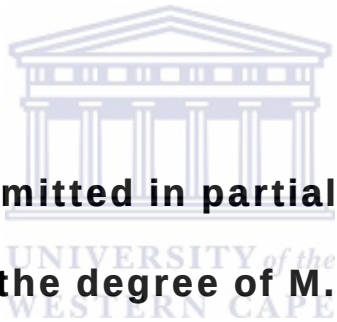
A COMPARISON OF PSYCHIATRIC OUTCOMES IN SOUTH AFRICAN ADOLESCENTS EXPOSED TO SINGLE AND MULTIPLE TRAUMATIC STRESSORS

Siyabulela Mkabile



A mini thesis submitted in partial fulfillment of the requirements for the degree of M.Psych (Clinical) in the Department of Psychology at the University of the Western Cape, Bellville.

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KEY WORDS

Trauma

Single traumatic stressor

Multiple traumatic stressor

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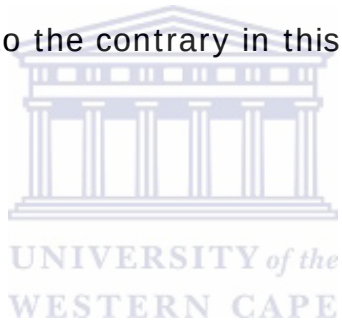
Quantitative research

DECLARATION

The author hereby declares that the following mini-thesis, unless specifically indicated to the contrary in this text, is his own work.



S. Mkabile

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Abstract

While there is a growing body of evidence that psychopathology resulting from exposure or victimization to single traumatic stressors is common among adolescents, little is known about the impact of repeated or multiple exposures in South African adolescents. This study examined the impact of exposure to multiple and repeated traumatic stressors in a sample of adolescents from South African schools.

This study was a quantitative, quasi-experimental design that drew its data from a larger comparative survey. The larger survey compared traumatic exposure between Kenyan and South African youth. The South African data from 1140 learners was utilized for the present study. The main aim of this study was to investigate whether multiple and/or repeated exposure, rather than single exposure to traumatic events is more likely to be associated with depression and posttraumatic stress disorder in adolescents. The Beck Depression Inventory (BDI) and the PTSD checklist were used as the outcome measures.

ANOVA was used to establish if there were significant differences on psychiatric sequelae between the single and multiple exposure groups.

Results revealed that there were significant differences between single traumatic exposure and multiple traumatic exposures on the outcome measures. There were no significant differences found between the no exposure group and single exposure group. The multiple trauma exposure group scored significantly higher when compared to single exposure group on the PTSD symptoms (mean difference = 2.607; CI = 1.67) of which $p < 0.01$. Results on the BDI indicated that the multiple exposure group scored more than the single exposure group (mean difference = 4.177; CI = 2.05) of which $p < 0.01$.

The results support the hypothesis that greater traumatic exposure is associated with greater distress. These findings have implications for current conceptualizations of PTSD.

SECTION ONE: INTRODUCTION

CHAPTER One: Overview of the study

1.1 General introduction

South Africans are exposed to a myriad of traumatic stressors. An estimated 70,000 South Africans are killed yearly due to traumatic experiences, with a further 3.5 million seeking health care as a result of trauma (Cauffman, Feldman, Waterman & Steiner, 1998). Furthermore, Cauffman *et al.* (1998) indicate that the complexity of trauma interventions results in extremely high costs and at the same time the economy loses millions of rands in lost earnings and productivity.

Research suggests that exposure to traumatic stressors may result in Post-traumatic Stress Reactions (PTSR) that may later lead to Post-traumatic Stress Disorder (PTSD) (Seedat, Stein & Carey, 2005). Symptoms may be severe, or can develop into depression, violence and other psychiatric symptomatology (Flannery, Singer & Wester, 2001). Furthermore, studies indicate that childhood experiences of abuse and adversity are associated with poor mental health outcomes among adults and adolescents (Grella, Stein & Greenwell, 2005).

The focus of this research is on single versus multiple traumatic

exposure in youth from low-income contexts. Little is known about psychiatric sequelae in low-income contexts where continuous or multiple traumatic exposure is often the norm. The present study therefore intends to address this gap by investigating the presentation and possible differences in South African adolescents exposed to single, as compared to repeated or multiple stressors.

1.2 Aim of the study

The main aim of the present study is to investigate whether multiple and/or repeated exposure, rather than single exposure to traumatic events is more likely to be associated with more depression and PTSD symptoms in adolescents.

1.3 The value of the study

South Africa is considered to be among the world's most violent societies (Lockhat & Van Niekerk, 2000), and scholarship on trauma remains a significant area of research. While significant strides have been made, the literature suggests that PTSD research becomes less adequate in those who experience ongoing violence, urban community violence or who have relationships with the perpetrator (Herman, 1997), as in the South African context. Although there is significant scholarship on child and adolescent trauma, not much has

been written about the impact of repeated exposure to traumatic events on adolescents in low-income contexts. The motivation for the current study is that the research findings will address this gap and contribute to the development of more appropriate models of trauma in low-income contexts.

1.4 Overview of the manuscript

This manuscript comprises eight chapters, divided into three sections, namely the introduction, the literature review, followed by the empirical investigation. Chapters two to five review the literature relevant to the study. Chapter two looks at both the medical and psychological definitions of trauma. It focuses on the history of the concept of trauma, shifts in the definition and the current definition of trauma.

Chapter three discusses the consequences of exposure to trauma. Special attention is paid to PTSD and depression as these are the foci for the present study. Differences between the two are also discussed.

Chapter four discusses the different theories of trauma. Both cognitive behavioural and psychodynamic approaches are briefly

reviewed.

In chapter five, youth in general and early adolescence in particular is discussed, emphasising the developmental tasks associated with this period and how they may impact on adolescents emotionally and psychologically. Prevalence rates of psychopathology amongst South African youth are also discussed.

Chapter six focuses on the methodology employed in this study. Description of the motivation, aims, hypotheses, design, participants, instruments, data analysis and ethics appraisal of the study are provided in this chapter.

Chapter seven presents the results of the study, following the analysis outlined in Chapter five. Descriptive statistics are initially presented followed by an examination of the identified hypotheses.

Chapter eight discusses and summarizes the salient results presented in Chapter seven, making specific reference to the literature, considering relevance and relatedness. Attention is further paid to limitations of the study, with recommendations for further exploration put forward.

SECTION TWO: LITERATURE REVIEW

2. Chapter Two: Defining trauma

2.1 Historical perspectives

Joseph, Williams and Yule (1997) argue that although psychological suffering in response to traumatic events has always been with us, it was not until 1980 that the term Posttraumatic Stress Disorder (PTSD) provided a common language which succeeded in bringing together research in a wide range of fields under one unifying and theoretical umbrella. Prior to 1980, the effects of traumatic events on psychological health had been discussed using a variety of terms. These different terms include, but are not limited to examples like; rape trauma syndrome and combat stress reaction (Herman, 1992). Undoubtedly, the introduction of the construct "PTSD" has led to more efficient research programmes and subsequently better treatment.

Joseph *et al.* (1997), make a special reference to the 19th century where different terms were used to describe the reactions to traumatic events. They indicate that the nineteenth century saw the advent of the railway and with it descriptions of posttraumatic stress reactions associated with railway collisions. Since then the effects of traumatic events on psychological health have been recognized under various names. Most of these labels were chosen in relation to

combat. According to Joseph *et al*. (1997) these names included nervous shock, traumatic neurosis, anxiety neurosis (Freud, 1894), fright neurosis (Kraepelin, 1886) and shell shock.

During the Second World War, further descriptions of posttraumatic stress reactions were provided by psychiatrists. Different psychiatrists used different names to describe reactions generated by traumatic exposure. Joseph *et al.* (1997) cite people like Kardiner (1941), who used the term post trauma syndrome; Rado (1942), who identified traumatophobia and Grinker and Spiegel (1943), who used the term neurosis. The clinical descriptions of these terms were remarkably similar to each other as well as to the earlier descriptions of these terms. Posttraumatic stress syndrome described by Kardiner (1941), as cited in Joseph *et al*. (1997), included increased feelings of irritability and outbursts of aggression, exaggerated startle response and fixation on the trauma, disrupted personality functioning and disturbed dreams.

However, Josephs *et al.* (1997) revealed that the literature on the subject of trauma related reactions were scattered and lacked a common language, until the Vietnam War provided the impetus for the current interest in posttraumatic phenomena and the introduction

of the term posttraumatic stress disorder, which formed the basis for the current conceptualization of the disorder.

2.2 Defining trauma

The word "trauma" is used in everyday language to mean a highly stressful event. The key to understanding traumatic events is that it refers to extreme stress that overwhelms a person's ability to cope (Giller, 1999). Different experts in the field have defined psychological trauma in different ways.

“Psychological trauma is an individual’s unique experience of an event, or enduring conditions, in which the individual's ability to integrate his/her emotional experience is overwhelmed, or the individual subjectively experiences a threat to life, bodily integrity, or sanity” (Pearlman & Saakvitne, 1995, p. 60). Thus, a traumatic event or situation creates psychological trauma when it overwhelms the individual's perceived ability to cope, and leaves that person scared of death, annihilation, mutilation, or psychosis. Giller (1999) argues that the individual feels emotionally, cognitively, and physically overwhelmed. In addition, the circumstances of the event commonly include abuse of power, betrayal of trust, entrapment, helplessness, pain, confusion, and/or loss.

According to Allen (1999), there are two components to a traumatic experience, that is, the objective and the subjective. It is the subjective experience of the objective events that constitutes the trauma. Allen (1999) argued that the more you believe you are endangered, the more you become traumatized. Psychologically, the bottom line of trauma is overwhelming emotion and a feeling of utter helplessness. There may or may not be bodily injury, but psychological trauma is coupled with physiological upheaval that plays a leading role in the long-range effects. In other words, trauma is defined by the experience of the survivor. Two people could undergo the same noxious event, and one person might be traumatized, while the other person remains relatively unscathed. Giller (1999) emphasizes that trauma is an individual's subjective experience that determines whether an event is traumatic or not.

Baldwin (1997) also suggests that although reactions to trauma are disturbing, particularly for the victim, they are considered to be normal responses to abnormal events. Trauma symptoms are to some extent adaptive, and Baldwin (1997) argues that they originally evolved to assist the individual to recognize and avoid such other dangerous situations. Risk for PTSD increases with exposure to

trauma, and multiple or chronic traumatic experiences are likely to be more difficult to overcome than most single instances (Baldwin, 1997).

The current dominant conceptualization of PTSD is reflected in the DSM-IV-TR (American Psychiatric Association, 2000). According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition or DSM-IV-TR (APA, 2000) the disorder presumes that the person has experienced a traumatic event involving actual or threatened death or injury to themselves or others, and where they felt fear, helplessness or horror. Traumatic events are defined as natural catastrophes such as hurricanes, floods or fires and man-made violence such as war, concentration camp experiences and other forms of victimization (APA, 2000). It also includes responses to chronic or repetitive experiences such as child abuse, neglect, combat, urban violence, concentration camps, battering relationships, and enduring deprivation.

There are three main symptom clusters in the DSM IV-TR (APA, 2000). First, the intrusive cluster. Intrusions can take the form of repeated, unwanted and uncontrollable thoughts of the trauma, and can include nightmares and/or flashbacks. Second, the avoidant

cluster. These symptoms consist of the person's attempt to reduce exposure to people or places that may elicit memories of the event (or intrusive symptoms). This also involves symptoms such as social withdrawal, emotional numbing, and a sense of loss of pleasure. The final category is termed hyper-arousal, and refers to physiological signs of increased arousal, such as hypervigilance, or increased startle response. According to the DSM-IV-TR APA (2000), PTSD symptoms must be present for more than a month for a diagnosis to be made.

While there are different emphases in the literature, two main components can be identified as suggested by the DSM 1V-TR conceptualization (APA, 2000). Firstly, the notion of a traumatic stressor (differentiated from life events) and secondly, the reaction to the stressor, which includes the spectrum of symptoms covered by the DSM IV-TR (APA, 2000) but may also include others. These definitions often assume a single traumatic stressor and need to be complemented by the notion of continuous or multiple stressors.

2.3 Multiple traumatic stress

The focus in the literature is on single exposure to trauma and our understanding of the effects of multiple exposures is quite limited.

There has not been much documented about the effects of repeated, multiple or continuous traumatic stressors in the literature. Although the DSM-1V-TR gives the provision in terms of chronicity and severity (APA, 2000), it does not provide any criteria for those who are multiply, repeatedly or continuously exposed to traumatic situations or events, and their long-term impacts. Herman (1992) and Parson (1998) have argued that PTSD as defined by the DSM-IV (APA, 2000) is inadequate in its description of the symptoms of those who experience ongoing violence, urban community violence, or who have relationships with the perpetrator.

In the South African context this issue was raised in the 1980s. As cited by Hamber and Lewis (1997), Straker & the Sanctuaries Counselling Team (1987) asserted that the term post traumatic stress disorder was a misnomer in the South African context. In particular, they were referring to individuals living in South Africa's black townships, who are subject to continuous stress. This stress can be attributed to the high levels of violence in the townships, characterized by confrontations between; the South African Defense Force and Police and various sectors of the community; black anti-apartheid groups and right wing vigilantes who are more supportive of the status quo; and inter-group fighting among rival anti-apartheid

groups such as UDF and Azapo. Straker (1987) cited in Hamber & Lewis (1997) argued that the concept of “continuous traumatic stress syndrome” was more applicable to those living in this context of ongoing violence.

In a similar vein, Herman (1992) reviewed the evidence for the existence of a complex form of posttraumatic stress disorder (PTSD) in survivors of prolonged and repeated trauma. She uses the term “complex traumatic stress syndrome” to describe the experiences that result from exposure to long-term trauma and abuse. Many of the more severe pathologies have also been associated with complex traumatic stress. This syndrome is still under consideration for inclusion in the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) under the name of Disorders of Extreme Stress Not Otherwise Specified. The current diagnostic formulation of PTSD derives from observations of survivors of relatively circumscribed traumatic events and fail to capture prolonged, repeated or multiple trauma. Herman’s (1992) definition of complex traumatic stress syndrome appears to be similar to that proposed by Straker and Sanctuaries’ Counseling Team (1987) and provides a useful way forward.

2.4 Trauma in the South African context

South African history has been marked by traumatic stress due to the system of apartheid. In the apartheid era trauma was linked to political violence. Political violence can be seen as any act of destruction which impacts on the power relations in society (Cock, 1990). In South Africa, according to Cock (1990), this form of violence was characterized by arbitrary arrests, detention without trial, civil unrest, acts of sabotage, harassment, torture, "disappearances" and murder of political opponents and rivals. While most of this violence was orchestrated by the state, there was also violence between rival political and social groupings.

Since 1990, which marked the beginning of the political transition period, reports of political violence have decreased. Recent trends indicate increased levels of what is now labeled "violent crime" from 1990 to the present. Reports indicate that violent crimes have increased at a greater rate than property crime and less serious offences since the election of the new government (Glanz, 1995).

Although the more public forms of criminal and political violence have been discussed here, and generally receive the majority of focus in the media, this should not overshadow the numerous other forms of

violence, in particular, intentional violence committed in the home. This includes but is not limited to child abuse, wife battery, domestic assaults and acquaintance rape. According to Hamber and Lewis (1997) these "hidden" forms of violence, which are generally targeted towards women and children and the other more vulnerable sectors of society, affect more people than the types of violent crime documented above. Wife battery and child abuse are frequent occurrences in South Africa, although available statistics are not reliable. Many researchers are of the opinion that the incidence is widespread (Segel & Labe, 1990 cited in Hamber & Lewis, 1997). The changing nature of traumatic stressors is connected to sociopolitical changes and the reasons for the changes are not always clear. What is clear is that trauma in the South African context must be located within the broader context of social inequality that emerged in the apartheid era and continues in the post-apartheid context.

2.5 Prevalence

According to Michelson (1994) epidemiological estimates suggest that the incidence and lifetime prevalence rates of PTSD in the general population are around 1% - 9%. These levels increase markedly for young adults living in inner cities (23%) and for wounded combat veterans (20%). Data suggests that the incidence may be higher in

the South African context. It was found that, of a sample of 95 political displaces in Kwazulu-Natal in 1990, 87% had symptoms which fulfilled the criteria for the diagnosis of PTSD (Michelson, 1994).

More recently several studies have demonstrated that South African children and adolescents are also exposed to high levels of violent trauma with a significant proportion developing PTSD (Suliman, Kaminer, Seedat, Stein, 2005; Seedat *et al*., 2005). Suliman *et al.* (2005) argue that adolescents are often subjected to a multitude of traumatic events in their daily lives. One of the reasons could be the high prevalence of community violence within the South African context. Furthermore Suliman *et al.* (2005) argue that although politically inspired violence has been in decline, criminal and domestic violence continues to prevail in local communities. Research conducted in this area revealed that large numbers of children and adolescents are being exposed to, and directly involved in, acts of violence (Smith, 1993 cited in Suliman *et al.* 2005). The study done by Peltzer (1999) on rural children in South Africa found that 67% had directly or vicariously experienced a traumatic event (elicited from direct interviewing of the child or from parent report) while 8% fulfilled criteria for PTSD.

Suliman *et al.* (2005) added that in the Western Cape studies also reflected high rates of traumatisation and PTSD among youth. A retrospective chart review done by Traut, Kaminer, Boshoff, Seedat, Hawkridge and Stein (2002) indicated that PTSD is the one of the most common disorders at the Child and Adolescent Psychiatry Unit at Tygerberg Hospital. Ensink, Robertson, Zissis and Leger (1997) conducted a community study in Khayelitsha, on exposure to violence, as well as on symptoms in children aged 6 to 16 years. All children reported exposure to indirect violence. 95% had witnessed violent events, 56% had experienced violence themselves, and 40% met the criteria for one or more DSM-III-R diagnoses. 22% met the criteria for PTSD.

While there is an absence of large scale epidemiological surveys the studies reviewed are fairly consistent in their findings. There appears to be both higher exposure to traumatic stress related to violence as well as more negative outcomes like PTSD. While far more research is needed in this area it appears as if low-income, previously historically disadvantaged communities are more affected and that South African rates of exposure to traumatic stress may be higher than many other countries.

3 Chapter Three: Youth

3.1 Introduction

According to Kuperminc, Blatt, Shahar, Henrich and Leadbeater (2002), the self-definition involves the development of a well-differentiated, integrated, realistic, and essentially positive sense of self. This also includes the development of intimate, mutually satisfying, reciprocal interpersonal relationships. The age at which a person is considered a "youth" and thus eligible for special treatment under the law and throughout society varies around the world and across cultures. Commonly, a youth is defined as being somewhere between age 13 and 25, with different countries and administrative regions choosing more narrow definitions within that frame.

3.2 Developmental Theories

The experience of adolescence varies for every youth. Culture, gender and socioeconomic class are important influences on development. According to Train (2002) this development occurs throughout a young person's life, including formal and informal settings such as home, church or school and similar relationships, such as peer friendships, work, parenting, teaching, or mentoring. This period is considered to be a violent struggle in finding oneself as an individual (Train, 2002).

As cited in Kaplan and Sadock (1998), Erikson (1968) speculated that the major task of adolescence is to achieve ego identity, which he defined as the awareness of who one is, and where one is going. Erickson described the normal struggle of adolescence as role identity versus role confusion. Identity is a secure sense of self. Confusion is a failure to develop a cohesive sense of self awareness. Part of the resolution of identity crisis is to move from being a dependent person to being an independent person. Allen (1999) argues that the term identity is considered to be the integration of all previous positive and negative identifications and self images.

According to Kaplan and Sadock (1998), Freud described this stage as the genital or adolescent phase of psychosexual development that extends from the onset of puberty from ages 11 – 13, until the person reaches young adulthood. During this period, the physiological maturation of systems of genital functioning and attendant hormonal systems leads to an intensification of drives, particularly libidinal drives. Furthermore, this produces a regression in personality organization, which reopens conflicts of previous stages of psychosexual development, and provides an opportunity for a resolution of these conflicts in the context of achieving a mature

sexual and adult identity.

3.3 Youth in the South African Context

Youth in South Africa are defined as the segment of the population that fall within the 15-35 age bracket (Youth Development Network, 2004). South Africa is a young country with nearly 40% of its people between 14 and 35 years of age. South African youth face many challenges which are both similar and different to youth in other contexts (Stevens & Lockhat, 1997).

In the South African context, psychosocial issues like violent crime and political violence may severely influence the development of identity in adolescence. Stevens and Lockhat (1997) explored the impact of apartheid-capitalism on black adolescent identity development as well as the impact of several ideological, economic and sociopolitical factors. They use the term “apartheid-capitalism” to describe the inequalities that were created by the apartheid system.

Stevens and Lockhat (1997) argue that the successful negotiation of adolescent developmental tasks has been hampered in South African adolescents due to “apartheid capitalism”. They question whether the challenges youth in South Africa face facilitate the development of a

healthy self-concept. Drawing from their work, similar considerations can be raised for the current study. It can be argued that general adversity as described by Stevens and Lockhat (1997) as well as exposure to trauma could impede the development of a healthy self.

4. Chapter Four: Exposure to trauma and negative outcomes

4.1 Introduction

Consequences of exposure to trauma are numerous and complex. The idea is not to document all the outcomes, but rather to review the outcomes that are pertinent to the present study. While PTSD is the outcome most commonly associated with trauma, there are many other outcomes as the literature suggests. An attempt will also be made in this chapter to focus on differences between single and multiple exposures. However, it seems that there is an absence of in depth literature on multiple outcomes.

4.2 Single traumatic exposure

This section discusses the severity of symptoms associated with different types of traumatic experiences occurring alone. Single trauma is described as a single unexpected traumatic event, such as armed robbery, natural disaster, car accident, death of a loved one, rape, etc. Most studies have demonstrated that most people have been exposed to at least one traumatic incident in their life (Rheingold, Smith, Ruggiero, Saunders, Kilpatric & Resnick, 2003). Both international and local studies indicate that those who witness or are victims of traumatic events may experience a range of negative outcomes, including symptoms of depression, anxiety and

posttraumatic stress disorder (Green, Goodman, Krupnic, Corcoran, Petty, Stockton & Stern, 2000).

A study conducted in South Africa on 104 adolescents who were exposed to trauma, in four secondary schools in Cape Town, revealed that the majority were exposed to at least one type of violent event either as a victim or as a witness, 6% were likely to meet the DSM-IV-TR criteria for PTSD and 17% had a high number of symptoms of PTSD (Stein, Jaycox, Kataoka, Rhodes & Vestal, 2003). In a review of the literature on long-term correlates of child sexual abuse, as cited in Green *et al.* (2000), Polusny and Follette (1995) found this type of exposure to be associated with multiple psychiatric disorders (e.g., major depression, agoraphobia, panic disorder and PTSD), substance abuse, self-harm, dissociation, personality disorders, impaired interpersonal functioning, sexual dissatisfaction, high-risk sexual behaviour, and re-victimization.

Adolescents who have been victims or witnesses of traumatic stressors are also likely to exhibit poor school performance and behavioural disorders that affect their abilities to function effectively later in life (Rheingold *et al.,* 2003). In a study conducted on the prevalence of child and adolescent exposure to community violence,

Stein *et al.* (2003) indicated that children who demonstrated more aggressive and disruptive behaviours were more likely to be victims of violence, while older youths who exhibit antisocial behaviour such as gang membership, deviant peer affiliation, delinquency, and involvement in criminal activities, were more likely than other youths to be exposed to community violence.

In addition, Shahinfar, Kupersmidt and Matza (2001) examined a group of serious and violent incarcerated male juvenile delinquents and found that 76% had been punched/hit or slapped, 40% had been threatened with physical assault, 45% had been assaulted with a weapon and 31% had witnessed murder. They found that adolescents who were inclined to approve aggression and stated more hostile social goals were more likely to have been victims of severe violence. It is apparent that there is a clear association between behavioural problems and exposure to violence. Behavioural problems appear to be both the predictor and consequence of exposure to traumatic stressors (Lynch, 2003).

According to Ward, Flisher, Zissis, Muller and Lombard (2001), South African studies have been based on data that predate the end of Apartheid, and thus reflect a different social milieu, or are more

directly limited to the study of PTSD as a consequence. In their study, Ward *et al.* (2001) also found that some showed symptoms of depression and anxiety. Symptoms of PTSD and depression were related to most types of exposure to violence. Rates of depressive and anxiety symptoms found here have a similar relationship to those found in other studies (Ward *et al.,* 2001). They argue that there is evidence that different types of exposures to different types of traumatic stressors may have different sequelae. Although there are still very few studies on this, Green *et al.* (2000) indicated that going by studies that have focused on one type of event exposure, they have found these events to be associated with a broad array of outcomes.

4.3 Multiple or repeated exposure

As our literature review indicates, multiple, repeated or continuous stress is far more likely to be present in low-income contexts in South Africa. Although the effects of single exposures have been well documented in literature, our understanding on effects of continuous, repeated and multiple exposures is limited. It can be argued that outcomes are far more severe following multiple or repeated exposure. Essentially, it is very likely that the most commonly reported outcomes like PTSD and depression are also the ones we

would find on multiple and repeated exposure. However, we can also speculate about whether repeated or multiple exposure causes more severe personality damage that is perhaps not assessed by narrowly defined psychiatric outcomes.

Evidence indicates that the outcomes of exposure to multiple or repeated traumatic stressors are severe. According to Herman (1997) people subjected to prolonged, repeated trauma develop an insidious progressive form of PTSD that invades and erodes the personality. While the victim of a single acute trauma may feel after the event that he or she is not him/herself, the victim of chronic trauma may feel him/herself to be changed irrevocably, or he/she may lose the sense that he/she has any self at all. Furthermore, Herman (1997) argues that the repetition of trauma amplifies all the hyperarrousal symptoms of post-traumatic stress disorder. Chronically traumatized people are continually hypervigilant, anxious and agitated.

Recent literature which has documented repeated, multiple and high levels of traumatic exposure in children, has demonstrated that exposure to such traumatic experiences can result in significant psychological symptomatology including PTSD or other anxiety disorders, depressive symptoms or a variety of behavioural problems

(Finkelhor, 1998; Singer *et al.,* 1995). For example, McCauley *et al.* (1997) in Green *et al.* (2000) found that women who were exposed to childhood and adult sexual and physical abuse had higher levels of physical symptoms, psychological distress, substance abuse, and suicide attempts than those who only had single exposure.

In a similar vein, Follette, Polusny, Bechtle and Naugle (1996) found that people who were sexually abused as children and adults showed an increase in reported symptoms of trauma. Miranda, Green and Krupnick (1997) also found that, the rates of psychiatric disorder increased with the number of reported traumas experienced, with dramatic increases in the presence of a disorder associated with reaching a certain threshold of events. For example, women with three or fewer reported traumas had current rates of mood disorder ranging from 20% to 38%, whereas those with four or more traumas had rates of 60% to 100%.

Green *et al.* (2000) argue that a number of studies have shown that multiple events either within the same type of event or across event types are associated with higher levels of symptoms. Kaplan (2002) suggests that repeated trauma reduces psychic space and possibly recovery. The studies concur that multiple traumatic stressors are

more distressing or are related to higher rates of disorder than single exposure.

While the general consensus appears to be that repeated, multiple and continuous exposure is associated with greater negative outcomes, Dekel (2004) suggests differently. In a comparative study of the USA September 11 victims and Israeli citizens in a situation of war; he suggests that trauma could act as a mediator against acute emotional distress. Using accommodation theory, he suggests that acclimatization or habituation to extreme adversity is also possible.

4.4 Trauma and loss

PTSD is not the sole response to traumatic experiences. Solomon, Mukilincer and Flum, (1988) revealed that all emotional responses are intersected by other psychological issues which may confront the individual after exposure to a trauma. For example, bereavement related issues are often paramount if, for example, a person close to the victim was killed, or, in the aftermath of a disfiguring trauma such as a burn, an individual would have to deal with psychological issues around body-image. In addition, Solomon, Mukilincer and Flum (1988) claim that political exiles and refugees, who are often subject to a range of direct acts of trauma, would also have to cope with

separation from their families, displacement and social integration problems. It has also been shown that the exposure to traumatic events can be associated with the onset of other psychiatric disorders (Solomon *et al.,* 1988).

Depression, in particular, has been significantly linked to exposure to violence (Fitzpatrick & Boldizer, 1993; Singer *et al.,* 1995). Fitzpatrick (1993) found that victims of violence reported more symptoms after exposure to violence than witnesses. Alim *et al.* (2006) argue that depression is also a common outcome of trauma and is often comorbid with PTSD. In addition Meaghan, Creamer and Pattison (2004) reported that PTSD and major depression occur frequently following traumatic exposure, both as separate disorders and concurrently. In a similar study Kessler *et al.* (2003) found that 48% of men and 49% of women with PTSD also had a major depressive episode (MDE). The majority of South African studies reported higher rates of depression in high trauma areas (Seedat, Nyamai, Njenga, Vythilingum & Stein, 2004). In their comparative study on South African adolescents and Kenya, Seedat *et al*. (2004) reported that Beck Depression Inventory scores were in the 'mild' range for depression (mean 11.5, s.d.=16.7). Although research shows that both PTSD and depression may develop as the result of traumatic

exposure, it is still not clear whether PTSD and depression are separate disorders in the aftermath of trauma, or part of a single general traumatic stress construct (Meaghan, Creamer & Pattison, 2004).

5. Chapter Five: Theories of trauma

5.1 Introduction

The stressor by definition is the prime causative factor in the development of PTSD (Kaplan & Sadock, 1998). However, not everyone exposed to a traumatic stressor experiences posttraumatic stress disorder. A traumatic stressor is a necessary, but not sufficient cause for the disorder (Kaplan, Sadock & Grebb, 1994). The individual's subjective interpretation and response has been identified as one of the main mediators in the exposure outcome relationship (Kaplan *et al.,* 1994). Different approaches explain this differently, and the focus of this review is on the Cognitive Behavioral Therapy (CBT) and psychodynamic explanations.

There are numerous CBT explanations for PTSD specifically and anxiety disorders more generally. While they emphasize different aspects, a deficit in cognitive processing and behavioral avoidance appear in many of the models. The current review focuses on these issues and attempts to provide an integrative model later on.

5.2 Cognitive behavioral explanations

According to Kaplan *et al.* (1994) a failure in cognitive integration appears to be an important mechanism in the development of

symptoms. As a consequence of the failure, affected persons are unable to process or rationalize the trauma. They continue to experience the stress and attempt to avoid a re-experiencing of the stress by avoidance techniques. Consistent with their partial ability to cope cognitively with the event, the patients experience alternating periods of acknowledging the event and blocking it (Kaplan *et al.,* 1994). Sorenson (2003) stipulates that symptoms of PTSD are said to occur when the existing schemata cannot cope with the new experience, thus, this integration is prevented or does not occur. Furthermore, traumatic recollections of the incident are played to enable this cognitive completion to occur, which in turn stimulates arousal.

5.2.1 Emotional processing

Complementary to the idea of incomplete cognitive processing is the idea of emotional processing. As cited in Joseph *et al.* (1997), Rachman (1980) argued that the concept of emotional processing provides a useful theoretical framework for conceptualizing the psychological reactions of survivors. Emotional processing results in emotional reactions being absorbed so that exposure to the problematic cue no longer elicits a strong emotional reaction. There are several direct and indirect signs of emotional processing; many of

these are diagnostic criteria for PTSD. Rachman (1980) cited in (Joseph *et al.,* 1997) points to various factors which give rise to difficulties in emotional processing. These are stimulus factors, personality factors, state factors and associated activity factors. For example, if the stimulus is predictable, controllable, the person is high on self-efficacy, in a relaxed state at the time and increases his sense of control through associated activity, the person might avoid difficulties in emotional processing.

In contrast, if the stimulus is sudden, intense, dangerous, uncontrollable and unpredictable, the person is high on neuroticism, in a state of fatigue, and there are concurrent stressors and the person has a need to suppress appropriate emotional expression, emotional processing will be impeded. Factors thought to promote satisfactory emotional processing are engaged exposure, sense of control, and relevant conversation. Those likely to impede processing are avoidance of disturbing situation, refusal or inability to talk about them, and absence of perceived control. Rachman's (1980) concept of emotional processing has been found to be extremely useful (Joseph *et al.*, 1997).

5.2.2 Conditioning theory

One of the earliest paradigms to be applied to understanding reactions to traumatic events is Learning Theory (Joseph *et al.,* 1997). Post-traumatic reactions were viewed as a result of classical conditioning at the time of trauma. The conditioned links between fear and traumatic stimuli, including those that resemble the trauma, are maintained through the individual's avoidance of memories and situations that elicit them.

This theoretical explanation is similar to that given for the development of phobias, although higher order conditioning is also invoked to explain the generalized overarousal seen in PTSD. While helpful in giving an account of mechanisms related to fear maintenance, the theory gives no explanation for the differences between phobias and PTSD, nor does it give any explanation for the wide range of other emotional states and problems often found in PTSD (Joseph *et al.,* 1997).

5.2.3 Learned helplessness

This theory was developed by Seligman (1975) and his colleagues to explain the reactions of animals that had been exposed to extreme stressors such as electric shocks. The belief that action was futile in

animals was characterized by first, a failure to initiate escape response, second, an inability to profit from an occasionally successful escape response, and third, a passive acceptance of shock (emotional deficit). Together, these deficits constitute the learned helplessness syndrome. Learned helplessness was originally offered as a model for depression, but, more recently has been suggested for PTSD (Joseph *et al.*, 1997). It has been suggested that exposure to trauma creates similar conditions of helplessness.

Joseph *et al.,* (1997) report that it has been proposed that similarity between the reactions of animals exposed to uncontrollable and unpredictable events, and human survivors of traumatic events may reflect a common biochemical etiology. According to van Der Kolk, Byd, Kryustal and Greenberg (1984), cited in Joseph *et al.* (1997) an animal model on PTSD is promising. Van der Kolk and his colleagues have formulated a biochemical model to explain the development of PTSD symptoms in humans. This model is based on the neurochemical alterations that are known to occur in animals exposed to inescapable shock.

5.2.4 Information processing

This model was developed by Horowitz (1986). It is based on the idea

that individuals have mental models, or schemata of the world and of themselves, which they use to interpret incoming information. As cited in Joseph *et al.* (1997), Horowitz (1986) argues that there is an inherent drive to make our mental models coherent with current information. A traumatic event presents information which is incompatible with existing schemas.

According to Horowitz (1986) a traumatic event generally requires massive schematic changes, complete integration and cognitive processing. During this time, active memory tends to repeat its representations of the traumatic event causing emotional distress. However to prevent emotional exhaustion there are processes of inhibition and facilitation which act as a feedback system modulating the flow of information.

The symptoms observed during stress responses occur as a result of opposite actions of a control system that regulates the incoming information to tolerable doses. If inhibition control is not strong enough, intrusive symptoms such as nightmares and flashbacks emerge. When inhibitory efforts are strong in relation to active memory, symptoms indicative of the avoidance phase occur. Typically, avoidance and intrusion symptoms fluctuate in a way

particular to the individual, without causing flooding or exhaustion that would prevent adaptation. The person oscillates between the states of avoidance and intrusion until relative equilibrium is reached, when the person is said to have worked through the experience (Horowitz, 1986). Emotional numbing symptoms are viewed as a defense mechanism against intrusion. Information-processing reveals the important role that memory plays in the development of posttraumatic stress reactions.

According to Joseph *et al.* (1997) this approach is compatible with Rachman's concept of emotional processing. Both emphasize that post-traumatic stress reactions are signs of incomplete processing, but while Horowitz (1986) emphasizes the need to assimilate and integrate information regarding the event; Rachman (1979) emphasizes the importance of emotional arousal.

5.3 Psychodynamic explanations

This second part of the chapter will focus on literature that considers psychodynamic explanations in relation to trauma.

5.3.1 Psychoanalytic theory and trauma

Kaplan *et al.* (1994) revealed that the psychoanalytic model of

trauma hypothesizes that the trauma has reactivated a previously quiescent, yet unresolved psychological conflict. The revival of the childhood trauma results in regression and the use of defense mechanisms of repression, denial and undoing. The ego relives and thereby tries to master and reduce the anxiety. The patient also receives secondary gains from the external world. The gains often include monetary compensation, increased attention or sympathy and the satisfaction of dependency needs. These gains can reinforce the disorder and its persistence.

5.3.2 The self and trauma

According to Train (2002), the self is often ignored in attempts to understand the psychological impact of trauma. As cited in Train (2002), Meares (1999) defined the self as a double, involving not only mental life but also reflections on it. He suggested that trauma is caused by an uncoupling of these two poles of consciousness, whereby the subject-object distinction in psychic life is diminished. The concept of the proximate and distal self, where the distal self, is able to reflect on experience, is also affected. Trauma affects this capacity for integration because it affects the distal self. Herman (1997) refers to the damaged and shattered sense of self. She suggests that psychological structures of an individual that are

formed in relation to others are referred to as self. The sense of self appears to be that which negotiates and resolves developmental conflicts such as autonomy, initiative, competence, identity and intimacy. It is related to self image, self esteem, and trust in self and others.

However, in the face of trauma, according to Herman (1997), traumatized individuals lose their basic sense of self. This happens when the sense of connection with caring people is shattered. The developed sense of autonomy and self-esteem are violated by the traumatic event. However this leads to the development of the sense of doubt as a consequence of which the individual becomes unable to trust her own views in relation to others. When this is lost, Herman (1997) argues, it leads to shame. Shame developed is the response to helplessness, the violation of body integrity and the indignity suffered in the eyes of another person. The damage to sense of self merit further exploration in that they suggest that the consequences of traumatic exposure may affect personality functioning more generally.

5.4 Wits Trauma Model

Eagle (2000) argues that the integrative psychotherapy approach is

ideally suited to the treatment of psychological trauma within the South African context. It is asserted that post-traumatic stress represents a disorder in which dysfunction occurs both internally and externally. According to Eagle (2000) PTSD occurs at the interface of these two aspects of psychological functioning. The cognitive behavioral and somatic symptoms are the outcome of both conscious processes identified in the CBT literature but also carry unconscious associations and anxieties.

Existing trauma intervention models reflect on the centrality of integration in many respects, although this does not seem to be explicitly recognized. Eagle (2000) argues that the clinical success of the model lies in its integrative perspective, and that psychotherapy integration should be recognized as the approach of choice in the treatment of traumatized individuals.

5.5 Towards an integrative psychosocial model

The integrative psychosocial model of understanding traumatic responses focuses on psychosocial factors that may influence the differential development in severity and chronicity of symptoms. This model outlines psychosocial factors that operate to impede or promote processing. Joseph *et al.* (1999) indicated that this approach

emphasizes the role of appraisal processes, as emphasized in the social cognitive theory of Janoff-Bulman (1992), but also integrates personality variables and social factors like social support.

There are psychosocial factors that contribute to adjustment, following exposure to a traumatic event. As cited in Joseph *et al.* (1999) Green *et al*. (1985c) presented a psychosocial framework for understanding positive and negative outcomes following a traumatic event. This model starts with exposure to specific aspects of the event, such as violent loss, threat to life, and exposure to grotesque injury. Exposure leads to psychological processing. This takes place in the context of two sets of factors. Firstly, the factors that the person brings to the situation which may include past psychological problems. Secondly, they also indicate factors that are in the recovery environment, for instance, social support. Hobfall (1989) cited in Joseph *et al.* (1997) proposed that the loss of these resources leads to diminished coping capacity and psychological distress. It is suggested that this model is comprehensive and generic enough to accommodate both single and multiple exposures to trauma. It accommodates all the crucial components in the definition of trauma, namely, traumatic event, internal factors, coping as well as negative outcomes.

SECTION THREE: EMPIRICAL INVESTIGATION

6. CHAPTER Six: Methodology

6.1 Introduction

This chapter focuses on the method of conducting the research. Particular attention is paid here to the specific aims of the study, hypotheses, sample characteristics, measuring instruments, data collection and analysis procedures, as well as the ethical considerations.

6.2 Motivation for the study

South Africa is considered to be among the world's most violent societies (Lockhat & Van Niekerk, 2000) and scholarship on trauma remains a significant area. While we have made significant strides, the literature suggests that PTSD research becomes less adequate in those who experience ongoing violence, urban community violence or who have relationships with the perpetrators, (Herman, 1997) as in the South African context.

Although there is significant scholarship on child and adolescent trauma, not much has been written about the impact of repeated exposure to traumatic events on adolescents in low-income contexts. The motivation for the current study is that the research findings will

help to address this gap and contribute to the development of more adequate models of trauma in low-income contexts.

6.3 Aims of the Study

The main aim of the present study was to investigate whether multiple and/or repeated exposure, rather than single exposure to traumatic events is more likely to be associated with depression and posttraumatic stress disorder in adolescents.

6.4 Hypotheses

The following hypotheses were investigated.

1. Adolescents exposed to repeated or multiple (two or more) life-threatening traumatic events will also endorse more stressors overall than adolescents exposed to single or no life-threatening traumatic events.

2. Adolescents exposed to repeated or multiple (two or more) life-threatening traumatic events will display more symptoms of PTSD than adolescents exposed to single or no life-threatening traumatic events.

3. Adolescents exposed to repeated or multiple (two or more) life-

threatening traumatic events will display more symptoms of depression than adolescents exposed to single or no life-threatening traumatic events.

6.5 Research Design

The study utilized the secondary analysis of survey data. The data was drawn from a larger survey (Seedat *et al.,* 2004). The larger study was a comparative survey that assessed trauma exposure and post-traumatic stress and depression symptoms in urban African schools. The aims of the larger study were to assess trauma exposure, post-traumatic stress symptoms and gender differences in adolescents from Kenya and South Africa. A sample of 2041 boys and girls from 18 schools in Cape Town and Nairobi participated in the survey (Seedat *et al.,* 2004).

6.6 The sample

The data was drawn from the larger study, discussed above. The Cape Town sample consisted of grade 10 learners drawn from nine schools in Cape Town. Two private and seven public schools from urban areas were selected. The selected schools were representative of the ethnic and socioeconomic make up of the population. The Cape Town sample consisted of 1140 students in the age range 14 to 22

years.

6.7 Instruments

The following instruments were used in the study.

1. Demographics Questionnaire. A demographics questionnaire was used to obtain demographic information on age, gender, ethnicity, composition of the home, parental marital status, parental occupation, family income and substance use.

2. A Trauma Checklist. A list of DSM—IV qualifying traumas (e.g. being robbed or mugged, being physically hurt or attacked, being raped; American Psychiatric Association, 2000) was adapted from the Schedule for Affective Disorders and Schizophrenia for School-age Children — Present and Lifetime version (K—SADS—PL; Kaufman et al, 1997). Respondents were required to circle the most frightening or upsetting event that had ever happened to them. Results suggest the K-SADS-PL generates reliable and valid child psychiatric diagnoses (Kaufman, Birmaher, Brent, 1997).

3. Child PTSD Checklist. This is a 28-item structured interview developed to diagnose childhood and adolescent PTSD. For this survey, the checklist was administered as a self-rated measure. The

child PTSD checklist rates the presence in the past month of each of the 17 symptoms required for a DSM—IV diagnosis of PTSD, to assess current disorder. The scale uses a four-point likert format, with 0 corresponding to 'not at all' and 3 to 'all the time'. For the purpose of the study, respondents were asked to rate PTSD symptoms according to the most upsetting event endorsed on the Trauma Checklist.

A conservative threshold score of 2 ('most of the time') was used to endorse the presence of a symptom. Partial-symptom PTSD was defined as having at least one symptom in each DSM—IV symptom criterion category (reexperiencing, avoidance, hyperarousal) (Stein *et al.,* 2003; Marshall, Olfson and Hellman, 2001 in Seedat *et al.,* 2004). While there is no information about reliability and validity, it is based on criteria currently accepted as valid internationally (i.e, DSM IV-TR).

4. The Life Events Questionnaire – adolescent version (LEQ-A; Masten, Neeman & Andenas, 1994) was also used to check the number of stressful events a person has experienced in the past year. This is a 45-item measure of negative and positive life events. It is used to measure non-PTSD events that can happen in the life of any adolescent or in any family. A participant is required to indicate 'yes'

or ‘no’ to the questions. For example, “a grandparent died”, “one of my parents remarried” or “I received a special recognition for athletic competition”. Results by Masten *et al.* (1994) suggests that the Life Events Questionnaire was a valid way of distinguishing positive from negative events and discrete from chronic events.

5. Beck and Steer (1987) indicated that the BDI is a 21 item self-report measure of cognitive, affective, somatic and behavioural symptoms of depression with psychometric properties. Each item consists of four statements rated from 0 to 3; high scores indicate more severe depression.

In an attempt at cross cultural validation Beck and Steer (1987) in Seedat *et al.* (2004) found cultural equivalence between Latinos and Caucasian Americans. Reliability as evidenced by internal consistency coefficients all exceeded .82 alpha and factor analysis yielded highly similar two factor solutions for both groups.

6. Childhood Trauma Questionnaire (CTQ). According to Bernstein, Ahluvalia, Pogge and Handelsman (1997) the Childhood Trauma Questionnaire is a 28-item self-report inventory that provides brief, reliable, and valid screening for histories of abuse and neglect. It

enquires about five types of maltreatment - emotional, physical and sexual abuse, and emotional and physical neglect. Also included is a 3-item Minimization/Denial scale for detecting false-negative trauma reports. A participant is requested to rate his or her response on the scale of one to four. The range of the internal consistency is between 0.8 to 0.97. Criterion validity was assessed and found to be acceptable (Bernstein *et al.,* 1997).

6.8 Data Analysis

The Statistical Package for the Social Sciences (SPSS-PC) (Norusis, 1990) was used to perform the statistical analysis of the data in the study.

The descriptive statistics are presented initially. For hypothesis one percentage frequency calculations and the chi square test were utilised. An ANOVA was computed for hypotheses two and three.

6.9 Ethical considerations

The data was drawn from a larger study described (Seedat *et al.,* 2004) and ethical clearance was obtained by these authors. The protocol was approved by the institutional review board (University of Stellenbosch) and the Departments of Education in Cape Town and

Nairobi. Students and parents were notified in advance of the study. Participation was entirely voluntary and no student or parent opposed participation.

7. CHAPTER Seven: Results

7.1 Introduction

The following chapter presents the results of the statistical analyses for the study. SPSS-PC (Norusis, 1990) was used in all statistical calculations. To determine the internal reliability of the instruments used in the study, Cronbach's alpha coefficients were calculated. Firstly, the descriptive statistics for the sample and the descriptive statistics for the scales are presented.

Secondly, the results of the analyses of the prevalence of exposure to traumatic events are presented. This is then followed by, the presentation of the results of the multiple comparisons, determining the role of multiple traumatic exposures in PTSD and depression.

7.2 Descriptive statistics of the Sample

Descriptive statistics for 'gender', 'age', 'race' and 'type of school' are reported below.

Gender

The sample was made up of the total number of 1140 participants. Of these, 442 participants indicated that they are males, 579 indicated that they are females and 119 did not indicate their gender. Of the

1021 participants who reported their gender, 43.3% were males and 56.7 % were females.

Age

The youngest participant was 14 years old, the oldest was 22 years old and the mean age is 15.9 years with a standard deviation of 1.2234.

"Race"

The author suggests that 'race' is a social construction. The terms used below were used by the apartheid government to maintain discrimination. Even though these racial categories have been maintained in the study, the utilization of these categories needs to be problematised. Their usage in the present study denote social constructions along which people may relate to the world around them rather than 'fixed' differences. The sample was also made up of different 'racial' groups, 'White', 'Coloured', 'African' and 'Asian'. 'Whites' made up 29.2%, 'Coloureds' 38.3%, 'Africans' 19.4% and 'Asians' formed 1.9% of the sample.

The table below reports on type of school the participants attended. N is the number of pupils participating from each school.

Table 7.1: Number attending different types of schools

Type of school	N	Percentage
Former white govt school	630	55.3
Former coloured govt school	263	23.1
Former DET school	193	16.9
Private	54	4.7
Total	1140	100.0

The table above (7.1) indicates that 55.3% of the sample came from former 'White' government schools, 23.1% came from former 'Coloured' government schools, and 16.9 came from former Department of Education and Training (DET) or 'African' schools while only 4.74 came from the private schools.

7.3 Descriptive Statistics for the scales

The following table looks at the descriptive statistics of the various scales.

Table 7.2: Means and Standard Deviations for the scales

	N	Mean	Std. Deviation
Total number of life events in the past year (LEQ)	1140	9.20	5.198
Total number of events endorsed on CTQ	1003	30.01	7.890
Total Score on trauma checklist	1140	2.54	2.161
Total Score on Child PTSD Checklist	1140	4.92	5.447
Intrusive symptoms	1140	1.38	1.973
Avoidance symptoms	1140	2.08	2.259
Symptoms of hyperarousal	1140	1.56	2.087
total score for the Beck Depression Inventory (BDI)	804	11.10	10.457

Note: N is the number of participants who responded to the question. The "Total number of events in the past year" as measured by Life Events Questionnaire (LEQ). LEQ refers to the events that can happen in the life of an adolescent or in any family. CTQ refers to the Childhood Trauma Questionnaire. It asks about some of the adolescent experiences growing up as a child and a teenager. Trauma Checklist is the list of questions that asks about the number Traumatic Events that happened to adolescents. Child PTSD Checklist is the list of questions that assesses whether participants are experiencing any of the PTSD symptoms.

There were a total of 1003 participants who endorsed on the CTQ. Of those 1003 participants, the participant with the highest number of life events had 69. The table also shows that 1140 participants responded on the trauma checklist. The participant with the highest

had 11 events on the trauma checklist. On the PTSD symptoms, the participants with the highest had 25 symptoms. However, only 804 participants responded on the BDI. The highest score on the BDI was 51.

7.4 Internal consistency

Anastasi (1982) reported that it is standard procedure to report on the reliability of the measuring instruments. Cronbach's alpha reliability analysis was used to determine the internal consistency reliability for the Life Events Questionnaire, Childhood trauma Questionnaire, PTSD Checklist, and the Beck Depression Inventory. The results are presented below.

Table 7.3: Internal reliability coefficients for the scales

Scale	Alpha value
Life Events Questionnaire	.767
Child Trauma Questionnaire	.662
Trauma Checklist	.418
Child PTSD Checklist	.925
Beck Depression Inventory	.908

Anastasi's (1982) criteria for determining the internal consistency of measuring instruments were used in this study. Anastasi (1982) suggests that the reliability coefficients higher than .75 are indicative of acceptable reliability.

7.5 Prevalence of exposure

The following section presents the prevalence of exposure to traumatic stressors.

7.5.1 Life events

This table reports on those exposed and not exposed to life events over the past year as measured by the Life Events Questionnaire.

Table 7.4: Exposure vs no exposure to life events in the past year as measured on the Life Events Questionnaire (LEQ)

Category	N	Percent	Chi square Statistic
Not exposed to negative life events	9	.8	.000
Exposed to negative life events	1131	99.2	
Total	1140	100.0	

The results indicted that the majority of the adolescents were exposed to the life events over the past year (see table 7.5.1). Results indicate that 99.2% were exposed while only 0.8% was not exposed. Results of the Chi-square test indicate that there was a significant difference between the proportion exposed and the proportion not exposed (p=0.000; p<. 05).

7.5.2 Exposure to childhood trauma

This table below reports on those exposed and those not exposed to child abuse on the Childhood Trauma Questionnaire.

Table 7.5: Childhood trauma versus no childhood trauma as measured on Childhood Trauma Questionnaire (CTQ)

Category	N	Percent	Chi-square
no childhood abuse	126	11.1	.000
childhood abuse	1014	88.9	
Total	1140	100.0	

The results presented in Table 7.5 indicate the large majority were exposed to childhood abuse (88.9%). Only 11.1% of the sample reported no exposure to childhood abuse. On the Chi-square test a significant difference was found between no exposure and exposure to childhood trauma (P = .000, p<. 01).

7.5.3 Traumatic exposure on the trauma checklist

Table reports on participants who reported being exposed to traumatic events.

Table 7.6: Exposed to trauma vs. not exposed to trauma on the Trauma Checklist

Category	N	Percent	Chi-square Statistic
Not Exposed on Trauma Checklist	197	17.3	.000
Exposed on Trauma Checklist	943	82.7	
Total	1140		

Results on Table 7.6 show that the majority of learners reported being exposed to trauma (82.7%). Only 17.3% of the learners reported no exposure to trauma. Results of the Chi-squares test

reveal that there was a significant difference found between no exposure and exposure to trauma (P = .000, p<. 01).

7.5.4 Types of traumatic exposures on Trauma Checklist

Three types of exposure categories were created for the trauma checklist for the present study. These are no exposure, single exposure and multiple exposure which was defined as two or more traumas.

Table 7.7: No vs Single vs multiple exposure

Category	N	Percent	Chi-square Statistic
No exposure	197	17.3	.000
Exposure to a single trauma	234	20.5	
Exposure to 2 or more traumas	709	62.2	
Total	1140	100.0	

Table 7.7 highlights the rate of trauma exposure, and how common it is for individuals to report multiple events. The table shows that only a very small proportion of subjects experienced a particular event alone (20.5%). The majority (62.2%) reporting a traumatic event have experienced at least one other traumatic event. A significant

difference was found between the three exposure conditions (P = .000, p<. 01).

7.6 Relationship between type of exposure and trauma outcomes

The main focus of the study was in outcomes that might be associated with single and multiple event types, using the PTSD checklist and the BDI as the outcome measures. For the purposes of this analysis, three groups were created. Group 1 consisted of pupils who reported no events. Group 2 consisted of pupils who reported a single interpersonal trauma and finally, Group 3 consisted of pupils who reported multiple (two or more) interpersonal events.

A one way ANOVA was performed to determine whether there is a difference between the no exposure, single and multiple (2 or more traumas) exposure groups in terms of their scores on PTSD and Depression. The Tukey HSD Post hoc test was also computed to find where the differences were. The results are reported in Table 7.8.

Table 7.8: ANOVA and Tukey HSD for no, single and multiple exposure

Dependent Variable	(I) Single vs multiple exposure	(J) Single vs multiple exposure	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Total number of life events in the past year	No exposure	Exposure to a single trauma	-.164	.484	.939	-1.30	.97
		Exposure to 2 or more traumas	-3.024	.403	.000*	-3.97	-2.08
	Exposure to a single trauma	No exposure	.164	.484	.939	-.97	1.30
		Exposure to 2 or more traumas	-2.860	.377	.000*	-3.75	-1.97
	Exposure to 2 or more traumas	No exposure	3.024	.403	.000*	2.08	3.97
		Exposure to a single trauma	2.860	.377	.000*	1.97	3.75
Total number of events endorsed on CTQ	No exposure	Exposure to a single trauma	-2.786	.812	.002**	-4.69	-.88
		Exposure to 2 or more traumas	-5.341	.684	.000*	-6.95	-3.73
	Exposure to a single trauma	No exposure	2.786	.812	.002**	.88	4.69
		Exposure to 2 or more traumas	-2.555	.611	.000*	-3.99	-1.12
	Exposure to 2 or more traumas	No exposure	5.341	.684	.000*	3.73	6.95
		Exposure to a single trauma	2.555	.611	.000*	1.12	3.99
Total Number of PTSD symptoms	No exposure	Exposure to a single trauma	.423	.515	.689	-.78	1.63
		Exposure to 2 or more traumas	-2.184	.429	.000*	-3.19	-1.18
	Exposure to a single trauma	No exposure	-.423	.515	.689	-1.63	.78
		Exposure to 2 or more traumas	-2.607	.401	.000*	-3.55	-1.67
	Exposure to 2 or more traumas	No exposure	2.184	.429	.000*	1.18	3.19
		Exposure to a single trauma	2.607	.401	.000*	1.67	3.55
Total score on beck depression inventory	No exposure	Exposure to a single trauma	1.168	1.237	.613	-1.74	4.07
		Exposure to 2 or more traumas	-3.009	1.060	.013**	-5.50	-.52
	Exposure to single trauma	No exposure	-1.168	1.237	.613	-1.74	4.07
		Exposure to 2 or more traumas	-4.177	.906	.000*	-6.30	-2.05
	Exposure to 2 or more traumas	No exposure	3.009	1.060	.013**	.52	5.50
		Exposure to a single trauma	4.177	.906	.000*	2.05	6.30

*The mean difference is significant at the 0.01 level.

**The mean difference is significant at 0.05 level.

Table 7.8 indicates the means of these different groups on the PTSD Checklist and on the BDI summary scores. It was hypothesized that the no-trauma group would have the lowest mean, followed by those with a single interpersonal trauma and the highest scores were expected in the multiple-trauma group. This progression would reflect a gradient of more serious, and more frequent, exposure being associated with more serious symptoms.

The multiple exposure group endorsed more life events on LEQ than both the single exposure group (1.97, 3.75; of which $p<0.01$) or the no exposure group 2.08, 3.97 of which $p<0.01$. The multiple exposure group also endorsed more events on the CTQ than both the single exposure group (1.12, 3.99 of which $p<0.01$) or the no exposure group (3.73, 6.95 of which $p<0.01$).

It was also hypothesised that adolescents exposed to repeated or multiple traumatic stressors will display more symptoms of PTSD than those exposed to single trauma. The expectation on this trend was confirmed. Results indicated that the multiple trauma exposure group scored significantly higher when compared to the single exposure group (mean difference = 2.607; CI=1.67, 3.55, $p<0.01$) on the PTSD symptoms or the no exposure group (1.18, 3.19; $p<0.01$;

mean difference = 2.184).

The second hypothesis tested was that adolescents exposed to repeated or multiple traumatic stressors will display more symptoms of depression. Once again results on the BDI indicated that the multiple exposure group scored more than the single exposure group (CI = 2.05, 6.30) of which $p < 0.01$ or the no exposure group 0.52, 5.50 of which $p<0.05$).

While the trend for greater endorsement of events and symptoms held for multiple exposure group in comparison to single and no exposure group, this trend did not hold for the comparison between the single exposure and the no exposure group. There were no significant differences between the single and no exposure groups for total number of events on the LEQ, total number of PTSD symptoms on the total score on the BDI.

8 CHAPTER Eight: Discussion

8.1 Introduction

This chapter presents a discussion of the results, as presented in Chapter seven, and is discussed in light of the central hypotheses of the study, outlined in Chapter six. A summary and conclusion is presented, with the inclusion of limitations of the present study as well as recommendations for future research.

The present study focused on differential outcomes for adolescents who have experienced different types or numbers of traumatic events. It sought to investigate the relationships between exposure to traumatic events, PTSD and depression symptomatology in adolescents. Of particular interest were the differences between single traumatic exposure and multiple traumatic exposure on PTSD and depression. Associations between exposure type and self-reported symptom distress were explored by creating groups of individuals who reported only one type of exposure and comparing their levels of symptom distress to the distress of those without any history of exposure and those with multiple event exposure.

8.2 Psychometric properties

The Cronbach's alpha reliability indicated that instruments were generally reliable meeting Anastasi's (1982) criteria for reliability of .75, with only two exceptions, the Trauma Checklist (.418) and Child Trauma Questionnaire (.662). The alpha for this sample is lower than that found by Bernstein *et al.* (1997) when they administered the CTQ to adolescent psychiatric patients in a general sample (alpha = .75). Since CTQ is a self report measure of early childhood events, it is not clear how accurate the recall is of those childhood events. Further research can be conducted to investigate this. Therefore caution must be exercised in interpreting the results, particularly in relation to the Child Trauma Questionnaire and the Trauma Checklist. As discussed later, this is one of the limitations of the study.

8.3 Prevalence of exposure

Results of the current study reveal that the majority of adolescents (99.2%) reported exposure to negative life events over the past year. Only 0.8% reported no exposure to negative life events and this is a statistically significant result (P = .000, p<. 01). Although there is an overlap with traumatic events, negative life events refer to any negative event a person can experience (e.g. being fired from job) but not all negative life events are traumatic as defined by the DSM-

IV-TR (APA, 2000). Scores seem to be significantly high in the South African context than they are in other parts of the world. Seedat e*t al.* (2000) compared South African adolescents with Kenyan adolescents on exposure to life events using LEQ. In their study, it was found that South African adolescents were exposed to more negative life events (mean 9.2, S.D.=5.2) than did the Kenyans (mean 8.3, s.d.=4.7; $t=4.2$, $p<0.001$). As the results below also suggest, the higher exposure to both negative life events and traumatic exposure are perhaps indicative of greater adversity facing South African youth.

Many studies on trauma indicate that over half and up to three quarters of individuals have experienced events that are potentially traumatic and that they likely would meet Criterion A1 for PTSD as described by DSM-IV-TR (APA, 2000). Other studies that have assessed trauma exposure in general population samples, have found exposure rates to trauma ranging from 51% to 72%. Kessler, Sonnega, Bromet, Hughes & Nelson (1995), in Green *et al.* (2000), found that 61% of men and 51% of women experienced at least one of the events they assessed. The rates for the South African context seem to be considerably higher. Seedat *et al.* (2004) found that more than 80% of South African adolescents reported lifetime exposure to at least one DSM—IV trauma. These findings suggest that many

individuals in the general population have experienced some type of trauma in their lives. The majority of adolescents (82. 7%) reported exposure to traumatic events as indicated by the Trauma Checklist. Only 17. 3% reported no exposure on traumatic events and the difference is statistically significant ($p<0.01$). The rates for the present study seem to be consistent for the South African context.

Another significant finding is that the majority of the participants who were exposed to trauma were also exposed to childhood trauma (88.9%) and the difference is statistically significant $p<0.01$. The current rates seem to be similar to other studies. Lipschitz, Rasmusson, Anyan, Cromwell and Southwick (2000) used the CTQ to assess the prevalence of exposure to childhood trauma. They found that 32% stated that they had seen adults hit each other in the home, 16% of girls reported physical abuse, 11% of girls stated that they had experienced at least one episode of inappropriate sexual contact by a family member, 30% of the sample identified at least one episode of inappropriate sexual contact by someone outside of the family and 10% of girls reported that they had been raped.

Frans, Aberg, Rimmo and Fredrikson (2005) reported that multiple-trauma experiences when compared with single-trauma experiences

were higher (8.5% vs. 2.6%; P < 0.01). The current difference between single and multiple exposure for the current study is 20.5% and 62.2% respectively. The chi-square results also showed that these differences are significant (p< 0.01). It does appear as if the multiple exposure rates also seem to be higher in the South African context than it is elsewhere in the world. Although they created groups differently, Green *et al.* (2000) reported that only 38% were exposed to two or more traumatic events. In addition, Amir and Sol (1999) investigated the effect of multiple traumatic events and physical injury. They found that 15% reported exposure to two events, 10% to three events and 11% to four or more events. However, these ratings are much lower than the current rates.

Current figures may be higher than other studies because of various reasons. The South African studies have blamed colonization, past political violence, poverty, unprecedented intra and inter-community conflict and interpersonal violence (Hamber & Lewis, 1997) that is facing the developing country. According to Hamber and Lewis (1997), social inequality and enormous deprivation caused by the Apartheid system are at the root of much of this violent crime. Internationally and in South Africa, there is increasing evidence to show that poor people bear most of the brunt of violence in society

(Mercy *et al.,* 1993; in Hamber & Lewis 1997), although this should not be used to assume that high levels of poverty always result in increased levels of violence and crime in communities. However, there are numerous dimensions related to high levels of community violence and these include over-crowding, family disruption, weak social structures, high population concentrations, population transiency and social norms which encourage the use of violence to cope with difficulties (Hamber & Lewis, 1997). It appears as if the complex challenges facing post-apartheid South African society may be influencing exposure to trauma in all groups.

Although the current results show evidence for exposure to multiple traumatic events, the DSM-1V-TR (APA, 2000) does not provide any criteria for those who are multiply, repeatedly or continuously exposed to traumatic situations or events and their long-term impacts. Different authors have proposed a new diagnosis to suit those who experience ongoing violence, urban community violence, or who have relationships with the perpetrator (Herman, 1992; Straker, 1987 in Hamber & Lewis 1997). Straker and the Sanctuaries Counselling Team (1987), as cited by Hamber and Lewis (1997), asserted that the term PTSD was a misnomer in the South African context. The current findings suggest that this criticism may still be

applicable. It may be more helpful in the South African context to complement our current understanding of PTSD with these considerations.

8.4 Relationship between exposure and outcome

8.4.1 Multiple trauma exposure versus no and single trauma exposure

The two main hypotheses for the study were; adolescents exposed to repeated or multiple (two or more) traumatic events will display more symptoms of PTSD than adolescents exposed to single or no traumatic events. The second hypothesis was that adolescents exposed to repeated or multiple (two or more) traumatic events will display more symptoms of depression than adolescents exposed to single or no traumatic events. The present study yielded to support both these hypotheses.

The majority of the studies reviewed in the literature explore the impact of exposure to single traumatic events. These studies have found that single traumatic exposure is associated with a broad array of outcomes. Depression, PTSD, agoraphobia, panic attacks and substance abuse are some of the documented outcomes of traumatic exposure (Rheingold *et al.,* 2003; Polusny & Follette, 1995 in Green

et al., 2000). While there is a gap in the literature with regard to the impact of multiple traumatic exposures, Green *et al.* (2000) indicated that multiple exposure is associated with more and severe negative outcomes. Other studies like Frans, Aberg, Rimmo and Fredrikson (2005); Vrana and Lauterbach (1994); Breslau, Chilcoat, Kessler and Davis (1999), and Follette, Polusny, Bechtle and Naugle (1996) also demonstrated that individuals who have experienced multiple events have worse outcomes than those who have experienced single, or fewer, events.

The present study yielded support for these findings. Results on the current study reveal that the majority of adolescents exposed to multiple traumatic events also reported more symptoms of PTSD. Findings on single versus multiple traumatic exposure on PTSD revealed that the majority of adolescents exposed to multiple traumatic events also reported more symptoms of PTSD than the single exposure group (mean difference = 2.607; CI = 1.67, 3.55; $p<0.01$) and the no exposure group (1.18, 3.19; $p<0.01$; mean difference = 2.184). Frans *et al.* (2005) also reported similar findings when comparing multiple and single traumatic exposure on PTSD in a general population. They found that multiple traumatic experiences were associated with higher mean distress ratings in both men and

women when compared with single exposures (6.0 vs. 5.6; P < 0.05 and 7.8 vs. 7.2; P < 0.0001). In a similar vein Breslau *et al.* (1999) reported that previous exposure to multiple trauma signaled a greater risk of PTSD than single exposure. A surprising finding of this study though was the lack of significant difference between the no exposure and single exposure group on the PTSD scale (mean difference = .423; CI = -.78, 1.63).

There is limited research on associations between multiple-traumatic exposure and depression. Most of the studies reported the link between traumatic loss and symptoms of depression. In their study on psychological outcomes associated with traumatic loss, Green *et al.* (2001) found that traumatic loss was associated with symptoms of depression. The study failed to explore whether there was association between multiple traumatic loss and increase in symptoms of depression. Current findings on single versus multiple exposures on depression showed that those exposed to multiple traumatic stressors reported more depression symptoms (mean difference = 4.177; p < 0.01) than those exposed to single trauma. This yielded to the expected direction with one exception. There was no difference between the no exposure and the single exposure group. Results indicated no significant difference between the two groups (mean

difference = 1, 168; CI = -1, 74, 4, 07; $p<0.01$). It would be expected that those adolescents exposed to a single trauma would show more depression symptoms than no exposure group.

There are various reasons that could explain the acceleration of symptoms with multiple traumatic exposure. Joseph *et al.* (1999) identify a number of key components that are involved in the presentation of PTSD. These include event stimuli, event cognition, appraisal mechanism, environment and social context, coping, emotional state and personality. In terms of the present study it could be an overload of any of these components. However, the higher rates of exposure to trauma suggest that the environment and social context form an important part of this overload and further research could help elucidate this more clearly.

It is unclear why there is no difference between the single and no exposure groups. One possible explanation is that a high number of people reported exposure to negative life events and this could have increased symptoms of depression in the no exposure group. This suggests that all the people exposed to negative life events are distressed, not only those exposed to traumatic events. However, this explanation cannot account for the absence of a difference for PTSD

symptoms as well. Joseph *et al's* (1999) model can perhaps help explain this. According to Joseph *et al.* (1999) there are many factors that act as protective factors following a traumatic exposure and social support has been identified as one of these protective factors. Joseph *et al.* (1999) reported that social support is associated with better outcome after traumatic exposure. It can be hypothesized that exposure could have activated social support which could protected against negative outcomes in the single exposure group. However, social support could not sustain a buffering effect in the multiple exposure group due to the increased demands generated by multiple exposure.

8.5 Limitations of the present study

The study involves the secondary analysis of survey data. We cannot infer causality and conclude that multiple exposure causes symptom severity in adolescents. The association between multiple exposures and severity of psychiatric symptomatology found in the present study needs to be further investigated with a research design that permits causal inferences.

The second important limitation for the present study was the exclusive use of self-report measures. Self report measures introduce

bias in the study for two reasons. Firstly, the accuracy of information, especially early childhood information can be distorted by recall. Secondly, self reported diagnostic assessments may not be as accurate as clinician ratings for psychiatric symptomology. Further research can complement self report with clinical assessments.

Group differences can also be the result of the instrument bias. For the present study, while the majority of the instruments have acceptable reliability, there were two exceptions. The trauma checklist, alpha value of .418 and CTQ, alpha value .662 did not meet the accepted reliability cut off of .75 (Anastasi, 1982). It is unclear why, and further research needs to investigate this. One possibility is the appropriateness of the instruments for the South African context. In terms of the present study caution must be exercised in interpreting the results due to possible bias introduced by instrument reliability.

The literature review clearly indicates that for both single and multiple exposure there are a broad array of outcomes. Furthermore, the literature suggests that for multiple exposure there could be consequences for personality development. The present study was

confined to exploring PTSD and depression and further research needs to include a broader array of outcomes.

8.6 Conclusions and recommendations

The results of the present study indicates that there is a high level of exposure to trauma in the South African context, and consistent with other South African studies, the rates appear higher than the Euro-American context. While this is indicative of the challenges facing a country in transition, it has enormous implications for the healthy psychological development of South African youth. As Stevens and Lockhart (1997) suggest, healthy resolution of adolescent developmental tasks may be jeopardized under conditions of adversity. The consistency of greater negative outcomes when faced with multiple exposure to trauma further raises more fundamental questions about personality development during the adolescent phase.

The association between multiple exposure and greater negative outcomes is also significant. Firstly it raises questions about the appropriateness of current conceptualization of PTSD and existing theoretical expectations for PTSD. If single exposure is not the norm, then our diagnostic criteria and theoretical explanations also need to

be aligned accordingly.

Secondly, the greater prevalence of psychiatric symptomology has implications for the burden of health care. If these trends persist, then it also implies a significant increase in the cast of health care for the country in transition. As suggested earlier, far more research is required in this area. More importantly far greater attention needs to be paid to developing appropriate strategies for transforming both the reasons for, and the outcomes to adversity in the South African context.

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