue that poses a dilemma for the initial conceptualisation of

PTSD as a normative stress response. A number of studies of traumatised groups with PTSD found that from 50% to 90% of individuals with chronic PTSD also meet diagnostic criteria for another psychiatric disorder, including substance abuse (Yehuda and McFarlane (1999). The current study's results appear to confirm the presence of psychiatric comorbidity with regards to PTSD, however, there is insufficient evidence in the data to make any further hypotheses.

Furthermore, although there is evidence of a high prevalence of the comorbidity of PTSD with other psychiatric disorders (Davidson & Fairbank, 1993; Green, 1994; Horowitz, 1999, Yehuda & McFarlane, 1999) this raises the as yet unresolved question of whether exposure to extreme trauma produces the range of co-occurring disorders observed among individuals with PTSD, or whether the presence of other psychiatric disorders increases an individual's risk for developing PTSD (Davidson & Foa, 1993). Other disorders most commonly occurring together with PTSD include, somatisation disorder, obsessive-compulsive disorder, other anxiety and panic disorders, sexual dysfunction, major depression, schizophrenia and alcohol and substance abuse (Davidson & Fairbank, 1993; Green, 1994; Kilpatrick & Resnick, 1993). Individuals with PTSD have also been shown to be eight times more likely to have attempted suicide, even after controlling for depression. The results of the current study appear to reflect the above dilemmas with regards to posttraumatic stress disorder and comorbidity. The current study has found that, in the sample, many factors have been significantly related, statistically, to PTSD, for instance, prior exposure to trauma, the nature of the stressor, health status, social support, demographics like gender and race, substance use and psychiatric status. The findings of the current research appear to confirm debates in the traumatic stress field regarding the multidimensional and complex nature of the study of traumatic stress

(Horowitz, 1999; Manson, 1997; Wolfe & Kimerling, 1997; Yehuda & McFarlane, 1999). Hence, it appears that many factors are implicated complicating the assessment of traumatic stress reactions since separating out factors is extremely difficult. The results of the current study, having found statistically significant effects on psychiatric status with regards to traumatic symptomatology, besides various other factors (e.g. substance use, demographics). The results of the current study appear to reflect the conundrums facing traumatic stress researchers as highlighted below.

Yehuda and McFarlane (1999) state that the findings suggest that it is the exception rather than the rule for individuals to meet diagnostic criteria for PTSD in the absence of meeting criteria for another psychiatric disorder. These authors argue that, in unpacking the question of psychiatric comorbidity is that these conditions may reflect the overlap of symptoms between diagnoses as they are formulated in current nosologic conceptions and may not necessarily represent distinct disorders (Yehuda & McFarlane, 1999).

Even so, the existence of these symptoms raises the possibility that they may be considered secondary to these comorbid disorders rather than being secondary to PTSD... The presence of psychiatric comorbidity is a complex issue that overlaps with some of the conundrums raised by the complex longitudinal course of PTSD and existence of vulnerability factors...The relevant rareness of “pure PTSD” (i.e., a frequently used terms that denotes a syndrome uncomplicated by the presence of symptoms of other psychiatric disorders), compared to the presence of more complex forms, suggests that traumatic stress may precipitate a whole host of symptoms and conditions. As such, the emergence of PTSD following exposure to trauma may represent the

manifestation of an underlying diathesis rather than a normative adaptation to environmental challenge (Yehuda & McFarlane, 1999, p. 49-50).

It has been found that traumatic responses can flare up other symptom clusters into heightened psychopathology, leading to disorders of depression, anxiety and pathological change in personality (Horowitz, 1999). There are a number of factors found to exacerbate or relieve PTSD symptomatology, which includes family history and family circumstances (Yule & Williams, 1990). In the current study 17% (n = 63) of the sample (n = 367) reported a current family psychiatric history, i.e. in the last six months. The participant's family current psychiatric history was significantly affected with regards to aspects of violent crime exposure. Furthermore, in the current study 16% (n = 59) of the sample (n = 367) reported a previous family psychiatric history, i.e. before the last six months. The participant's previous family psychiatric history (before last six months) was significantly affected with regards to exposure to aspects of violent crime. However, post hoc t-tests did not reveal statistically significant differences in means between conditions, for instance depression and anxiety, with regards to current and previous family psychiatric status and aspects of violent crime exposure. The above results of the current study again suggest a bridging domain between criminology and psychology highlighting significant effects on family current and previous psychiatric status with regards to aspects of violent crime exposure. No causal inferences can be made, however, since statistically significant effects have been found, perhaps further research could explore these findings in an in-depth manner.

The findings from the current study give some support to studies, which have noted that family circumstances and family history has been implicated with regards to traumatic symptomatology (Yules & Williams, 1990). Since, in the current study a

statistically significant effect was found on family previous psychiatric history with regards to the traumatic stress symptom cluster of intrusion. This result indicates that there were effects on the participant's levels of intrusion symptoms with regards to previous family psychiatric history. Additional analysis revealed that no statistically significant differences in means were found between family previous psychiatric histories, for instance, between different conditions like depression and anxiety, and greater levels of traumatic symptomatology for participants. Hence, no further results were included here. Intrusion symptoms were also found to a factor with regards to the respondent's own previous psychiatric history suggesting that symptoms from this cluster were implicated, in the current study, with regards to psychiatric status and traumatic symptomatology. Perhaps further research could explore these findings in a more in-depth manner since the current study's results do not allow for causal inferences. It appears that the effects of violent crime are arguably important to research since studies of non-clinical and clinical populations, examining the psychological consequences of criminal victimisation, have documented elevated symptom levels and psychiatric disorders in adult and child crime victims (Kilpatrick & Resnick, 1993; Zoellner et al., 2000; Brewin et al., 2000; New & Berliner, 2000).

Sense of Coherence

In the current study the personal factor examined with regards to both traumatic exposure to violent crime and traumatic symptomatology was a sense of coherence (Antonovsky, 1979). As noted in the literature (Horowitz, 1999; Kaplan & Saddock, 1994; Wolfe and Kimerling, 1997; Yehuda & McFarlane, 1999) the traumatic stressor alone cannot be seen as being responsible for a traumatic stress response. Furthermore, a novel aspect of the current study was to examine variables in

relation to traumatic exposure to violent crime, hence, a sense of coherence was measured as a personal factor. Moreover, authors stress the need to include variables, in traumatic stress studies, that could impact on the traumatic stress reaction (Horowitz, 1999; Manson, 1997; Wolfe & Kimerling, 1997). Factors like pre-existing personality variables have been shown to exacerbate or relieve PTSD symptomatology (Emery et al., 1991; Kleber & Brom; Yehuda & McFarlane, 1999), hence, the researcher included a factor regarding personality in the current study. For the purpose of the current research the psychological resource factor that will be discussed is a sense of coherence (Antonovsky, 1979). This particular global personality disposition is being measured as part of the current research since an individual's sense of coherence (Antonovsky, 1979) is an internal resource, which has been identified in the literature as playing a significant role in the management of stressful events (Antonovsky, 1987; 1993; Cilliers et al., 1998; Ortlepp & Friedman, 2001; Viviers, 1998). Strong statistically significant inverse relationships were found in the current study between a sense of coherence and dimensions/aspects of violent crime exposure (e.g. My life was threatened). This result indicates that the greater the sense of coherence the less exposure to aspects of violent crime, or the less the sense of coherence the greater the exposure to violent crime.

A sense of coherence is viewed as a general way of appraising the world, both cognitively and emotionally, which is associated with effective coping, health-enhancing behaviours and better social judgement (Strumpfer & Mlonzi, 2001). It is not a particular coping style but rather a disposition allowing individuals to select appropriate strategies to deal with stressors confronting them (Strumpfer & Mlonzi, 2001). In the current study a statistically significant inverse relationship was found

between a sense of coherence and the three symptom clusters of intrusion, avoidance and arousal and overall traumatic stress symptoms. The current study's results indicate that the greater the sense of coherence the less the traumatic symptomatology, or, the less the sense of coherence the greater the traumatic symptomatology on all three symptom clusters and overall. These results confirm findings in the literature regarding a sense of coherence and traumatic stress manifestations (e.g. Ortlepp, 1998). However, Ortlepp's (1998) study examined secondary traumatic stress disorder symptoms. Figley (1995) argues that STSD and PTSD manifestations are almost identical.

Ortlepp (1998) found a statistically significant and strong inverse relationship between the construct, a sense of coherence, and various indicators of secondary traumatic stress, namely burnout and compassion fatigue. Ortlepp (1998) notes that these findings are consistent with those of other researchers in the area (Flannery & Flannery, 1990; Virtue and Jansen, 1996). Virtue and Jansen's (1996) found statistically positive correlations between a sense of coherence and general psychological well-being. Ortlepp's (1998) findings are relevant to this study, since, as Figley (1995) has noted, PTSD and STSD are almost, if not identical, in terms of symptomatology. Ortlepp and Friedman (2001) found that a sense of coherence and its component parts exert strong main effects on the variance of the indicators of secondary traumatic stress. Ortlepp and Friedman (2001) argue that their and others (Flannery and Flannery, 1990; Semmer, 1996 cited in Ortlepp & Friedman, 2001) finding that a sense of coherence be considered as a global predisposition to responding to life stress, rather than a specific moderating variable, supports Antonovsky's contention that a sense of coherence addresses the overall quality of an

individual's specific response to specific events. Ortlepp and Friedman (2001, p. 45) state that "... (t)his finding is of significance to the conceptual understanding of the dynamic nature of secondary traumatic stress and supports theories in which the role of personality disposition, as it influences a person's cognitive appraisal, is given key prominence". This assertion appears to be given some support by the results of the current study with regards to a sense of coherence and both traumatic exposure to violent crime and traumatic symptomatology.

Thus, the focus of the salutogenic model is on successful coping (Antonovsky, 1987). The central thesis of this model is that stressors are omnipresent in human existence, and even with a high stressor load many people survive and even do well (Antonovsky, 1979; 1987). Thus, the salutogenic question asked is: Why do some people cope successfully in spite of omnipresent stressors, and others do not (Cilliers, Viviers & Marais, 1998). Antonovsky (1979) argues that, through life experiences, individuals develop 'generalised resistance resources' (GRRs), which he defines as any characteristic of the individual that facilitates avoiding or combating a wide variety of stressors (Cilliers et al., 1998). GRRs may be material such as food or money, cognitive such as intelligence or knowledge, interpersonal such as social support, as well as macro social such as religion (Strumpfer, 1995). When the individual regularly experiences the availability of GRRs, personality constructs develop which prevent the individual from being subjected to some stressors (Cilliers et al., 1998). Subsequently, individuals' define stressors as 'welcome', following this the personality construct will decisively operate the extent to which the individual will move on the health ease/disease continuum. There is a hypothesised feedback loop from the GRRs to the salutogenic personality constructs (Antonovsky, 1979).

Depending on previous experience of overcoming stressors, the GRRs will enhance the strength of the salutogenic personality constructs, which in turn will enhance the strength of the GRR (Antonovsky, 1979). It is thought that a strong sense of coherence enables a person to mobilise GRRs to combat stressors thereby strengthening the person's sense of coherence via a feedback loop (Antonovsky, 1979). On the other hand, it is thought that those with a weak sense of coherence are likely to be unable to mobilise adequate resources, culminating in health breakdown (Antonovsky, 1987).

In the current study a statistically significant inverse relationship was found between a sense of coherence and the three symptom clusters of intrusion, avoidance and arousal and overall traumatic stress symptoms. The current study's results indicate that the greater the sense of coherence the less the traumatic symptomatology, or, the less the sense of coherence the greater the traumatic symptomatology on all three symptom clusters and overall. The current study's results appear to lend some support to Antonovsky's contentions with regards a sense of coherence.

Antonovsky (1987, p. 19) defines the three-component personality construct of a sense of coherence as:

...a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable [Comprehensibility]; (2) the resources available to one meet the demands posed by these stimuli [Manageability]; and (3) these demands are challenges, worthy of investment and engagement [Meaningfulness].

A strong SOC is seen to develop when people frequently experience availability of these resources during their personal development. Hence, it is a general way of appraising the world, both cognitively and emotionally, which is associated with effective coping, health-enhancing behaviours and better social judgement. It is not a particular coping style but rather a disposition, which allows individuals to select appropriate strategies to deal with stressors confronting them (Strumpfer & Mlonzi, 2001). Hence, to reiterate the results of the current study appear to lend support to Antonovsky's contentions regarding a sense of coherence. Since, in the current study a statistically significant inverse relationship was found between a sense of coherence and the three symptom clusters of intrusion, avoidance and arousal and overall traumatic stress symptoms. Thus, the current study's results indicate that the greater the sense of coherence the less the traumatic symptomatology, or, the less the sense of coherence the greater the traumatic symptomatology on all three symptom clusters and overall. Furthermore, a statistically significant inverse relationship was found between a sense of coherence and aspects of violent crime exposure (e.g. I had to flee for my life). Thus, the current study's results indicate that the greater the sense of coherence the less the aspects of exposure to violent crime, or, the less the sense of coherence the greater the aspects of exposure to violent crime.

Chapter eleven focused on personal factors with regards to both traumatic exposure to violent crime and traumatic symptomatology. Demographics, health status, substance use, psychiatric history and a sense of coherence were discussed in relation to traumatic exposure and traumatic symptomatology. Chapter twelve examines the findings in the current study with regards to the relationship between traumatic exposure to violent crime and traumatic symptomatology. Chapter twelve examines the relationship between stressor exposure and traumatic symptomatology.

CHAPTER TWELVE

Discussion of research question 5

Research Question 5: Is there a relationship between traumatic exposure to violent crime and traumatic symptomatology?

In this chapter the results for research question five will be discussed. This research question looks at the relationship between traumatic exposure and traumatic symptomatology in the sample.

The results of the current study yielded the following statistically significant relationships between traumatic exposure to violent crime and traumatic stress symptomatology. There was a strong positive correlation between overall traumatic stress symptoms and direct exposure to violent crime. This result suggests that the greater the direct exposure to violent crime, the greater the levels of traumatic symptomatology, or, vice versa.

Furthermore, a statistically significant positive relationship was found between indirect exposure to violent crime and the symptoms of avoidance, arousal and overall traumatic stress symptoms. This result indicates that the greater the indirect exposure to violent crime the greater the avoidance, arousal and overall traumatic stress symptoms. In addition, a statistically significant positive relationship was found between overall traumatic stress symptoms and the reported effect of indirect exposure to violent crime. This result indicates that the greater the traumatic symptomatology the greater the reported effect of indirect exposure to violent crime, or vice versa.

Moreover, perhaps the current study's finding above, regarding indirect exposure and avoidance symptoms may reflect an attempt by traumatised individuals to "...create some sense of safety and to control their pervasive fear..." (Herman, 1992, p. 46). This is suggested by the researcher given high reported levels of indirect exposure to violent crime (62%) in the current sample. The avoidance of stimuli associated with the traumatic event was shown to be a relevant feature in relation to indirect exposure to violent crime (Amick-McMullan et al., 1989).

Furthermore, in the current study, statistically significant positive relationships were found between arousal symptoms and indirect exposure and exposure to aspects of violent crime. This results indicate that the greater the indirect exposure (e.g. mugging) and aspects of violent crime exposure (e.g. My life was threatened), the greater the arousal symptoms, or vice versa. Bard and Sangrey (1986) found that hypervigilance is a common response to criminal victimisation, and the victim is often vigilant within their environment. There is the anticipation that they may be exposed to another traumatic experience. In Gauteng, this is a very real and not unrealistic threat (Nedcor, ISS Crime Index, 2001). This vigilance has been found to reduce with intensity over time (Bard & Sangrey, 1986). However, in South Africa this is complicated since, as noted earlier, crime is ongoing, thus it is possible that hypervigilance may persist over a longer period, since the perception of risk is reinforced by contextual features (Friedland, 1999). Further studies (e.g. Sales, Baum and Shore, 1984) found the presence of hyperarousal symptoms in victims who had been assaulted, especially noted was sleeping difficulties and an exaggerated startle response. Kilpatrick and Resnick (1993) report that hyperarousal was a common response to criminal victimisation, and it was equally as prevalent as the symptoms of avoidance and intrusive thoughts. The above discussion highlights some of the

findings with regards to the stressor, criminal victimisation, and traumatic stress symptoms. Furthermore, few studies appear to have researched arousal symptoms, and traumatic symptomatology in general, in relation to indirect exposure to violent crime (Friedland, 1999).

Strong statistically significant relationships, i.e. positive correlations, were found between aspects/dimensions of violent crime exposure (e.g. I had to flee for my life) and the three symptom clusters of intrusion, avoidance and arousal and overall traumatic stress symptoms. This result indicates that the greater the exposure to aspects of violent crime the greater the intrusion, avoidance, arousal and overall traumatic stress symptoms, or vice versa. Hence, it appears that there was a statistically significant relationship between aspects of direct and indirect traumatic exposure to violent crime and traumatic symptomatology in the current study.

As discussed in chapter two of the current study, with regards to the nature of the event and traumatic symptomatology, victims of direct and indirect violent crime exposure experienced intrusive symptoms as found in other violent crime and PTSD studies (Bard & Sangrey, 1996). Bard and Sangrey (1986) describe how victims of crime often re-experience the events surrounding the crime over and over again. Kilpatrick and Resnick (1993) conducted a literature review of studies of criminal victimisation and they found that intrusive thoughts and the re-experiencing of exposure to criminal violence was a highly common response amongst individuals exposed to a variety of crimes. The presence of intrusive thoughts and the re-experiencing of the traumatic event were highest when the trauma was life threatening or involved injury (Kilpatrick & Resnick, 1993). These types of traumas were also associated with high levels of avoidance behaviours and increased arousal. Kilpatrick

and Resnick (1993) argue that trauma involving threat to life and injuries incurred are particular dimensions of criminal victimisation which are likely to lead to higher levels of PTSD symptoms. In terms of indirect traumatic stress responses, Figley (1995) suggests that the individual re-experiences, in fantasy, the traumatic event, which occurred to the significant other.

Thus, the current study found that in this sample the victims of violent crime experienced intrusive symptoms when exposed to various aspects of violent crime (e.g. I was badly harmed or injured) as found in other violent crime and PTSD studies (Bard & Sangrey, 1986; Kilpatrick & Resnick, 1993). Victims of crime exposure “...may be tormented by intrusive memories of the crime or by persistent dreaming of it” (Bard & Sangrey, 1986, p. 47), or they may feel as though the crime was happening again when confronted with stimuli which were associated with the traumatic experience. Studies of criminal victimisation found that intrusive thoughts and the re-experiencing of exposure to criminal violence were highly common responses amongst individuals exposed to a variety of crimes (Kilpatrick & Resnick, 1993). In the current study some support was given to the findings in the literature, since intrusion symptoms were significantly related to direct and indirect violent crime exposure. Levels of traumatic symptomatology were, on average, significantly higher in relation to a variety of events (e.g. armed robbery, mugging, attempted sexual assault) and statistically significant relationships were found with regards to aspects of violent crime exposure (e.g. My life was threatened, I had to flee for my life).

In addition, the current study found that the traumatic stress symptom cluster of avoidance was reported by a large proportion (26%) of the respondents with regards to traumatic exposure to violent crime. This confirms findings in the traumatic stress

field with regards to victims of violent crime (Bard & Sangrey, 1986; Herman, 1992; Kilpatrick & Resnick, 1993) and the implications for victims and their relationships are highlighted below. Herman (1992) describes avoidance as a numbing response that is characterised by estrangement, detachment and avoidance of the stimuli, which may bring back memories of the traumatic event. Avoidance of the trauma may reflect an attempt by traumatised individuals to “...create some sense of safety and to control their pervasive fear, traumatised people restrict their lives.” (Herman, 1992, p. 46). However, avoidance tends to restrict an individual’s relationships, since, by avoiding the traumatic stimuli the individual forgoes the opportunity to gain some mastery over the effects of the traumatic event (Herman, 1992).

Furthermore, Bard & Sangrey (1986) found that victims of crime often alternate between thinking about their traumatic experience and then try to defend against their memories by denying them. Many victims can go through a period of direct denial in which “...they feel emotionally detached, unable to respond with much feeling to anything” (Bard & Sangrey, 1986, p. 42). Many victims experience “...specific fears about specific details of the crime” (Bard & Sangrey, p. 44) and avoid particular places or people which arouse recollections of the trauma. Bard & Sangrey (1986) have outlined a response, in accordance with the DSM-IV’s (APA, 1994) description of avoidance symptoms, to criminal victimisation. They view the avoidance of the traumatic event as part of the process of traumatising and concur with Herman (1992) that this hampers the victim’s opportunity to deal with and overcome their trauma. The results of the current study found statistically significant relationships between direct and indirect exposure to violent crime and avoidance symptoms. Hence, there are serious implications in terms of the consequences for individuals, their significant others and for the country as a whole given the effects of

avoidance symptoms as discussed above. As noted previously, relationship difficulties, parenting difficulties, and work performance are all areas, besides others, which may suffer as a result of criminal victimisation and the consequences thereof.

Further effects for respondents in the current study regards statistically significant relationships, which were found between the traumatic symptoms of arousal and direct exposure to violent crime and aspects of violent crime exposure (e.g. I was badly harmed or injured). This confirms findings in violent crime studies, for instance, Bard and Sangrey (1986) found that hypervigilance is a common response to criminal victimisation, and the victim is often vigilant within their environment. Eagle (1994) notes that in situations of multiple and ongoing trauma, the symptom of hyperarousal is increased. Survivors may be highly vigilant of their environment, which may result in startle responses, sleeplessness and concentration problems. Increased arousal may only be maintained for a limited period, and then more chronic depressive symptoms “...of numbing and depressed mood, withdrawal and hopelessness” may develop (Eagle, 1994, p. 15). Furthermore, Friedland (1999) notes that there is a dearth of research with regards to arousal symptoms and indirect exposure to violent crime, hence, the current study has endeavoured to contribute in this area. The findings with regards to indirect exposure to violent crime are discussed below.

The results in the current study confirm findings in the traumatic stress field with regards to indirect exposure to trauma (Bard & Sangery, 1986; Figley, 1995; Friedland, 1999), here violent crime, and traumatic symptomatology. This finding with regards to indirect exposure also appears to confirm the validity of the DSM-IV's (APA, 1994) inclusion of ‘witnessing’ or ‘learning about’ the occurrence of harm as

potentially traumatising. The avoidance of stimuli associated with the traumatic event was shown to be a relevant feature in relation to indirect trauma (Amick-McMullan et al., 1989). High levels of avoidant behavior were found amongst a sample that had experienced the murder of a family member (Amick-McMullan et al., 1989). It was also reported that places would be avoided that reminded them of the traumatic event (Amick-McMullan et al., 1989). Detachment or estrangement from others was also reported. Thus, it would appear that indirect traumatisation may produce very similar, if not identical features of avoidance to those caused by direct exposure to a traumatic event (Friedland, 1999; Figley, 1995).

As noted previously, March (1993) notes that it is difficult to separate stressor characteristics from the related dimensions of intensity and subjective impact. However, a number of generic stressor characteristics relating to the nature of the stressor, which have been identified by authors (Brewin et al., 2000; Green 1993; 1994; Green et al., 2000; Ullman & Filipas 2001) as impacting negatively on adaptation to trauma. These include: threat to life; severe physical harm or injury; situations in which harm or injury is intentionally inflicted (as opposed to occurring in the context of a natural disaster); violent or sudden loss of a loved one; witnessing or learning of violence to a loved one; learning of exposure to a noxious agent; rape; torture; torture and causing death or harm to another (e.g. context of combat situation). Factors which may be relevant in Gauteng, South Africa, include: threat to life; severe physical harm or injury; situations in which harm or injury is intentionally inflicted (as opposed to occurring in the context of a natural disaster); violent or sudden loss of a loved one; witnessing or learning of violence to a loved one; and rape. The victim's lack of preparedness, the duration of the experience, frequency, and the unpredictability of the event are further features, which may be relevant with

regards to violent crime exposure and traumatic symptomatology in Gauteng, South Africa and in the current sample. Perhaps further research could explore the relationships found since the results of the current study do not allow for causal inference, rather hypotheses have been suggested with regards to traumatic exposure to violent crime and traumatic symptomatology.

Chapter twelve focused the on the relationship between traumatic exposure and traumatic symptomatology. In the current study statistically significant relationships were found between traumatic exposure to violent crime and traumatic symptomatology. Chapter thirteen includes the concluding comments for the current study, the limitations of the study and the recommendations for further research.

CHAPTER THIRTEEN

Concluding comments

The aim of the current research was to adopt an epidemiological lens and to focus on the prevalence of both direct and indirect exposure to violent crime and the prevalence of any resultant traumatic stress symptomatology in a sample of 1st year South African university students in Gauteng. Epidemiological studies traditionally focus on extremely large population aggregates (e.g. $n = 3000$ respondents). The current study utilised epidemiological constructs, however, the sample is smaller ($n = 367$) and non-representative of the general population, thus, the researcher focused on prevalence, rather than epidemiology per se, with regards to traumatic exposure and symptomatology. However, the current study utilised the epidemiological constructs, which examine features of time, place and person in relation to disorder. Three major research questions are characteristic of nearly all epidemiologic research: (1) what are the social, behavioural, demographic and biological characteristics of persons who develop a disease; (2) what is the relationship of the disease to geographic, ecological and social locales; and (3) what is the relationship of disease onset to suspected risk factors (Mausner & Bahn, 1974, cited in Dunn & Janes, 1986). These three questions are often associated with descriptive epidemiology, which seeks primarily to identify the amount and distribution of disease or disorder within a population. In this context it is fairly routine to focus on the demographic characteristics of person, (question 1); place (question 2); and time (question 3). For example, typical categories of data gathered in descriptive studies include age, gender, ethnicity, occupation, marital

status, place of residence, age cohort, and differences in disease rates occurring over time (Dunn & Janes, 1986).

A further aim of this study regarded an examination of the relationship between the nature of the traumatogenic event (i.e. the nature, severity, subjective perception of the stressor and previous exposure to trauma), the posttrauma environment (i.e. counselling and social support) and personal factors (i.e. demographics, health status, substance abuse, psychiatric and family psychiatric history and a sense of coherence) and both traumatic exposure to violent crime and traumatic symptomatology. Many statistically significant relationships were found with regards to the above constructs and both traumatic exposure and traumatic symptomatology. The results of the current study highlighted the complexity and multi-faceted nature of traumatic stress experiences and symptoms. Given that the current study was non-experimental in nature further research appears to be indicated given the findings of this research. The sample is non-representative, however, the results appear to be relevant with regards to university students. The prevalence of traumatic exposure to violent crime and traumatic symptomatology in the current study suggest that possible areas of intervention may be beneficial for university students, for instance, counselling and campus safety. Furthermore, in terms of intervention, education regarding symptomatology has been found to ameliorate traumatic stress manifestations (Eagle, 1998).

These results of the present study suggest that there are many factors to consider when investigating traumatic stress responses. For instance, a representative study of sexual assault victims (Frazier et al., 1997, cited in Ullman & Filipas, 2001) showed that over half of women (58%) who nominated sexual assault as their worst traumatic event had PTSD in their lifetime. Multivariate analysis showed that young,

White women who perceived the assault to be life threatening, were more upset at the time of the assault, and those who blamed themselves and others for the assault had more PTSD symptoms (Ullman & Filipas, 2001). These results and those of the current study suggest that demographic background, traumatic event characteristics, and post assault victim responses may all be implicated in the development of PTSD (Ullman & Filipas, 2001). In the current study personal factors, such as the global personality disposition of a sense of coherence (Antonovsky, 1987), substance use, health status and psychiatric status, appear to be implicated with regards to traumatic symptomatology. Furthermore, features of the posttrauma environment, such as social support and previous exposure to trauma, appear to be implicated with regards to traumatic symptomatology in the current study. Ullman and Filipas (2001), in a sample of sexual assault victims, only found that education was significantly related to less PTSD symptom severity of the demographic variables entered (age, race, marital and parental status, income, educational level, employment status). The results of the current study appear to confirm that there are many issues to debate, in the traumatic stress field, with regards to the conceptualisation of traumatic stress, since, many factors have been implicated with regards to PTSD manifestations and with regards to traumatic exposure to violent crime (Horowitz, 1999; Yehuda & McFarlane, 1999).

Finally, the study aimed to examine whether there was a relationship between traumatic exposure to violent crime and traumatic symptomatology. This statistically significant relationship was confirmed in the current study. Statistically significant relationships were found between direct and indirect exposure to violent crime and between aspects of violent crime exposure and traumatic symptomatology.

At the time of writing the proposal for this study, and for two years prior to this (July 2000 - August 2001) there was a moratorium on crime statistics released by

the South African Police Services, allegedly due to inaccurate reporting and recording of crime (the moratorium has since been lifted). Furthermore, authors of the Nedcor ISS Crime Index (1998) and Louw (1998) state that it has become accepted practice in South Africa to argue that official crime statistics provide a poor indication of levels of crime in the country. The current study provided some information regarding respondents who have experienced criminal victimisation over the period of the crime statistics moratorium and accessed some in the sample who did not report crimes to the police. Hence, a contribution of the current research is in relation to highlighting levels of direct and indirect exposure to violent crime in this sample over the period of the crime statistics moratorium. Indirect victims are not covered by official crime statistics since only direct victims are included. In addition, the current study highlighted the underreporting of direct exposure to violent crime in the sample.

Moreover, the study researched a non-patient population, which broadened the scope in terms of identifying psychiatric disorders outside of the primary health care setting. Community studies involve the study of samples selected for reasons other than their exposure or disease status (Schlenger et al., 1997). As noted in the literature review of the current study clinical studies are extremely valuable in terms of improving understanding of those who seek treatment for PTSD, however, such studies contain an inherent bias, i.e. only a relatively small portion of those who meet the diagnostic criteria for a specific psychiatric disorder seek treatment for it (Schlenger et al., 1997). Furthermore, the impact of the bias introduced by the self-selection of treatment-seeking populations cannot be definitively determined since this cannot be studied as a randomised experiment. This limits the contribution that clinical studies can make to further understanding the basic epidemiology of psychiatric disorders (Schlenger et al., 1997). To add to this problem, it is evident that

not everyone who seeks treatment for a given disorder actually has that disorder (Schlenger et al., 1997). Moreover, many of those exposed to trauma may experience symptoms of PTSD, not all will develop the disorder (Schlenger et al., 1997).

Furthermore, according to the literature, many people suffering from posttraumatic stress are unidentified, and, hence, untreated and unsupported (Hamber, 1995; Wigfall-Williams, 1997). Given the high levels of violent crime in South Africa, this appears to be an area of concern, especially knowing the possible effects and distress that individuals may be experiencing. Intervention is indicated given these findings and knowledge with regards to the effects of violent crime exposure as shown below.

The consequences of the high levels of violent victimisation permeate increasingly widely into South African society, and few, if any, South Africans can remain unaffected. Vast numbers of South Africans are likely to struggle to relate to other individuals due to shattered trust, and feelings of grief and loss; to have difficulty in the workplace due to intrusive trauma symptoms; and to be left with an overwhelming sense of anxiety, anger and vulnerability. This leaves many South Africans with raised levels of fear, suspicion and aggression - all of which deleteriously affect their daily functioning. (Hamber & Lewis, 1997, p. 14).

Hamber and Lewis (1997) note that the majority of South African victims of violent crime are likely to feel unsupported and hopeless and have lost faith in the effectiveness of the criminal justice system. Hamber and Lewis (1997) argue that these feelings are likely to intensify if no psychological and social support is received. Of concern is that, if ignored, certain victims of past violence are at risk of becoming perpetrators of retributive violence or displaced social and domestic violence (NCPS, 1996; Simpson, 1996, cited in Hamber & Lewis, 1997; SAPS, 2001). Research cited

by Dawes and Tredoux (1990) and Malepa (1990, both cited in Hamber & Lewis, 1997) note the fact that children exposed to violence would more readily become perpetrators of violence themselves. Furthermore, studies found that women who were beaten were at least twice as likely to beat their children than mothers who were not abused (Domestic Abuse Project, 1996, cited in Hamber & Lewis, 1997). As noted by the NCPS (1996), regarding this danger, in the case of violent crime, victim empowerment and effective support can break the cycle of violence and therefore can be viewed as preventative. Thus, according to Hamber and Lewis (1997), trauma counselling and a range of other interventions with traumatised individuals, can be considered effective in alleviating and preventing the consequences and effects of violent victimisation as noted below.

Multiple levels of prevention are necessary to combat violence and trauma. These include primary prevention (e.g. education), secondary prevention initiatives (e.g. psycho-social and medical services), and finally, tertiary preventative services, such as trauma counselling. At the same time accurate information is needed concerning violent “hot-spots”, as well as reliable epidemiological data and a range of practical research endeavours that could help understand and minimise the incidence of violence. (Hamber & Lewis, 1997, p. 12).

In the current study the researcher has attempted to contribute with regards to providing access to education and counselling in relation to traumatic exposure to violent crime and posttraumatic stress symptoms. In addition, the researcher provided appointment slots for participant’s to meet with her and telephone numbers of trauma counselling services were provided at the time of the data collection. Furthermore, the current study could be seen as beneficial for some respondents since it potentially

identified those experiencing posttraumatic stress symptoms in the non-clinical population and provided potentially unidentified and unsupported victims of violent crime with access to helping profession resources. In addition, the current study has provided some information regarding the prevalence of violent crime exposure and some “hot-spots” for instance, violent crime committed on campus and at home.

Furthermore, with regards to treatment intervention required for criminal victimisation and trauma as noted by Hamber and Lewis (1997) above, Gee (1994) notes that insufficient research has been conducted regarding the longitudinal course of PTSD. However, existing research suggests that it may be a very long lasting disorder, especially without treatment intervention. According to Kaplan et al. (1994) approximately 30% of patients recover completely, while 40% continue to have mild symptoms, 20% continue to have moderate symptoms and 10% remain unchanged or deteriorate further. Helzer et al. (1987, cited in Davidson & Fairbank, 1993) found that 49% of PTSD subjects had symptoms that were resolved within six months and 51% of the group had symptoms which persisted beyond six months, with 33% of the entire PTSD population having symptoms lasting beyond 36 months. Kilpatrick et al. (1987) found that, in a female community sample of crime victims, 7.5% still had PTSD symptoms 15 years after exposure.

A further area of contribution with regards to the current research was the study of the chosen age demographic as a sample. Authors (e.g. Friedland, 1999; Sorenson & Golding, 1990) argue that young adult populations have had little focus in the traumatic stress field in relation to criminal violence. The authors of the Nedcor ISS Crime Index (1999) argue that young people also stand a greater chance than average of falling victim to crime, especially violent crime and have been found to be disproportionately likely to be victims of crime. The Victims of Crime survey

conducted by Statistics South Africa and the Department of Safety and Security found that of all individuals who had experienced at least one violent crime in 1997, almost a third (31.5%) were aged 16-25 (Nedcor ISS Crime Index, 1999). The results of the current study confirm that levels of violent crime exposure and traumatic symptomatology were high within this age demographic.

It has also been found that different types of criminal violence and their relationship to posttraumatic stress symptomatology have been under-researched (Friedman, 1999; Green et al., 2000). Sexual assault is often the focus of criminal victimisation studies (Markestyn, 1992; Ullman & Filipas, 2001; Green et al., 2000), in the current study various forms of violent crime were included.

Kaplan et al. (1994) and Horowitz (1999), besides others, suggest that social circumstances may increase vulnerability to the disorder. Hence, this study examined both the possible likelihood of traumatic exposure and of traumatic symptomatology with regard to social circumstances in Gauteng, South Africa (e.g. demographics). Epidemiological studies focus on factors regarding time, place and person. The results of the current study appear to confirm a relationship between social circumstances (e.g. demographics like gender, marital status) and violent crime exposure and traumatic symptomatology. Furthermore, the study appears to confirm that the environment and the time, here violent crime in Gauteng over a designated period, is implicated with regards to traumatic stress manifestations. Further elements of the social environment were implicated in the current study. For instance, social support and counselling, in the posttrauma environment, were significantly related to traumatic exposure and traumatic symptomatology.

This study looked at the cost of violent crime in specific psychological terms, i.e. traumatic stress symptomatology. Furthermore, the research examined variables,

for instance, demographics and previous exposure to trauma in relation to traumatic exposure. This appears to be relatively innovative since the traumatic stress field has largely focused on variables in relation to traumatic symptomatology. By examining variables related to traumatic exposure, one begins to examine the bridging domain of psychology into criminology. The preliminary findings in the current study, for instance, highlight relationships between personal factors and traumatic exposure. This appears to be an important area for further research. According to Hamber and Lewis (1997), intervention strategies in this regard may be developed with regards to prevention and support for victims.

This study also examined a South African population and these results were examined in relation to international epidemiological studies and statistics compiled on traumatic exposure to criminal violence and traumatic stress symptomatology. It appears that rates of violent crime exposure and traumatic symptomatology are high in different countries (e.g. U.S.A.) as was the case in the current study. However, there are differing findings across studies and it appears that rates of PTSD are higher for victims of violent crime than, for instance, victims of natural disaster. The DSM-IV (1994) appears to have a wide range with regards to prevalence of PTSD. The current sample is not representative of the greater population, hence, essentially no direct comparisons can be made.

To date there is a dearth of literature in South Africa examining the effects of criminal violence on individuals (Butchart & Kruger, 1998; Benatar, 1996; Eagle, 1998; Friedland, 1999). There has been an increase in international studies relating to criminal violence (Amick-McMullan et al., 1989; Green et al., 2000; Kilpatrick & Resnick, 1993; McCann & Pearlman, 1990; Ullman & Filipas, 2001). However, there was arguably a need to research criminal victimisation in Gauteng, South Africa,

especially since violent crime is so prevalent, hence, the researcher conducted this study. Hence, the current study has contributed to South African traumatic stress literature.

The results of the current study appear to confirm that PTSD manifestations are complex and may encompass many factors. Green (1994) argues that, while PTSD symptoms usually do decrease over time, in human caused events, this decrease might not mean a return to normal levels. The nature of the trauma alone does not dictate the course of PTSD, subjective perception of the traumatic event is a central factor in determining outcome (Green et al., 1985; March, 1993). Furthermore, there are a number of other factors that can exacerbate or relieve PTSD symptomatology, for example, the perceived availability of social support (Scott & Stradling, 1992), family history and family circumstances (Williams & Yule, 1990), previous exposure to traumatic experiences (Yehuda & McFarlane, 1999) and pre-existing personality variables (Kleber & Brom, 1992). The results of the study confirmed some statistically significant relationships between the aforementioned variables and PTSD manifestations and traumatic exposure to violent crime.

In addition, Friedland (1999) found high levels of direct and indirect exposure to violent crime in a sample of University students. Blumberg (2000) found high levels of traumatic exposure and PTSD in another university student sample in Gauteng. These findings were confirmed in the current study. Benatar (1996) did not find a relationship between multiple exposure to trauma and PTSD. The current study appears to disconfirm this finding since relationships were found between previous exposure to trauma and PTSD. As noted previously the current study's contribution lies in adding literature to the field of traumatic stress in South Africa since both

direct and indirect exposure to violent crime and any resultant traumatic symptomatology has received little attention (Friedland, 1999; Eagle, 1998).

The study's results arguably confirm that the effects of violent crime exposure can have far-reaching consequences for individuals. Arguably victims of direct and indirect violent crime exposure experience effects such as the following. Ullman and Brothers (1988, p.3) argue that trauma results in the change of a "person's experience of self." They note that trauma essentially shatters the self, and more specifically the internal world of the individual. McCann and Pearlman (1990a) also view trauma as disrupting the individual's self and frame of reference. Hence, the implications for individual's and the country as a whole are of concern. South Africa is currently in the process of transformation. Violent crime and its effects arguably impinge on this process of re-building the country post-Apartheid, where traditionally there has been mistrust and division amongst the people's of South Africa. It is suggested that intervention is required for victims of violent crime as the repercussions may include effects on parenting, marital relationships, children's development, work and social relationships and productivity in the workplace, besides other ramifications. The relationships found in the study cannot be generalised given that the sample is non-representative, however, tentative hypotheses have been made since violent crime statistics are high throughout Gauteng (SAPS, 2001).

With regards to indirect exposure to trauma Figley (1995) argues that the number of 'victims' of violent crimes are greatly underestimated because only those directly in "...harm's way are counted, excluding family and friends of the victims..." (Figley, 1995, p.4). Hence, it appears that most South Africans are being affected, by varying degrees, given high rates of violent crime that are reported by the media and, besides other sources, word-of-mouth. Indirect exposure rates are extremely high in

the current sample. The high rates and effects of indirect exposure are highlighted in the current study confirming Figley's (1995) assertion above. Both direct and indirect exposure to violent crime was significantly related to traumatic symptomatology. This finding with regards to indirect exposure also appears to confirm the validity of the DSM-IV's (APA, 1994) inclusion of 'witnessing' or 'learning about' the occurrence of harm as potentially traumatising.

The results of the current study suggest that PTSD manifestations following traumatic exposure to violent crime were high in the sample (19%). This is a further area of contribution by the current study and confirms findings by others, for instance, Wolfe and Kimerling (1997) found that rates of PTSD were appreciably higher for survivors of crime- versus non-crime-related traumas (26% vs. 9%). Other South African violent crime studies have also found high rates of PTSD manifestations (Blumberg, 2000; Eagle, 1998; Friedland, 1999). It appears that violent crime exposure may be implicated with regards to higher levels of PTSD than other types of trauma exposure, which yield lower prevalence rates than those found in violent crime studies. However, the duration of traumatic stress symptoms are not known in the current study. Furthermore, the results of the current study appear to suggest that PTSD manifestations were not rare in the current sample.

Kaplan and Saddock (1994, p.618) note that, "(b)y definition, the stressor is the prime causative factor in the development of posttraumatic stress disorder." However, the stressor is not sufficient to cause the disorder and individual pre-existing biological and psychosocial factors and events that happened after the trauma have to be considered. Hence, the current study included various factors, besides the examination of the stressor, in the research. In conclusion, Eagle (1998) notes that, although clients seeking treatment clearly have higher levels of PTSD, it is evident

that crime victims in general face not inconsiderable risk of developing full blown psychiatric symptoms. “Rates observed in populations assessed from 1 to 36 months post-crime generally ranged from 24% or 25% in a criminal justice system exposed sample...48.4%... and 70%... in clinical and crisis agency referred samples, respectively” (Davidson & Foa, 1993, p. 124). The current study found high levels of direct (35%) and indirect exposure (62%) to violent crime and high levels of posttraumatic stress symptomatology (19%).

Limitations of the Study

Data Analysis

The results found in the current study stem from correlational analysis, analysis of variance, t-tests and descriptive statistics (e.g. frequencies) hence. A limitation of non-experimental research includes the third variable problem since cause and effect cannot be inferred. However, this study is exploratory in nature and since trends were identified perhaps quasi-experimental or experimental research can be conducted in the future.

Research Design

A further limitation of the study is the reliance on retrospective, self-report assessments. The problem with this method revolves around the possibility that answers received may be reconstructions of participant’s experiences, potentially influenced by the perceived demands of the research (Ericsson & Simon, 1993, cited in van Someren et al., 1994). This concern notwithstanding, this form of measurement was felt to be the most viable option after other options were considered

(e.g. mini-mental status assessments) given the sample size and the extent of the investigation.

An additional limitation of this study is its cross-sectional nature. A longitudinal study may have yielded a deeper level of understanding regarding the longitudinal course of and prognosis of PTSD. The current study could not comment on duration of symptoms, since, the Impact of Event Scale measures symptoms occurring in the last seven days. Acute Stress Disorder or other PTSD manifestations may have been occurring. However, the researcher utilised a cross-sectional design for pragmatic reasons such as time constraints.

Measures Used in the Study

A limitation of the measures used in the study regards self-report, self-disclosure and accuracy of reporting problems. In this light, it has been suggested that in-depth clinical interviews could be utilised to supplement and verify self-report measures (Yehuda & McFarlane, 1999). Due to the large sample size, however, conducting such interviews would have been a lengthy process bringing its own limitations (e.g. social-desirability responding)(Rosnow & Rosenthal, 1996). However, the good reliabilities of the scales in the current study suggest that participants responded with some consistency and appeared to find the measures comprehensible. Volunteer bias, which is systematic error resulting when participants who volunteer respond differently from how individuals in the general population would respond (Rosnow & Rosenthal, 1996) is a further limitation to consider.

In addition, Louw (1998) states that a limitation of studies of this nature arise from people's inability to recall experiences of crime. This has been noted in methodological studies of large-scale victimisation surveys carried out in the United

States and United Kingdom. These have found that respondents make up an offence; not realise that an incident constitutes one of the offences covered in the survey; incorrectly remember when the event happened; and forget a relevant incident altogether. This has also been found in the traumatic stress literature, given aspects of the symptomatology which includes the desire to “forget” (Figley, 1995). The researcher attempted to make the questionnaires as explicit as possible in order to try and reduce the above limitations. The researcher, however, has to rely on the integrity of the respondents, which is a limitation of this study. It is hoped that the recency of the event to be described will reduce memory deficits and it is hoped that anonymity created safety in terms of accurate disclosure and of disclosure of as yet unreported, to the police, violent crimes.

Sample Group

A further limitation relates to the sampling procedure for this study. First year university students are not representative of the Gauteng population and hence the results may not be extrapolated to the rest of the population. As Rosenthal and Rosnow (1991) point out, students cannot necessarily be viewed as representative of the broader population. McCall (1990) states that, even when a sample is random, it is likely to be different from the general population since the sample consists of significantly less cases than are contained in a population. However, this study is focusing on a particular grouping and the results may have value within this circumscribed sample. The participants were of similar age and educational level, which inhibits the generalisability of the findings. In this case, there was a population bias with regards to the sample since a proportion of the respondents were generally young, relatively privileged middle-class South Africans with access to tertiary

education. This notwithstanding, there does not appear to be compelling reasons to believe that the findings of the current study were particular to this sample group based on the following research noted in the following paragraphs.

It has been argued that level of education and income are widely used as measures of social class and are considered to be interrelated (Gibbs, 1989; Kleber & Brom, 1992). On this basis, it has been hypothesised that those from higher socio-economic groups have better access to resources and better socialised coping skills and will thus fare better following a traumatic event (Blumberg, 2000). There is some support for this position, especially with regard to education, where better educated survivors of both hijackings (see for example Bastiaans et al., 1979, cited in Kleber & Brom, 1992) and sexual assault (Ullman & Filipas, 2001) were less severely affected than their counterparts. This finding may be related to the possibility that individuals with a higher level of education have more skills, confidence and a stronger sense of being able to control their environment (Kleber & Brom, 1992).

Furthermore, as noted previously, South African crime statistics and studies suggest that violent crime exposure rates, in Gauteng, are high (SAPS, 2001). In terms of lifestyle, the wealthiest households are at greatest risk of falling victim to household-related property crime (Nedbank ISS Crime Index, 2001). In respect of violent household-related crime the correlation is weaker. The wealthiest households experience less violent crime than middle-class households, but more than very poor households (Nedbank ISS Crime Index, 2001). Individuals living in the wealthiest households are the most likely victims of individual property crimes but the least likely victims of violent crimes (Nedbank ISS Crime Index, 2001). The opposite is the case for individuals living in the poorest households (Nedbank ISS Crime Index, 2001). The researcher hypothesises that the greater population in Gauteng are

experiencing high levels of direct and indirect exposure to violent crime and the deleterious effects thereof i.e. traumatic symptomatology, given the results of the current study, violent crime exposure statistics (SAP, 2001) and the research and statistics presented above.

Lack of Measurement of Other Mediating Variables

As discussed in the literature review, there are numerous factors that can mediate responses to trauma, both on an intra-individual level and on the levels of environment and social context (Green et al., 2000; Manson, 1997; Yehuda & McFarlane, 1999). Numerous factors were not considered by the current study constituting a limitation. For instance, multiple exposure to violent crime was not controlled for in the current study. However, arguably no study can be exhaustive in terms of examining all the relevant factors and the current study focused on as many as possible given the scope of this dissertation. The researcher selected factors, which have been found in the literature to be related to the current area of investigation, for instance, the relationship between the epidemiology/prevalence of PTSD and demographics.

A further limitation of the current study regards the measurement of previous traumatic exposure with regards to both current violent crime exposure and traumatic symptomatology. Traumatic stress manifestations in the current sample may not only be occurring due to current violent crime exposure. Multiple exposure to violent crime could also be implicated in the traumatic stress manifestations. The aforementioned factors are arguably a limiting factor in the study of traumatic stress since it is very difficult to separate out effects and interactions between variables, for instance, the interaction between the nature of the event and personal factors. Given the scope of

the current thesis the researcher was unable to examine interaction effects. Perhaps further research could, for instance, explore interactions between demographic variables and both traumatic exposure to violent crime and traumatic symptomatology.

General Limitations

A further limitation of the current study concerns the non-significant results found. Unfortunately, due to space constraints the researcher was unable to comment on the non-significant results found.

A further limitation of the current study regards the lack of critique with regards to the paradigm or discourse in which the study is embedded. For instance, the inherent positivist and modernist ideology that was inherent to the manner in which the study was conducted should be acknowledged (Parker, Georgaca, Harper, McLaughlin & Stowell-Smith, 1995). Again, space constraints do not allow for this type of critique, nor was this the focus of the research. The researcher, however, believes that it is important to locate the research and acknowledge that the study is embedded within certain ideologies, which inform its presentation. Perhaps further research could, for instance, deconstruct the discourse regarding the notion of psychopathology and disorder, in this case posttraumatic stress disorder.

Recommendations for further research

The current study could not differentiate symptom duration hence a possible area of research regards being able to study such distinctions, for instance, in a longitudinal study, which includes measures of symptom duration and/or lifetime prevalence rates of PTSD. Furthermore, this would allow for the differentiation of traumatic stress disorders, for instance, Acute Stress Disorder and PTSD with Delayed Onset. The researcher was not able to assess symptoms duration due to the nature of the traumatic stress instrument utilised in the current study, which only measures PTSD symptoms in the last 7 days.

A further recommendation regards conducting multiple regression analyses on the results found in the current study. This statistical technique could be used to examine, for instance, the weighting of the demographic variables with regards to both traumatic exposure to violent crime and traumatic symptomatology.

The current study highlighted many relationships, which could benefit from further investigation, for instance, the interaction between demographic factors and exposure to violent crime and traumatic symptomatology. Since the statistical analysis of the current study does not allow for causal inference perhaps experimental research could investigate these statistically significant relationships found in an in-depth manner providing greater understanding with regards to these findings. A novel aspect of the current study was the focus factors with regards to traumatic exposure. The preliminary results found, for instance between previous traumatic exposure and current violent crime exposure suggest a further area of study.

An additional direction for research is the replication of the study on other populations, thus providing a greater forum for the generalisability of the results.

Given that there is little knowledge concerning cross-cultural variations in traumatic stress manifestations, it appears that a study exploring such variations, particularly in the South African context may yield interesting and important insights.

Sexual assault appears to be a major concern in South Africa, hence, further research with regards to victims seems to be called for. The current study found significantly higher levels of PTSD symptomatology for those exposed to attempted sexual assault than for those who were not.

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APPENDIX 1