TRAUMATIC RE-ENACTMENT OF CHILDHOOD AND ADOLESCENT TRAUMA: A COMPLEX DEVELOPMENTAL TRAUMA PERSPECTIVE IN A NON-CLINICAL SAMPLE OF SOUTH AFRICAN SCHOOL-GOING ADOLESCENTS

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COLLEGE OF HUMANITIES

DECLARATION - PLAGIARISM

I, **Susan Louise Penning**, declare that

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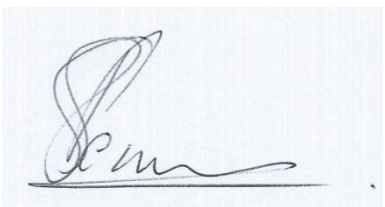

20 June 2015

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Susan Louise Penning **Date**

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DEDICATION

This dissertation is dedicated to my amazing husband Mark and my wonderful children Nic and Megs. Every day you all inspire me to be a better person. Mark, through your wonderful example you challenge me and push me to new heights, to try new things and to do what is right but not what is always easy. Nic and Megs, you help me to strive for excellence so that I can be the best role model for you. Thank you for your love and enduring support. I am blessed to have you all in my life.

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"*Life is what happens when you are busy making other plans*" (John Lennon)

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PUBLICATIONS EMINATING FROM THIS RESEARCH

Publications emanating from this thesis:

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Publications emanating from the larger project of which this thesis formed part:

Collings, S.J., **Penning, S.L.,** & Valjee, S.R. (2014). Lifetime poly-victimization and posttraumatic stress disorder among school going adolescents in Durban, South Africa. *Psychiatry*, 17(5), 1-5.

Collings, S.J., Valjee, S.R., & **Penning, S.L.** (2013). Development and preliminary validation of a screen for interpersonal childhood trauma experiences among school-going youth in Durban, South Africa. *Journal of Child and Adolescent Mental Health*, 25(1), 23-34.

ABSTRACT

Exposure to interpersonal violence during childhood has been found to be associated with various form of traumatic re-enactment. In addition to subjective re-experiencing symptoms (e.g., flashbacks) various forms of behavioural re-enactment have been identified in the literature including*: Revictimisation* (in terms of which survivors go on to subsequently experience further victimisation), *Perpetration* (in terms of which survivors go on to subsequently victimise others), and *Self-Injury* (in terms of which survivors go on to subsequently harm or injure themselves). This study constitutes a seminal attempt to explore all three of these forms of behavioural re-enactment in a sample of 802 adolescents attending a high school in the greater Durban area of KwaZulu-Natal-South Africa. Specific aims of the research were to: (a) examine prevalence rates for exposure to developmental trauma in the study sample, (b) explore incidence rates for traumatic re-enactment behaviours in the study sample, (c) identify risk factors for traumatic re-enactments, and (d) explore comorbidities between traumatic re-enactment behaviours and Post-Traumatic Stress Disorder/Complex Development Trauma outcomes. Study findings indicate that: (a) both developmental trauma experiences and traumatic re-enactment behaviours were common in the study sample, (b) re-enactment behaviours are most strongly predicted by traumatic antecedents, and (c) traumatic re-enactment behaviours appear to be somewhat distinct from Post-Traumatic Stress Disorder and Complex Developmental Trauma outcomes, in terms of both risk factors and comorbidity rates. These findings are discussed vis-à-vis their implications for theory, practice, and further research.

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LIST OF ABBREVIATIONS

ADHD	Attention-deficit / hyperactivity disorder
BBC	British Broadcasting Corporation
CAPS	Clinician Administered PTSD Scale
CDT	Complex Developmental Trauma
CSA	Childhood Sexual Abuse
DBFT	Developmentally based bi-directional trauma framework
DESNOS	Disorders not otherwise specified
DSM	Diagnostic and Statistical Manual of Mental Disorders
DTI	Developmental Trauma Inventory
DTS	Davidson Trauma Scale
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
HPA	Hypothalamic-pituitary-adrenal
ICD	International Classification of Diseases
IES	Impact of Event Scale
ISIS	The Islamic State of Iraq and Syria
NATO	North Atlantic Treaty Organisation
NSSI	Non Suicidal Self-Injury
OR	Odds Ratio
PTSD	Posttraumatic Stress Disorder
RRR	Read-React-Respond
SAPS	South African Police Services
SIDES-SR	Structured Interview of Disorders of Extreme Stress Scale - Self Response
SPSS	Statistical Package for the Social Sciences

TOPA	Trauma Outcome Process Assessment
TRS	Trauma Re-enactment Syndrome
UKZN	University of KwaZulu-Natal
UNICEF	United Nations Children's Fund
YLD	Years lived with disabilities

CHAPTER 1: INTRODUCTION

1.1. Introduction

In this chapter I will briefly outline: the background to the research problem and the purpose of the study; the research questions and design; the theoretical framework that will be used; and the structure of the thesis.

1.2. Background to the problem

On a daily basis we are bombarded with disturbing news relating to international events: whether it be an earthquake in Nepal killing thousands of people; or victims of human trafficking who are starving to death on boats that have been abandoned off Indonesia; or the ongoing war in the Middle East with the uprising of ISIS (the Islamic State of Iraq and Syria) and the associated atrocities inflicted by this militant group. These events are discussed in depth in the social and main stream media, but soon become replaced by the next 'big story', while those people who have been affected are left to pick up the pieces of their lives and to try and move on. The Ebola crisis in Africa has received scant attention since the virus has been brought under control, with the epidemic no longer being presented in the media as a threat to global health. What has happened to all those who have lost family members, those who are now orphans, and those whose livelihoods have been devastated by the economic crisis inflicted by the cost of the crisis? Do these experiences shape our children and adolescents and inform their future behaviour, and if so, how?

Moreover, what is the lived reality of those whose traumatic experiences often fail to make headline news? Throughout the world, millions of people have to endure traumatic experiences as a consequence of factors such as poverty, unemployment, patriarchy, hegemony, lack of education, sexual violence, physical abuse, and substance abuse. How do these experiences effect the subsequent behaviour of individuals?

South Africans are, of course, not exempt from experiencing traumatic events. Individuals living in South Africa are exposed to high levels of violence and crime, as well as high rates of unemployment, poverty, ill-health (e.g. HIV/AIDS, malaria or tuberculosis), lack of education, gender violence, xenophobia, political violence, and racial tension (e.g. Kaminer, du Plessis, Hardy, & Benjamin, 2013; Kaminer & Eagle, 2010).

1.3. Conceptualising the consequences of traumatic exposure

A large body of research supports the current understanding and diagnosis of posttraumatic outcomes, with such understandings centring on symptoms and criteria specified in the Diagnostic and Statistical Manual for Mental Disorders (DSM-V; American Psychiatric Association, 2013) and in the International Classification of Diseases (ICD-10; World Health Organization, 2010). These diagnoses are based on ongoing research and debate regarding posttraumatic outcomes, with such outcomes having been foregrounded when posttraumatic outcomes were first introduced into the DSM-III as "Posttraumatic Stress Disorder" (PTSD) in 1980 (Herman, 1992b). Since then, numerous changes have been made to the diagnostic criteria for PTSD in successive updates of the DSM, with such changes reflecting new research and an improved understanding of the problem.

Children and adolescents are not spared from these traumatic experiences. Children are exposed to traumatic experiences, and it has been argued, that chronic adverse childhood events are potentially traumatic and can result in symptoms of Posttraumatic Stress Disorder (PTSD) (Herman, 1992b, p. 48), as well as in additional symptoms which together have been termed Complex Developmental Trauma (CDT; Courtois & Ford, 2009; van der Kolk, 2005a). CDT has been proposed as an alternative diagnosis for children and adolescents who experience chronic interpersonal trauma/s (Courtois & Ford, 2009; Spinazzola, et al., 2005; van der Kolk, 1989); with the latest update of the DSM-V acknowledging that there is a need for a separate diagnosis for children who are six years and younger (American Psychiatric Association, 2013); and with proponents of CDT proposing that CDT needs to be considered as a distinct psychiatric diagnosis in its own right (Cook, et al., 2005; Ford, Courtois, Steele, van der Hart, & Nijenhuis, 2005; van der Kolk, 2005a, 2005b).

Six symptom clusters have been proposed for CDT and these include, "alterations in regulation and affect"; "alterations in attention or consciousness"; "alterations in self-perception"; "alterations in relationships with others"; "somatisation"; and "alterations in systems of meaning". Some traumatic re-enactment behaviours are included within these six clusters, with such behaviours relating to forms of: "revictimisation", "victimising others", "self-destructive behaviour" and "suicidal preoccupation".

1.4. Traumatic re-enactment

1.4.1. Defining traumatic re-enactment

Empirical studies have demonstrated connections between childhood exposure to traumatic life events and subsequent re-enactment behaviours (e.g., Adams, 1999; Chu, 1992; Cohen, Chazan, Lerner, & Maimon, 2010; Feldman, 1997; Glodich & Allen, 1998; Miller, 2002). Drawing on the theoretical work of van der Kolk (1989), this study will conceptualise traumatic re-enactments as encompassing three broad forms of behavioural re-enactment, namely:

- *Victimisation*: in which the self plays the role of victim, leading to subsequent revictimisation;
- *Perpetration*: in which the self plays the role of victimiser, leading to the subsequent victimisation of others; and
- *Self-Injury*: in which the self plays the role of self-victimiser, leading to subsequent acts of self-harm and/or self-injury.

1.4.2. Conceptualising traumatic re-enactments

The author has identified over 45 theories and models that attempt to understand and account for traumatic re-enactment behaviours (cf., Chapter 3). These theories and models have been developed across a number of different disciplines (e.g. psychology, criminology, and neuro-science) and have focused on a number of different forms of traumatic exposure (e.g., sexual re-victimisation, bullying, and delinquency). In addition, these theories and models have been developed to understand aetiological influences at a number of different systemic levels (intrapersonal, interpersonal, and/or macrosystemic). While there is little agreement as to which of these theories and models most accurately encapsulates trauma re-enactment, it is largely acknowledged that that there are likely to be multiple aetiological pathways (as well

as multiple mediating and moderating factors) that influence the relationship between child maltreatment and traumatic re-enactment (Penning & Collings, 2014b).

1.4.3. Approaches to researching traumatic re-enactments

Available studies of traumatic re-enactment have:

> *…tended to be characterized by a silo effect, with there being three quite distinct literatures relating to Perpetration, Victimisation, and Self-Injury. As a result it has not been possible to: (a) assess the relative importance of different forms of traumatic re-enactment, (b) explore the extent of multiple/poly forms of re-enactment, or (c) adequately explore risk factors for different forms of traumatic re-enactment in any given sample* (Penning & Collings, 2014, p. 710).

The extant literature on traumatic re-enactments has also been limited by an almost exclusive reliance on child sexual abuse as a sole predictor of re-enactment behaviours. As indicated elsewhere:

> *Although CSA has consistently been found to be associated with various forms of traumatic re-enactment (Perpetration, Victimisation, and Self-Injury), there is an emerging literature which suggests that such outcomes may be equally, if not more strongly, predicted by exposure to other forms of child maltreatment or by the extent of poly-victimisation experienced by the child* (Penning & Collings, 2014, p. 710-711).

As such, there would appear to be a need for research which : (a) simultaneously addresses all forms of traumatic re-enactment (*Victimisation, Perpetration*, and *Self-Injury*), and (b) which does so using measures of traumatic exposure which provide a comprehensive estimate of participants' full victimisation profile.

1.5. Study aims, objectives, and research questions

In the context of the above limitations, the broad aim of the present study was to systematically examine traumatic re-enactment behaviours as a symptom of childhood exposure to interpersonal trauma, and to thereby contribute to the body of knowledge on child and adolescent posttraumatic outcomes.

The research had three primary objectives. First, it aimed to identify the different forms or kinds of traumatic re-enactment that occur, and to explore the incidence of such re-enactments in both male and female adolescent learners; second, it aimed to survey traumatic antecedents and to examine how such experiences are associated with re-enactment behaviours; and finally, it aimed to explore the relationship between traumatic re-enactment behaviours and posttraumatic outcomes (i.e., the presence of PTSD and/or CDT).

The study addressed four main research questions:

- What traumatic events do adolescents experience?
- What is the incidence of traumatic re-enactment behaviours in the study sample?
- What is the relationship between forms of traumatic re-enactment and traumatic antecedents?

- What is the association between traumatic re-enactment behaviours and posttraumatic outcomes (i.e., the presence of PTSD and/or CDT)?

1.6. Conceptual framework

The theoretical framework of van der Kolk (1989, 1996) was used to understand and to conceptualise traumatic re-enactment behaviours. This author has proposed that behavioural re-enactments can take one of three main forms. First, the individual can engage in self-destructive behaviour; second, the individual can harm others (e.g. through perpetrating physical or sexual abuse); and third, an individual can be directly re-victimised by others (cf., Chapter 3).

Aetiological influences on traumatic re-enactment behaviours were conceptualised using the stress reaction model proposed by Spaccarelli (1994). In terms of this model, traumatic outcomes are assumed to be an outcome of: (a) distal demographic and family background variables, (b) more proximal exposure to traumatic events, and (c) most proximal internal and external coping strategies (i.e., negative trauma-related cognitions and risky behaviours, respectively) (cf., Chapter 4).

1.7. Significance of the study

In recent years, the ongoing debate regarding posttraumatic outcomes has been driven forward by ongoing research and by challenges to current understandings associated with posttraumatic experiences (Herman, 1992b). In a similar way this study intends to add to the body of knowledge on childhood and adolescent trauma by systematically exploring the

aetiology and dynamics of an important, although largely under researched, symptom of CDT (i.e., traumatic re-enactments). More specifically, the study was designed to provide insights into the dynamics of traumatic re-enactment behaviours, which could be used to:

- More clearly delineate symptomatology associated with CDT, and thereby contribute to the way in which CDT is conceptualised;
- Identify aetiological factors implicated in traumatic re-enactment behaviours, which could be used in the development of appropriate primary and secondary intervention programmes;
- Make informed recommendations regarding the direction and focus of future research on CDT; and
- Initiate discussion and additional research on the dynamics and significance of traumatic re-enactment behaviours.

1.8. Structure of the thesis

This thesis comprises seven chapters:

- *Chapter 1: Introduction* provides a brief introduction to the study and introduces the concepts that will be used in the study.

- *Chapter 2: Literature review – context and trauma* addresses two main issues. The first section explores extant literature on violence and trauma within the international and South African contexts; with a specific focus on childhood and adolescent trauma. The

second section discusses traumatic outcomes associated with traumatic exposure (including a brief history of both historical and contemporary notions of trauma).

- *Chapter 3: Literature review – traumatic re-enactment behaviours* includes a review of literature and theories relating to re-enactment behaviours. Using current theoretical conceptualisations of behavioural re-enactment, this chapter defines what is meant by traumatic re-enactment behaviours, and explores different forms of traumatic re-enactment. Traumatic re-enactment theories and models are discussed using an eco-systemic framework. Finally, mediating and moderating variables, which have been found to influence re-enactment behaviours are discussed.

- *Chapter 4: Methodology* specifies how the study was designed and how the data were analysed. The chapter describes the aims and objectives of the study and outlines the study's design (including sampling procedures, participants, and the research instruments used). Ethical considerations are then discussed, drawing attention to the potentially sensitive nature of the topic. Finally, methods of data reduction are reviewed.

- *Chapter 5: Results* presents the study findings. The chapter starts with descriptive statistics: for the sample, incidence rates for traumatic re-enactment behaviours (including the associations between forms of traumatic re-enactment), the prevalence of traumatic experiences, and data for participants' current coping strategies (negative cognitions and risky behaviours / vulnerability). Findings from both univariate and multivariate analyses are then presented. The final section of the chapter addresses the prevalence of posttraumatic outcomes and examines the extent of comorbidity between PTSD, CDT, and traumatic re-enactment outcomes.

- *Chapter 6: Discussion – Study findings* discusses the findings of the study in relation to the key objectives outlined in Chapter 4.

- *Chapter 7: Discussion – Implications and findings* explores the implications of the study findings in relation to both theory and practice. Finally, limitations of the study are addressed.

CHAPTER 2: LITERATURE REVIEW – CONTEXT AND TRAUMA

2.1. The international context

2.1.1. A state of change, violence, conflict, and uncertainty

Every generation claims that they are experiencing unique circumstances and great changes, with such perceptions being consistent with the well-known adage that '*the only constant is change'* (phrase coined by Heraclitus, in 535BC-475BC). Current international changes include: a world population of over seven billion; an ever increasing inter-connection between economies, resulting in global economic uncertainty and shifts in geopolitical and economic strengths; a technological explosion and subsequent increase in knowledge and information transfer; climate change and adverse weather conditions; diseases such as AIDS and drug resistant diseases; gender-based violence; poverty and unemployment; food shortages; and ongoing conflict and wars in many parts of the world.

People are living with, and having to adapt to increasing change and uncertainty, as well as to unique and often violent circumstances. Violence, conflict, and suffering have become a universal language for many individuals, communities, and nations, with individuals being either directly, or vicariously, affected by such events on a daily basis.

At the time of writing, there are many events that are taking place in the world which directly affect the lives of millions of people. There is conflict between Russia and the Ukraine in Eastern Ukraine with thousands already having been killed, and with there being a clear potential for greater conflict as NATO and other international bodies become involved (BBC

News Europe, 2014). The Islamic State of Iraq and Syria (ISIS) forces are fighting, displacing, abducting, be-heading, and murdering people in Iraq and Syria, resulting in tremendous human suffering, with over three million Syrians having been dislocated, including women and children (Smith-Spark, Carey, & Bothelho, 2014). There is currently a ceasefire between Israel and Hamas following weeks of intense bombing, which has affected thousands of civilians (Levs, Sayah, & Wedeman, 2014).

An Ebola crisis is threatening health in Central African countries with thousands being infected (Business Day, 2014). Polio is raising its head again in the Middle East (Hayes, 2014). California is on record as having the worst drought in 100 years (Ortiz, 2014). All of these events, and others, have direct physical effects (economic, food, shelter, education, health care, etc.) and psychological effects on populations, including families and children. The World Economic Forum highlights that global threats are internationally connected, so responses to events need to be co-ordinated internationally but with sufficient flexibility to accommodate local realities (World Economic Forum, 2014). South Africa is influenced by what occurs across the globe, but it needs to address its own problems within this global context. There are similarities and lessons to be learned across contexts, but also unique drivers within the South African context.

An equally insidious trend is centred on the daily struggle for survival in the context of poverty, shelter, hunger, unemployment, and disease. Nelson Mandela (in the foreword to a World Health Organisation Report on violence and health) indicated that international acts of violence are at historically high levels, but he cautioned that the daily suffering of individuals is more pervasive than observable violence, and often not identified (World Health Organization, 2002).

Nelson Mandela warned that day-to-day violence is likely to be perpetrated across generations, because conditions exist that enable this intergenerational transfer of violence to continue (World Health Organization, 2002). It is generally acknowledged that violence results in violence, and that behaviour/s are re-enacted and subsequently perpetuated across generations. For example numerous studies highlight the intergenerational transfer of violence due to childhood sexual abuse (Arata, 2000; Barnes, Noll, Putman, & Tickett, 2009; Desai, Arias, Thompsom, & Baslle, 2002; Hamby & Grych, 2013; McCloskey & Bailey, 2000; Voisin & Jun, 2012). McCloskey & Bailey (2000) found that girls, whose mothers were sexually abused, were 3.6 times more likely to be sexually victimised, and this increased to 23.7 times when a history of sexual abuse was combined with drug use by mothers.

These violent and traumatic events have the potential to impact on the health of an individual (World Health Organization, 2002). The prerequisites for health are highlighted in the Ottawa Charter for Health Promotion, and include peace, shelter, education, food, income, a stable economic system, sustainable resources, and social justice and equity (World Health Organization, 1986). The Bangkok Charter for Health Promotion draws attention to changing international conditions as determinants of health, including factors such as inequalities within and between nations, changing communication and consumption patterns, commercialisation, global environmental change, urbanisation, adverse social and economic conditions, and changes in family patterns and the cultural and social make up of communities (World Health Organization, 2005).

Physical and mental health are directly influenced by violent and traumatic exposure as well as by adverse socio-environmental conditions experienced by many on a daily basis (World

Health Organization, 2002). Although levels of violence are high internationally, they are not equally experienced within communities, countries, or regions. The World Health Organisation (2013) highlights that violence is therefore not inevitable and that it is, therefore, preventable. UNICEF (United Nations Children's Fund, 2014a) also believes that ending violence is something that we have control over and that violence is not unavoidable. In their latest report on violence against children, UNICEF concludes that

> *…violence against children is, in fact, a societal problem, driven by economic and social inequities and poor education standards. It is fuelled by social norms that condone violence as an acceptable way to resolve conflicts, sanction adult domination over children, and encourage discrimination. It is enabled by systems that lack adequate policies and legislation, effective governance and a strong rule of law to prevent violence, investigate and prosecute perpetrators, and provide follow-up services and treatment for victims. And it is allowed to persist when it is undocumented and unmeasured as a result of inadequate investments in data collection and poor dissemination of findings"* (United Nations Children's Fund, 2014a, pp. 172-173).

2.1.2. Children and adolescents exposed to violence

Women and children suffer the most from violence, particularly in strongly patriarchal societies (World Health Organization, 2013). Children are exposed to behaviours that take advantage of their vulnerability and innocence, such as child labour, child marriage, trafficking, female genital mutilation, and sexual exploitation (United Nations Children's Fund, 2014b). UNICEF estimates that 150 million children are engaged in child labour worldwide. In sub-Saharan Africa, 27% of children are used for child labour (United Nations

Children's Fund, 2014b). Worldwide, one third of girls are married below the age of 18, with this rising to 39% of Sub-Saharan African girls (United Nations Children's Fund, 2014b).

Violence is prevalent in all countries around the world, and involves a broad range of activities. Children are exposed to physical and/or sexual abuse, emotional violence, and neglect or negligent treatment (United Nations Children's Fund, 2014a). These types of violence are defined by UNICEF as follows:

- *Physical violence* includes forms of corporal punishment, physical bullying or hazing, torture, and punishment which is cruel, inhuman or degrading, where physical force is used to cause pain or discomfort (United Nations Children's Fund, 2014a). Physical violence takes many forms including shaking, kicking, throwing children, smacking, slapping, spanking, scratching, pinching, biting, pulling hair, boxing ears, caning, forcing the child to stay in uncomfortable positions, burning, scalding, or forcing foods to be eaten (United Nations Children's Fund, 2014a).

- *Sexual violence* includes all sexual activities that an adult imposes on a child, where the child should be protected by the law, and/or where the perpetrator is older and uses power, threats, or pressure on the child. Forms of sexual violence include sexual activity, commercial sexual exploitation, trafficking, child prostitution, images or videos of child sexual abuse, and forced marriage (United Nations Children's Fund, 2014a).

- *Mental violence* is classified as psychological maltreatment, mental abuse, verbal abuse, and emotional abuse. Forms of mental violence include: psychologically

harmful interactions with a child, frightening and or intimidating behaviours, emotional non-responsiveness, neglecting mental health, insulting, name-calling, shame, demeaning, mocking, exposure to domestic violence, placing in solitary confinement, isolating, and psychological bullying (including cyber bullying) (United Nations Children's Fund, 2014a).

- *Neglect* or negligent treatment occurs when a child's physical and psychological needs are not met. Physical neglect occurs when a child is not protected from harm or is not provided with the basic necessities such as food, shelter, clothing, or basic medical needs. It also includes situations where psychological and emotional support are withheld , where there is no love or attention, where a child's needs are not acknowledged, or when there is exposure to intimate partner violence, drugs, or alcohol (United Nations Children's Fund, 2014a).

Violence therefore takes on many forms which involve either direct and/or vicarious exposure. Childhood violence occurs in many contexts, including the home, schools, health clinics, and communities; with the impact of violence often being exacerbated in the context of social conflict or natural disasters (United Nations Children's Fund, 2014b). Internationally, millions of children from all socioeconomic backgrounds, and children from all religions, races and cultures, experience and suffer from violence every day (United Nations Children's Fund, 2014b).

Physical violence is most often accompanied by other forms of violence such a sexual violence (United Nations Children's Fund, 2014a). Physical violence can be both fatal and non-fatal, with fatalities tending to be higher among very young children. In 2012, 95,000 or

almost a fifth of all global homicides were children or adolescents (ages 0-19), with boys facing a higher risk of being exposed to fatal forms of abuse (United Nations Children's Fund, 2014a).

Discipline is one of the most pervasive forms of violence experienced by children. One billion children between the ages of six and 10 years experience physical punishment by their caregivers on a regular basis (United Nations Children's Fund, 2014a). Children often experience physical punishment and psychological aggression from caregivers, with severe punishment being experienced in some communities, and with physical punishment being more prevalent among caregivers from lower socio-economic groups (United Nations Children's Fund, 2014a).

Children and adolescents also experience violence in their peer groups in the form of bullying and intimate partner violence, and this often continues into late adolescence. Botswana has one of the highest rates of physical attacks between the ages of 13 to 15 years, with over 50% of children being attacked (United Nations Children's Fund, 2014a). Globally, a quarter of all girls aged 15 to 19 years (70 Million) report that they experienced some form of physical violence since they turned 15 years (United Nations Children's Fund, 2014a). Approximately a third of teenagers in Europe and North America admit to bullying other students (United Nations Children's Fund, 2014a).

In addition, it is estimated that over 120 million girls have been forced to have sexual intercourse or to perform sexual acts in their lives; with current boyfriends, husbands, or partners of caregivers being the main perpetrators of such acts (United Nations Children's

Fund, 2014a). It is concerning to note that most victims of any type of violence do not report the incidents or get help from professionals (United Nations Children's Fund, 2014a).

2.2. Trauma in the South African context

South Africa has the dubious reputation of having one of the highest crime statistics in the world. Debra Kaminer and Gillian Eagle (2010) assert that few South Africans are completely unaffected by some form of psychological trauma, both currently and historically, and go on to describe South Africa as a *natural laboratory* where trauma can be studied. With its history of apartheid, violence and trauma are part of the South African psyche. The terrible scope of atrocities that occurred during apartheid came to light during the Truth and Reconciliation Commission (TRC), which took place in the 1990s. These events continue to have an impact on the South African psyche (Krog, 2000). During apartheid, a number of South African therapists worked with victims of the apartheid regime, and an interest in how the South African environment directly influences psychological trauma is an ongoing area of study (Kaminer & Eagle, 2010). For example, the effects of ongoing community violence is being studied as *Continuous Traumatic Stress Syndrome* (Kaminer & Eagle, 2010).

Kaminer and Eagle (2010) summarise the types of trauma that individuals are currently exposed to. They categorize traumas as: direct acts of violence, such as political violence; criminal violence; gender-based violence; childhood physical abuse; non-intentional injury (such as road traffic injuries and burn injuries); indirect traumatisation (such as witnessing violence or injury to another person); and situations where an individual experiences multiple traumatic events.

2.2.1. Structural violence

Structural violence comprises all systemic-based violence or traumas that are experienced by an individual, and perpetrated by institutions (e.g. schools, police, hospitals, foster care, immigration, the media, the government, the military, religious institutions), social systems (e.g. social classes, influential majorities and minorities, poverty), and/or social groups (e.g. racism, sexism, homophobia, genocide, xenophobia).

South Africa had an official unemployment rate of 25.5% in the second quarter of 2014 (Trading Economics, 2014). This figure includes all South Africans looking for a job as a percentage of the labour force, but does not include the under-employed, those who have given up looking for employment, or those who are employed in a temporary form of employment. Globally these statistics represent high levels of unemployment, but unemployment among South African youth (those younger than 25 years) is at a staggeringly high level of 51.8% (Countryeconomy.com, 2014). Again, this figure does not represent those youth who are underemployed. Youth unemployment (35 years or less), which some say is as high as 70%, is regarded as one of the greatest socio-economic problems in South Africa (BBC News Business, 2013; Oosthuizen & Cassim, 2015).

Associated with these levels of unemployment is poverty. Poverty is recognised as a problem by the South African Government, as 56.8% of the population live in poverty (according to the 2008/2009 census; Statistics South Africa, 2014); with women tending to be more impoverished than men, with a headcount of 58.9% compared to 54.9% for men.

HIV and AIDS is also a scourge which affects many individuals in South Africa. With approximately 6.3 million people living with HIV/AIDS, and approximately 2.4 million orphans due to HIV/AIDS, the socioeconomic hardships placed on families due to HIV/AIDS cannot be ignored (UNAIDS, 2014). It has been shown that orphans place economic burdens on households where poverty is already a problem (George, Govender, Bachoo, Penning, & Quinlan, 2013; Kidman & Thurman, 2014), and that in households where parents have died from HIV/AIDS, there are significant negative effects including socioeconomic and psychological effects on children, especially females (Nabunya & Sewamala, 2014).

2.2.2. Crime and violence statistics

South Africa has one of the highest levels of crime in the world (Nationmaster.com, 2014). The latest crime trends released by the South African Police Service (SAPS) show that interpersonal violence, including murder and attempted murder, has increased from 1 April 2012 to 31 March 2013. During this period, murder increased to 31.3 murders per 100,000, which is four and a half times greater than the international average of 6.9 murders per 100,000 (Africa Check, 2014).

South Africa is reported to have the highest number of reported rapes in the world, with an estimated prevalence rate of 125.1 per 100,000 population (Africa Check, 2014; Nationmaster.com, 2014). It is estimated that between 60% and 70% of murders, attempted murders, and rapes occur between people who know each other within families or communities (Africa Check, 2014).

During the period 2012-2013 there was also a 4.6% increase in aggravated robberies. Robbery involves person-on-person confrontation, often resulting in psychological trauma or injury. In the period 2012 to 2013, public robberies increased by 4.4%, house robberies by 7.1%, vehicle hijacking by 5.4%, truck hijacking by 14.9%, and business robberies by 2.7% (up 345% since 2004/2005; Africa Check, 2014). These increases imply that there is no place where a person is safe, as businesses, homes, vehicles, and public places (such as taxis) are all places that a person can be targeted, giving support to the argument that many South Africans are exposed to continuous trauma. In addition, property-related crimes such as residential burglary, business burglary, motor vehicle theft, and commercial crime all increased in 2012/2013 (Africa Check, 2014).

South Africa has one of the highest rates of assault in the world with 1,197 victims per 100,000 people in 2012/2013 (Africa Check, 2014; Nationmaster.com, 2014). With this wide spectrum of crime experienced by South Africans, few people are unaffected; and many individuals experiencing a daily sense of danger accompanied by fears of being attacked (Mosavel, Simon, van Stade, & Buchbinder, 2005).

2.2.3. Violence nuanced within the South African context

Although the types of violence and trauma experienced are globally similar, there are certain forms of traumatic exposure which are more nuanced in the South African context.

South African men, women, and children endured years of political violence during the apartheid era. During this period people suffered detention without trial, torture, and assault, and had property or homes set alight (Kaminer & Eagle, 2010). These traumatic events

caused traumatic suffering within families and communities around the country. Few black African adult South Africans were not directly affected by political violence during apartheid (Kaminer & Eagle, 2010). The Centre for the Study of Violence and Reconciliation emphasises that with the history of colonialism, oppression, and apartheid resulting in large differences in wealth among citizens, it is difficult to distinguish between violence which is political and that which is criminal in nature (Gear, 2002). Currently xenophobia has also led to violence against immigrants within South Africa (Robins, 2009; Sharp, 2008).

Gender is a strong predictor of the risk for experiencing one or other type of violence (Kaminer & Eagle, 2010). With high levels of domestic violence, rape (and subsequent female HIV infection), and female homicide, gender-based violence is rife in South Africa (Abrahams & Jewkes, 2005; Abrahams, Jewkes, & Mathews, 2010; Jewkes, Dunkle, Nduna, & Shai, 2010). It is generally acknowledged that South African women experience high levels of exposure to physical, sexual, and emotional abuse (Kaminer & Eagle, 2010).

Work on hegemonic masculinity in South Africa highlights how both President Zuma (South African President) and Julius Malema (then president of the African National Party Youth League) have both validated an African masculinity which focusses on race and which is based on male superiority (Morrell, Jewkes, & Lindegger, 2012). It is concerning that patriarchy is so intrinsic to South Africa gender discourse, in the context of which male on male violence is sometimes regarded as normative masculine behaviour, with such behaviours including risk-taking behaviour, gang membership, the use and carrying of weapons, and alcohol use (Kaminer & Eagle, 2010). A study of men in the Eastern Cape and KwaZulu-Natal (South Africa) found that 27.6% of the sample admitted to having been raped, and only 12.5% of the admitted rapists were criminally punished (Jewkes, Sikweyiya,

Morrell, & Dunkle, 2010). The reasons given for raping included a sense of entitlement, "because they were bored", entertainment, and punishment, with alcohol often being involved. A third of the men did not feel any guilt for their acts.

Violence is pervasive in many communities (Mosavel, et al., 2005), but distinctive South African community behaviours and histories have strong influences on current levels of violence. Households are often affected by severe violence experienced in some neighbourhoods in the community or at school (Shields, Nadasen, & Pierce, 2006). In a comparative study of children exposed to community violence in South Africa and in the United States of America, South African children reported higher exposure to community violence, but comparatively low levels of psychological distress, and it has been argued that this may be due to community violence being normative in South Africa (Shields, et al., 2006).

Gangs play a major role in violence (Kynoch, 1999). There is a history of gangs within many South African communities, and these gangs are usually associated with violence (rape, murder and assault) and with the use of drugs and alcohol (Kynoch, 1999). There is often financial and/or social reward associated with gang membership (Mosavel, et al., 2005). It has been argued that gangs within communities are rooted in a political past, during which criminal gangs were able to exploit social and economic situations and were often supported by the local communities. Further, the state was known to have supported some gangs during the apartheid years (Kynoch, 1999).

South Africa has one of the highest consumption levels of alcohol in the world, with alcohol use being associated with suicide, self-injury, and assault (World Health Organization, 2000).

It is estimated that 22% of alcohol consumed in South Africa is home-brewed 'sorghum' beer (World Health Organization, 2000). A community in the Western Cape has the unsavoury reputation of having the highest incidence of foetal alcohol syndrome in the world, highlighting a historical phenomenon of partial payment of alcohol for labour (May, et al., 2000 ; Viljoen, et al., 2005). Based on racial, social, and economic similarities it is suspected that other communities also have high levels of alcohol consumption (Viljoen, et al., 2005). The high level of alcohol consumption is a major risk factor for violence in South Africa due to the relationship between alcohol and/or substance abuse, and many forms of violence (such as rape, domestic violence, assault, and suicide) due to the removal or reduction of internal inhibitions.

2.2.4. Children and adolescents

South Africa has one of the youngest populations in the world. Only 23.3% of the population is over 35 years of age according to 2012 national census figures (Blaine, 2012). A staggering 29.6% of the population are four years or younger, with 18.2% being between the ages of five and 14 years, and 28.9% being between the ages of 15 and 35 years (Blaine, 2012). In the context of high levels of exposure to violence and crime, South Africa's future generations are at risk of developmental harm, socioeconomic problems, and psychological trauma. It is a concern that the cycle of violence will be, or has already been, passed on to the next generation. Research findings indicate that exposure to interpersonal violence (including: domestic violence, and gender-based violence) can result in the transfer of violence across generations (Feldman, 1997; McCloskey & Bailey, 2000; Streeck-Fischer & van der Kolk, 2000; Voisin & Jun, 2012). The concept of the inter-generational transfer of violence is of

major concern, especially in a country like South Africa, where current levels of crime and violence are extremely high.

In addition, childhood exposure to violence has huge repercussions on a child's developmental trajectory (van der Kolk, 2005a). South African children and adolescents do not only witness domestic violence, community violence, and crime, but almost 25,000 children (or 40% of people reporting rape to the police) experience childhood sexual abuse every year (Kaminer & Eagle, 2010). Most rapes of young girls are perpetrated by people known to them, such as relatives, neighbours, or teachers (Kaminer & Eagle, 2010). It is estimated that rates of childhood physical abuse are high, but prevalence rates are exceptionally difficult to obtain given the power that a caregiver has over a child within the home (Kaminer & Eagle, 2010). Exposure to violence leads to a wide range of other violent behaviours such as bullying, adolescent delinquency, and gang involvement (M. Seedat, van Niekerk, Jewkes, Suffia, & Ratele, 2009; Voisin & Jun, 2012) as well as to psychosocial and developmental problems.

South African children are at risk in their homes, in their communities, on their way to school, and at school. A study of 617 adolescents (12-15 years) living in Cape Town, indicated that 98.9% had witnessed community violence, 41% had been assaulted or directly threatened in their community, 76.9% had observed domestic violence, 56.6% had been victimised at home, 75.8% had experienced direct or indirect exposure to school violence, and 8% had been sexually abused (Kaminer, et al., 2013). A study of childhood adversity in rural South Africa indicated that before the age of 18 years, females and males had respectively experienced the following: physical punishment (89.3% and 94.4%), physical hardship (65.8% and 46.8%), emotional abuse (54.7% and 56.4%), emotional neglect (41.6%

and 39.6%), and sexual abuse (39.1% and 16.7%) (Jewkes, Dunkle, Nduna, Jama, & Puren, 2010). There is no place that is not potentially dangerous for South African children and adolescents. Exposure to community violence is detrimental to mental health, and increases the risk that children could develop PTSD (Ensink, Robertson, Zissis, & Leger, 1997).

The high levels of violence, sexual harassment, and bullying that children have to deal with at schools, is becoming more and more apparent (Liang, Flisher, & Lombard, 2007; Prinsloo, 2006; Zulu, Urbani, van der Merwe, & van der Walt, 2001). Both teachers and students sexually harass or abuse girls on a regular basis and this can result in unwanted pregnancies (Leach, 2002). Schools may actually encourage gender violence through encouraging stereotypical masculine and feminine roles (Leach, 2002). Violence is also sanctioned as a means of discipline and control in schools, and it has also been argued that school violence is linked to poverty (Burnett, 1996). A school environment where violence is the norm is a potential threat to South African children and has the potential to lead to a cycle of violence. Just less than a third of the South African population will enter school environments within the next two to five years, while simultaneously living in a society where violence and trauma are the norm.

2.3. How context relates to trauma

The present research explores the relationship between events (environmental or interpersonal) that could result in behavioural dysregulation or behavioural re-enactment. It is the environment that provides an enabling context for violence. For example, Northern Ireland, a country that has experienced prolonged war, recorded the highest rate of PTSD compared to prevalence rates for other countries (BBC News, 2011). As discussed above, the

social, geo-political, religious, technological, economic, political and environmental conditions that are currently being experienced at a global level have the potential to result in circumstances which are perceived as traumatic by an individual, leading to behavioural and affective dysfunction. The social context also plays a crucial role in the acknowledgment, research, and understanding of trauma.

Trauma is a costly public health burden in many countries as highlighted by a recent survey of 30 countries, which examined the economic costs of PTSD (BBC News, 2011). In 2000 it was estimated that the burden of PTSD had increased from 0.4% to 0.6% of total Years Lived with Disabilities (YLD) (Ayaso-Mateos, 2000). As a result of negative physical health, PTSD is a burden on health services, due to the more frequent use of medical facilities (Deykin, et al., 2001). South Africa's high levels of violence have a fundamental effect on mental health (Kaminer & Eagle, 2010). A study of boys and girls in Cape Town indicated that 22.2% of respondents suffered from PTSD (Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004a).

2.4. Trauma

2.4.1. Psychological trauma definition

Trauma has multiple meanings depending on the context or use of the word, so it is therefore important to clarify how the term will be used in this research. The word *trauma* is derived from the world of medicine, where it is used to refer to any physical injury such as a cut or a wound (Courtois & Ford, 2009). *Trauma* is also an expression, commonly used in everyday language, and people often talk about being 'traumatised'. The media and the general population commonly refer to trauma and Post Traumatic Stress Disorder (PTSD) when

talking about happenings such as military personal exhibiting certain behaviours, crime, or car accidents.

Trauma can also refer to psychological trauma, which involves individual's reactions to extremely stressful or life-threatening event/s. In this sense, traumas are stressors that are not ordinary, not expected, have a low probability of occurring, and are difficult to control (Kira, 2001). Trauma can follow some type of traumatic event, or can occur: (a) where there is physical injury which places a person's life at risk, and/or (b) where there is exposure to structural trauma (in which factors such as culture or poverty can have long lasting negative effects). These types of traumatic exposure can potentially lead to affective and behavioural dysregulation, which impairs the functioning of an individual.

2.4.2. Psychological trauma as an evolving construct

The first official recognition of psychological trauma was in 1980, when Post Traumatic Stress Disorder (PTSD) was included in the DSM-III (Diagnostic and Statistical Manual for Mental Disorders). More recently, the criteria for a diagnosis of PTSD have been updated in the fifth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-V; American Psychiatric Association, 2013), with amended diagnostic criteria being anticipated in the International Classification of Diseases 11th revision (ICD-11) which is due to be published in 2015 (Friedman, 2014).

It has been argued that a diagnosis of PTSD is dependent on the degree to which an individual fits into the pre-determined symptomology specified in the DSM or IDC at the time, and that this definition is constantly changing (Eagle, 2002; Herman, 1992b; Kinzie &

Goetz, 1996). As is the case with many disorders, the diagnosis of PTSD is open to subjective interpretation and hence debate (Herman, 1992b). Supporters of certain positions on trauma have consistently argued for or against specific diagnoses or understandings, with the dispute becoming political at times, involving cooperation, strategies, and coalitions of like-minded people (Scott, 1990).

It is evident that there are multiple definitions of psychological trauma. The remainder of this chapter, therefore details a current history of trauma by addressing discrete forms of traumatic exposure (PTSD), multiple or chronic forms of exposure (complex PTSD and Complex Developmental Trauma), and structural trauma.

2.4.2.1. Type I: discrete forms of traumatic exposure (PTSD)

In 1952, after World War II, '*Gross Stress Reaction'* was included in the DSM-I, but was later dropped from the DSM-II in 1968. Trauma was subsequently added, as PTSD, to the DSM-III in 1980, after awareness was raised of 'post-Vietnam syndrome'. The inclusion of PTSD was dependent on studies of men who were either combat survivors or holocaust survivors (Luxenberg, Spinazzola, & van der Kolk, 2001). Changes were made to PTSD in the DSM-III-R, and in the DSM-IV-TR; with these changes centring on an evolving definition of trauma which focused on stressors that were single or discrete events.

2.4.2.1.1. Current diagnoses: DSM-V and ICD-10

The current diagnoses for trauma are included in the current versions of both the DSM-V (American Psychiatric Association, 2013) and the ICD-10 (World Health Organization, 2010).

DSM-V replaced DSM-IV-TR in May 2013, with minor changes. A new category, 'Trauma and Stressor-Related Disorders' for PTSD (and acute stress disorder, adjustment disorders and other disorders) was included in the DSM-V. Prior to this, trauma was classified as an anxiety disorder.

Criterion A (stressor) in the DSM-V, was changed to '*the person was exposed to: death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence'* (American Psychiatric Association, 2013). This can be a direct threat, witnessing something, indirectly learning about an event that could threaten a close friend or relative, or repeated or extreme indirect exposure to negative event/s (American Psychiatric Association, 2013). Symptoms are classified into four clusters (from three):

> B) *Intrusion* (where the traumatic event is persistently re-experienced, with nightmares, memories, dissociative reactions),
> C) *Avoidance* (avoiding upsetting external stimuli related to the trauma or avoidant thoughts and feelings),
> D) *Negative alterations in cognitions and mood ("inability to recall key features of the traumatic event", "persistent negative beliefs and expectations about oneself or the world", "**persistent distorted blame of self or others** for causing the traumatic*

*event or for resulting consequences", "**persistent negative trauma-related emotions** such as fear or shame", "markedly diminished interest in significant activities", "feeling alienated from others", "constricted affect: persistent inability to experience positive emotions"*), and

E) *Alterations in arousal and reactivity* ("*irritable or aggressive behaviour", "**self-destructive or reckless behaviour"**, "hypervigilance", "exaggerated startle response", "problems in concentration", "sleep disturbance"*). Three new symptoms were included into these clusters, and these are highlighted in ***bold*** above (American Psychiatric Association, 2013).

A dissociative clinical subtype was included for individuals with additional depersonalisation and derealisation symptoms, in addition to PTSD criteria. Current DSM-V PTSD criteria are focussed on affective dysregulation, with minor attention being paid to behavioural dysregulation or traumatic re-enactment. (American Psychiatric Association, 2013).

A preschool sub-type was included in the DSM-V for children, 6 years and younger, called "*Posttraumatic Stress Disorder in preschool children"* (American Psychiatric Association, 2013). This is a new developmental subtype of PTSD which recognises that trauma affects children differently from adults. It has always been recognised that developmental differences influence the way in which trauma symptoms are exhibited, and the way trauma shapes the development of a child (Arnold & Fisch, 2013; Ford, 2009; van der Kolk, 2005a). Criteria that are developmentally sensitive increase the diagnosis of PTSD by three to eight times, when compared to using the DSM-IV-TR criteria (Scheeringa, Zeanach, & Cohen, 2011; Scheeringa & Zeanah, 2001; Scheeringa, Zeanah, & Cohen, 2010).

Although the DSM is used more extensively than the ICD in research, there are presently many similarities in the definition of PTSD across the two manuals (Edwards, 2005). These similarities appear to be short-term, as The World Health Organization (WHO) is currently developing the ICD-11, which is expected to be published in 2015. It is expected that ICD-11 criteria for PTSD will be very different from the DSM-V criteria (Friedman, 2014). The World Health Organization does not appear to require as rigorous empirical support for changes to PTSD criteria as was required for the DSM-V, so it appears that the ICD-11 will distinguish between PTSD (as a stress-induced fear-based anxiety disorder) and complex PTSD (Friedman, 2014).

2.4.2.2. Type II: multiple / chronic forms of exposure

Terr (1991), Herman (1992a), van der Kolk (1987), and others have recognised the need for a new/extended trauma diagnosis, which more adequately addresses (a) chronic interpersonal trauma (for which symptom patterns tend to be more complex), and/or (b) developmental issues that are likely to be relevant to traumatic outcomes.

2.4.2.2.1. Complex PTSD

Judith Herman (1992a) believed that a new diagnosis was necessary in order to address repetitive, prolonged and ongoing trauma, where a person is unable to escape captivity. She argued that this chronic interpersonal trauma is experienced differently from acute trauma as defined by DSM-III, and proposed a new diagnosis of *complex posttraumatic stress disorder*, which was regarded as being distinct from PTSD (Herman, 1992b). Seven diagnostic criteria for complex PTSD were proposed: (1) a history of being subject to complete control over a

period of time, (2) alternations in regulation of affect and impulses, (3) alterations in attention or concentration (such as dissociation or memory), (4) alterations in self-perception (such as blame, guilt, helplessness), (5) alterations in perception of the perpetrator, (6) alterations in relationships with others (resulting in distrust and isolation for example), (7) alterations in systems of meaning (such as loss of faith).

In addition Lenore Terr (1991), proposed that traumas can take a number of forms: Type I trauma (involving an acute stressor) and Type II trauma (involving chronic stressors), with symptoms of Type II trauma being similar to symptoms included in Herman's complex trauma formulation (Herman, 1992a). At the same time, chronic trauma was being considered for inclusion in the DSM-IV under the title DESNOS (Disorders of Extreme Stress Not Otherwise Specified) (Herman, 1992a).

The American Psychiatric Association recognised that not all trauma symptoms were accounted for by PTSD in the DSM-III, leading to field trials designed to evaluate DESNOS for possible inclusion in the DSM. These field trials found that victims of prolonged interpersonal trauma, especially during childhood, often experienced difficulties with: affect and impulse regulation, memory and attention, self-perceptions, interpersonal relations, somatisation, and systems of meaning (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). The six areas of functioning highlighted for a diagnosis of DESNOS by the DSM-IV field task team were those listed above for complex trauma (Luxenberg, et al., 2001), with alteration in perceptions of the perpetrator being excluded, and *somatisation* included as an additional symptom (van der Kolk, et al., 2005). This symptom constellation was included in the DSM-IV as '*Associated features'* of PTSD (American Psychiatric Association, 2000), and is also referred to as DESNOS (Luxenberg, et al., 2001).

2.4.2.2.2. Complex Developmental Trauma (CDT)

CDT can be defined as occurring when a child or adolescent is exposed to severe stressors that occur over a period of time or that are repetitive; involve interpersonal harm perpetrated by the caregiver or by another adult who is responsible for the child or adolescent; and occur during a stage of life where a child or adolescent is developmentally vulnerable (Courtois & Ford, 2009; van der Kolk, 2005a). PTSD is essentially an adult diagnosis, that largely ignores the developmental aspects of being exposed to trauma (van der Kolk, 2005c), while DESNOS describes complex trauma in adults (Courtois & Ford, 2009). After it was recognised that children and adolescents who experienced complex trauma during development could develop triggered patterns of dysregulation that could last a lifetime, and that these were different from dysregulation patterns observed in adults, a more specific focus on complex developmental trauma began to inform research efforts (Courtois & Ford, 2009; National Child Traumatic Stress Network, 2003; van der Kolk, 2005a).

2.4.2.2.2.1. Children and adolescents

Trauma experienced during development, can affect the developmental trajectories of children and adolescents, resulting in adverse long-term developmental outcomes (Arnold & Fisch, 2013; Courtois & Ford, 2009; van der Kolk, 2005a). Children and adolescents who are affected by trauma show a unique constellation of symptoms (in addition to those seen in adults) not adequately captured by a diagnosis of PTSD (e.g. D'Andrea, Spinazzola, & van der Kolk, 2009; De Young, Kenardy, & Cobham, 2011; Ford, Courtois, van der Hart, & Nijenhuis, 2005; Ford, Stockton, Kaltman, & Green, 2006; Luxenberg, et al., 2001; van der Kolk, et al., 2005).

Lenore Terr (1991), specifically highlighted the need to address trauma-related conditions, experienced by children and adolescents. Terr (1991) identified four characteristics that are common to most childhood trauma cases: (1) visualised or otherwise repeatedly perceived memories; (2) repetitive behaviours (where behavioural re-enactment is frequently a consequence of both Type I and Type II traumas); (3) changed attitudes about the future, people, and life; and (4) fears which are specific to the trauma (such as being alone, the dark, vehicles, etc.).

The characteristics of Type I disorders (resulting from exposure to single traumatic events) are: memories that are full of detail and embedded in the child's mind; 'omens' used by children to try and explain why the trauma happened; as well as symptoms such as misidentification, hallucinations, and time distortion (Terr, 1991).

By way of contrast, the characteristics of Type II trauma (i.e., chronic/repeated trauma) are very different. Repeated exposure to trauma over a period of time creates a sense of anticipation of a repeated act, leading to the child developing coping mechanisms designed to protect the psyche and the self from the trauma. This often leads to substantial changes in the personality of the child (Terr, 1991). These changes include denial and psychic numbing (where there is often emotional dysregulation); self-hypnosis, depersonalisation, and dissociation as an escape from the reality of traumatic experiences; extreme anger / rage and passivity which can fluctuate from one extreme to the other; as well as self-injury (or suicide) (Terr, 1991).

Numbing and rage are often misdiagnosed as Borderline Personality Disorder, narcissism, or Dissociative Identity Disorder in adults (McLean & Gallop, 2003; Sansone, Pole, Darkoub, &

Butler, 2006; van der Kolk, Hostetler, Herron, & Fisler, 1994); while personality disorders, such as Borderline Personality Disorder, can often be linked to traumatic childhood events such as rape or incest (McLean & Gallop, 2003; Tippany, Helm, & Simpson, 2006).

2.4.2.2.2.2. Complex developmental trauma in children and adolescents

Complex trauma in children and adolescents has variously been referred to as Complex Developmental Trauma (CDT) (National Child Traumatic Stress Network, 2003); Developmental Trauma Disorder (Courtois & Ford, 2009; van der Kolk, 2005a); Complex Traumatic Stress (Courtois & Ford, 2009); Continuous Trauma (Kaminer & Eagle, 2010); and Interpersonal Development Trauma (Penning & Collings, 2014b). The term *Complex Developmental Trauma (CDT)* has been used by a number of researchers in the field of trauma and will be used in this thesis.

CDT results in a range of impairments that can be debilitating. As in all trauma, each experience is subjectively interpreted, resulting in emotions such as fear, shame, rage, resignation, betrayal, or defeat (van der Kolk, 2005a). The child or adolescent can experience either over- or under-regulation in cognitions, affect, somatic distress, interpersonal relationships, self-attributions, and behaviours, and these do not return to normal (Courtois & Ford, 2009; van der Kolk, 2005a). According to van der Kolk (2005a), this can result in a deep-rooted change in beliefs and expectancies such as impaired self-belief, distrust of people who are in protective positions, loss of trust in others, loss of the belief that they will be protected, lack of belief in the social justice system, and inevitable future victimisation. CDT therefore comprises three primary symptoms (somatisation, dissociation and dysregulation in

affect and behaviour) and three altered beliefs (self-perception, interpersonal relationships, and systems of meaning) (Collings, 2013).

Seven general areas of impairment have been identified in children who have been exposed to CDT (National Child Traumatic Stress Network, 2003):

1) *attachment issues* (such as distrust, interpersonal difficulties, and difficulty in attuning to other people's emotional state);
2) *physiological symptoms* (such as somatisation, sensorimotor development problems, and hypersensitivity to physical contact);
3) *affective dysregulation* (such as difficulty with emotional self-regulation, and describing feelings or internal states);
4) *dissociation* (such as amnesia, depersonalisation and derealisation);
5) *behavioural control issues* (including poor modulation of impulses, self-destructive behaviour, aggression against others, pathological self-soothing behaviours, sleep disturbances, eating disorders, substance abuse, excessive compliance, oppositional behaviour, difficulty understanding and complying with rules, and communication of traumatic past by traumatic re-enactment in day-to-day behaviour or play);
6) *disturbances of cognition* (such as attention regulation and executive functioning, problems with focussing, difficulties planning and anticipating, and learning problems); and
7) *disturbances of self-concept* (such as low self-esteem, disturbances of body image, and a poor sense of separateness).

These adverse negative effects of CDT on child and adolescent development, which have far reaching consequences and often result in long-term changes in the individual, are not fully recognised by the DSM-V or the ICD-10. As there is no current diagnosis for this constellation of symptoms, multiple comorbid diagnoses are often required, resulting in inaccuracies, and incorrect treatment. However, if the constellation of symptoms were to be addressed in a coherent and comprehensive way there would be a greater chance of effective treatment outcomes (D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012).

The National Child Traumatic Stress Network developed a potential diagnosis for complex trauma among children, which was intended to be included in the DSM-V, as Developmental Trauma Disorder (DTD), and it was intended that this, together with DESNOS, would provide an understanding of the sequelae of complex trauma across the lifespan (Courtois & Ford, 2009). DTD was not however included in DSM-V for a number of reasons, including a proposed emphasis on the aetiology of DTD which challenges the current descriptive nature of the diagnostic system (Schmid, Petermann, & Feger, 2013) – a concern which is, of course, somewhat incongruous as Criterion A for PTSD reflects a specific aetiological requirement.

2.4.2.3. Type III: structural trauma

Type I and Type II traumas, discussed above, are focussed on event/s that are either acute or chronic which lead to a constellations of symptoms which have been labelled PTSD or CDT. It has been argued that a focus on Type I and II traumas reflects an individualistic bias, as such a focus fails to address systemic intergroup conflicts, broader social structures, and/or institutional traumas (Kira, Lewandowski, Chiodo, & Ibrahim, 2014). Structural trauma

(Type III Trauma) includes a much broader conceptualisation of trauma, which embraces systematic traumas which are perpetrated by groups or institutions over time. A developmentally based bi-directional trauma framework (DBFT) has been proposed to include theories on both systemic and non-systemic trauma (Kira, et al., 2014). According to Kira (2001), traumatic exposure can be either direct (interpersonal trauma, such as trauma associated with attachment or identity) or indirect (i.e., located in society). Using these two dimensions, Kira identified three types of trauma:

- Type I is a single unexpected direct trauma, such as a rape (Kira, 2001). Type I trauma can be described as discrete trauma;
- Type II is a series of repeated acts or situations of direct or indirect trauma which occur over a period of time, and include ongoing chronic traumatic conditions (e.g. physical abuse, illness, hunger); or past conditions that have extended over time, followed by a continual sense of anticipation that the trauma will occur again (such as is often the case in ongoing incestuous abuse) (Kira, 2001). Type II trauma is also known as chronic or complex trauma; and
- Type III trauma involves stressor/s emanating from within a social system/s or group/s of individuals within a social system.

With type III trauma (structural trauma), conditions and events accumulate, which produce symptoms similar to PTSD. Structural trauma occurs: in institutions (such as schools, hospitals, the Department of Home Affairs, and the police); between groups (such as racism, sexism, and homophobia which are designed to dominate, subjugate, exclude, or include); between social structures (social inequalities such as gender, race and poverty, which influence feelings of helplessness, lower self-esteem, and self-efficacy); and across global

structures (communicated through the media, which can directly lead to PTSD or are expressed in behaviours such as xenophobia) (Kira, et al., 2014). So although an individual is not directly exposed to a stressor, challenges to collective identities (e.g., in relation to gender, poverty, xenophobia or race discrimination) can be traumatic, and can be experienced by an individual as though the event occurred to the whole community (Kira, 2001).

Another dimension to trauma is based on the proximity between victim and the stressor. Trauma can occur directly between two individuals, such as between a child and parent, or it can be transmitted across 'multiple steps' within a family or social system. Kira (2001) suggests that certain forms of violence, such as physical abuse and incest within families, may be transmitted from one generation to the next. If transmitted across multiple steps, retraumatisation can occur within a family (such as domestic violence across generations) or within a community (such as racial discrimination, or poverty which are collective or historic in nature) (Kira, 2001). Kira (2001) suggests that a group of people with a specific identity or affiliation (such as race, national origin, or religion) can be collectively affected by history (for example Apartheid, Holocaust survivors, or genocide survivors).

Childhood exposure to community violence has, for example, been found to be associated with PTSD symptomatology (e.g. Martin, Revington, & Seedat, 2012). It has also been argued that when an individual is exposed to multiple structural factors, such as poverty, racism, sexism, homophobia, homelessness, domestic violence, and/or unemployment this can lead to: adverse health outcomes, a sense of helplessness and hopelessness, psychological distress, low self-efficacy and self-esteem, feelings of betrayal, subjugation anxieties, annihilation anxieties, and PTSD (Jewkes, Dunkle, Nduna, Jama, et al., 2010; Kira, et al., 2014). In the South African context, traumatised children are often raised in a context of

racism, sexism, community violence, domestic violence, abuse and neglect, and unsuitable schools; with such contexts being detrimental to healthy child development (van der Kolk, 2005c).

According to Kira, structural or social violence is the result of extreme social differences (Kira, 2001). The World Bank uses the GINI Index to measure poverty, by looking at the distribution of family income in a country (World Bank, 2014). An absolute equality of income would show an index of 0, while 100 would imply perfect inequality. South Africa has the second highest GINI index of 63.1 (2005), after Lesotho at 63.2 (1995). Nigeria has an index of 43.7 (2003), the U.K. has an index of 32.3 (2012), and Sweden has an index of 23 (2005) (World Bank, 2014). South Africa is therefore a country characterised by extreme income differences. This inequality relates to many forms of structural violence, such as hunger, malnutrition, unemployment, inadequate housing, and inadequate medical care; with each of these factors having the potential to affect the well-being of both adults and children (Kira, 2001).

These factors cannot be ignored when developing a model to understand trauma, as they have the potential to add additional layers of trauma (poly-traumatisation) to communities that are already pushed to their limits. The World Economic Forum has highlighted the top ten10 risk factors for the world for 2014. These factors relate directly to Type III trauma and constitute a constant reality to families who have to cope with them. The top 10 events are (1) *fiscal crises in key economies*, (2*) structurally high unemployment / underemployment*, (3) *water crises*, (4) *severe income disparity*, (5) *failure of climate change mitigation and adaptation*, (6) *greater incidence of extreme weather events (e.g. floods, storms, fires)*, (7) *global*

governance failure, (8) *food crises*, (9) *failure of a major financial mechanism/institution*, and (10) *profound political and social instability* (World Economic Forum, 2014).

2.5. An integrated model of trauma

Historically there has been a strong focus on Type I trauma relating to a single discrete event, a more recent focus on Type II or complex trauma, and trauma involving children and adolescents (e.g. Briere, Hodges, & Godbout, 2010; Cloitre, et al., 2009; Friedman, et al., 2011; Resick, et al., 2012; van der Kolk, 2005a), while Type III, or structural, trauma has largely been excluded from clinical trauma analyses.

2.5.1. Clinical and empirical research on the consequences of trauma

Clinical and empirical research on trauma has evolved over time as the understanding of trauma has shifted (as detailed in the discussion above). These successive changes to all diagnoses of trauma, have been substantiated by clinical and empirical research studies, with such empirical findings being reflected, for example, in the current DSM-V criteria for the diagnosis of PTSD. With Type I traumas, there are few re-enactment behaviours that have been recognised as being a consequence of traumatic exposure; with the focus having been rather on dissociation, and cognitive and affective dysregulation. Criterion E: "*Alternations in arousal and reactivity",* includes "*irritable or aggressive behaviour",* and "*self-destructive or reckless behaviour"* (PTSD in the DSM-V) *(American Psychiatric Association, 2013).* These are the only PTSD criteria that could be identified as a type of behavioural re-enactment.

Type III trauma is not recognised as an official diagnosis of trauma, and very little research has been conducted to address structural trauma. Type II trauma is the more current area of focus, for empirical and clinical research, and is the focus of this study, so will be addressed further.

2.5.2. Type II / CDT empirical research

Based on empirical research by many authors (e.g. Arata, 2002; Cloitre, et al., 2009; Ford, Courtois, Steele, et al., 2005; Pynoos, et al., 2009; Resick, et al., 2012; Schmid, et al., 2013; Streeck-Fischer & van der Kolk, 2000; van der Kolk, 2005a, 2005b), the constellation of symptoms associated with CDT can be divided into two categories. First, those clinical symptoms that are central to CDT (somatisation, dissociation, and dysregulation of affect and behaviour), and second, those symptoms that involve changed beliefs (self-perceptions, interpersonal relationships, and systems of meaning) (Collings, 2013). According to Courtois and Ford (2009), CDT results in lasting changes that occur neurologically, leading to impairments in affect regulation, information processing, interpersonal relationships (through attachment deficits), dissociation with dysregulation of motivation and consciousness, and somatisation, where the physical body also becomes dysregulated.

Empirical and clinical studies of CDT symptoms have been reviewed and summarised in a paper focussing on the understanding of interpersonal trauma on children and development (D'Andrea, et al., 2012). This paper is the most comprehensive and recent review of literature in the field of Complex Developmental Trauma. The paper highlights the extensive literature on childhood interpersonal trauma, and will be used in this review to outline peer-reviewed empirical work on children and adolescents who have been exposed to chronic trauma. The

review identifies common themes found in empirical research, and combines these themes to provide a comprehensive understanding of CDT.

D'Andrea et al.'s (2012) review focuses exclusively on studies relating to childhood interpersonal trauma, with empirical findings being discussed in terms of six themes. Interpersonal trauma is defined by D'Andrea and her associates as a '*range of maltreatment, interpersonal violence, abuse, assault, and neglect experiences encountered by children and adolescents, including familial physical, sexual, emotional abuse and incest; community-, peer-, and school-based assault, molestation, and severe bullying; severe physical, medical, and emotional neglect; witnessing domestic violence; as well as the impact of serious and pervasive disruptions in caregiving as a consequence of severe caregiver mental illness, substance abuse, criminal involvement, or abrupt separation or traumatic loss'* (D'Andrea, et al., 2012, p. 188). These antecedents have been found to be associated with the following outcomes:

- *Affect and behavioural dysregulation*

  Studies that have addressed dysregulation of affect and behaviour associated with interpersonal violence or maltreatment are grouped together for review purposes. Affective dysregulation includes: general affect dysregulation (Cicchetti & Rogosch, 2007; Cloitre, 2005; Maughan & Cicchetti, 2002; Noll, Trickett, Harris, & Putman, 2009; Pollak, Messner, Kistler, & Cohn, 2009; Rogosch & Cicchetti, 2005; Shields & Cicchetti, 2001), affect that is constantly changing, anhedonia, flat or numbed affect, explosive or sudden anger (Atlas & Hiott, 1994; Lumley & Harkness, 2007), oversensitive or avoidance in addressing negative affect from others (Pine, et al., 2005; Pollak, Cicchetti, Hornung, & Reed, 2000), difficulty understanding and

expressing affect (Pollak, et al., 2000), affect that is either unsuitable or inappropriate (Lewis, Todd, & Honsberger, 2007; Shields & Cicchetti, 1998, 2001), hypersensitivity or avoidance of negative emotional stimuli, or the inability to interpret positive emotions, difficulty in interpreting another person's facial cues as anger (Pollak, et al., 2009; Pollak & Tolley-Schell, 2003), reduced self-esteem (Turner, Finkelhor, & Ormrod, 2010a), affect breakdown (Marx, Forsyth, Gallup, Fuse, & Lexington, 2008; Rocha-Rego, et al., 2009) and a lack of drive or motivation.

Behavioural dysregulation includes the risk of behaving aggressively (Ford, Fraleigh, Albert, Connor, & 2010, 2010; Ford, Fraleigh, & Connor, 2010), delinquent behaviour, self-injury, aggression, oppositional behaviour, substance use, sexual risk-taking (Abram, Teplin, McClelland, & Dulcan, 2003; Abram, et al., 2007; Ford, Hartman, Hawke, & Chapman, 2008; Jainchill, Hawke, & Messina, 2005; Kenny, Lennings, & Nelson, 2007; Teplin, McClelland, Abram, & Mileusnic, 2005), internalising symptoms and eating disorders (Finkelhor, Ormrod, & Turner, 2007a; Gustafsson, Nilsson, & Svedin, 2009; Turner, Finkelhor, & Ormrod, 2006), withdrawal, freezing or tonic immobility responses or behaviour breakdown (Marx, et al., 2008; Rocha-Rego, et al., 2009), learning or academic impairments (Hosser, Raddatz, & Windzio, 2007), and/or other compulsive behaviours.

- *Disturbances of attention and consciousness (dissociation)*

  D'Andrea et al. (2012) also reviewed studies which focused on dissociation, depersonalisation, memory disturbance, the inability to concentrate, and disrupted executive functioning (such as planning and problem solving). Dissociation can affect cognitions, and result in inattentiveness or impulsive behaviours (similar to attention-

deficit/hyperactivity disorder) (Cromer, Stevens, DePrince, & Pears, 2006; Endo, Sugiyama, & Someya, 2006; Kaplow, Hall, Koenen, Dodge, & Amaya-Jackson, 2008), but it was felt that additional research was needed regarding these associations. Available studies indicate that interpersonal trauma is associated with disturbances in a child's ability to focus and to integrate cognitive functions, leading to a general impairment of cognitive functions, as well as problems arising when triggers of the original trauma are experienced (Ayaso-Mateos, 2000; Nolin & Ethier, 2007; Pine, et al., 2005; Porter, Lawson, & Bigler, 2005; Rieder & Cicchetti, 1989; Savitz, van der Merwe, Stein, Solms, & Ramesar, 2007).

- *Distortions in attributions (self-perception)*

  Few empirical studies were reviewed on self-perception, with available findings indicating that childhood experiences of interpersonal trauma can influence how children see themselves and the world around them. As a result, children experience low self-esteem, a negative way of thinking about the world, shame, guilt, poor self-efficacy, and a greater likelihood of remembering negative or false information regarding themselves (Bolger, Patterson, & Kupersmidt, 1998; Burack, et al., 2006; Daigneault, Hebert, & Tourigny, 2006; Gibb & Abela, 2008; Kim & Cicchetti, 2006; Valentino, Cicchetti, Rogosch, & Toth, 2008). These negative attributions can result in problematic interpersonal interactions, and may result in risk taking behaviour, or a lack of self-protective behaviour.

- *Interpersonal difficulties*

  A number of empirical studies have addressed interpersonal difficulties, with these studies indicating that interpersonal trauma is associated with disruptions in social

development, leading to poor attachment styles, problems with trust, poor interpersonal efficacy and social skills, difficulty with social interactions, and difficulty understanding another person's perspective, leading to defensive interpersonal interactions and poor interpersonal boundaries (DePrince, Chu, & Combs, 2008; Elliott, Cunningham, Linder, Colangelo, & Gross, 2005; Kernhof, Kaufhold, & Grabhorn, 2008; Kim & Cicchetti, 2004; Perlman, Kalish, & Pollak, 2008). Children who witness domestic violence have been found to be more likely to experience subsequent victimisation, work and academic problems, legal issues, and externalising problems (Ford, et al., 2008; Graham-Bermann & Seng, 2005; Gregory, Caspi, Moffitt, & Poulton, 2006; Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008; Johnson & Lieberman, 2005; Luthra, et al., 2009; Schechter, et al., 2007; Shen, 2009; Turner, Finkelhor, & Ormrod, 2010b; Ybarra, Wilkens, & Lieberman, 2007). Interpersonal trauma predicts social isolation and difficulties with interpersonal relationships, including the belief that others will harm you. Such difficulties can last a lifetime, leading to homelessness and criminality (Burack, et al., 2006; DePrince, Chu, et al., 2008; Elliott, et al., 2005; Padgett, Hawkins, Abrams, & Davis, 2006; Perlman, et al., 2008).

- *Co-occurring symptoms following childhood interpersonal trauma*

  A large number of studies have found that interpersonal trauma frequently involves multiple and/or chronic exposure to traumatic events, resulting in symptom combinations as well as biological and/or psychosocial impairment (Anda, et al., 1999; Briere, Kaltman, & Green, 2008; Cloitre, et al., 2009; Finkelhor, Ormrod, & Turner, 2009; Ford, Connor, & Hawke, 2009; Ford, Elhai, Connor, & Frueh, 2010; Ford, Fraleigh, Albert, et al., 2010). Commonly associated symptoms are behavioural

and affective dysregulation, impaired attention and consciousness, negative attributions and schemas, and interpersonal conflict (Bailey, Moran, & Pederson, 2007; Biscoe-Smith & Hinshaw, 2006; Bradley, 1986; Kisiel & Lyons, 2001; Lange, Kracht, Herholz, Sachsse, & Irle, 2005; Lau, Liu, Cheung, Ya, & Wong, 2003; Spinazzola, et al., 2005; Tarren-Sweeney, 2008; Teisl & Cicchetti, 2008; Tsoubi, 2005). Meta analyses indicate that CDT is associated with both internalizing and externalizing symptoms (Evans, Davies, & DiLillo, 2008; Kitzmann, Gaylord, Holt, & Kenney, 2003; Noll, Shenk, & Putnam, 2009). Children who have been maltreated are more likely to: display aggression, have constantly changing or negative affect, engage in self-injury, and experience inattention, decreased self-worth, and/or above average levels of interpersonal conflict (Praver, DiGiuseppe, Pelcovitz, Mandel, & Gaines, 2000; Rogosch & Cicchetti, 2005; Shapiro, Leifer, Martone, & Kassem, 1992; Shields & Cicchetti, 1998).

- *Biological correlates of symptoms commonly occurring in maltreated children*

  Depending on the age and type of trauma, empirical findings indicate that maltreated children, and adults maltreated as children, tend to have biological abnormalities within the brain, including decreased volume in different parts of the brain, cortisol elevations, reduced grey matter, and/or reduced reliability of neural integrity (Bevans, Cerbone, & Overstreet, 2008; Bremner, et al., 2003; Choi, Jeong, Rohan, Polcari, & Teicher, 2009; Curtis & Cicchetti, 2007; De Bellis, et al., 2002; Ito, Teicher, Glod, & Akerman, 1998; King, Mandansky, King, Fletcher, & Brewer, 2001; Linares, et al., 2008; Schmahl, Vermetten, Elizinga, & Bremner, 2003; Taylor, Eisenberger, Saxbe, Lehman, & Liberman, 2006; Tomada, Navalta, Polcari, Sadato, & Teicher, 2009;

Tupler & DeBellis, 2006; Vermetten, Schmahl, Linder, Loewenstein, & Bremner, 2006; Vythilingam, et al., 2002; Weems & Carrion, 2007).

In addition, interpersonal trauma can result in alterations in the functioning of the brain, and in neuroendocrine abnormalities (Bevans, et al., 2008; King, et al., 2001). Biological findings have, however, been found to be inconsistent although available research suggests that CDT may be associated with a wide range of developmental disruptions (D'Andrea, et al., 2012). A number of studies have also found that there is a relationship between cortisol levels and aggressive behaviour, decreased resilience, affect dysregulation, reduced social competency, internalizing and externalising problems (Choi, et al., 2009; Hart, Gunnar, & Cicchetti, 1995; Murray-Close, Han, Cicchetti, Crick, & Rogosch, 2008); and malfunctioning of the limbic system associated with affect dysregulation, depression, anxiety, and hostility in children who have witnessed domestic violence or experienced parental verbal abuse (Teicher, Samson, Polcari, & McGreenery, 2006).

A paper, commissioned by the Government of the United States (Resick, et al., 2012), reviewed the existing literature on CDT in order to determine the construct validity of CDT, for its possible inclusion as a diagnosis in the DSM-V. The authors concluded that the inclusion of a new diagnosis of CDT requires further empirical evidence, particularly in relation to a number of issues that are not adequately addressed in the available literature (Resick, et al., 2012).

2.6. Conclusion

From the forgoing review it is evident that the notion of CDT has been the subject of intensive research efforts. However, the majority of work has focussed on internal forms of dysregulation (such as affect and cognitions) and biological changes, with external behavioural dysregulation or re-enactment, receiving relatively little attention in the literature. In the D'Andrea, et al. (2012) review, behavioural dysregulation was understood as a reflection of affective dysregulation, and *not* as a symptom of trauma per se. As such, the nature and dynamics of behavioural dysregulation have been relatively neglected, with various forms of behavioural re-enactment receiving particularly little attention in the literature.

In this context, there would appear to be a need for a more detailed exploration of traumatic re-enactment behaviours, with such behaviours being examined in some detail in the following chapter.

CHAPTER 3: LITERATURE REVIEW ADDRESSING TRAUMATIC RE-ENACTMENT BEHAVIOURS

3.1. Introduction

Behavioural re-enactments of trauma, which are the central theme of this study, will be addressed in this chapter. The chapter contains three main sections. In the first section, re-enactment behaviours are defined and examined with respect to their relationship to violence and interpersonal trauma. In the second section, various forms of re-enactment behaviours are discussed; and in the third section, existing theoretical frameworks for understanding traumatic re-enactment are explored using an eco-systemic approach.

3.2. Traumatic re-enactment

It has been argued that there are interconnections between violence and trauma experienced by individuals and subsequent exposure to, or experiences of, interpersonal violence (Arata, 2002; Feldman, 1997; 2013; McCloskey & Bailey, 2000; Turcotte-Seabury, 2010). One of the most consistently identified risk factors for traumatic re-enactments, either as a *Perpetrator* and/or as a *Victim*, is previous exposure to interpersonal violence (Hamby & Grych, 2013). Although some authors have not recognised subsequent exposure to interpersonal violence as a form of traumatic 're-enactment', such re-enactment behaviours can often be traced back to an earlier traumatic event (Cloitre, Cohen, & Scarvalone, 2002).

In this thesis, the term *re-enactment* will be used to encompass both *Victim* and *Perpetrator* roles, as well as forms of *Self-Injury* (Miller, 1994; Penning & Collings, 2014b; van der Kolk,

1989). This broad definition of *re-enactment* is not universally used to describe behavioural re-enactments related to previous trauma exposure, although some authors have employed a similar definition (Adams, 1999; Farber, 1997; Levy, 1998; Miller, 1994; Simpson, 2006; Trippany, Helm, & Simpson, 2006).

3.2.1. Traumatic re-enactment roles

Research on traumatic re-enactments suggest that such re-enactments encompass three broad types of behaviour clusters: *Perpetration, Victimisation* and/or *Self-Injury* (Penning & Collings, 2014b; van der Kolk, 1989). This study will refer to re-enactment behaviours using the following terms:

- *Perpetration,* defined as a situation where victimised individuals go on to subsequently victimise others;
- *Victimisation,* defined as a situation where victimised individuals go on to experience subsequent victimisation; and
- *Self-Injury,* used to describe all forms of re-enactment where victimised individuals go on to subsequently inflict harm on themselves.

The majority of available traumatic re-enactment studies have focused on *Victimisation* following exposure to incidents of interpersonal violence (e.g., maltreatment, rape, or assault) (Arata, 2002; Arias, 2004; Cloitre, et al., 2002; Finkelhor, Ormrod, & Turner, 2007b; Fortier, et al., 2009; Lacelle, Hebert, Lavoie, Vitaro, & Tremblay, 2012; Testa, Hoffman, & Livingston, 2010); with fewer traumatic re-enactment studies having focused on *Perpetrator*

behaviours, in which a person behaves in an abusive manner towards others (Cho & Wilke, 2010; Rasmussen, 2013).

Although there are many studies of *Self-Injury* (including substance abuse, suicidality, cutting and/or, obesity) such behaviours have often not been conceptualised as instances of traumatic re-enactment (Connors, 1996; Farber, 1997; Miller, 1994, 2002; van der Kolk, Perry, & Herman, 1991). However, Dusty Miller (1994) specifically acknowledges *Self-Injury* as a form of traumatic re-enactment in her theory of Traumatic Re-enactment Syndrome (TRS), a theory of *Self-Injury*. Working from a psychoanalytic perspective, Miller maintains that re-enactment occurs when three parts of the self – the *Triadic Self* - are present. These three fragmented parts of the self, include the victim, the abuser and the non-protecting bystander (or non-offending adult caregiver). Miller maintains that re-enactment is an internalised process which results in *Self-Injury*, with all three internalised parts of the self, playing a role. The person who is *Self-injuring*, is the *Victim*, *Perpetrator* and bystander all in one.

3.2.2. Co-occurrence of *Victim, Perpetrator* and *Self-Injury*

An individual's traumatic re-enactment behaviour roles are not necessarily mutually exclusive. Individuals can be both *Victims* and *Perpetrators* at the same time. For example, a child could be experiencing physical abuse at home and perpetrating bullying at school. Not only can different forms of traumatic re-enactment occur simultaneously, but they can also have an influence on each other. In a National Youth Survey, it was found that delinquent lifestyles led to increases in *Victimisation*, while *Victimisation* led to increases in delinquent *Perpetration*; with this pattern of findings suggesting a two-way relationship between *Perpetration* and *Victimisation* (Lauritsen, Sampson, & Laub, 1991). *Self-Injury*, such as

substance abuse, can also compromise the individual and lead to *Perpetration* and *Victimisation* (Corbin, Bernat, Calhoun, McNair, & Seals, 2001; Lacelle, et al., 2012; Schraufnagel, Davis, George, & Norris, 2010; Testa, et al., 2010). It is thus important that all traumatic re-enactment roles are addressed in a cohesive framework as there is an interplay between these roles (Hamby & Grych, 2013).

3.2.3. Multiple traumatic events and terminology

Traumatic re-enactment could be construed as part of a chain of traumatic events, with this chain starting with exposure to the initial trauma (often occurring childhood or adolescence), followed by successive traumatic behaviour/s or events occurring later in the person's life-span. Multiple events are therefore frequently inherent in re-enactment behaviours. These traumatic re-enactments can manifest themselves in the same form as the original trauma (e.g. assault leading to subsequent assault) or in different forms (e.g., assault in childhood being associated with subsequent sexually abusive behaviour). Further, children who have experienced poly-victimisation during childhood have been found to face a higher risk of subsequently experiencing multiple forms of *Victimisation, Perpetration,* and/or *Self-Injury* (Finkelhor, et al., 2007b).

3.3. Forms of traumatic re-enactment behaviours

Many individuals continually re-live their past traumatic experiences or re-enact these behaviours in their lives, with the extant literature being replete with studies that describe re-enactment behaviours in the aftermath of traumatic events. A large number of studies have been conducted on sexual re-enactment (e.g. Arata, 2002; Chu, 1992; Cloitre, et al., 2002;

Erickson, 2010; Finkelhor, et al., 2007b; Fortier, 2005; Kearns & Calhoun, 2010; Lacelle, et al., 2012; Messman-Moore, Long, & Siegfried, 2011) and, to a lesser extent, other forms of traumatic re-enactment such as bullying, domestic or family violence, substance abuse, and delinquency have also been studied (e.g. Arias, 2004; Cho & Wilke, 2010; Duncan, 1999; Klest, 2011; Lindhorst, Beadnell, Jackson, Fieland, & Lee, 2009; Tietjen, et al., 2009). Some re-enactment behaviours have also not been recognised as a form of traumatic re-enactment, but have rather been diagnosed as separate and distinct pathologies in themselves, such as Borderline Personality Disorder and self-injury (e.g. Dedert, et al., 2010; Minzenberg, Poole, & Vinogradov, 2008; Smyth, Heron, Wonderlich, Crosby, & Thompson, 2008; van der Kolk, et al., 1991).

3.3.1. *Victimisation* behaviours

3.3.1.1. Sexual *Victimisation*

Sexual *Victimisation* is the most common form of traumatic re-enactment which has been studied, and there are numerous reviews of the literature which consolidate the main findings regarding sexual *Victimisation* (Arata, 2000, 2002; Breitenbecher, 1999; Classen, Palesh, & Aggarwal, 2005; Marx, Heidt, & Gold, 2005). Classen, Palesh and Aggarwal (2005) reviewed approximately 90 studies that included work on sexual *Victimisation* conducted between 1987 and 2002, and identified 36 studies which linked childhood sexual abuse to subsequent *Victimisation*.

Women with histories of child and adult sexual abuse face an increased risk of subsequent sexual *Victimisation* (Arata, 2002; Breitenbecher, 1999). According to Classen and his

associates (Classen, et al., 2005), women with a history of child sexual abuse have a two to three times greater risk of being *Victimised* than those without such a history (Arata, 2002). Empirical investigations have found that between 15% and 72% of women who are sexually abused as children are likely to be *Victimised* later in life (Breitenbecher, 1999), and that women who experience early sexual abuse have a higher probability of being involved in prostitution (Simons & Whitbeck, 1991). Not only women who have experienced childhood sexual abuse, but also those who have experienced physical abuse, psychological abuse, and family dysfunction have been found to face a higher risk of adult sexual *Victimisation* (Messman-More & Brown, 2006).

There is evidence to suggest that those exposed to childhood sexual abuse have an increased sexual vulnerability during adolescence which can lead to an early onset of sexual activity placing individuals at a greater risk for *Victimisation* (Ferbusson, Horwood, & Lynskey, 1997). In a sample of adolescent 9^{th} to 12^{th} grade students, researchers found that many sexually abused adolescents re-enact their abuse by either *Perpetrating* or by being *Victims* of sexual abuse during adolescence (Lodico, Gruber, & Diclemente, 1996).

3.3.1.2. Bullying *Victimisation*

There is a relationship between childhood trauma and bullying (Penning, Bhagwanjee, & Govender, 2010). Children and adolescents who had been involved in child protective services in Ontario, Canada, were found to face an increased risk of being bullied at school (Mohapatra, et al., 2010). Further, maltreated children have been found to be more likely to bully other children than children who were not maltreated, with this trend being most marked among children who have been physically or sexually abused (Shields & Cicchetti,

2001). A history of maltreatment has also been found to place children at risk for *Victimisation*, (Shields & Cicchetti, 2001). Significant relationships have also been noted between physical child abuse occurring in the home and subsequent bullying behaviour and/or being bullied (Dussich & Chie, 2013).

Family environment has also been found to play a role in bullying roles and in the child's development of peer relationships. *Victimisers* tend to come from homes with higher levels of criticism, more child abuse, and fewer rules; while *Perpetrators* have been found to have had less parental direction at home and to have experienced child abuse and/or domestic violence (Holt, Kantor, & Finkelhor, 2009). Children who come from homes or a community where they are victimised, are more likely to be bullied (*Victimisation*) at school (Cluver, Bowes, & Gardner, 2009). Moreover, insecurely attached children have been found to be more involved in bully-*Perpetration*, while children tend to show less involvement in bully-*Perpetration* when they experience emotional warmth in the home (Kikkinos, 2013).

3.3.1.3. Adult inter-partner *Victimisation*

Individuals, who have a history of childhood sexual abuse, have been found to be more likely to underestimate the risk of returning to a relationship in which they were battered, thereby placing themselves at greater risk for further victimisation (Griffing, et al., 2005).

3.3.2. *Perpetrator* behaviours

There have been fewer studies which have specifically focussed on understanding *Perpetrator* behaviour. van der Kolk (1989) suggests that violent or aggressive behaviour

towards others is due to an individual being raised in a context where there is a deficit in maternal or caregiver care. Researchers have identified a link between childhood victimisation and subsequent *Perpetration*, with *Perpetrators* having been found to have a greater likelihood of: (a) being victimised earlier in life than the general population, and (b) facing a higher risk of multiple connections to violence as an adult (Hamby & Grych, 2013).

3.3.2.1. Adult inter-partner *Perpetration*

One of the most frequently researched antecedent to *Perpetration* of violence is the role of violence witnessed or experienced at home or in the community and the subsequent intergenerational transfer of violence (e.g. Arata, 2002; Feldman, 1997; Futa, Nash, Hansen, & Garbin, 2003; Hamby & Grych, 2013; McCloskey & Bailey, 2000; Streeck-Fischer & van der Kolk, 2000; Turcotte-Seabury, 2010). In his review on research related to childhood exposure to violence, Feldman (1997) found that adult inter-partner violence (IPV) was associated with a history of having experienced, or witnessed, domestic or community violence during childhood (Hamby & Grych, 2013).

Gender pairing has been observed in inter-partner *Perpetration*, with male *Perpetrators tending to* having witnessed more father to mother violence, and female *Perpetrators* tending to having witnessed more mother to father violence (Iverson, Jimenez, Harrington, & Resick, 2011). A South African study demonstrated a strong association between men behaving violently in public and a past history of having witnessed violence against their mothers during childhood (Abrahams & Jewkes, 2005).

3.3.2.2. Teen dating *Perpetration*

Teen dating violence has also been found to be strongly associated with a history of child sexual abuse, particularly in cases where such abuse has been perpetrated by adults (Hamby & Grych, 2013).

3.3.2.3. Bullying *Perpetration*

Bullying is another traumatic re-enactment behaviour that perpetuates the cycle of violence experienced at home and in the community. Bullying at school has been found to be related to adult inter-partner violence observed at home (Voisin & Jun, 2012). A 30-year longitudinal study of people born in Christchurch, New Zealand, analysed 979 individuals' behaviour from birth to age 30. The study linked bullying in childhood to violent criminal offending and arrest or conviction in adulthood, after adjusting for the influence of potentially confounding variables (Fergusson, Boden, & Horwood, 2014).

3.3.2.4. Criminal *Perpetration*

Several studies, conducted in the United States of America indicate that a childhood history of physical or sexual trauma is reported by the majority of juvenile delinquents and sex offenders (Hamby & Grych, 2013). Those arrested as adults are more likely to have been maltreated as children than children who had not been maltreated (Widom & White, 1997). In addition, juvenile offenders (13-17 year-olds) who have been detained and incarcerated report significantly higher levels of childhood trauma than are reported by their non-incarcerated peers (Wilson, et al., 2014).

3.3.3. *Self-Injurious* behaviours

Although it is difficult to estimate the extent of the problem, prevalence rates for *Self-Injury* appears to be increasing, with there being evidence to suggest that *Self-Injury* is frequently associated with childhood abuse and/or trauma (Deiter, Nicholls, & Pearlman, 2000). Adults who engage in *Self-Injury* often report a history of childhood trauma and/or caregiver disruptions (van der Kolk, et al., 1991). According to van der Kolk and his associates, a lack of secure attachment to caretakers is a significant predictor of *Self-Injury* (van der Kolk, et al., 1991).

Self-Injury includes behaviours such as self-mutilation (e.g. cutting, hitting, burning, biting punching, head-banging, hair pulling, attempted suicide, and skin picking), eating disorders (e.g. bulimia, anorexia, and overeating), substance abuse, excessive cosmetic surgeries, reckless driving, and compulsive exposure to dangers (Deiter, et al., 2000; Miller, 1994; van der Kolk, et al., 1991).

In a longitudinal study of women over a five year period, childhood sexual abuse victims were found to be four times more likely to have inflicted harm on themselves through suicide attempts or self-mutilation than those who were not sexually abused, with the strongest predictor of *Self-Injury* being a past history of child sexual abuse (Noll & Grych, 2011).

Traumatic re-enactment behaviours are not always easy to recognise. For example, *Self-Injurious* behaviours are often diagnosed as symptoms of personality disorders (e.g., Borderline Personality Disorder) but it has been argued that such behaviours should more accurately be construed as re-enactments of childhood sexual trauma (Trippany, et al., 2006).

It has also been suggested that eating disorders constitute an outlet for emotional re-enactment (Polusny & Follette, 1995), and it has been argued that dissociation, binge-purge eating, substance abuse, compulsive sexual behaviour, self-mutilation, and suicide attempts, could all be conceptualised as ways to avoid the emotional experiences of sexual abuse (Polusny & Follette, 1995).

3.3.3.1. Risk taking as a form of *Self-Injury*

Risk taking is when an individual chooses situations or actions that place him or her at risk of harm. For example, women who have been sexually victimised in adolescence have been found to engage in more risk taking behaviours in college (such as having numerous sexual partners, heavy drinking, and related behaviours) (Testa, et al., 2010). In a study conducted among Israeli adolescents exposed to ongoing terrorism threats, a strong link was found between posttraumatic distress and risk-taking behaviours, especially for boys (Pat-Horencyk, et al., 2007).

The effects of violence and abuse on adolescents gives rise to a wide range of traumatic re-enactment or risk-taking behaviours (Glodich, Allen, & Arnold, 2001). In the field of criminology, Schreck (1999) suggests that individuals with low self-control are risk takers and place themselves in dangerous situations where *Victimisation* is more likely.

3.3.3.2. Substance abuse as a form of *Self-Injury*

One of the recognised symptoms of trauma is the misuse of substances such as alcohol or drugs (American Psychiatric Association, 2013). Survivors of childhood trauma frequently

experience problems with addiction to drugs and alcohol (D. Miller, 2002). In a case study of a drug addict, *'Christine F.*', Alice Miller (1987) explains that in using drugs, '*Christine F.*' thereby re-enacts the physical abuse that her father inflicted on her in childhood – with such abuse having involved attempts to destroy her self-respect, manipulate her feelings, isolate her from others, and cause her to become unable to speak.

In a study of 300 community women who completed self-report instruments, victims of childhood sexual abuse were found to be more likely than non-victims to meet the criteria for substance use disorders (and to report rape and coerced intercourse by acquaintances, strangers, and husbands) (Messman-Moore & Long, 2002). Research also indicates that college women, with PTSD symptomatology, who use substances, are at greater risk for rape (Messman-More & Brown, 2006).

3.3.3.3. Para-suicide and cutting as *Self-Injury*

Negative interpersonal relationships can activate memories of childhood trauma, neglect, and abandonment which can trigger *Self-Injurious* behaviours such as attempted suicide and cutting (van der Kolk, et al., 1991). Research indicates that attempted suicide is connected to traumatic interpersonal relationships, while cutting primarily helps to regulate emotional states. Cutting is directly associated with ongoing dissociation and this is different from other forms of *Self-Injury*. Dissociation results in detachment and dysphoria or disconnection with other people, with cutting assisting the victim to *feel* again (van der Kolk, et al., 1991).

3.3.3.4. Eating disorders as *Self-Injury*

Anorexia, bulimia, and over-eating are all eating disorders associated with childhood trauma (Miller, 1994). Emotional abuse, physical neglect, and sexual abuse have all been found to be significant predictors of eating disorders (Farber, 1997; Kong & Bernstein, 2009). Anorexia is described as a traumatic re-enactment of invasive caretaking or explicit sexual abuse; while over-eating is often described as a form of self-protection against being viewed as a sexual being; and with the bingeing and purging of bulimia being linked to the anxiety and the body shame of childhood trauma (Miller, 1994). PTSD and major depressive disorder have been found, both independently and together, to have an indirect effect on the relationship between childhood traumatic stress and body mass index and waist-hip ratio (Dedert, et al., 2010).

3.3.4. Co-morbidity with traumatic re-enactment

Co-morbidity between re-enactment and trauma was discussed in Chapter 2. Other disorders have also been found to be associated with traumatic re-enactment. Borderline Personality Disorder has been found to be associated with high rates of childhood maltreatment (Zanarini, 2000); with some authors (e.g. Simpson, 2006) questioning whether Borderline Personality Disorder should not, more accurately, be construed as a form of traumatic re-enactment (i.e., rather than as a Personality Disorder *per se*).

Although there has been little research on the association between childhood trauma and obsessive-compulsive symptoms, there is some evidence to suggest that there is an indirect association between childhood trauma and the development of obsessive-compulsive symptoms (Mathews, Kaur, & Stein, 2008).

Adults with a history of childhood trauma, particularly where such trauma involves chronic emotional and/or physical abuse, are also more likely to report somatic disorders (Brown, Schrag, & Tirimble, 2005; Sansone, Wiederman, & Sansone, 2001).

Somatic complaints are not generally recognised as traumatic re-enactment behaviours, yet they are one of the well document behaviours related to trauma. In a study of patients with complex PTSD, those with somatisation disorder could be distinguished from those without, as they had acute psychosocial impairments (Spitzer, et al., 2009). Learners involved in bullying (as *Victim* or *Perpetrator*) have been found to have worse psychosomatic wellbeing than those not involved, and those who were *Victims* described worse health than *Perpetrators* (Modin, Saftman, & Ostberg, 2014).

Children who have experienced trauma during important developmental periods, often experience serious learning problems and attention-deficit disorders (Streeck-Fischer & van der Kolk, 2000). Children who have been exposed to complex trauma have problems with attention regulation and executive functions such as planning, anticipating, and organising. Such children tend to (a) lose interest quickly, and have problems with processing new information and completing tasks; (b) suffer from learning disabilities; and (c) experience problems with: language development, acoustic and visual perception, and the comprehension of complex visual-spatial patterns (National Child Traumatic Stress Network, 2003).

Children who had been abused, have been found to exhibit signs of dissociation and to meet the criteria for attention-deficit/hyperactivity disorder (ADHD), while children who had not been maltreated, but who qualified for a diagnosis of ADHD, showed fewer signs of

dissociation (Endo, et al., 2006). However, interpersonal trauma has not been found to be a consistent risk factor for ADHD, and therefore ADHD is often diagnosed as a distinct (but comorbid) syndrome (Ford & Connor, 2009).

3.4. Traumatic re-enactment models and theory

3.4.1. Conceptualising traumatic re-enactment behaviours

Available theories of traumatic re-enactments tend to be: discipline specific, limited to a particular form of traumatic re-enactment, and lacking in explanatory value and/or consistent empirical support (Breitenbecher, 1999). In her study of criminal victimisation, Wilcox (2010) maintains that although available theories focus on different re-enactment behaviours, they all contribute to a comprehensive understanding of victimisation. Most models have also been developed for a particular type of traumatic re-enactment focussing on either *Perpetration* or *Victimisation* but not on both of these (Hamby & Grych, 2013). The vast majority of theories of traumatic re-enactment address sexual *Victimisation*, with comparatively few theories having being designed to address the full range of traumatic re-enactment behaviours (Noll & Grych, 2011).

3.4.1.1. Eco-systemic framework

An ecological framework has previously been used in understanding traumatic re-enactment behaviours. For example, an eco-systemic perspective has been used to understand violence against women (Heise, 1998), the aetiology of child maltreatment (Belsky, 1980), sexually

abusive youth (Rasmussen, 2013), bullying behaviour (Dixon, 2008) and sexual *Victimisation* (Grauerholz, 2000).

Bronfenbrenner (1979) first conceptualised a model for human development in terms of which an individual is conceptualised as being embedded in contexts, both proximal and distal, which influence the individual, and which in turn are influenced by the individual. Consistent with such an ecological perspective, Heise's model (1998) will be used in this review to group trauma re-enactment theories in terms of their primary systemic focus: intrapersonal, interpersonal, or the community and/or societal levels.

3.4.2. Summary of identified theories and models

It has been suggested that all forms of violence are inter-connected (Hamby & Grych, 2013). As such, researchers are increasingly recognising that attempts to understand trauma, violence, and re-enactment need to move away from a silo-disciplined approach, towards an integrated approach to understanding the relationship between violence and subsequent traumatic re-enactments (Hamby & Grych, 2013; Voisin & Jun, 2012). As a result, attempts have been made to integrate theories of re-enactment and violence in order to obtain a more comprehensive perspective of the problem. These theories are also included within the following summary.

3.4.2.1. Intrapersonal theories and models

3.4.2.1.1. Trauma-centred intrapersonal theories and models

It can be argued that trauma is the common theme that underlies all forms of re-enactment (e.g. Trippany, et al., 2006; van der Kolk, 2005a). The following is a summary of some of the identified theories and models which have been used to explain re-enactment. For purposes of presentation, models/theories have been organised chronologically in order to give the reader an understanding of the progressive development of theories over time.

- The term *Traumatic Neurosis* was used by Freud in 1896 to describe a survivor's impulse to repeat aspects of a traumatic event (Herman, 1992b; Trippany, et al., 2006).

- Learned Helplessness Theory (Peterson & Seligman, 1983) has been applied to understand *Victimisation* following child sexual abuse. Following a traumatic event, where victims have learned that it is ineffective to respond, they react to threats of *Victimisation* with a sense of helplessness, and respond by using emotional numbing and maladaptive passivity.

- The *Traumagenic Dynamics Model* (Finkelhor & Browne, 1986) suggests that childhood sexual abuse has the potential to actualise four traumagenic dynamics (traumatic sexualisation, betrayal, stigmatisation, and powerlessness). These dynamics can result in increased subsequent vulnerability and/or re-enactments (e.g. Lacelle, et al., 2012).

- van der Kolk's (1989) notion of *Repetition Compulsion* builds on Freud's notion of Traumatic Neurosis, and argues that behavioural re-enactments are unconscious repetitions of traumas on a behavioural, emotional, physical, and neuroendocrinal level. Re-enactment activation is automatic and can be triggered by internal states such as affect, or by an external event or context similar to the initial trauma. The *Repetition Compulsion* model combines the chronic physiological effects of trauma (hyper-arousal), *State Dependent Learning, Attachment Theory, Hyper-arousal,* and neurophysiological theories of traumatic reactions.

- The *Compensation Model of Aggression* (Staub, 1989) maintains that people who bully, do so in order to protect themselves against their vulnerabilities and feelings of weakness.

- The *Endogenous Opiates Theory* (van der Kolk, 1989) proposes that attachment and interactions are mediated by opiates within the human body, which become dysregulated following traumatic exposure, leading to re-enactment behaviours.

- The *Vulnerability Hypothesis* (Koss & Dinero, 1989) is used to understand variables (e.g., high levels of sexual activity, sexual attitudes and alcohol use) that place some survivors of childhood sexual abuse at a greater risk for subsequent sexual *Victimisation*.

- Chu's (1992) theory of *Victimisation* states that individuals will not adequately engage in self-protective behaviours, and/or will engage in high risk behaviours (such as substance abuse) as the result of PTSD symptomatology, dissociation, and disrupted affect associated with earlier abuse or traumas.

- Stith and Farley (1993) developed a predictive model for male spousal violence. According to these authors, males who are exposed to violence during childhood are more likely to engage in subsequent domestic violence as a result of normalised perceptions of marital violence (Feldman, 1997).

- The *Trauma Re-enactment Syndrome* (TRS) perspective uses a narrative focus to address the relational causes of *Self-injurious* re-enactment behaviours (such as self-mutilation, eating disorders, substance abuse, excessive cosmetic surgeries, and risk taking behaviours) (Miller, 1994, 1996). Miller suggests that a constant state of arousal (such as fear, anxiety or rage) is the impetus for re-enactment behaviours (Trippany, et al., 2006).

- From the perspective of the *Transactional Model* (Spaccarelli, 1994), traumatic re-enactments occur when maladaptive responses and symptomology lead to passive forms of coping in situations of threatened *Victimisation* (Futa, et al., 2003).

- The *Emotional Avoidance Model* (Polusny & Follette, 1995) suggest that emotional avoidance, due to childhood sexual abuse, increases the risk of subsequent sexual victimisation.

- The *Learned Expectancy Model* proposes that there is a learned expectancy of *Victimisation*. Drawing on insights from the Traumagenic Dynamics model, Messman and Long (1996) hypothesised that childhood sexual abuse results in a repertoire of inappropriate sexual behaviour and increased vulnerability among individuals who view sexual trauma as being common within an intimate relationship.

- *Cumulative Trauma Model* (e.g. Follette, Polusny, Bechtle, & Naugle, 1996) maintains that individuals with a history of child sexual abuse frequently experience *Victimisation*, with the intensity of trauma symptoms being significantly related to the number of types of *Victimisation* the individual has experienced.

- The *Betrayal-Trauma Model* (Freyd, 1998) is a psychoanalytic model in terms of which traumatic memories are assumed to be stored unconsciously, with such memories resulting in traumatic re-enactments when they are triggered by a situation or context.

- The *Psychoanalytic Theory of re-enactment* (Levy, 1998) proposes that traumatic re-enactments are a consequence of changes in behaviour, affect, and cognitions associated with an individual's attempt to master traumas through psychophysiological re-enactments (e.g. Farber, 1997).

- *Biological Stress Response and Dysregulated Stress Response* theory (Noll & Grych, 2011) would attribute re-enactment behaviours to neurochemical dysregulation associated with traumatic exposure.

3.4.2.1.2. Intrapersonal theories which are not trauma-focused

- *The Frustration-Aggression Hypothesis* (Dollard, Miller, Doob, Mowrer, & Sears, 1939) states that when important goals are blocked, frustration occurs which can lead to aggressive behaviours and *Perpetration* (Hamby & Grych, 2013).

- *Victim Precipitation Theory* (Wolfgang, 1975) is a theory of crime victimisation. It suggests that victims are not always innocent, as victims sometimes precipitate or provoke their own victimisation.

- According to the *Opponent Process Theory of Acquired Motivation* (Solomon, 1980; van der Kolk, 1989), exposure to frequent behaviours that are either pleasant or unpleasant leads to habituation. If such behaviours cease, or are withdrawn, it is hypothesised that replacement behaviours or re-enactments may occur. Solomon (1980) hypothesized that endorphins may play a role in this process.

3.4.2.2. Interpersonal theories or models (Microsystems and Mesosystems Level)

3.4.2.2.1. Trauma-centred interpersonal theories or models

- The *Family Disruptions Model* (Jaffe, Wolfe, & Wilson, 1990) proposes that a child's development is negatively influenced by exposure to family violence, leading to emotional and behavioural problems such as aggression and re-enactment (Feldman, 1997).

- *The Trauma-Attachment Model* proposes that repeated or severe exposure to family violence or abuse, may result in PTSD symptomatology, Borderline Personality Disorder and/or insecure attachment styles as an adult (Feldman, 1997; van der Kolk, 1987, 1988). It has been argued that Borderline Personality Disorder is a form of traumatic re-enactment (e.g. Simpson, 2006), and that insecure attachment styles can result in re-enactment through abuse in dysfunctional interpersonal relationships.

- Cloitre (1998) proposes a social-development approach whereby childhood abuse interferes with how a child learns skills, such as emotional regulation and how to relate to others. Such skill deficits may result in traumatic re-enactments as a result of the individual's reduced ability to recognise potentially dangerous people and situations (Arata, 2002).

- Bretherton and Munholland (1999) maintain that cognitive schemas relating to the self and to others may be modified by traumatic exposure in ways that make individuals more likely to be *Victimised*.

- According to the *Interpersonal Schema Hypothesis*, women who are exposed to violence early in life are more likely hold negative expectations about intimate relationships, including expectations that relationships involve harm (Cloitre, et al., 2002; DePrince, Combs, & Shanahan, 2008).

3.4.2.2.2. Interpersonal theories which are not trauma-focused

- From an *Attachment Theory* perspective (Bowlby, 1969), it is hypothesised that disruptions in caretaker attachments can result in aggression and in subsequent aggressive behaviours (van der Kolk, 1989).

- Social Learning Theory (Bandura, 1977, 2002) proposes that children learn forms of interpersonal violence from their family and community, with these past experiences shaping their behaviour and cognitions, resulting in re-enactment (e.g. Feldman, 1997; Hamby & Grych, 2013; Huang, Heyes, & Tony, 2002).

- The *Interactional Theory of Delinquency* (Thornberry, 1987) uses a developmental approach to understand delinquency. It incorporates *Social Learning Theory* (Bandura, 1977, 2002) and *Social Bonding Theory* (Hirschi, 1969) to understand adolescent and adult delinquency (Lee, Menard, & Bouffard, 2014).

- *Bullying Theory* (Olweus, 1978, 2005) proposes that bullying occurs when there is an imbalance in strength between victim and perpetrator.

- The *Relational Model of Bullying* (Card, 2011) stresses the need to look at the type of relationship between a victim and perpetrator (Hamby & Grych, 2013). The model integrates *Social Cognitive Theory* and *Interdependence Theories* focussing on the cognitions and behaviours of both parties involved in bullying.

- A *Mediational Model* (Voisin & Jun, 2012) has been proposed to understand bullying *Perpetration* and *Victimisation* in children and adolescents. The model suggest that witnessing interpersonal violence is linked to bullying *Perpetration* behaviour or peer *Victimisation*, but is mediated by lower school grades, difficult peer relationships, depression, anxiety, PTSD, and aggression.

- *Psycho/Social Coping Theory* (Dussich & Chie, 2013) suggests that individuals with inadequate personal resources (such as interpersonal skills or coping skills) will take a more negative view if attacked, compared to individuals with good personal resources. As a result, they will perceive themselves as victims and this negative view will prevent them from recovering from the trauma, leading to more suffering.

3.4.2.3. Community and societal theories and models that are not trauma-focused

- Feminist / Conflict / Critical Theories state that victimisation is the result of power differences between victims and offenders. Crimes such as domestic violence, sexual assault and intimate partner violence are a reflection of gender roles within patriarchal societies (Yilo, 1993).

- The *Perceived Socio-Legal Context Model* (Miller, Markman, & Handley, 2007) looks at victim-based risk factors and self-blame within a sociocultural context.

3.4.2.4. Models and theories that include more than one systemic level of influence

A number of models and theories, that incorporate more than one systemic level of influence, have been proposed in order to obtain a more comprehensive understanding of re-enactment behaviours.

- *Routine Activities Theory, Routine Activities Individual Victimisation Theory and Offending Lifestyle and Individual Victimisation Theories* are crime victimisation theories. The models state that the risk of *Victimisation* is primarily influenced by demographics, family, peers, and time spent in contexts which are unsafe (Cohen & Felson, 1979; Cohen, Kleugel, & Cland, 1981; Wilcox, 2010; Wittebrood & Nieuwbeerta, 2000).

- Chu (1992) proposes a model for traumatic re-enactment that combines PTSD, *Repetition Compulsion* (van der Kolk, 1989) and *Interpersonal Conflict Theory*, in an attempt to account for an increased risk of *Victimisation*.

- From the perspective of *Structural Choice Theory* (Miethe & Meier, 1994), *Victimisation* is seen to be the result of individual factors (e.g., opportunity) as well as environmental and structural factors which provide the motivation for *Perpetration* (e.g., low socioeconomic status).

- Feldman (1997) explores the perpetuation of adult inter-partner violence through the identification of three models that explore how developmental pathways are influenced by early exposure to violence. Feldman (1997) integrates Banduras *Social Learning Theory*; the *Family Disruption Model* and the *Trauma Attachment Model*.

- *Social Information Processing* theory maintains that how people think, perceive, and process information is influenced by childhood exposure to trauma, abuse, and violence. When exposure to traumatic events leads to information processing that is automatic and not consciously controlled aggressive behaviour and other forms of traumatic re-enactment may ensue (Huesmann, 1998).

- Gold, Sinclair, and Balge (1999) integrate a number of mediating variables using the *Traumagenic Dynamics Model* (Finkelhor & Browne, 1986) and the Peterson and Seligman's (1983) *Learned Helplessness Model* to understand sexual *Victimisation*.

- The *Trauma Outcome Process Assessment* (TOPA) Model (Rasmussen, 1999, 2013) uses an ecological approach to assess trauma history. Victims of traumatic experiences are hypothesised to manifest two maladaptive reactions: self-victimisation and abuse. Self-victimisation is described as problems with self-regulation and distorted self-perception (which can lead to *Self-Injury*, and risky behaviours). Abuse is described as problems in self-regulation and cognitive distortions, which can lead to *Perpetration*, through anger which is directed towards other people.

- Grauerholz (2000) used an ecological approach to understanding sexual re-enactment. In terms of this model, sexual re-victimisation is regarded as being the result of the reciprocal influence of a number of factors: a victim's personal history, the relationship in which the victimisation occurs, and the community and larger culture.

- *Family Lovemap* (Miccio-Fonseca, 2007) is an ecological conceptual paradigm that emphasises the collective outcome of a family's history across generations, including inheritable characteristics, neuropsychological factors, and the way the individual relates to others. Traumatic experiences are viewed as having the potential to result in developmental problems and possible sexual dysfunction, resulting in traumatic re-enactment.

- The *I^3 Model* (*I*nstigating triggers, *I*mpelling forces and *I*nhibiting forces) (Finkel, 2008) is used to understand intimate partner violence. The model incorporates aetiological factors at the individual, interpersonal, and contextual levels.

- Noll and Grych (2011) have proposed the *Read-React-Respond Model* to understand sexual *Victimisation*. This model hypothesises that victims of childhood sexual abuse do not recognise and respond to sexual threats later in life, resulting in re-enactment behaviours. This model incorporates insights from the *Traumagenic Dynamics Model* (Finkelhor & Browne, 1986), *Attachment Theory* (Bolger & Patterson, 2001), and biological stress response system theory.

- The *General Aggression Model* looks at all processes that occur within the individual, and within a specific situation, that influence the perpetration of any form of violence (e.g. Gilbert & Daffern, 2011; Hamby & Grych, 2013).

3.4.3. Selected traumatic re-enactment theories and models discussed further

The following section is not a comprehensive summary of all theories on re-enactment, trauma and violence; with the focus being on those theories that are considered to be the most influential models in the understanding of re-enactment behaviours.

3.4.3.1. Theories focusing on the intrapersonal systemic level

3.4.3.1.1. Traumatic re-enactment as repetition compulsion

The first documented theory of traumatic re-enactment was by Sigmund Freud (1896) in the text *The Aetiology of Hysteria*, where female hysteria was traced back to childhood sexual experiences such as sexual assault, abuse, or incest. Freud identified that patients with histories of past traumatic events were unconsciously compelled to repeat past traumatic experiences in current situations, in order for the unconscious to work through these past

experiences which have been repressed. Because this occurs at an unconscious level, the individual does not recognise that their behaviours are related to the initial traumatic experience/s (Chu, 1991, 1992; Levy, 1998). Freud renounced this paper within a year, as it detailed sexually pervasive behaviours against children within families, which were not deemed to be socially acceptable, and were "merely" based on the accounts or fragmented memories of women (Herman, 1992b). Even in the 21st Century, victims continue to find it difficult to put into words what has occurred to them, and when children have no memory of a traumatic event but have sensations and images that they can't explain, behavioural re-enactment is often experienced (Arnold & Fisch, 2013).

More recently, the notion of repetition compulsion has been discussed by Bessel van der Kolk in a prominent paper *The Compulsion to Repeat the Trauma: Re-enactment, Re-victimisation, and Masochism* (1989). Individuals who experience traumatic events which are similar to the original trauma seldom recognise these behaviours as traumatic re-enactment. van der Kolk (1989) argues that a considerable range of re-enactment behaviour types (*Perpetration, Self-Injury* and *Victimisation*) occur when trauma is unconsciously repeated. He proposes that a traumatic experience is re-enacted through changes in behaviour, affect, physiology, and neuroendocrinology, which unconsciously come together to create various types of traumatic re-enactment behaviours. van der Kolk (1989) focusses primarily on the individual and interpersonal levels, but also acknowledges the important role played by the context or situation in which threat occurs. The unconscious acting out of earlier traumas, or repetition compulsion, is central to re-enactment, although many theories do not specifically recognise it as the confluence of a number of changes which occur in an individual through the influence of previous traumas.

3.4.3.1.2. Psychoanalytic perspectives

Levy (1998) views re-enactment from a psychoanalytic perspective. He submits that re-enactment of traumas occurs for a variety of reasons and he separates re-enactments into four categories in order to understand them better. In terms of the first of these general categories, re-enactment is viewed as an attempt to achieve *mastery*. Individuals who have experienced a traumatic event use re-enactment as a way to cope with the event and to master the experience, but this generally tends to lead to continued distress for the individual.

Levy's second category includes re-enactments that are caused by rigid defences, where a person's own behaviour, altered due to the trauma, inadvertently results in the re-enactment of an experience; with Levy's third category including re-enactments caused by affective dysregulation and cognitive reactivity. Levy hypothesises that individuals who have not dealt with past events become overwhelmed by them and re-experience what occurred to them in the past. Lastly, Levy talks about re-enactments which are caused by central ego deficits. Childhood trauma has many undesirable long-term effects (such as depression, self-esteem, substance abuse, learning difficulties, etc.) which can lead to ego deficits that cause an individual to engage in re-enactment behaviours.

3.4.3.1.3. *Traumagenic Dynamics* model

Children who have been sexually abused experience both behavioural problems and emotional deficits (Lacelle, et al., 2012). Finkelhor & Browne (1986) developed the *Traumagenic Dynamics Model* to understand the effects of child sexual abuse in terms of four Traumagenic Dynamics, namely *traumatic sexualisation* (due to sexual abuse, a child's

sexuality is inappropriately shaped and becomes interpersonally dysfunctional), *stigmatisation* (negative connotations that are communicated to the child regarding the experience such as shame or guilt), *betrayal* (when a child discovers that someone whom they are dependent on caused them harm) and *powerlessness* (the process whereby the child is rendered powerless when the child's sense of worth is violated).

Finkelhor and Browne (1986) believe that these dynamics can be generalised to other kinds of trauma, but that it is only in the context of child sexual abuse that all four dynamics come together. How the child thinks and feels about the world is altered when these dynamics occur, as they distort the individual's self-concept, their worldview, and their ability to process emotions.

The dynamics described in the *Traumagenic Dynamics Model* were later integrated into understandings of complex PTSD or DESNOS (Herman, 1992b). Individuals, in whom Traumagenic Dynamics have been actualised, have similar interpersonal difficulties to those seen in people who experience chronic trauma. When a person experiences chronic trauma, there is also a sense of powerlessness and alterations in affect, self-perception, and perception of the perpetrator, a sense of betrayal, and a change in how the individual sees others and interacts with others within the world. It is suggested that the *Traumagenic Dynamics Model* can therefore be used to describe chronic trauma, inflicted on children, which results in development that is altered and in dysfunctional interpersonal relationships.

From a *Traumagenic Dynamics* perspective*:*

- *Traumatic sexualisation* may lead to re-enactment through a preoccupation with sex and compulsive sexual behaviours, promiscuity, prostitution, and sexual dysfunction;

- *Stigmatisation* may result in guilt, shame, lowered self-esteem and a sense of differentness from others, isolation drug or alcohol abuse, criminal involvement, self-mutilation, and suicide;

- *Betrayal* may result in grief, depression, extreme dependency, impaired judgement, mistrust, anger, hostility, clinging vulnerable and exploitative behaviour, isolation, discomfort in intimate relationships, marital problems, aggressive behaviour, and delinquency; and

- *Powerlessness* may lead to anxiety, fear, a lowered sense of efficacy, perceptions of the self as victim, the need to control, nightmares, phobias, somatic complaints, eating and sleeping disorders, dissociation, running away, school problems, truancy, employment problems, victimisation and bullying, as well as other victimising behaviours (Finkelhor & Browne, 1986).

3.4.3.1.4. Developmental theories

Development occurs over the entire lifespan, but the importance of childhood in development is repeatedly highlighted (e.g., Erik Erikson's psychosocial thoery of development; Coon & Mitterer, 2011). Case studies, narrating the adverse effects of childhood trauma, illustrate the harmful effects associated with the traumatic disruption of the developmental trajectory.

Perry and Szalavitz (1995), Alice Miller (1987), and Dusty Miller (1994) use case studies to: (a) explore the negative impact of childhood trauma on childhood development, and (b) illustrate how different forms of re-enactment (during childhood, adolescence and adulthood) can be linked to early childhood traumas.

Extreme behaviours, such as drug addiction, prostitution or murder, are referred to by Alice Miller (1987) as '*unconscious enactment'* of what occurred to individuals during childhood. She suggests that this re-enactment is how children, who have been abused, communicate with the world, and that all forms of re-enactments are the result of extreme childhood experiences and trauma.

When children experience psychological trauma/s during a critical period of development, such trauma/s can interrupt or prevent normal psychological and biological development from occurring, and leave a permanent '*mark*' on an individual (Arnold & Fisch, 2013; Ford, 2009). It is these interruptions in development that have the greatest potential to have long-term effects on ontogeny, leading to embedded problems with self-regulation, emotional dysregulation, and dysregulation in information processing (Ford, 2009; Perry, et al., 1995), which in turn can give rise to inappropriate responses to situations including re-enactment behaviours.

3.4.3.1.5. Bio-physiological theories

Individuals have bio-physiological responses to traumatic experiences, which can result in changes within an individual which may become ingrained when events are experienced during childhood or adolescence (Ford, 2009, van der Kolk, 2007) – with van der Kolk

(2007) declaring that "*the body keeps score"*. Traumatic experiences can result in: (1) physiological changes including the dysregulation of the biological stress response system, and (2) adverse neurological changes in the developing brain during childhood and adolescence. These systems are responsible for a person's ability to regulate affect, to have interpersonal relationships and attachment with other people, to process cognitions and emotions, to develop a personality and to integrate this, to have memory (verbal, short-term and autobiographical), to pay attention, and to learn (Ford, 2009). Traumatic experiences therefore lead to altered structures (neurological and/or chemical) which can affect all areas of functioning, resulting in maladaptive behaviours including traumatic re-enactments.

Extant literature suggests that there are distinct relationships between traumatic experiences and bio-physiological changes (e.g. van der Kolk 2007), but there is very little empirical research which examines the relationship between trauma-induced bio-physiological changes and re-enactment behaviours. The following discussion on trauma-induced bio-physiological changes therefore includes references to re-enactment which are at times necessarily speculative, and are based on the broader definition of re-enactment that is being used in this study.

Psychobiological changes and the dysregulation of the biological stress response system:

The body has a normal fight or flight response to a threat or harm (such as interpersonal conflict). This response is managed by the biological stress response system, which includes the sympathetic and parasympathetic nervous system, neurotransmitters (which release serotonin for example) and the hypothalamic-pituitary-adrenal (HPA) axis.

- When chronic trauma occurs, this physiological arousal or response can become maladaptive, resulting in either hyper-arousal or dissociation (Noll & Grych, 2011; Perry, et al., 1995; van der Kolk, 1989, 2007). Following trauma, the more a child is in a state of hyper-arousal or dissociation, the greater the chance of neuropsychiatric symptoms (Perry, et al., 1995). The maladaptive stress response system therefore leads to reactions which are either over- or under-regulated, which impact on how a person copes, emotional regulation, decision-making, problem solving, and memory (De Bellis, 2001; Watts-English, Fortson, Gibler, Hooper, & DeBellis, 2006); thereby resulting in behaviours which are unsuitable within a context or relationship.

- van der Kolk (1989) was one of the first authors to argue for a physiological basis for traumatic re-enactment. A caregiver or mother helps a child to learn to modulate its physiological arousal by providing either stimulation or soothing when necessary, leading to the development of self-regulation. Chronic physiologic hyper-arousal is a biologic response to being traumatised (van der Kolk, 1989; van der Kolk, et al., 1991). Hyper-arousal occurs when perceived threats are responded to in an automatic way without rational thought. One of the intrusive symptoms in PTSD is a *'marked physiologic reactivity after exposure to trauma-related stimuli'* (American Psychiatric Association, 2013). Reactions to threats cannot be made rationally, as there is no control over the stressor, resulting in a sense of helplessness which is central to PTSD. Acutely traumatised individuals react with extremes of either over- or under-arousal, even in situations that are only mildly stressful. A person's ability to self-regulate is crucial, but when arousal and subsequent reactions have been compromised due to previous trauma/s, a response becomes automatic and reminiscent of the initial trauma. These biological and psychological responses are inherent to the affected individual and do not alter over time

(Putman, 1985; van der Kolk, 1987; van der Kolk, et al., 1991). Serotonin dysregulation is considered to be involved, resulting in over-and under-arousal of affect and in aggression (van der Kolk, 1989); resulting in behaviours which are considered to be maladaptive re-enactment/s of the original trauma/s.

- van der Kolk (1989) also proposes a theory of endogenous opiates. Human attachment and interaction are mediated by opiates within the human body. When early disruption of social attachment occurs, it results in neurological, biological, and psychological developmental changes. Endogenous opiates are active in maintaining social attachment, as they are produced during social contact, and reduced when there is a lack of social support. High levels of stress (or trauma) also activate the opioid system, which releases endogenous opioids which serve to block the pain associated with the stress or trauma. So, when an individual is exposed to a trauma which is similar to the initial event, it results in an automatic endogenous opioid activation which provides relief from the situation. Childhood trauma and neglect can therefore result in hyper-arousal without the individual being able to regulate emotions. Childhood trauma is also related to *Self-Injury*, with self-injurious behaviour serving as a trigger for the brain to release opioids (van der Kolk, 1989), thereby re-enacting the traumatic experience in order to experience the release of opioids, through *Self-Injury*.

- More recently van der Kolk (2007) summarised four categories of psychobiological abnormalities that occur in PTSD as a result of trauma: (1) **psychophysiological effects** (extreme autonomic responses to stimuli reminiscent of the trauma, and hyperarousal to intense but neutral stimuli); (2) **neuro-hormonal effects** (norepinephrine, catecholamines, glucocorticoids, serotonin, endogenous opioids, and various hormones

which have memory effects); (3) **neuro-anatomical effects** (e.g. decreased hippocampal volume, activation of the amygdala during flashbacks, activation of sensory areas during flashbacks, activation of Broca's area during flashbacks, and right-hemispheric lateralisation); and (4) **immunological effects**. However, these abnormalities have not been specifically associated with behavioural re-enactment as defined in this study.

- Other studies have focussed on the body's integrated response to stress (Noll & Grych, 2011). The biological stress response system in the body reacts to a threat and can result in a domino effect on neurochemicals within the brain, resulting in the higher cortisol levels required to respond to danger (Noll & Grych, 2011). After a while these elevated levels of cortisol prevent the HPA from working (i.e., returning the individual to a baseline level of activation) (Noll & Grych, 2011). The HPA also regulates the autonomic nervous system responsible for responses to threat. Chronic stress can dysregulate the functioning of the HPA axis, resulting in continual hyper-arousal, and associated increased cortisol levels. Elevated cortisol results in over-reactive or under-regulated reactions (De Bellis, 2001; Noll & Grych, 2011; Watts-English, et al., 2006). Physiological hyper-arousal is related to *Victimisation* (Noll & Grych, 2011). When there is under-arousal (or dissociation) it can diminish sensitivity to punishment and consequences. Dysregulation in the biological stress response can result in poor emotional and self-regulation in threatening or stressful situations (Hamby & Grych, 2013), placing a person in danger of *Victimization*, *Perpetration* and/or *Self-Injury*.

Adverse neurological changes in the developing brain:

It is the human brain that makes us who we are, as it mediates all physiological, cognitive, behaviour, social, and emotional functioning. The brain develops in a sequential and hierarchical manner. It is the human brain that consolidates all sensory information, which results in neuronal neuro-chemistry changes. The external world is therefore central to the development of the brain, and the more the neural network is activated, the more information that is used will be stored; and the more the neural network is activated in a specific way or area of the brain, the more it influences the way the person thinks, feels, and behaves. A young brain of children and adolescents that is still in the process of becoming organised is more malleable to external experiences than an adult brain, and is therefore more affected by traumatic experiences (Perry, et al., 1995).

During chronic traumatic experiences in childhood the brain functions differently from the brain during normal development. Ford (2009) differentiates between the *learning brain* and the *survival brain*:

- Not only does stress and trauma influence the neurochemicals released by the body, it also interferes with the development of the brain and the body. According to Ford (Ford, 2009), during traumatic experiences there is a shift from the brain being focussed on learning, to a brain focussed on survival. The '*learning brain'* goes through developmental trajectories as the person grows and learns from experiences. It develops and acquires new knowledge and synaptic connections, which are associated with traumatic experiences. Body changes and experiences alter the structure of the brain so that pathways and neural networks can develop. These become stronger with time and

use, with such changes influencing the identity of the individual, and roles within relationships such as victim or abuser. When these pathways are influenced by traumatic experiences, this can lead to re-enactment behaviours.

- The brain goes through critical periods where neuronal growth is more rapid and the shape changes. Two of the critical periods occur (a) around the age of 2-years, when language develops, and (b) in early and late adolescence, when the brain changes and higher order thought becomes possible (Ford, 2009; Perry, et al., 1995). On the other hand, the '*survival brain*' uses the more primitive parts of the brain (brainstem, midbrain, and amygdala) to try and prevent, anticipate, and protect against negative events (Ford, 2009). The '*survival brain'* depends on automatic responses and it therefore does not use areas of the brain needed for learning and developmental adaption to the environment. Thus, when a potential threat or trauma occurs, the brain operates automatically to protect the person from threats, relying on previous experiences to inform an automatic response. But in doing so the '*learning brain'* is not being used, and these automatic behaviour responses replicate previous experiences.

  In continuous trauma, there is an ongoing activation of the '*survival brain'* thereby compromising the development of normal neural pathways (Ford, 2009). Acute traumatic events can also have long lasting effects when they occur at developmentally sensitive periods. Early childhood and adolescence are the most crucial periods for brain development, as they are associated with changes in the central nervous system, and during these critical periods neurochemical signals are required to ensure brain development. Any interference in this process can result in abnormalities or deficits in neurodevelopment and psychosocial problems (Ford, 2009; Perry, et al., 1995). These

deficits negatively effect the functioning of the individual in situations where re-enactment can occur.

Ford (Ford, 2009) further discusses the impact of trauma on the development of the '*survival brain*'. The two main effects of trauma on the brain are emotional dysregulation and dysregulated information processing. The '*survival brain*' results in difficulty experiencing, expressing, and modulating affect. Being hypersensitive to how the body is reacting in situations of danger results in many symptoms. These include chronic mood states such as anxiety or depression; body pain or somatisation; difficulties with self-regulation leading to sleep and/or eating problems; and behavioural disinhibitions such as risk taking and addictions which have all been associated with re-enactment behaviours (Ford, 2009).

The 'survival brain' also has difficulties with processing information. This brain has developed to automatically react to threats, and has not learned to search for and create new knowledge (Ford, 2009). This can lead to over or under reaction to situations, resulting in *Victimisation* or *Perpetration*.

3.4.3.2. Interpersonal theories and models (Microsystems and Mesosystems levels)

Interpersonal relationships and events are at the core of most psychological trauma. For example, studies on school bullying indicate that the aetiology of bullying is associated with interpersonal conditions at home rather than with conditions at school (Dussich & Chie, 2013). Research on homicide victims in Philadelphia found that victims often provoke their own victimisation through aggressive interactions (Wolfgang, 1975) and although there is no

intention of blaming the victim, such aggressive interactions do raise questions regarding the behaviour of individuals in eliciting interpersonal conflict and associated re-enactments. Re-enactment occurs most often in interpersonal interactions either as a *Victim* or *Perpetrator*. There are a number of theories that specifically focus on interaction with others which result in some form of traumatic re-enactment.

3.4.3.2.1. Social Attachment theory

A significant amount has been written about Social Attachment Theory and the role of the caregiver at the time a child experiences trauma (e.g. Arnold & Fisch, 2013; Cloitre, et al., 2002; Finkelhor, et al., 2007b; Hamby & Grych, 2013; Herman, 1992b; A. Miller, 1987; van der Kolk, et al., 1991). Attachment Theory states that how an individual feels about the self and others is based on the quality of their earliest relationships with their caregivers (Bowlby, 1969). Attachment Theory is a developmental theory which has relevance to both the development of personality and children's reactions to traumatic events. Available studies indicate that separation from a primary caregiver and the lack of human contact during critical periods can cause chronic personal and relational outcomes (Courtois & Ford, 2009). The caregiver-child relationship lays the foundations for future interpersonal interactions and emotional development. When both internal and external resources are unable to cope with an external threat, an individual becomes traumatised. The role of the caregiver in such situations is crucial to assist the child to modulate physical arousal, and if this support is not available the child will experience either under- or over-arousal (van der Kolk, 1989). Both *Perpetration* and *Victimisation* by others in intimate relationships have been linked to attachment insecurity (e.g. Adams, 1999; Arata, 2002; Feldman, 1997).

In childhood abuse and domestic violence, the pattern of interaction between the perpetrator and victim serve to negatively reinforce the traumatic bond between the parties. There is a gradual build-up of tension between the individuals leading to a traumatic event, with this event often being followed by a phase of reconciliation, love, and forgiveness. These memories become activated in specific situations, or as a result of dissociation, leading to the individual re-enacting traumatic events that have occurred earlier in life (van der Kolk, 1989; Walker, 1979).

3.4.3.2.2. Social Learning theory

Social Learning Theorists would argue that individuals learn through observing the behaviour of others, with these observed patterns of behaviour subsequently forming part of the individual's behavioural repertoire (Bandura, 1977, 2002). Children model aggressive behaviour by observing or experiencing violence (as witnesses or victims) by parents, family, and friends. Such behaviour becomes normative and part of an individual's repertoire of behaviours and beliefs (Hamby & Grych, 2013). Even infants are influenced in non-intimate social learning situations leading to re-enactment (Huang, et al., 2002).

Social Learning Theory is also used to explain the intergenerational transmission of inter-partner violence. The use of aggression between family members communicates to children that aggression is an acceptable form of behaviour (Feldman, 1997). Individuals subsequently use these learned scripts or schemas to inform their future behaviour, based on information, attitudes, and expectations relevant to a situation. These learned cognitive representations influence how an individual will respond and behave in interpersonal interactions (Hamby & Grych, 2013) resulting in various forms of re-enactment. For example, in a study of 309

adolescents from three Michigan sexual offender treatment facilities (Burton, Miller, & Hill, 2002) it was found that, when compared to non-sexually offending delinquents, sexually offending delinquents were more likely to have experienced prior child sexual abuse which involved: a close relationships with the perpetrator, a male perpetrator/s, a longer duration of sexual victimisation, more forceful sexual victimisation, and an increased likelihood that penetration was involved in the abuse.

3.4.3.2.3. Family Disruption model

The family disruptions model states that a child's development is negatively influenced by exposure to family violence (Jaffe, et al., 1990). Such exposure is assumed to result in both emotional reactions (such as fear or anger) and behavioural symptoms (such as greater levels of aggression) (Feldman, 1997). The mother (or primary caregiver) is viewed as a mediator in the child's adjustment to family violence, providing the child with guidance on how to emotionally address situations (Feldman, 1997). Although there is evidence to suggest that maternal mediation has a direct influences on internalizing problems (such as emotions), there is more limited support for the hypothesis of maternal mediation in relation to externalising behaviours (such as aggressive behaviour).

3.4.3.3. Theories and models on context or environment (Exosystem, Macrosystem and Chronosystem levels)

Criminology is one of the few disciplines that has focussed on the context in which violence is perpetrated. The context in which traumatic re-enactments occur cannot be ignored, as social contexts have a direct impact on the propensity to be victimised (Sherman, Garten, &

Buerger, 1989). Victimisation can thus be viewed as a system involving a *Victim*, a *Perpetrator* and a *context* which enables a crime to occur (Wilcox, 2010). The aetiology of crime includes a number of causal influences such as interpersonal interactions, daily routines and lifestyles, and general social inequality which brings individuals into situations where they are more likely to be victimised (Wilcox, 2010).

3.4.3.4. Integration of models, theories and/or research on the integration of levels of influence

In recent years, there has been a shift away from one-dimensional models of traumatic re-enactment (such as learned helplessness or repetition compulsion) towards models that are more complex, and which allow for multiple possibilities and causal factors (Arata, 2002). It has been recognised that re-enactment is so complex that it cannot be adequately addressed using one single theory or level of analysis. In order to understand re-enactment, it has been established that multiple theories need to be considered together, so as to provide a coherent and comprehensive explanatory framework. More recently researchers have actively started to bring models together in order to better understand both violence and associated traumatic re-enactments (Hamby, 2011; Hamby & Grych, 2013; Noll & Grych, 2011).

Both Liz Grauerholz (2000) and Lucinda Rasmussen (2013) use ecological models to understand sexual *Victimisation* and sexual *Perpetration* respectively, thereby recognising the multidimensional influences on re-enactment, including the family, culture, and the legal system/legislation. The field of trauma and traumatic re-enactments is moving towards an integration of theories and models, and even as this is written, no final answer can be given on how such a model should be structured.

3.4.3.4.1. *Read-React-Respond* model

The *Read-React-Respond* model (RRR) is a conceptual model that uses a developmental psychopathological perspective to explain why women with a history of sexual abuse are more vulnerable to sexual *Victimisation* (Noll & Grych, 2011). This model focuses on adaptations within the individual, and draws on theory and research regarding the biological stress response to childhood sexual trauma. The starting point of the RRR model is an assumption that behavioural, emotional, and cognitive functioning is modified due to childhood sexual trauma, with these modifications shaping development, and with disruptions in adaptive responses to sexual pressure or coercion leading to an increased risk of *Victimisation* as a result of individuals not being able to adequately 'read' threatening sexual situations (Noll & Grych, 2011). Noll and Grych (2001) organise selected theories into a cohesive framework to assist in understanding sexual re-enactment, arguing that this enables inconsistencies in prior empirical evidence to be overcome.

The RRR model maintains that some adolescent females cannot identify or read dangerous situations due to four factors (sexual attitudes, attachment styles, emotional decoding, and alcohol and drug use) which result from childhood sexual abuse. First, Noll and Grych (2011) draw on the Traumagenic Dynamics model (Finkelhor & Browne, 1986) to describe increased sexual awareness due to 'traumatic sexualisation'. Next, Bowlby's (1969) Attachment Theory is used by Noll & Grych – as well as by other authors (e.g. Arata, 2002; Cloitre, et al., 2002) – in order to explain how problems in the caregiver-child relationships can be damaged as a result of childhood sexual trauma, resulting in insecurity in relationships during adolescence and adulthood. They argue that *Victimisation* occurs when a person cannot read others' emotions and their own internal emotions as a result of insecure

attachment to a caregiver (e.g. Cloitre, Scarvalone, & Difede, 1997). Lastly, research indicates that childhood sexual abuse results in increased substance use by adolescents and adults, resulting in an impaired ability to read situations or to adequately conduct a risk assessment (e.g. Arata, 2002; Finkelhor, et al., 2007b).

The second 'R' in the RRR model stand for *react*, or what is referred to as the body's fight or flight response to a traumatic situation. The RRR model proposes that females who have experienced childhood sexual abuse can have maladaptive physiological reactions to threats resulting in either over-arousal or under-arousal. When a threat is perceived, emotions also play a role in activating the biological stress response system. Disruptions in the hypothalamic-pituitary-adrenal (HPA) axis, due to exposure to repeated or chronic stress, can lead to chronically elevated or lower basal cortisol levels, resulting in over or under-regulated reactions. Noll and Grych (2011) suggest that these changes increase the likelihood of *Victimisation* by interfering with cognitive, physiological, and/or emotional processes which cause either hyper or hypo-arousal in respond to perceived threats.

In the RRR model, re-enactment therefore occurs when an individual's responses to sexual threats are not in line with normal emotional, physiological, and cognitive development, due to childhood sexual trauma. Over-arousal can result in a systems overload in the individual and to immobilisation, whereas under-arousal can result in a reduced ability to deal with sexual threats.

3.4.3.4.2. An ecological approach to sexual trauma: a synthesis

Grauerholza's (2000) paper on sexual *Victimisation* is approached from an ecological perspective. It attempts to integrate research findings and numerous theories on sexual *Victimisation* by bringing together an individual's personal history together with the individual's relationship to the perpetrator, to the community, and to the culture. She proposes that multiple layers of influence result in the re-enactment of sexual trauma. The individual is effected by the initial sexual trauma and/or by family experiences which can result in a number of outcomes (e.g. substance abuse, dissociation, negative self-esteem, social isolation or family breakdown, and unsupportive parents). Within relationships, the individual faces the risk of greater exposure to subsequent victimisation due to factors such as traumatic sexualisation (Finkelhor & Browne, 1986) or low self-esteem. There is also an increased risk of aggression by the perpetrator, as the victim is perceived as an easy target, or the *Perpetrator* feels that it normative to behave aggressively, or the victim does not know how to prevent unsolicited sexual behaviours. Lastly, within society, there is a tendency to blame victims for their *Victimisation*, if their behaviour is not in accordance with the existing beliefs within a society of what acceptable and what is not acceptable behaviour. For example, women who wear short skirts are often blamed for being raped, as they are accused of acting provocatively.

3.5. Mediating and moderating factors that influence the outcome of a trauma and subsequent traumatic re-enactment behaviours

One of the most complex aspects of trauma and subsequent re-enactment, is the role of moderating and mediating variables. No two people will experience a trauma in the same way

as there are numerous variables which are simultaneously at play, influencing how an individual copes with trauma/s. So the relationship between trauma/s and re-enactment is not linear or one-directional, but transactional and multi-directional, with multiple variables influencing the development of cognitions, affect, and behaviours that occur within a family, peer group, community, and society. Hamby and Grych (2013) highlight the complexity of the interplay between these variables over time.

There is a plethora of research detailing mediating and moderating variables in re-enactment. Each study addresses specific traumatic event/s within specific cohorts, but none address a combination of traumatic antecedents within a given population (e.g. Allwood & Bell, 2008; Banyard, Williams, & Siegel, 2001; Dedert, et al., 2010; Fergusson, et al., 2014; Fortier, et al., 2009; Futa, et al., 2003; Lacelle, et al., 2012; Lindhorst, et al., 2009; Mason, Ullman, Long, Long, & Starzynski, 2009; McVie, 2014; Modin, et al., 2014; Soloff, Feske, & Fabio, 2008; Testa, et al., 2010; Voisin & Jun, 2012; Walsh, 2009).

Gender has been found to play a mediating role in re-enactment with different types of re-enactment behaviours being gender specific (Allwood & Bell, 2008; Bolger & Patterson, 2001; Iverson, et al., 2011; Nail, Simon, Bihm, & Beasley, 2014). Females tend to be more likely to be victimised and to inflict self-harm, while males tend to perpetrate more violence.

Age has also emerged as an important predictor of re-enactment and of other traumatic outcomes, as traumatic exposure impacts on the development of a child (especially during critical developmental periods).

Socioeconomic status has also been found to mediate the relationship between childhood trauma and adult victimisation, with these mediation effects having been found to be greatest in communities with high rates of poverty (Klest, 2011). Demographic factors, such as an adverse family background or coming from an ethnic minority, have also been found to be associated with sexual *Victimisation*. (Classen, et al., 2005).

Living in a violent community has been identified as a risk factor for being bullied (Cluver, et al., 2009). A South African study found that direct or vicarious exposure to political, family, and community violence adversely affects a child's psychosocial adjustment, with these effects being moderated by coping skills such as spirituality, family support, resilience, and maternal coping (Barbarin, Richter, & deWet, 2001; Ensink, et al., 1997).

Parental and family functioning have also been found to play an important role in sexual re-enactment. For example, parental caring-giving behaviours have been found to constitute a buffer against sexual *Victimisation* (Jankowski, Leitenberg, Henning, & Coffey, 2002; Mayall & Gold, 1995). Survivors of sexual assault (who are not re-victimised) have been found to be more likely have told their parents, step-parents, or a rape crisis counsellor, compared to survivors of sexual assault (who are re-victimised), who tend to be more likely to have experienced non-supportive reactions to disclosure (Mason, et al., 2009). In a study of 334 college rape victims, women who did not acknowledge the rape were more likely to use alcohol, continue in the relationship with the perpetrator, and were twice as likely to report an attempted rape within six months (Littleton, Axsom, & Grills-Taquechel, 2009). Women who have experienced child sexual abuse, and who have had negative relationships with their fathers, have been found to be more likely to experience *Victimisation* as an adult (Romans, Martin, Anderson, O'Shea, & Mullen, 1995). A history of physical abuse within the family

during childhood has also been found to be predictive of sexual *Victimisation* among women who experienced child sexual abuse (Cloitre, Tardiff, Marzuk, Leon, & Portera, 1996; Wind & Silvern, 1992).

Protective and risk factors associated with bullying are primarily centred around interpersonal relationships and coping. The family environment, consistent parental discipline and parenting style, the child's intelligence and good academic performance, a positive attitude towards school, coping strategies, and good social skills have been found to play a crucial role in protecting children against bullying and preventing negative adult behaviour (Hemphill, Tollit, & Herrenkohl, 2014; Losel & Bender, 2014). In a South African study, sibling support and support from friends emerged as protective factors for bullying (Cluver, et al., 2009), while AIDS-related stigma was identified as a risk factor for bullying within friendship groups (Cluver, et al., 2009).

Emotional dysregulation is central to re-enactment (Messman-Moore, Walsh, & DiLillo, 2010; van der Kolk, 2005a). Emotional dysregulation has been found to mediate *Victimisation* (Messman-More & Brown, 2006) for both childhood sexual abuse and childhood physical abuse (Messman-Moore, et al., 2010). Psychological distress such as depression, anger, and anxiety have also been identified as significant predictors of subsequent *Victimisation* (Cuevas, Finkelhor, Clifford, Ormrod, & Turner, 2010).
In a study on 285 inner-city children (mean age = 10.3 years) violent victimisation was found to be associated with negative social outcomes, with this association being mediated by emotional dysregulation (Schwartz & Proctor, 2000). Witnessing violence was associated with aggressive behaviour; with this relationship being mediated by social information processing. (Schwartz & Proctor, 2000). A study of 1,025 children who had experienced at

least one form of victimisation found that the psychological consequences of victimisation (depression, anger and anxiety) can lead to re-enactment (Cuevas, et al., 2010).

There are a range of psychological factors which have been found to influence sexual re-enactment:

- Sexual *Victimisation* has been linked to interpersonal effectiveness, specifically having lower sexual assertiveness and lower sexual self-efficacy (Kearns & Calhoun, 2010).
- More severe childhood sexual abuse has been found to be associated with the use of avoidant coping style, which have been found to predict greater levels of trauma symptoms, and sexually coercive *Victimisation* (Fortier, et al., 2009).
- Sexually re-victimised women have been found to display more hostility, anxiety, depression, interpersonal sensitivity and PTSD symptomatology than those with no abuse history, or women with only adult abuse (sexual or physical) (Messman-Moore, Long, & Siegfried, 2000).
- Emotional dysregulation has been shown to mediate sexual *Victimisation* (Messman-Moore, et al., 2010).
- Victims who displayed greater self-blame following a sexual assault, have been found to be at increased risk for sexual *Victimisation* (Miller, et al., 2007).
- After reviewing empirical studies on sexual Victimisation, Arata (2002) concluded that self-esteem and assertiveness were not mediators of re-enactment. Poor adjustment to child sexual abuse has been proposed as a mediating factor for adult *Victimisation* (Arata, 2002).
- Sexually re-victimised women have been found to suffer from problems in self-functioning and interpersonal functioning (Cloitre, et al., 1997).

- Sexually re-victimised women show more interpersonal sensitivity (Messman-Moore, et al., 2000), while delayed response to danger cues increases vulnerability for *Victimisation* by acquaintances (Messman-Moore & Brown, 2006).
- Childhood sexual abuse results in more unprotected sex and sexually transmitted infections, with this association being mediated by alcohol and prostitution (Mosack, et al., 2010).

3.5.1. Reviews summarizing mediators of traumatic re-enactment

A number of papers have been written reviewing research on sexual *Victimisation* which include mediators of traumatic re-enactment (Arata, 2002; Classen, et al., 2005; Grauerholz, 2000; Marx, et al., 2005). Each of these reviews approaches mediators from a different perspective.

Variables that mediate or moderate sexual *Victimisation* are summarised by Classen, et al. (2005) as follows:

- Variables which are associated with sexual *Victimisation* include childhood sexual abuse; adolescent sexual abuse; how recently the abuse was experienced; characteristics of the previous trauma such as the type of trauma, the relationship to the perpetrator, the use of force and the duration of the trauma, childhood physical abuse, experiencing multiple traumas, race and ethnicity, and family characteristics.
- Variables that are correlated with sexual *Victimisation* include marital status, distress, psychiatric disorders such as PTSD and anxiety disorders, dissociation, alcohol and substance abuse, severe mental illness such as bipolar disorder or schizophrenia,

emotional regulation, problems with cognitive functioning and information processing, representations of the self and others, interpersonal problems, socioeconomic levels, sexually promiscuous behaviours, disclosure of the trauma, self-blame, powerlessness, shame, and coping styles (Classen, et al., 2005).

The paper highlights the need to continue to integrate findings and theoretical frameworks for understanding *Victimisation* (Classen, et al., 2005).

Marx, Heidt, & Gold (2005) critically evaluated the literature on psychosocial variables that mediate the relationship between CSA and adult sexual assault. Attribution and coping style, self-image, psychological distress and PTSD, family dysfunction, affect regulation and interpersonal functioning, and risk recognition deficits were the six categories of mediators identified. They concluded that many of these variables had received minimal or no empirical attention (Marx, et al., 2005).

Arata (2002) summarised mediators of sexual *Victimisation* after reviewing the literature encompassing college samples, clinical samples, and community samples. She argues that there has been limited interest in assessing mediators of *Victimisation*. Mediators were grouped under 6 categories, namely: personality variables such self-esteem and assertiveness; risk detection and rape resistance; sexualised behaviour; family functioning; psychological symptoms such as depression, anxiety, and PTSD symptomatology; and substance abuse. Arata (2002) concludes that the route from childhood to adult victimisation is complex and that a theory that encompasses this complexity is needed.

Liz Grauerholz (2000) uses an ecological, Bronfenbrenner (1979) type, model to understand nested levels of influence which contribute towards sexual re-victimisation:

- Re-enactment behaviours can be influenced by ontogenic factors relating to a person's individual history and early family experiences. They include variables that influence the development of the individual and the initial trauma/s (e.g. social isolation, family breakdown, patriarchal structure, traumatic sexualisation, substance use, dissociative disorders, low self-esteem, powerlessness, stigmatisation, a learned expectancy of be victimised, running away from home, deviance or pregnancy, unsupportive parents, marital problems, family breakdown, or disorganisation and dysfunction).

- The Microsystem is the context in which revictimisation occurs, with sexual revictimisation occuring within intimate relationships (Gauerholz, 2011). Individual factors (such as traumatic sexualisation or alcohol abuse) enable greater exposure to risk and increased contact with potential perpetrators. There is also increased risk due to the victim being perceived as a potential target (due to factors such as low self- esteem or stigmatisation of the victim). As such, the *Perpetrator* may believe that it is acceptable to act aggressively.

- At the Exosystemic level, a lack of *resources* and/or a lack of *alternatives* may result in traumatic re-enactment. A lack of *resources* may include socioeconomic status, living conditions, divorce, and/or single parenting; while a lack of *alternatives* may be due to social isolation or insufficient family support.

- Lastly, the cultural context or Macrosystem needs to be taken into account in order to better understand *Victimisation* and/or gender and family violence. Cultural beliefs and

attitudes (such as male hegemony or patriarchy) enable violence and abuse to occur. The Macrosystem also influences other other systemic levels, such as the microsystem, where interpersonal interactions are influenced by social beliefs and attitudes (Grauerholz, 2000).

3.6. Conclusion

Traumatic re-enactment behaviour is a complex issue, which numerous disciplines have attempted to define and understand. As a result of a silo approach to research, re-enactment behaviours have been given a variety of labels or definitions, with a range of conceptual frameworks having been employed in an attempt to understand and explain the phenomenon. At the end of the day there has been little agreement regarding which theory adequately accounts for re-enactment behaviours, as each views re-enactment differently. This is further compounded by the fact that there are likely to be many mediating factors involved in re-enactment outcomes. It does, however, appear that an eco-systemic perspective appears to be gaining favour as an explanatory framework for re-enactment outcomes.

CHAPTER 4: METHODOLOGY

4.1. Chapter overview

This chapter details how the study was designed and how data were analysed. It firstly addresses what the aim of the study was and how the study was conceptualised using a stress reaction model proposed by Spaccarelli (1994). The design of the study is then discussed, detailing sampling procedures, participant characteristics, and the psychometric properties of the research instruments used. Ethical considerations are emphasised because of the vulnerable nature of the study sample. Finally, details are provided regarding the study procedure and data reduction strategies.

4.1.1 The aim of the study

The broad aim of the study was to systematically examine traumatic re-enactment behaviours as a symptom of childhood exposure to interpersonal trauma, and to thereby contribute to the body of knowledge on child and adolescent posttraumatic outcomes.

4.1.2. The specific objectives of the study

This paper had three primary objectives. First, it aimed to identify the different forms or kinds of traumatic re-enactment that occur, and to explore the incidence of such re-enactments in both male and female adolescent learners; second, it aimed to survey traumatic antecedents and to examine how such experiences are associated with traumatic re-enactment behaviours; and finally it aimed to explore the relationship between traumatic re-enactment

behaviours and posttraumatic outcomes (i.e., the presence of PTSD and/or CDT). The study was therefore informed by the following research questions:

- What traumatic events do adolescents experience?
- What is the incidence of traumatic re-enactment behaviours in the study sample?
- What is the relationship between forms of traumatic re-enactment and traumatic antecedents?
- What is the association between traumatic re-enactment behaviours and posttraumatic outcomes (i.e., the presence of PTSD and/or CDT)?

4.2. Conceptualising the research

This study was conceptualised using the stress reaction model proposed by Spaccarelli (1994), who used a transactional model in order to understand how the impact of exposure to developmental trauma experiences is influenced by a number of different kinds of variables.

From Spaccarelli's (1994) perspective:

- The most distal influences on traumatic outcomes are demographic and family background variables (e.g., age, race, gender, poverty, and adequacy of parenting). In this study, these variables were considered as covariates in the data analysis phase (entered in Block 1 in multivariate analyses).

- At a slightly more proximal level of influence are developmental trauma experiences. In the present study exposure to developmental trauma was entered as Block 2 in multivariate analyses.

- At the most proximal level of influence are factors such as current cognitive appraisals regarding traumatic exposure as well as adaptive and non-adaptive coping strategies (with such variables being entered as Block 3 in multivariate analyses).

4.3. Research design

In a sample of male and female adolescent learners in a South African school setting, a cross-sectional survey design was used to investigate variables associated with traumatic re-enactment behaviours.

This study employed a cross-sectional design which takes place at a single point in time, allowing researchers to examine the influence of multiple factors (such as traumatic antecedents, current behaviours and demographic characteristics). Although it is generally acknowledged that cross-sectional designs have a number of limitations (e.g., they do not permit strong causal inferences, retrospective recall of experiences can be influenced by memory, etc.), a cross-sectional design was employed in the present research for a number of reasons:

- In exploratory research, such as the present study, cross-sectional designs are frequently employed initially to identify major trends, which can subsequently be explored using more expensive and time-consuming longitudinal research designs.

- There are sound theoretical reasons for assuming the temporal sequence of causal influences that informed the present research (see section 4.2 above).

Thus, while the limitations of cross-sectional designs constitute an acknowledged limitation of the study, the exploratory nature of the research suggested the utility of a cross-sectional design in the present study.

4.4. Participants

4.4.1. Criteria for selection of target school

Participants for the study were male and female adolescents attending a high school located within the greater Durban metropolitan area of KwaZulu-Natal in South Africa. A high school was strategically selected for this study as a number of criteria that were important for this study had to be considered:

- *A high school contains adolescent learners*: Adolescent learners were selected for this study as there is a paucity of research on posttraumatic outcomes among samples of children and adolescents.
- *A co-educational school*: Both male and female adolescent participants were required for this study as gender has been found to constitute an important determinant of traumatic outcomes. For, example, females have been found to be more prone to sexual *Victimisation* while males have been found to be more prone to physical *Victimisation* and *Perpetration* in their re-enactment behaviours (Eagle, 2002; Hamby & Grych, 2013).

- *Ownership of the study:* The selected school demonstrated that it would support the complete execution of the study and that the study would bring awareness to the problems of bullying and trauma experienced by children in the school. Further, from an ethical point of view, staff at the school indicated that the Life Orientation Curriculum would be used to advise/counsel leaners who had experienced a cross-section of stressful events.
- *Size of the learner population*: A large learner population was considered crucial in order to maximise the power of statistical analyses.

4.4.2. Research setting and access

The research was conducted in an urban co-educational public high school in the Durban Metropolitan region. Contact was made through a teacher at the school, and the school principal was approached. Written permission was obtained to conduct research at the school using the total population of students in the school as the sampling frame (Appendix 2). All correspondence relating to the study was directed at the school counsellor, who was also in attendance during data collection to assist learners.

4.4.3. Sampling strategy

Saturation sampling was deemed to be important in order to ensure that there was no perception of discrimination against students, and to ensure that there was also no inclusion or exclusion bias that might confound the study findings.

4.4.4. Sample size and demographics

The sampling frame for the study was all students attending a high school located in the greater Durban metropolitan area of KwaZulu-Natal, in 2011. Formal parental consent for participation was requested and no caregivers prevented their children from participating in the study. The questionnaires were administered to all assenting students in grades 8 to 12 who attended school on the day that questionnaires were administered, with questionnaires being administered during Life Orientation classes.

The student population consisted of 816 students from grades 8 to 12. Questionnaires were administered to 752 learners in the first sitting, and 725 learners in the second sitting. The questionnaires were administered to the learners who were present on the day of each sitting. A total of 795 learners participated, while 682 learners completed both sittings, with 70 completing only the first sitting and 43 completing only the second sitting. A total of 802 learners completed some part of the study, with only 14 learners failing to participate in any part of the study (see Table 4.1)

Respondents were drawn from grade 8 to grade 12 classes. Two thirds of the participants were male (66.3%) and a third were female (33.7%). The mean age of learners was 15.5 years (SD = 1.61; range = 12-20 years). Participants reported that they were black African (95.2%), white (1.5%), Asian (0.6%), or "other" (2.7%). With respect to family structure, 348 respondents (48.5%) were raised by both biological parents, 266 (37.0%) by a single biological parent, and 104 (14.5%) by caretakers who were not biological parents (see Table 4.2). Data obtained from the school's registration records indicated that respondents did not differ significantly from non-respondents with respect to gender, age, or race.

Table 4.1

Study sample (N=802)

	Students at both sittings	Students who attended only one sitting	Total students
Total population			816
First sitting	682	70	752
Second sitting	682	43	725
Total learners participated			795
7 students could not be matched*			7
Total questionnaires			802

** [Seven learners could not be matched (sitting one with setting two) so these 14 questionnaires were entered independently, increasing the number by 7. As a result, a total of 802 questionnaires were analysed for this study (682 plus 70 plus 43 plus an additional 7 that could not be matched).]*

Table 4.2

Demographics of study sample (N=802)

Characteristic		*n*	(%)	*M*	*(SD)*
Age				15.49	(1.61)
Gender	Male	532	(66.3)		
	Female	270	(33.7)		
Ethnic Group	African	763	(95.1)		
	Coloured	22	(2.7)		
	White	12	(1.5)		
	Asian	5	(0.6)		
Home care	Father & Mother	391	(48.8)		
	Mother only	256	(31.9)		
	Father only	29	(3.6)		
	Female guardian	76	(9.5)		
	Male guardian	10	(1.2)		
	Brother & Sister	16	(2.0)		
	Other	10	(1.2)		
	Female & Male guardian	13	(1.6)		
Grade	8	162	(20.2)	9.94	(1.33)
	9	132	(16.5)		
	10	216	(26.9)		
	11	174	(21.7)		
	12	118	(14.7)		

4.5. Research instruments

Four different instruments were used in this study: one instrument to measure traumatic antecedents, one to measure traumatic re-enactment behaviours, and two instruments to measure posttraumatic outcomes (PTSD and CDT). All four measures were self-rated by high school learners, with measures being selected which:

- effectively operationalised the respective constructs under investigation;
- were appropriate for the age group under consideration;
- had adequate psychometric properties; and
- were able to be completed within two single class periods of 50 minutes each, so as not to disrupt the school curriculum.

4.5.1. Traumatic antecedent measure: Developmental Trauma Inventory (DTI)

4.5.1.1. Scoring

The DTI is a 36-item, retrospective, self-administered screen for interpersonal childhood experiences developed specifically for the South African context (Collings, Valjee, & Penning, 2014). In addition to assessing for exposure to developmental trauma, the DTI assesses for trauma-related characteristics such as: the age at which traumatic exposure occurred; the duration of the event; the gender and relationship of the perpetrator; and trauma-related cognitive appraisals. All probes for traumatic exposure related to experiences that occurred before the age of 18 years. An example of a probe question from the DTI appears in Figure 4.1.

Exploratory factor analysis of the DTI produced the best fit for a 10-factor model: rape, molestation, domestic abuse and domestic non-accidental injury, community violence, witnessing community violence, witnessing domestic violence, emotional abuse, neglect and poverty (Collings, et al., 2014).

Figure 4.1

Sample probe question from the DTI (Collings, et al., 2014)

Did you have any of the following unwanted sexual experiences before your 18th birthday (put a cross next to as many apply)?

	No	Yes
1. Someone having anal sexual intercourse with you when you did not want them to	O	O
2. Someone having genital sexual intercourse with you when you didn't want them to	O	O
3. Someone touching your sexual organs when you did not want them to	O	O

Exploratory factor analysis of the DTI indicated that items relating to "death, illness and separation" did not cohere and emerge as a discrete factor (Collings, et al., 2014). In this study, however, an analysis of internal consistency was conducted on five of these items: "one of my parents died", "someone, other than a parent, who I was close to died", "I spent time living with caretakers other than my parents (like relatives or foster parents)", "someone close to me was seriously ill or injured and had to go to hospital", and "my parents were divorced or separated". This analysis resulted in a scale ("death, illness and separation") with a high Cronbach's alpha (α=.875), and it was therefore included in the study (Table 4.3).

In the analysis presented in Collings, et al. (2014) (using the same data as this study):

- The incidence of domestic non-accidental injury was small ($n < 50$), so it was decided not to include this factor in the study, as a larger sample size was needed to ensure adequate statistical power.
- Poverty emerged as significant predictor of traumatic outcomes, with this variable consequently being included as a covariate in the present study.
- Poly-victimisation (involving exposure to more than one form of traumatic exposure) emerged as a significant predictor of traumatic outcomes, and was therefore considered as an independent variable in the present study.

Consequently, 10 traumatic antecedents, were identified and included in the study, with these variables being scored using a dichotomous scale (yes/no): 1) rape, 2) molestation, 3) domestic physical abuse, 4) experiencing community violence, 5) witnessing community violence, 6) witnessing domestic violence, 7) emotional abuse, 8) neglect, 9) death, illness and separation, and 10) poly-victimisation.

In his transactional model of childhood sexual abuse, Spaccarelli (1994) proposed that cognitive appraisals mediate the effects of traumatic event/s, so a variable that addresses this was included in this study. The DTI contains a 7-item measure of "negative trauma-related appraisals" which was considered as an immediate antecedent to traumatic outcomes in the present study. This measure consists of seven items "at the time I felt angry", "at the time I felt afraid", "at the time I felt numb or in shock", "I have felt guilty or to blame for what happened", "since the experience I have found it hard to trust others", and "because of the experience, I no longer believe the world is a safe place". In the validation sample this appraisal measure was found to have high levels of internal consistency ($\alpha = .802$).

4.5.1.2. Psychometric properties of the DTI

DTI scales have been found to have moderate to high levels of internal consistency (Cronbach's alpha α = .70 to .81) and high concurrent validity, indicating that all the scale scores are significantly correlated with scores on clinical measures of PTSD and/or CDT (Collings, et al., 2014). Cronbach's alpha's for scale scores in the present study were slightly more varied (Cronbach's alpha α = .65 to .88) (Table 4.3).

Table 4.3

Cronbach's alpha scores of trauma antecedent factors

	Number of items		Cronbach's alpha	Cronbach's alpha based on standardized items
		n	(α)	(α)
Rape	2	725	0.722	0.722
Molestation	4	722	0.659	0.657
Domestic physical abuse	4	722	0.680	0.694
Experience community violence	6	719	0.765	0.767
Witness domestic violence	3	720	0.716	0.719
Witness community violence	3	720	0.721	0.722
Emotional abuse	5	717	0.810	0.813
Neglect	5	721	0.624	0.633
Death, illness or separation	5	725	0.875	0.886
Poverty *	3	725	0.717	0.720

* *Included in analysis as a covariate*

4.5.2. Traumatic re-enactment behaviour scale

Measures of traumatic re-enactment were developed as part of the study, with these measures being based on van der Kolk's (1989) three categories of traumatic re-enactment: (1) *Self-*

Injury, (2) *Perpetration*, and (3) *Victimisation*. The *Victimisation* and *Perpetration* questionnaires were developed using the Olweus (March, 2006) questionnaire on bullying, and the extant literature on forms of *Victimisation* and *Perpetration* within South Africa (Kaminer & Eagle, 2010), with behaviours that were enacted both at school and away from school being assessed. Probe questions for *Victimisation* and *Perpetration* covered three broad categories of re-enactment: sexual, physical, and verbal abuse. The *Self-Injury* questionnaire was developed using the extent literature on NSSI and suicidal behaviour.

4.5.2.1. Scoring

Each of the three traumatic re-enactment behaviour types were scored using a 7-point Likert scale to indicate frequency of exposure in the past 12 months: 0 = "never", 1 = "once", 2 = "several Times", 3 = "once a month", 4 = "several times a month", 5 = "once a week", and 6 = "several times a week". Both *Victimisation* and *Perpetration* scales, were scored with respect to events that occurred both "at school" and "away from school". Figure 4 contains an example of questions in the *Victimisation* measure.

4.5.2.1.1. The *Victimisation* measures

Victimisation measures comprised 12 statements, with dual responses for each statement, referring to the locus of victimisation (i.e., at school or away from school). Three forms of *Victimisation* were assessed:

- Verbal *Victimisation* was assessed using 4 items (explored in relation to events occurring at school and away from school). The text of these items was: "someone, or a group of

people, called me names, teased me, or made hurtful comments to me", "someone, or a group of people, spread hurtful rumours or lies about me", "someone, or a group of people, made hurtful comments about my race or colour", and "someone, or a group of people, made hurtful comments about my sexual orientation".

- Sexual *Victimisation* was assessed using 3 items which were explored both at school and away from school: "someone touched me in a sexual way when I did not want them to", "someone attempted (unsuccessfully) to have sex with me against my will", and "someone had sex with me against my will".

Figure 4.2

Sample questions for *Victimisation* measure

How often have **you experienced** each of the following in the **past year** **at school** and **away from school** (for each item provide a number from 0-6 using the scoring guide)?

Scale for Questions
Never – 0
Once -1
Several times - 2
Once a month - 3
Several times a month – 4
Once a week - 5
Several times a week – 6

	At school	Away from school
1. Someone, or a group of people, called me names, teased me, or made hurtful comments to me	**0 1 2 3 4 5 6**	**0 1 2 3 4 5 6**
2. Someone, or a group of people, spread hurtful rumours or lies about me	**0 1 2 3 4 5 6**	**0 1 2 3 4 5 6**

- Physical *Victimisation* was assessed using 4 items, which were explored in relation to events occurring at school and away from school: “someone, or a group of people, threatened me or my family with physical violence”, “someone, or a group of people, hit me, kicked me, or pushed me around”, “someone attacked me with a weapon (gun, knife, stick or some other object), and “someone tried to kill me”.

4.5.2.1.2. The *Perpetration* measures

Similar to the *Victimisation* measure, the P*erpetration* measure contained 12 statements, with dual responses for each statement, referring to the locus where behaviours occurred (at school or away from school). Three forms of *Perpetration* were assessed.

- Verbal *Perpetration* was assessed using 4 items (explored in relation to events occurring at school and away from school). The text for these items was: “I called other people names, teased them, or made hurtful comments to them”, “I spread hurtful rumours or lies about other people”, “I made hurtful comments about other people’s race or colour”, and “I made hurtful comments about other people’s sexual orientation”.

- Sexual *Perpetration* was assessed using 3 items which were explored both at school and away from school: “I touched someone in a sexual way when they did not want me to”, “I attempted (unsuccessfully) to have sex with another person against their will”, and “I had sex with someone against their will”.

- Physical *Perpetration* was assessed using 4 items which were explored in relation to events occurring at school and away from school: “I threatened another person or their

family with physical violence", "I hit, kicked, or pushed another person around", "I attacked someone with a weapon (gun, knife, stick or some other object)", and "I tried to kill someone".

4.5.2.1.3. The *Self-Injury* measure

The self-harm measure contained 8 items [which included items relating to both non-suicidal self-injury (NSSI) behaviours (American Psychiatric Association, 2013) as well as suicidal behaviours]: "I have deliberately cut myself with a knife, a blade or a sharp object", "I have thought about the idea of killing myself (but did not try to do so)", "I have made a suicide attempt"," I have deliberately burned myself", "I have deliberately bitten myself in a way that leaves lasting marks", "I have hurt myself by banging my head against hard surfaces", "I have strangled myself until I passed out", and "I have injured or harmed myself (in a way not mentioned above)".

4.5.2.2. Psychometric properties of traumatic re-enactment scales

From Table 4.4 it is evident that all traumatic re-enactment scales and subscales evidenced moderate to high levels of internal consistency (α's = 0.736 - 0.869).

Table 4.4

Internal consistency for traumatic re-enactment behaviour subscales

Scale	Sub-Scale	Number of items		Cronbach's alpha	Cronbach's alpha based on standardized items
			n	(α)	(α)
Victimisation	Total	22	661	0.839	0.856
	Verbal Abuse	8	712	0.736	0.747
	Sexual Abuse	6	722	0.743	0.774
	Physical Abuse	8	725	0.740	0.743
Perpetration	Total	22	691	0.851	0.869
	Verbal Abuse	8	716	0.793	0.806
	Sexual Abuse	6	745	0.833	0.860
	Physical Abuse	8	728	0.741	0.743
Self-Injury	Self-harm (NSSI & suicidal behaviour)	8	721	0.724	0.736

4.5.3. Vulnerability (risky behaviours) and negative cognitive appraisals (negative cognitions)

The measure for *Vulnerability* comprised seven items: “I have got so drunk on alcohol that I didn’t know what I was doing”, “I have used illegal drugs”, “I have placed myself in dangerous situations (e.g. going to unsafe places)”, “I have been sexually active in ways that I know puts me in danger”, “I have been careless about making sure that I am safe”, “other people worry about the dangerous things I do”, and “I don’t worry about my own safety”. The measure of Negative Cognitive Appraisals used in the study was the 7-item cognitive appraisal subscale of the DTI (described in Section 4.5.2.1.3 above).

4.5.3.1. Psychometric properties of vulnerability and negative trauma-related appraisals

The vulnerability and negative appraisal measures yielded moderate to high Cronbach alpha levels (cf., Table 4.5).

Table 4.5

Internal consistency for vulnerability and negative trauma-related appraisals

Scale	Number of items		Cronbach's alpha	Cronbach's alpha based on standardized items
		n	(α)	(α)
Total negative cognitions	9	725	0.799	0.802
Vulnerability Scale	6	743	0.720	0.728

4.5.4. Posttraumatic outcome measures

Two measures of posttraumatic outcomes were employed in the study: a measure of PTSD and a measure of CDT.

4.5.4.1. PTSD: Davidson Trauma Scale (DTS)

The DTS was selected as a measure of PTSD, as it a relatively short but well validated measure used to assess for both the presence and severity of PTSD. According to Davidson (1996) studies show that the scale (1) is sensitive to variations in symptom severity; (2) can distinguish between those who currently have PTSD and those without; (3) is able to differentiate between those who respond and those who do not respond to treatment; and (4)

is able to show a reduction of scores over time when there is clinical improvement. It also has good test-retest and split-half reliability, good internal consistency, and good concurrent, construct, and predictive validity.

Validation studies indicate that the DTS is equal to or better than other measures [such as the Impact of Event Scale (IES), the Clinician Administered PTSD Scale (CAPS), and Structured Interview for PTSD (SIP)] in measuring the treatment effect size of a trial (Davidson, Tharwani, & Connor, 2002).

4.5.4.1.1. Scoring

The DTS comprises 17 items which reflect the diagnostic symptoms of PTSD as defined in the DSM-IV (Davidson, 1996). It separately assesses the frequency and severity of symptoms of PTSD experienced within the week prior to assessment. Each items is scored on a five point Likert scale (frequency: 0 = *not at all*, 2 = *2-3 times*, 3 = *4-6 times*, and 4 = *every day*; and severity: 0 = *not at all upsetting*, 1 = *a bit upsetting*, 2 = *somewhat upsetting*, 3 = *very upsetting*, and 4 = *extremely upsetting*). In the present study, the word d*istressing* was replaced with *upsetting* as it was felt that the word upsetting would be easier for participants to understand. The DTS measures intrusion, avoidance, and hyper-arousal (Davidson, 1996). Examples of questions from the DTS are presented in Figure 4.3 below.

Figure 4.3

Sample questions from the Davidson PTSD scale (Davidson, 1996)

In the past week, how have you felt about the experience you described above? For each statement use a number from the scale provided to indicate how often you have had the symptom **and** how upset you have been by the symptoms.

	FREQUENCY 0 = Not At All 1 = Once only 2 = 2-3 Times 3 = 4-6 Times 4 = Every Day	**SEVERITY** 0 = Not At All Upsetting 1 = A Bit Upsetting 2 = Somewhat Upsetting 3 = Very Upsetting 4 = Extremely Upsetting
1. Have you ever had painful images, memories or thoughts of the event?	**0 1 2 3 4**	**0 1 2 3 4**
2. Have you ever had worrying dreams of the event?	**0 1 2 3 4**	**0 1 2 3 4**
3. Have you ever felt as though the event was recurring? Was it as if you were reliving it?	**0 1 2 3 4**	**0 1 2 3 4**

4.5.4.1.2. Psychometric properties of the DTS

The DTS has been found to have good split-half reliability [r = 0.95 (p<.0001) for frequency, r = 0.97 (p<.0001) for severity], good internal consistency (alpha = .90 for the full scale and .60-.90 for subscales), and acceptable levels of concurrent, construct, and predictive validity (Davidson, 1996; Davidson, et al., 2002; Zlotnick, Davidson, Shea, & Pearlstein, 1996).

In the present study, acceptable Cronbach's alpha coefficients were obtained for DTS subscale and full scale scores (0.754 to 0.918) as shown in Table 4.6.

Table 4.6

Cronbach's alpha coefficients for the DTS for this study

Scale	Subscale	Number of items		Cronbach's alpha	Cronbach's alpha based on standardized items
			N	(α)	(α)
Total		17	551	0.918	0.918
A: Intrusion	Total	5	647	0.824	0.826
	Frequency	5	678	0.778	0.779
	Severity	5	656	0.809	0.813
B: Avoidance / Numbing	Total	7	622	0.818	0.819
	Frequency	7	661	0.754	0.758
	Severity	6	638	0.796	0.797
C: Hyperarousal	Total	5	672	0.834	0.835
	Frequency	5	692	0.807	0.807
	Severity	5	681	0.820	0.821

4.5.4.2. CDT: Structured Interview for Disorders of Extreme Stress Scale – Self Response (SIDES-SR)

The SIDES-SR (Structured Interview for Disorders of Extreme Stress – Self Response) is the only measure that has been developed to assess the full range of CDT symptoms. It was developed during the DSM-IV field trails, using input from over 50 experts in the field of CDT (Collings, 2013; Pelcovitz, et al., 1997). The SIDES-SR is a self-administered measure that is relatively straightforward for high school learners to complete.

4.5.4.2.1. Subscales and scoring

The SIDES-SR is a 45-item self-response questionnaire measure designed to assess six sub-scales of CDT: (1) alterations in regulation of affect and impulses, (2) alterations in attention and concentration, (3) alterations in self-perception, (4) alterations in perceptions of the perpetrator, (5) somatisation, and (6) alterations in systems of meaning. Examples of items from the SIDES-SR are presented in Figure 4.4.

Figure 4.4

Sample questions from the SIDES-SR Trauma Scale

Circle one number to indicate how much you have been bothered by each of the following **over the past month?**

	Not at all	**A little**	**Quite a lot**	**Very much so**
1. Small problems have made me very upset. For example, I get angry or upset at minor frustrations.	**0**	**1**	**2**	**3**
2. I have found it hard to settle down after I become upset.	**0**	**1**	**2**	**3**
3. When upset, I have trouble finding a way to calm down.	**0**	**1**	**2**	**3**

For a clinical level of severity, an individual needs to obtain a clinical threshold for each of the six sub-scales, with above clinical threshold scores on all six sub-scales being required for a diagnosis of CDT. A score of "2 or higher" is considered to be a clinical level of impairment, while "1" is considered sub-clinical, and "3" is considered to be severe (Trauma Centre: At Justice Resource Institute, 2011).

The SIDES-SR sub-scales are as follows (Luxenberg, et al., 2001; Trauma Centre: At Justice Resource Institute, 2011):

- *Alterations of affect and impulses*: This sub-scale includes six items. A participant needs to obtain a score of two or above for the first item which is on affect regulation, and for one of the other five items, in order to qualify for the *presence* of clinically significant symptoms on this scale.

- *Alterations in attention or consciousness*: This sub-scale includes two items. A participant needs to obtain a score of two or above on either of these items in order to qualify for the *presence* of clinically significant symptoms on this scale.

- *Alterations in self-perception*: This sub-scale consist of six items. A participant needs to obtain a score of two or above for two of the six items in order to qualify for the *presence* of clinically significant symptoms on this scale.

- *Alterations in relationships with others*: This sub-scale includes three items. A participant needs to obtain a score of two or above for one of the three items in order to indicate the *presence* of clinically significant symptoms on this scale.

- *Somatisation*: This sub-scale contains five items. A participant needs to obtain a score of two or above, for a minimum of at least two of the items to indicate the *presence* of clinically significant symptoms on this scale.

- *Alterations in systems of meaning*: This sub-scale includes two items. A participant needs to obtain a score of two or above for either of the items to indicate the *presence* of clinically significant symptoms on this scale.

4.5.4.2.2. Psychometric properties of the CDT

In the validation sample, scales of the SIDES-SR demonstrated good internal consistency (Cronbach's alpha α: full scale = .96; and subscales = .76 - .90) (Pelcovitz, et al., 1997), with the measure demonstrating acceptable levels of inter-rater reliability ($_K$ = .81). In the present study, there were moderate to high Cronbach's alpha coefficients for SIDES-SR scales and subscales (cf., Table 4.7 below).

Table 4.7

Cronbach's alpha coefficients for the SIDES-SR scale used in this study

Scale	Number of items		Cronbach's alpha	Cronbach's alpha based on standardized items
		n	(α)	(α)
SIDES Diagnosis	39	703	0.506	0.800
I. Alteration in regulation and affect	19	640	0.768	0.775
II. Alterations in attention or consciousness	6	731	0.671	0.671
III. Alterations in self-perception	6	731	0.713	0.712
IV. Alterations in relationships with others	5	717	0.671	0.670
V. Somatisation	5	728	0.700	0.698
VI. Alterations in systems of meaning	5	733	0.670	0.671

4.5.5. Questionnaire

The research questionnaire used in the present study contained the four measures discussed above, with the front page containing basic demographic questions. The questionnaire was divided into two parts, with each part being administered at a different sitting. The SIDES-SR measure and the traumatic re-enactment behaviour scales were administered during the first sitting, with the DTS and the DTI being administered during the second sitting.

A code was included at the at the top of the first page of the questionnaire, with the first two numbers indicating the learner's birth date, the second two numbers indicating the learner's birth month, and the last two numbers representing the number of sisters that the learner had. This code enabled the researcher to anonymously match responses from different sittings.

4.6. Data collection and procedure

The Principal of the school was initially contacted to discuss the project, and all subsequent communication occurred with the School Counsellor. Approval for the research was provided by the school, pending ethical clearance from the UKZN Ethics Committee. Once ethical clearance was provided by the UKZN Ethics Committee (Appendix 1), the study proceeded to the data collection phase.

The school facilitated letters being sent to all caregivers via the learners, informing the caregivers of the research. These letters provided details of the research and requested parents to return a tear-off slip if they consented to their child's participation (Appendix 3). The

information letter indicated that all information would be treated as confidential and that anonymity would be assured.

Prior to commencing fieldwork, during March 2011, the researcher briefed the teachers and answered any questions they had on the research. Samples of the questionnaires to be used were given to the teachers for discussion. In addition, a week prior to commencing fieldwork, the researcher briefed all students on the research that was to be conducted at an assembly of the entire school. At this briefing, issues relating to confidentially and anonymity of participation were emphasised. Learners were also informed that participants who participated in the study would be eligible for a draw for tickets, for a family of four, to the uShaka Marine World in Durban. All participants were entered into the draw, and the prize was won by a single learner.

The questionnaires were administered to classes of students during Life Orientation (LO) classes, with administration taking place during the second half of the second term (April to June 2011). Classes within each grade were graded according to academic ability, with "A" being the best performers in the grade. The school grades their students based on their academic performances, so the top students are placed in the "A" class (based on the maximum class size), the students with the next highest grades are placed in the "B" class, and so on. Grade 11 has a large number of students, so six different classes are found in this grade. There were a total of 26 classes: five Grade 8 classes (A,B,C,D,E); four Grade 9 classes (A,B,C,D); six Grade 10 classes (A,B,C,D,E,F); six Grade 11 classes (A,B,C,D,E,F); and five Grade 12 classes (A,B,C,D,E). As each class was seen twice, there were 52 group-administrations undertaken for the study. Class sizes ranged from 15 to 43 learners. Due to the size of the classes, each administration was moderated by two researchers who ran the

class, read out the instructions, kept track of time, answered any questions from the learners, monitored the learners, and collected the questionnaires. Some of the classes were difficult to moderate as they had a large number of learners and/or learners who were disruptive.

Stage 1 and Stage 2 questionnaires were administered over two Life Orientation classes, with each period lasting 50 minutes. At each sitting, two measures were administered ensuring that there was sufficient time needed to complete the measures. The coding system was explained to the learners, so that the questionnaires could be matched across the two sittings.

At the start of each class, and prior to the administration of the questionnaire, the purpose and scope of the research was again explained to the learners, with confidentiality and anonymity being emphasised by the researcher. Learners were assured that the researchers would be the only people who would have access to the completed questionnaires and that under no circumstances would any teacher, or other third party, have sight of the completed forms. Learners were informed of their right to choose whether they wanted to participate and of their right to withdraw at any time. The benefits of the project were communicated to the learners. Participants were asked to complete an assent form if they wished to participate (Appendix 4). The instructions were subsequently read out to learners, and they were given the remainder of the class, approximately 40 minutes, to complete the questionnaire. At the end of each class the questionnaires were collected in a box and removed from the school by the researcher at the end of each day. The questionnaires were never seen by any of the school staff.

Once the fieldwork had been completed, prizes (including bars of chocolate and the promised uShaka tickets) were given to participants at a school assembly.

4.7. Ethical considerations

The main ethical issues that needed to be considered related to the age of the participants and to the sensitive nature of the topic. Research on traumatic events/stressors, as well as research on traumatic re-enactment behaviours could be sensitive, especially for those adolescents who might be experiencing some form of PTSD or CDT. In this respect, all participants were informed that they may call on the researcher and/or the researcher's supervisor during the debriefing session or at any time thereafter, either directly or via their Life Orientation teacher, for assistance. In addition the school had a full-time guidance counsellor who could be approached for assistance at the learner's own discretion. If necessary, participants had the option of a referral to a University Counselling Centre for trauma counselling.

The use of a quantitative questionnaire, which was completed anonymously (under exam-like conditions) was intended to mitigate participant's fears of self-disclosure.

Informed consent (from parents) and assent (from participants) was obtained for all participants. Both learners and their parents had the choice of whether or not to participate, and it was made clear that participants could withdraw from the study at any time. Non-maleficence was central to the design of the study. The method of data collection (a questionnaire) was chosen in order to reduce anxiety related to the topic under discussion. The school counsellors and life orientation teachers were available to offer support to learners and in order to identify any problems or issues that needed to be addressed during and subsequent to research participation.

The identity of the school, and of individual learners, was/were kept confidential in all publications emanating from the research. Access to all raw data and electronic data-bases connected to the study will be kept for 5 years by the researcher's supervisor in a safe location within the School of Psychology, after which they will be destroyed.

4.8. Matching questionnaires from different sittings

Once the questionnaires had been completed, responses from stage one were matched with stage two responses, and a unique number was given to each matched questionnaire. The data collected by the four measures were analysed using SPSS (version 22.0). Data were first entered into a Microsoft Excel spreadsheet as suggested by Tredoux and Durrheim (2002). Each questionnaire was recorded separately and data were pre-coded for data-input into SPSS. Once entered and audited, all data was assessed for validity. Measures were subsequently scored, and calculations were completed within Microsoft Excel, prior to the data being transferred to SPSS.

4.8.1. Scoring of measures

4.8.1.1. Developmental Trauma Inventory (DTI)

Scores for the severity and presence of each of the nine forms of developmental trauma assessed by the DTI were calculated (i.e., rape, molestation, domestic physical abuse, experiencing community violence, emotional abuse, neglect, witnessing community violence, and witnessing domestic violence). With respect to the extent of poly-victimisation, median-splits of the number of types of exposure reported were used to place participants into one of

two categories: low poly-victimisation (exposure to less than 3 types of developmental trauma) and high poly-victimisation (exposure to 3 or more types of developmental trauma).

A dichotomous scale for poverty was also calculated. Three items on poverty were included in the DTI questionnaire: “our family was so poor that we sometimes did not have enough food to eat”, “my parents could not afford to send me to the doctor when I was sick”, and “my parents did not earn enough money to support a family”. A student needed to have experienced at least one of these to qualify as having experienced some degree of poverty.

4.8.1.2. Traumatic re-enactment behaviour scale

The traumatic re-enactment behaviour scale had three sections *Victimisation, Perpetration* and *Self-Injury*, with each scale being scored independently. All re-enactment behaviour scales were scored in a number of different ways to enable more detailed analyses to be performed (cf. Table 4.8 below).

Table 4.8

Traumatic re-enactment data analysis scoring using in this study

Data Types	Prelavence (no/yes)	Severity	Highest frequency
Coding	No/Yes	Range	Range
Type of Data	Ordinal / Categorical	Scale	Scale
Victimisation (Total)	No/Yes	0-132	0-6
Verbal	No/Yes	0-48	0-6
Sexual	No/Yes	0-36	0-6
Physical	No/Yes	0-48	0-6
Perpetration (Total)	No/Yes	0-132	0-6
Verbal	No/Yes	0-48	0-6
Physical	No/Yes	0-36	0-6
Sexual	No/Yes	0-48	0-6
Self-Injury	No/Yes	0-48	0-6

4.8.1.2.1. *Victimisation and Perpetration* scoring

Each of the *Victimisation* and *Perpetration* measures comprised three subscales (exposure to verbal, sexual and/or physical abuse). Scores for these sub-scales were calculated first, and then total *Victimisation* and *Perpetration* scores were derived by summing sub-scale scores.

- A *presence* score was derived for each form of *Victimisation* and *Perpetration*, and a dichotomous score (no/yes) describing whether the behaviour occurred or not was given based on the following criteria: (a) verbal abuse needed to occur at least "once a month" to be considered to have occurred; and (b) any form of physical or sexual abuse (for both *Perpetration* and *Victimisation*) was taken to indicate the presence of traumatic re-enactment.

- Severity scores for *Victimisation* and *Perpetration* were calculated by summing scale scores for all forms of *Victimisation* and *Perpetration*.

4.8.1.2.2. *Self-Injury* scoring

The *Self-Injury* measure was scored in a similar manner to scores for *Victimisation* and *Perpetration*, although no subscale scores were derived as the measure provided a single estimate of *Self-Injury*.

4.8.1.2.3. Distribution of traumatic re-enactment scores

Tests were conducted in order to determine whether traumatic re-enactment scores were normally distributed. In all cases Kolmogorov-Smirnov and Shapiro-Wilk tests yielded significant findings ($p < .01$), indicating that all re-enactment scores were not normally distributed (cf., Table 4.9).

As a result, non-parametric analytical procedures were employed in all analyses involving re-enactment behaviours.

Table 4.9

Kolmogorov-Smirnov and Shapiro-Wilk tests for normal distribution of traumatic re-enactment behaviour

	Kolmogorov-Smirnov*		Shapiro-Wilk	
	Statistic	*df p*	Statistic	*df p*
Victimisation				
Severity	.236	752 (.000)	.674	752 (.000)
Presence (yes/no)	.497	752 (.000)	.474	752 (.000)
Victimisation - Verbal abuse				
Severity	.302	752 (.000)	.643	752 (.000)
Presence (yes/no)	.384	752 (.000)	.627	752 (.000)
Victimisation - Sexual abuse				
Severity	.327	752 (.000)	.496	752 (.000)
Presence (yes/no)	.410	752 (.000)	.610	752 (.000)
Victimisation - Physical abuse				
Severity	.261	752 (.000)	.648	752 (.000)
Presence (yes/no)	.413	752 (.000)	.608	752 (.000)
Perpetration				
Severity	.272	752 (.000)	.639	752 (.000)
Presence (yes/no)	.418	752 (.000)	.603	752 (.000)
Perpetration - Verbal abuse				
Severity	.386	752 (.000)	.566	752 (.000)
Presence (yes/no)	.431	752 (.000)	.590	752 (.000)
Perpetration - Sexual abuse				
Severity	.382	752 (.000)	.371	752 (.000)
Presence (yes/no)	.347	752 (.000)	.636	752 (.000)
Perpetration - Physical abuse				
Severity	.284	752 (.000)	.621	752 (.000)
Presence (yes/no)	.347	752 (.000)	.636	752 (.000)
Self-Injury - Self harm				
Severity	.250	752 (.000)	.674	752 (.000)
Presence (yes/no)	.435	752 (.000)	.586	752 (.000)

** Lilliefors Significance Correction*

4.8.1.3. Davidson Trauma Scale (DTS) (PTSD)

The DTS contains an introductory question asking the participant to describe an event that was most disturbing to them (Criterion A of the DSM-IV). This is followed by 17 additional

questions that refer to the event identified by the participant. These items include a sub-scale on Intrusion (items 1-5), a sub-scale on Avoidance/Numbing (items 6-12), and a sub-scale on Hyperarousal (items 13-17). These 3 sub-scales represent criteria B, C, and D for PTSD in the DSM-IV, respectively (Davidson, 1996).

The DTS was scored according to published guidelines for the scale (Davidson, 1996). Each sub-scale was calculated independently. Each sub-scale has a frequency and severity score, and by adding these together a total Intrusion (max 40), Avoidance/Numbing (max 56) and Hyperarousal (max 40) score were obtained. Scores for the severity and the frequency of PTSD were calculated (each with a maximum score of 68); and these were summed to provide the total PTSD scores (with a maximum score of 136).

A dichotomous score (no/yes) was used to denote the clinical presence or absence of PTSD. Following norms established by Davidson, et al. (1997), the presence of PTSD was operationally defined as a total score of over 40 on the DTS.

4.8.1.4. SIDES-SR (CDT)

The SIDES-SR scale contains 45 items (representing 6 symptom domains), with each item being scored using a 3-point Likert scale (0 = *not at all*; 1 = *a little*; 2 = *quite a lot*; and 3 = *very much so*). For each domain, items are scored to provide an indication of both symptom presence and severity; with total SIDES-SR scores also being scored with respect to both the presence and severity of CDT.

4.9. Data analysis

After the data were entered into SPSS (Version 22.0), they was re-audited. The data were analysed in a number of ways in order to address the specific objectives of the study. The data analysis was centred on understanding the nature and predictors of re-enactment behaviours. Using the stress reaction model proposed by Spaccarelli (1994) as a way to conceptualise this study, a model was developed that included three blocks of variables:

- Block 1 (Covariates) included demographic and family background variables, which occurred at the most distal level of influence;
- Block 2 (Traumatic antecedents) included all developmental trauma experiences which occurred at a more proximal level of influence; and
- Block 3 (Negative cognitive appraisals and greater vulnerability) which included current cognitive appraisals regarding the traumatic exposure, as well as current adaptive and non-adaptive coping strategies, occurring at the most proximal level of influence.

4.9.1. Descriptive statistics

Descriptive statistics (frequencies, means, percentages and standards deviations) were used to analyse the biographical information (gender, poverty, ethnic group, home care, age, grade, and academic performance).

4.9.2. Traumatic re-enactment statistics

The incidence of different re-enactment behaviours was calculated using frequencies and percentages, with gender differences in re-enactment behaviours being explored using binary logistic regression analyses.

4.9.3. Predictors of traumatic re-enactment

Predictors of traumatic re-enactments were explored using both univariate and multivariate logistic regression analyses in order to identify:

- Variables that were independently associated with different forms of traumatic re-enactment (univariate analyses); and

- Variables that accounted for a unique proportion of the explained variance in traumatic re-enactment behaviours (multivariate analyses). Consistent with Spaccarelli's model of traumatic stress reactions, variables were entered in the multivariate analyses in three blocks:

    - Block 1: Covariates (age, race, gender, no biological parent in the home, and poverty);

    - Block 2: Traumatic antecedents (rape, molestation, domestic physical abuse, experiencing community violence, witnessing community violence, witnessing

domestic violence, emotional abuse, neglect, death, illness or separation in the family, and poly-victimisation); and;

- Block 3: Negative cognitions and vulnerability (negative trauma-related appraisals, and greater vulnerability / risky behaviours).

4.9.4. Comorbidity between traumatic re-enactment and posttraumatic outcomes

Descriptive statistics of the trauma diagnoses (CDT and PTSD) were compiled, showing prevalence and percentages. Pearson product-moment correlations were then run to determine the correlation and comorbidity between posttraumatic outcomes and traumatic re-enactment. Lastly the same model that was used to analyse re-enactment outcome variables, was used to assess trauma diagnoses. By doing this, it enabled a comparisons to be made between predictor variables of traumatic re-enactment and posttraumatic outcomes.

CHAPTER 5: RESULTS

5.1. Introduction

Study findings are presented in four sections. First, descriptive characteristics of the study sample, the outcome variables (re-enactment behaviours), and the predictor variables (traumatic antecedents experienced) are presented. Second, bivariate analyses are used to explore associations between independent measures and re-enactment outcomes; and third, multivariate analyses are used to: (a) identify variables that account for a unique proportion of the variance in re-enactment behaviours, and (b) explore comorbidities between posttraumatic outcomes and re-enactment behaviours.

5.2. Descriptive statistics

Descriptive statistics were compiled for the study sample, the dependent variables (re-enactment behaviour), and the independent variables considered in the study (traumatic exposure, traumatic appraisals, and vulnerability behaviours).

5.2.1. The study sample

Demographic characteristics of the sample are summarised in Table 5.1 below. Participants were predominantly male (66.3%), with the majority of participants coming from an African ethnic group (95.1%). Only 48.8% of participants were cared for by both a mother and father, with 41.4% being cared for by a single mother or a female guardian. Some degree of poverty was reported by 10.8% of participants.

Table 5.1

Sample characteristics (N=802)

Characteristic		*n*	(%)	*M*	*(SD)*
Gender	Male	532	(66.3)		
	Female	270	(33.7)		
Ethnic Group	African	763	(95.1)		
	Coloured	22	(2.7)		
	White	12	(1.5)		
	Asian	5	(0.6)		
	Missing	1	(0.1)		
Home care	Father & Mother	391	(48.8)		
	Mother only	256	(31.9)		
	Father only	29	(3.6)		
	Female guardian	76	(9.5)		
	Male guardian	10	(1.2)		
	Brother & Sister	16	(2.0)		
	Other	10	(1.2)		
	Female & Male guardian	13	(1.6)		
	Missing	1	(0.1)		
Poverty	None	638	(79.6)		
	Some	87	(10.8)		
	Missing	77	(9.6)		
Age	12	14	(1.7)	15.49	(1.61)
	13	88	(11.0)		
	14	133	(16.6)		
	15	151	(18.8)		
	16	191	(23.8)		
	17	148	(18.5)		
	18	57	(7.1)		
	19	13	(1.6)		
	20	6	(0.7)		
	Missing	1	(0.1)		
Grade	8	162	(20.2)	9.94	(1.33)
	9	132	(16.5)		
	10	216	(26.9)		
	11	174	(21.7)		
	12	118	(14.7)		
Academic Performance	Poor	126	(15.7)		
	Below average	169	(21.1)		
	Average	189	(23.6)		
	Above average	154	(19.2)		
	Good	164	(20.4)		

Learners were relatively evenly spread across the grades (8 to 12), with slightly more 10th grade learners (26.9%), and with a grade mean of 9.94. The sample included learners from 12-20 years of age, with a mean age of 15.49 years (*SD*=1.61).

5.2.2. Dependent variables: traumatic re-enactment behaviours

Re-enactment behaviours explored in the study included: (a) *Victimisation* (verbal, physical and sexual) (b) *Perpetration* (verbal, physical and sexual), and (c) *Self-Injury*.

5.2.2.1. Incidence of traumatic re-enactment behaviours

Incidence rates for traumatic re-enactment behaviours are presented in Table 5.2. For purposes of analysis, the *presence* of traumatic re-enactment was defined as follows:

- Total *Victimisation* and *Perpetration* scores were obtained by summing sub-scale scores (i.e., verbal abuse, sexual abuse and physical abuse scores).
- Verbal abuse was defined as being present if it occurred more than "once a month".
- Any form of sexual and physical re-enactment which was reported by participants was considered to indicate the presence of these re-enactment behaviours.
- Any form of *Self-Injury* reported was taken to indicate the presence of this behaviour.

Participants experienced high levels of *Victimisation* (81.4%), with lower incidence rates being reported for *Perpetration* (64.9%) and *Self-Injury* (68.4%),

Physical abuse was the most common form of abuse that was experienced (*n* = 481, 64.0%) and perpetrated (*n* = 374, 49.7%) by participants. This is followed by verbal abuse, with 314 participants (41.8%) reporting incidents of verbal abuse (at least "once a month"), and 227 participants (30.2%) reporting that they had perpetrated verbal abuse. With respect to sexual abuse, *Victimisation* experiences were reported by 276 participants (36.7%), while sexual *Perpetration* was reported by 187 participants (24.9%). Finally, with respect to *Self-Injury*, two thirds of participants (68.4%) reported that they had recently harmed themselves in some way [including non-suicidal self-injury (NSSI) and/or suicidal behaviour]. See Table 5.2.

Table 5.2

Incidence: traumatic re-enactment behaviour (N=752)

Scales	Subscales	Absence		Presence	
		n	%	n	%
Victimisation	Total *Victimisation*	140	(18.6)	612	(81.4)
	Verbal Abuse	438	(58.2)	314	(41.8)
	Sexual Abuse	476	(62.3)	276	(36.7)
	Physical Abuse	271	(36.0)	481	(64.0)
Perpetration	Total *Perpetration*	264	(35.1)	488	(64.9)
	Verbal Abuse	525	(69.8)	227	(30.2)
	Sexual Abuse	565	(75.1)	187	(24.9)
	Physical Abuse	378	(50.3)	374	(49.7)
Self-Injury	Self-harm (incl. NSSI & suicidal behaviour)	238	(31.6)	514	(68.4)

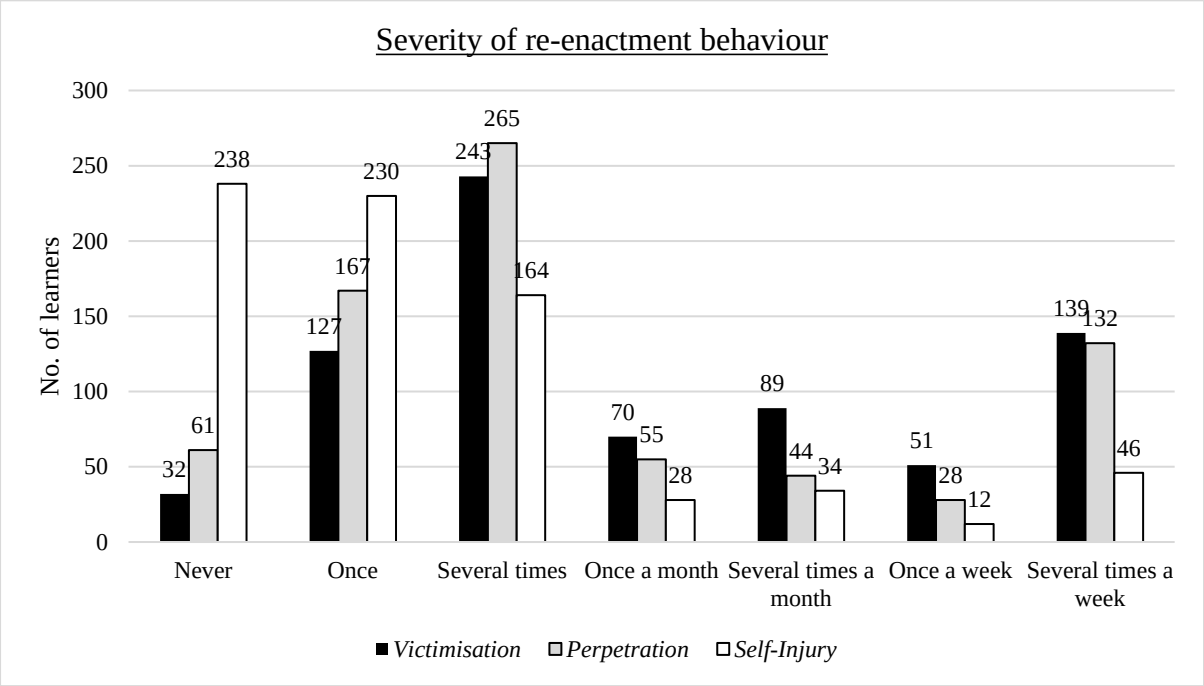
5.2.2.2. Severity of traumatic re-enactment behaviours

The severity of traumatic re-enactment behaviours is summarised in Figure 5.1. From Figure 5.1 it is evident that median severity scores for *Self-Injury* (Median = 2 [*once*]) were

significantly lower than median severity scores for either *Victimisation* (Median = 3 [*several times*]) or *Perpetration* (Median = 3 [*several times*]). Results of a Friedman Two-Way Analysis of Variance by Ranks indicated this difference was statistically significant, χ^2 (1, n = 752) = 367.63, p = .000.

Figure 5.1

Severity of traumatic re-enactment behaviours by form of re-enactment



5.2.2.3. Associations between forms of traumatic re-enactment

Zero-order correlations were run between the forms of re-enactment in order to determine the relationship between these outcome variables (Table 5.3). Total *Victimisation* and total *Perpetration* scores are the sum of their sub-scales, with these total scores being significantly correlated with component subscale scores across all forms of traumatic re-enactment (thus validating the decision to derive total *Victimisation* and *Perpetration* scores). Subscale

correlations across different forms of re-enactment were also significant, although generally very low, suggesting that different forms of re-enactment can usefully be considered be considered as related, although largely distinct, constructs.

Table 5.3

Pearson product-moment correlation between forms of traumatic re-enactment

			Correlations								
			1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1	*Victimisation*	Total	1								
2		Verbal abuse	.405**								
3		Sexual abuse	.364**	.178**							
4		Physical abuse	.637**	.119**	.146**						
5	*Perpetration*	Total	.214**	.233**	.092*	.231**					
6		Verbal abuse	.121**	.271**	.088*	.077*	.484**				
7		Sexual abuse	.149**	.106**	.130**	.118**	.423**	.211**			
8		Physical abuse	.216**	.161**	.109**	.259**	.732**	.209**	.234**		
9	*Self-injury*	Total	.132**	0.07	.073*	.081*	.152**	0.07	.112**	.143**	1

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

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

5.2.3. Independent variables: traumatic antecedents (DTI)

The DTI was used to assess life-time exposure to traumatic events. Table 5.4 summarises the prevalence of traumatic antecedents experienced by participants.

Participants reported that they had been exposed to a number of forms of interpersonal violence, abuse, and neglect. Witnessing violence (*n* = 481, 64.0%), particularly community violence (*n* = 450, 59.8%), was the most common form of traumatic exposure reported; with 57.0% of respondents reporting experiences relating to death, illness or separation within the family . Nearly half of the sample (48.1%) had experienced domestic abuse, including

physical abuse (46.8%), and non-accidental injury (5.7%). Prevalence rates for sexual abuse were high, with 46 (6.1%) respondents reporting a history of rape and 291 (38.7%) a past history of sexual molestation. Just under half of the sample had experienced multiple types of traumatic experiences or poly-victimisation (*n* = 367, 48.8%).

Table 5.4

Prevalence of traumatic experiences (N=725)

	n	(%)
Sexual abuse	303	(40.3)
Rape	46	(6.1)
Molestation	291	(38.7)
Domestic abuse	362	(48.1)
Physical abuse	352	(46.8)
Non-accidental injury	43	(5.7)
Exposure to community violence	286	(30.0)
Witnessing	481	(64.0)
Community violence	450	(59.8)
Domestic violence	234	(31.1)
Emotional abuse	186	(24.7)
Domestic neglect	119	(15.8)
Death, illness or separation	429	(57.0)
Poly-victimisation	367	(48.8)

5.2.4. Independent variables: negative cognitions and vulnerability

5.2.4.1. Negative cognitive appraisals

Negative trauma-related appraisals were assessed using the Trauma Appraisal Subscale of the DTI. From Table 5.5 it is evident that trauma appraisals varied across different forms of traumatic exposure, with higher scores on the trauma appraisal measure being associated with

traumatic exposure to: (a) death ,illness, and separation (*M* = 6.80); (b) witnessing community violence (*M* = 5.16); and (c) domestic violence (*M* = 5.10).

Table 5.5

Negative cognitive appraisal scores by form of traumatic exposure (n=725)

	M	*(SD)*
Death, illness and separation	6.80	(7.56)
Witnessing community violence	5.16	(7.19)
Domestic violence	5.10	(7.04)
Exposure to community violence	4.14	(6.58)
Witnessing domestic violence	3.29	(6.45)
Sexual abuse	3.20	(6.33)
Emotional abuse	2.77	(6.40)
Neglect	1.54	(5.04)
Poverty	.85	(3.31)

5.2.4.2. Vulnerability

The vulnerability scale (cf., Table 5.6) comprised behaviours that place the individual at risk for further traumatic exposure (e.g., getting drunk on alcohol or risky sexual behaviours). The majority of participants (*n* = 640, 85.2%) reported some vulnerability behaviour/s; with more than half of the participants indicating that they had been careless about their safety (*n* = 385, 51.3%) or placed themselves in dangerous situations (*n* = 436, 58%), while 50.6% of participants indicated that other people worry about the things they do (*n* = 379).

Table 5.6

Vulnerability of participants: frequency and severity

	Total	I've got so drunk on alcohol that I didn't know what I was doing	I placed myself in dangerous situations	I have been sexually active in ways that I know puts me in danger	I have been careless about making sure that I am safe	Other people worry about the dangerous things I do	I don't worry about my own safety
	n %	n %	n %	n %	n %	n %	n %
None	111 (14.8)	389 (51.8)	316 (42.0)	540 (71.9)	366 (48.7)	370 (49.4)	470 (62.8)
Any form of vulnerability	640 (85.2)	362 (48.2)	436 (58.0)	211 (28.1)	385 (51.3)	379 (50.6)	279 (37.3)
Once	162 (21.6)	167 (22.2)	192 (25.5)	101 (13.4)	186 (24.8)	112 (15.0)	104 (13.9)
Several times	237 (31.6)	113 (15.0)	152 (20.2)	65 (8.7)	140 (18.6)	170 (22.7)	81 (10.8)
Once a month	51 (6.8)	19 (2.5)	25 (3.3)	15 (2.0)	21 (2.8)	21 (2.8)	17 (2.3)
Several times a month	39 (5.2)	18 (2.4)	21 (2.8)	12 (1.6)	12 (1.6)	25 (3.3)	14 (1.9)
Once a week	27 (3.6)	14 (1.9)	5 (0.7)	9 (1.2)	7 (0.9)	9 (1.2)	6 (0.8)
Several times a week	124 (16.5)	31 (4.1)	41 (5.5)	9 (1.2)	19 (2.5)	42 (5.6)	57 (7.6)
Total	751 (100)	751 (100)	752 (100)	751 (100)	751 (100)	749 (100)	749 (100)

5.3. Univariate analysis between independent and outcome variables (traumatic re-enactment)

A series of univariate binary regression analyses were completed to assess bivariate associations between independent variables and outcome variables (re-enactment behaviours). Predictor variables were grouped under three categories: covariates, traumatic antecedents, and negative cognitions. The univariate analyses are consolidated in Tables 5.7, detailing the statistical significance of each binary regression analysis, and the odds ratio (*OR*) of the regression. The odds ratios represent the extent of change in the outcome variable when the predictor variable increases by one unit (Tabachnick & Fidell, 2007). All predictor variables were significantly associated with at least one form of traumatic re-enactment behaviour ($p < .05$); 14 predictor variables being significantly associated with *Victimisation*, 13 being statistically associated with *Self-Injury,* and 10 being significantly associated with *Victimisation*.

Table 5.7

Univariate analyses of the relationships between predictor and outcome variables (N=802)

	Victimisation				*Perpetration*				*Self-Injury*
	Total	Verbal	Sexual Abuse	Physical	Total	Verbal	Sexual Abuse	Physical	Self-Harm
	OR p	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*
Block 1: Covariate variables									
Age (older)	1.03 (.656)	0.98 (.603)	1.04 (.390)	1.05 (.344)	1.00 (.965)	1.00 (.944)	1.07 (.173)	0.99 (.768)	0.90 (.033)
Race (not black African)	0.51 (.083)	0.69 (.318)	0.37 (.030)	0.86 (.682)	1.73 (.186)	0.73 (.449)	0.40 (.093)	2.81 (.009)	0.61 (.177)
Gender (being female)	1.25 (.264)	1.25 (.156)	2.96 (.000)	0.71 (.028)	0.39 (.000)	0.25 (.002)	0.09 (.000)	0.47 (.000)	1.94 (.000)
No biological parent in the home	2.49 (.006)	1.31 (.176)	1.45 (.068)	1.54 (.050)	1.22 (.347)	1.40 (.110)	1.10 (.680)	1.02 (.937)	1.99 (.005)
Poverty (greater)	2.11 (.054)	1.50 (.094)	1.63 (.045)	2.17 (.007)	1.67 (.061)	1.04 (.887)	1.76 (.280)	1.45 (.125)	1.39 (.234)
Block 2: Traumatic antecedents									
Rape	4.90 (.030)	2.85 (.002)	8.49 (.000)	0.85 (.603)	1.28 (.477)	0.89 (.790)	1.54 (.204)	1.31 (.392)	1.56 (.230)
Molestation	2.38 (.000)	1.21 (.223)	2.72 (.000)	1.60 (.005)	1.82 (.000)	1.48 (.022)	3.03 (.000)	1.29 (.102)	1.68 (.003)
Domestic physical abuse	2.63 (.000)	1.55 (.005)	1.60 (.003)	2.12 (.000)	1.67 (.002)	1.30 (.116)	1.78 (.002)	1.29 (.100)	3.01 (.000)
Exposure to community violence	2.40 (.000)	2.05 (.000)	1.58 (.005)	2.58 (.000)	2.26 (.000)	1.42 (.038)	2.22 (.000)	2.47 (.000)	1.50 (.019)
Witnessing community violence	1.73 (.007)	1.07 (.673)	1.18 (.318)	1.38 (.048)	1.37 (.057)	1.04 (.810)	1.33 (.135)	1.15 (.367)	1.19 (.318)
Witnesssing domestic violence	1.55 (.051)	1.31 (.102)	1.62 (.004)	0.99 (.934)	1.32 (.113)	1.11 (.574)	1.09 (.637)	1.20 (.275)	1.64 (.008)
Emotional abuse	1.41 (.155)	1.38 (.073)	1.81 (.001)	1.19 (.361)	1.00 (.991)	1.20 (.346)	0.86 (.463)	0.83 (.278)	1.92 (.002)
Neglect	2.02 (.030)	1.29 (.228)	1.82 (.005)	2.39 (.000)	1.40 (.140)	1.70 (.014)	1.41 (.140)	1.17 (.457)	2.69 (.000)
Death, illness, or separation	1.27 (.237)	1.12 (.480)	1.54 (.009)	1.28 (.130)	1.20 (.269)	0.89 (.505)	1.17 (.388)	1.25 (.154)	1.52 (.012)
Poly-victimisation	2.66 (.000)	1.52 (.007)	2.44 (.000)	1.85 (.000)	1.85 (.000)	1.26 (.172)	2.24 (.000)	1.56 (.004)	2.45 (.000)
Block 3: Negative cognitions and vulnerability									
Negative trauma-related appraisals	1.06 (.002)	1.04 (.001)	1.05 (.000)	1.02 (.122)	0.99 (.595)	1.00 (.918)	1.00 (.708)	1.00 (.935)	1.07 (.000)
Vulnerability (greater)	1.69 (.030)	1.11 (.615)	1.67 (.024)	1.42 (.090)	3.13 (.000)	1.67 (.037)	3.42 (.000)	2.96 (.000)	2.35 (.000)

5.3.1. Univariate analysis between *Victimisation* and predictor variables

Victimisation was significantly predicted by 10 variables: no biological parent in the home, rape, molestation, domestic physical abuse, experiencing community violence, neglect, poly-victimisation, negative trauma-related appraisals, and greater vulnerability (Table 5.7). Rape, poly-victimisation, domestic physical abuse, and having no biological parent in the home all produced odds ratios in excess of 2.5, indicating that participants were more than two and a half times more likely to experience *Victimisation* in the presence of these variables.

From Table 5.7 it is evident that:

- Verbal *Victimisation* was most strongly predicted by rape, childhood exposure to community violence, domestic physical abuse, and/or poly-victimisation, and by negative trauma-related appraisals;

- Sexual *Victimisation* was most strongly predicted by gender, childhood exposure to rape and/or molestation, domestic physical abuse, emotional abuse and/or neglect, witnessing domestic violence, childhood exposure to and/or witnessing of community violence, poly-victimisation, negative trauma-related appraisals, and by greater vulnerability; and

- Physical *Victimisation* was most strongly predicted by direct or vicarious exposure to community violence, childhood experiences of death, illness, or separation, physical neglect and/or poverty during childhood, the absence of a parent in the home, exposure to domestic physical abuse, and/or by exposure to poly-victimisation.

5.3.2. Univariate analysis between *Perpetration* and predictor variables

Perpetration was significantly predicted by six variables: male gender, molestation, domestic physical abuse, experiencing community violence, poly-victimisation and greater vulnerability (Table 5.7). Experiencing community violence produced an odds ratio of 2.3, indicating that participants were more than twice as likely to engage in *Perpetration* following exposure to community violence. Displaying greater vulnerability produced an odds ratio of 3.1, indicating that participants were more than three times more likely to engage in *Perpetration* if they experienced greater vulnerability.

From Table 5.7 it is evident that:

- Verbal *Perpetration* was most strongly predicted by gender, physical neglect, death, illness or separation in the family, childhood molestation, and/or by exposure to community violence;

- Sexual *Perpetration* was most strongly predicted by gender, greater vulnerability, childhood molestation, exposure to community violence, and/or by experiencing poly-victimisation; and

- Physical *Perpetration* was most strongly predicted by exposure to greater vulnerability and/or community violence, poly-victimisation, and/or by gender.

5.3.3. Univariate analysis between *Self-Injury* and predictor variables

Self-Injury was predicted by 13 variables: age, gender, having no biological parent in the home, childhood molestation, domestic physical abuse, experiencing community violence, witnessing domestic violence, emotional abuse, neglect, poly-victimisation, negative trauma-related appraisals, greater vulnerability, and death/ illness/or separation in the family. Domestic physical abuse had an odds ratio of 3.0, indicating that participants were three times more likely to experience *Self-Injury* if they had experienced domestic physical abuse during childhood. Greater vulnerability, poly-victimisation, and neglect all had odds ratios in excess of 2.0 indicating that participants were more than twice as likely to experience *Self-Injury* in the presence of these variables.

5.3.4. Gender differences

Binary logistic regression analyses were used to calculate gender differences in re-enactment and traumatic antecedents.

5.3.4.1. Incidence of traumatic re-enactment by gender

With the notable exception of *Victimisation* and verbal *Victimisation* (cf., Table 5.8), there were significant gender differences in the incidence of re-enactment behaviours. Males were more likely to *Perpetrate* verbal abuse ($OR = .585$, $p < .002$); be *Victims* of physical abuse ($OR = .705$, $p < .028$); to *Perpetrate* physical abuse ($OR = .471$, $p < .001$); and to perpetrate sexual abuse ($OR = .090$, $p < .001$) than females. On the other hand, females were more

likely to report sexual *Victimisation* (*OR* = 2.957, $p < .001$); and *Self-Injury* (*OR* = 1.945, $p < .001$) than were males.

Table 5.8

Incidence of traumatic re-enactment by gender (N=752)

	Males	Females	Differences between genders		
	n (%)**	*n* (%)**	*OR*	*p*	
Victimization	398 (80.2)	214 (83.6)	1.255	.264	
Verbal Abuse	198 (39.9)	116 (45.3)	1.247	.156	
Sexual Abuse	139 (28.0)	137 (53.5)	2.957	.000	*
Physical Abuse	331 (66.7)	150 (58.6)	0.705	.028	*
Perpetration	359 (73.6)	129 (26.4)	0.388	.000	*
Verbal Abuse	168 (33.9)	59 (23.0)	0.585	.002	*
Sexual Abuse	175 (35.3)	12 (4.7)	0.090	.000	*
Physical Abuse	278 (56.0)	96 (37.5)	0.471	.000	*
Self-Injury	316 (63.7)	198 (77.3)	1.945	.000	*
Total	496 (100)	256 (100)			

** Statistically significant (p < .01), ** % prevalence within gender*

5.3.4.2. Severity of traumatic re-enactment by gender

From Table 5.9 it is evident that there were significant gender differences in the severity of re-enactment behaviours. Females were more likely than males to report a higher severity for verbal *Victimisation,* sexual *Victimisation* and *Self-Injury*. By way of contrast, males were more likely to report higher severity than their female counterparts for physical *Victimisation*, and all forms of *Perpetration.*

Table 5.9

Severity of traumatic re-enactment by gender (N=752)

	Males		Females		Levene's test for equality of variance		T-test for equality of means			
	M	*(SD)*	*M*	*(SD)*	F	Sig.	*t*	*df*	*(p)*	
Victimisation	7.33	(9.746)	8.49	(12.452)	4.9	(.027)	-1.400	750	(.162)	
Verbal Abuse	3.32	(5.732)	4.44	(7.361)	9.0	(.003)	-2.288	750	(.022)	*
Sexual Abuse	1.14	(3.000)	1.86	(3.220)	**		-2.999	485	(.003)	*
Physical Abuse	2.87	(4.101)	2.19	(4.115)	**		2.161	514	(.031)	*
Perpetration	7.65	(11.323)	3.78	(7.829)	22.5	(.000)	4.894	750	(.000)	*
Verbal Abuse	3.45	(6.527)	2.36	(5.760)	7.7	(.006)	2.257	750	(.024)	*
Sexual Abuse	1.39	(3.459)	.21	(1.391)	60.4	(.000)	5.226	750	(.000)	*
Physical Abuse	2.80	(4.375)	1.20	(2.690)	42.5	(.000)	5.356	750	(.000)	*
Self-Injury	2.32	(3.636)	4.13	(5.291)	39.2	(.000)	-5.489	750	(.000)	*

**Statistically significant (p<.05)), ** Equal variances not assumed*

5.3.4.3. Prevalence of traumatic experiences by gender

Table 5.10 details prevalence statistics for exposure to traumatic events by gender. From these statistics it is evident that females were significantly more likely than their male counterparts to report experiences of: rape (*OR* = 2.059, $p < .018$), witnessing domestic violence (*OR* = 1.471, $p < .020$, emotional abuse (*OR* = 1.875, $p < .001$), and death illness and/or separation in the family (*OR* = 1.934, $p < .001$). By way of contrast, male participants were more likely to report exposure to community violence (*OR* = .462, $p < .001$).

Table 5.10

Prevalence of traumatic experiences by gender (N=725)

Traumatic antecedents	Male		Female		Differences between genders		
	n	% **	*n*	% **	*OR*	*p*	
Rape	23	(4.8)	23	(9.4)	2.06	.018	*
Molestation	198	(41.3)	93	(38.0)	0.87	.393	
Domestic physical abuse	227	(47.3)	125	(51.0)	1.16	.342	
Exposure to community violence	218	(45.4)	68	(27.8)	0.46	.000	*
Witness community violence	308	(64.2)	142	(58.0)	0.77	.104	
Witness domestic violence	141	(29.4)	93	(38.0)	1.47	.020	*
Emotional abuse	103	(21.5)	83	(33.9)	1.88	.000	*
Neglect	77	(16.0)	42	(17.1)	1.08	.705	
Poverty	57	(11.9)	30	(12.2)	1.04	.885	
Death, illness & separation	259	(54.0)	170	(69.4)	1.93	.000	*
Poly-victimisation	244	(50.8)	123	(50.2)	0.98	.873	

** Statistically significant (p < .01), ** % prevalence within gender*

5.3.4.4. Severity of negative cognitive appraisals and greater vulnerability by gender

Table 5.11 details the severity of negative trauma-related appraisals and the severity of vulnerability by gender, using t-tests. The mean and standard deviations for males and females were calculated. It is apparent that females were significantly more likely to have higher negative trauma-related appraisals (t = 3.409, p < .001), while males were significantly more likely to report vulnerability behaviours (t = -8.776, p < .001).

Table 5.11

Severity of trauma-related appraisals (negative cognitions) and greater vulnerability (risky behaviours) by gender (N=725)

	Males		Females		Levene's test for equality of variance		T-test for equality of means			
	M	*(SD)*	*M*	*(SD)*	F	Sig.	*t*	*df*	*(p)*	
Negative trauma-related appraisals	6.93	5.83	11.40	7.68	**		3.409	534	.001	*
Vulnerability (greater)	6.50	5.85	5.01	5.62	23.71	.000	-8.776	732	.000	*

**Statistically significant (p<.05)), ** Equal variances not assumed*

5.4. Multivariate analysis of traumatic re-enactment behaviours

Multivariate Binary Logistic Regression analyses were performed in order to identify independent variables that accounted for a unique proportion of the variance in traumatic re-enactment behaviours. Findings for these analyses will be reported separately for each of the three main categories of traumatic re-enactment behaviours (i.e., *Victimisation, Perpetration*, and *Self-Injury*).

5.4.1. Predicting *Victimisation:* model summaries

Separate binary logistic analyses were conducted for each of the main forms of *Victimisation* considered in the study (i.e., total *Victimisation*, verbal *Victimisation*, sexual *Victimisation*, and physical *Victimisation*).

5.4.1.1. Model 1 (covariates)

Model 1 (in which only covariates were entered as independent variables), accounted for a significant proportion of the variance in: total *Victimisation* scores (Nagelkerke R^2 = .041, p = .004); sexual *Victimisation* scores (Nagelkerke R^2 = .096, p = .000); and physical *Victimisation* scores (Nagelkerke R^2 = .039, p = .002). Model coefficients for verbal *Victimisation* did not, however, reach statistical significance (Nagelkerke R^2 = .018, p = .111) (cf., Tables 5.12-5.19).

Variables which accounted for a significant proportion of the explained variance in *Victimisation* scores for Model 1 were:

- Total *Victimisation*: no biological parent present in the home (*OR* = 2.09, *p* = .029), and race (*OR* = 0.36, *p* = .014);
- Sexual *Victimisation*: female gender (*OR* = 2.77, *p* = .000); and
- Physical *Victimisation*: female gender (*OR* = .065, *p* = .014), and poverty in the family home (*OR* = 2.26, *p* = .006).

5.4.1.2. Model 2 (covariates and traumatic antecedents)

Model 2 (in which covariates were entered in Step 1 and traumatic antecedents were entered in the second step) accounted for a significant proportion of the variance in: total *Victimisation* scores (Nagelkerke R^2 = .146, p = .000); verbal *Victimisation* scores

(Nagelkerke R^2 = .087, p = .000); sexual *Victimisation* scores (Nagelkerke R^2 = .228, p = .000); and physical *Victimisation* scores (Nagelkerke R^2 = .143, p = .000) (cf., Tables 5.12-5.19).

Variables which accounted for a significant proportion of the explained variance in *Victimisation* scores for Model 2 were:

- Total *Victimisation*: no biological parent in the home (*OR* = 2.41, p = .012), childhood molestation (*OR* = 1.82, p = .026), domestic physical abuse (*OR* = 2.08, p =.004), and exposure to community violence (*OR* = 2.24, p = .003);
- Verbal *Victimisation:* rape (*OR* = 2.89, p = .003), and exposure to community violence (*OR* = 2.27, p = .000)
- Sexual *Victimisation*: female gender (*OR* = 3.26, p = .000), rape (*OR* = 5.10, p = .000), molestation (*OR* = 2.18, p = .000), and exposure to community violence (*OR* = 1.68, p = .012); and
- Physical *victimisation*: domestic physical abuse (*OR* = 1.97, p = .001), exposure to community violence (*OR* = 2.36, p = .000), and neglect (*OR* = 0.49, p = .013).

With the introduction of Step 2, gender and poverty were no longer statistically significant predictors of physical *Victimisation*, suggesting that traumatic exposure mediates the relationship between these covariates and physical *Victimisation* behaviours.

5.4.1.3. Model 3 (covariates, traumatic antecedents and negative cognitions and vulnerability)

Model 3 (in which covariates were entered in Step 1, traumatic antecedents were entered in the Step 2, and negative cognitions / vulnerabilities were entered in Step 3) accounted for a significant proportion of the variance in: total *Victimisation* scores (Nagelkerke R^2 = .150, p = .000); verbal *Victimisation* scores (Nagelkerke R^2 = .092, p = .000); sexual *Victimisation* scores (Nagelkerke R^2 = .230, p = .000); and physical *Victimisation* scores (Nagelkerke R^2 = .143, p = .000) (cf., Tables 5.12-5.19).

From Tables 5.13, 5.15, 5.17 and 5.19 (see ΔR^2 values), it is evident that across all forms of *Victimisation*: (a) traumatic antecedents (Block 2) accounted for a significantly greater proportion of the explained variance than did covariates (Block 1), with (b) negative trauma-related cognitions and vulnerability (Block 3) failing to account for a significant proportion of the explained variance across all forms of *Victimisation* behaviours.

Variables which accounted for a significant proportion of the explained variance in *Victimisation* scores for Model 3 were:

- Total *Victimisation*: no biological parent in the home (*OR* = 2.44, p = .012), childhood molestation (*OR* = 1.76, p = .037), domestic physical abuse (*OR* = 2.03, p = .006), exposure to community violence (*OR* = 2.18, p = .004);
- Verbal *Victimisation:* rape (*OR* = 2.77, p = .004) and exposure to community violence (*OR* = 2.22, p = .000);

- Sexual *Victimisation*: female gender (*OR* = 3.27, *p* = .000), rape (*OR* = 5.03, *p* =.000), childhood molestation (*OR* = 2.18, *p* = .000), and exposure to community violence (*OR* = 1.66, *p* = .014); and
- Physical *Victimisation*: domestic physical abuse (*OR* = 1.95, *p* = .001), exposure to community violence (*OR* = 2.34, *p* = .000), and neglect (*OR* = 0.49, *p* = .013).

Table 5.12

Binary logistic regression analysis – total Victimisation model with predictor variables (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	1.06	.392	1.03	.600	1.03	.647
Race (not black African)	0.36	.014	0.45	.077	0.45	.075
Gender (being female)	1.16	.497	1.35	.203	1.29	.296
No biological parent in the home	2.09	.029	2.41	.012	2.44	.012
Poverty (greater)	2.03	.072	1.58	.278	1.56	.295
Block 2: Traumatic antecedents						
Rape			3.10	.134	3.02	.145
Molestation			1.82	.026	1.76	.037
Domestic physical abuse			2.08	.004	2.03	.006
Exposure to community violence			2.24	.003	2.18	.004
Witness community violence			1.49	.095	1.42	.157
Witness domestic violence			1.06	.836	0.98	.948
Emotional abuse			0.75	.341	0.76	.363
Neglect			1.32	.451	1.29	.487
Death, illness & separation			0.83	.412	0.77	.491
Poly-victimisation			0.87	.724	0.87	.731
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.02	.373
Vulnerability (greater)					1.26	.407

Table 5.13

Binary logistic regression analysis – total Victimisation model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	17.12	5	.004			
Model 1	17.12	5	.004	.041	.041	81.58
Total Block 2	46.39	10	.000			
Model 2	63.51	15	.000	.146	.106	81.72
Total Block 3	1.50	2	.473			
Total Model	65.01	17	.000	.150	.003	81.43

Table 5.14

Binary logistic regression analysis – verbal Victimisation (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	0.97	.578	0.97	.606	0.98	.638
Race (not black African)	0.48	.102	0.51	.152	0.51	.146
Gender (being female)	1.25	.183	1.39	.070	1.26	.217
No biological parent in the home	1.17	.452	1.26	.309	1.26	.305
Poverty (greater)	1.55	.073	1.30	.327	1.24	.429
Block 2: Traumatic antecedents						
Rape			2.89	.003	2.77	.004
Molestation			1.02	.909	1.02	.924
Domestic physical abuse			1.34	.119	1.30	.166
Exposure to community violence			2.27	.000	2.22	.000
Witness community violence			0.95	.804	0.90	.599
Witness domestic violence			1.19	.384	1.10	.633
Emotional abuse			1.05	.809	1.07	.762
Neglect			0.99	.970	0.99	.954
Death, illness & separation			0.85	.343	0.78	.184
Poly-victimisation			0.82	.474	0.82	.490
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.02	.115
Vulnerability (greater)					0.95	.819

Table 5.15

Binary logistic regression – verbal Victimisation model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	8.95	5	.111			
Model 1	8.95	5	.111	.018	.018	58.69
Total Block 2	36.24	10	.000			
Model 2	45.19	15	.000	.087	.070	63.89
Total Block 3	2.55	2	.280			
Total Model	47.73	17	.000	.092	.005	63.60

Table 5.16

Binary logistic regression – sexual Victimisation (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	1.09	.109	1.08	.168	1.07	.199
Race (not black African)	0.37	.053	0.40	.120	0.40	.125
Gender (being female)	2.77	.000	3.26	.000	3.27	.000
No biological parent in the home	1.37	.150	1.47	.107	1.46	.119
Poverty (greater)	1.55	.087	1.23	.474	1.24	.459
Block 2: Traumatic antecedents						
Rape			5.10	.000	5.03	.000
Molestation			2.18	.000	2.13	.000
Domestic physical abuse			1.02	.938	1.01	.963
Exposure to community violence			1.68	.012	1.66	.014
Witness community violence			1.23	.344	1.26	.295
Witness domestic violence			0.84	.408	0.85	.456
Emoational abuse			0.99	.953	0.99	.957
Emotional abuse			0.92	.736	0.91	.726
Death, illness & separation			1.14	.491	1.16	.444
Poly-victimisation			0.74	.321	0.74	.333
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.00	.767
Vulnerability (greater)					1.31	.309

Table 5.17

Binary logistic regression analysis – sexual Victimisation model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	48.98	5	.000			
Model 1	48.98	5	.000	.096	.096	67.01
Total Block 2	73.65	10	.000			
Model 2	122.63	15	.000	.228	.132	70.13
Total Block 3	1.13	2	.567			
Total Model	123.77	17	.000	.230	.002	70.43

Table 5.18

Binary logistic regression – physical Victimisation (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	1.07	.203	1.07	.212	1.07	.236
Race (not black African)	0.75	.486	1.08	.858	1.08	.860
Gender (being female)	0.66	.014	0.78	.190	0.78	.194
No biological parent in the home	1.35	.189	1.54	.076	1.54	.078
Poverty (greater)	2.26	.006	1.72	.090	1.72	.092
Block 2: Traumatic antecedents						
Rape			0.67	.270	0.66	.255
Molestation			1.41	.101	1.38	.121
Domestic physical abuse			1.97	.001	1.95	.001
Exposure to community violence			2.36	.000	2.34	.000
Witness community violence			0.75	.146	0.76	.184
Witness domestic violence			1.37	.149	1.40	.132
Emotional abuse			1.37	.185	1.37	.191
Neglect			0.49	.013	0.49	.013
Death, illness & separation			1.11	.561	1.08	.672
Poly-victimisation			1.25	.457	1.25	.453
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.01	.685
Vulnerability (greater)					1.14	.572

Table 5.19

Binary logistic regression – physical Victimisation model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	19.47	5	.002			
Model 1	19.47	5	.002	.039	.039	63.74
Total Block 2	54.36	10	.000			
Model 2	73.82	15	.000	.143	.104	68.55
Total Block 3	0.48	2	.786			
Total Model	74.31	17	.000	.143	.001	69.99

5.4.2. Predicting *Perpetration:* model summaries

Separate binary logistic analyses were conducted for each of the main forms of *Perpetration* considered in the study (i.e., total *Perpetration*, verbal *Perpetration*, sexual *Perpetration*, and physical *Perpetration*).

5.4.2.1. Model 1 (covariates)

Model 1 (in which only covariates were entered as independent variables), accounted for a significant proportion of the variance for all forms of *Perpetration*: total *Perpetration* scores (Nagelkerke R^2 = .084, p = .000); verbal *Perpetration* scores (Nagelkerke R^2 = .036, p = .004) sexual *Perpetration* scores (Nagelkerke R^2 = .224, p = .000); and physical *Perpetration* scores (Nagelkerke R^2 = .064, p = .000) (cf., Tables 5.20-5.27).

Variables which accounted for a significant proportion of the explained variance in *Perpetration* scores for Model 1 were:

- Total *Perpetration*: female gender (*OR* = 0.36, p = .000);
- Verbal *Perpetration*: female gender (*OR* = 0.50, p = .000);
- Sexual *Perpetration*: female gender (*OR* = 0.07, p = .000); and
- Physical *Perpetration*: female gender (*OR* = .442, p = .000), and race (*OR* = 3.00, p = .016).

5.4.2.2. Model 2 (covariates and traumatic antecedents)

Model 2 (in which covariates were entered in Step 1 and traumatic antecedents were entered in the Second step) accounted for a significant proportion of the variance in: total *Perpetration* scores (Nagelkerke R^2 = .150, p = .000); verbal *Perpetration* scores (Nagelkerke R^2 = .064, p = .008); sexual *Perpetration* scores (Nagelkerke R^2 = .317, p = .000); and physical *Perpetration* scores (Nagelkerke R^2 = .130, p = .000) (cf., Tables 5.20-5.27).

Variables which accounted for a significant proportion of the explained variance in *Perpetration* scores for Model 2 were:

- Total *Perpetration*: female gender (*OR* = 0.37, p = .000), childhood molestation (*OR* = 1.65, p = .017), domestic physical abuse (*OR* = 1.59, p = .021), and exposure to community violence (*OR* = 1.76, p = .005);
- Verbal *Perpetration:* female gender (*OR* = 0.51, p = .001), molestation (*OR* = 1.52, p = .041), and neglect (*OR* = 1.62, p = .049);
- Sexual *Perpetration*: female gender (*OR* = 0.07, p = .000), poverty (*OR* = 1.98, p = .037), molestation (*OR* = 2.86, p = .000), domestic physical abuse (*OR* = 1.61, p =.043), and emotional abuse (*OR* = .56, p = .040); and
- Physical *Perpetration*: female gender (*OR* = .48, p = .000), race (*OR* = 3.82, p = .004), exposure to community violence (*OR* = 2.12, p = .000), and emotional abuse (*OR* = 0.62, p = .031).

5.4.2.3. Model 3 (covariates, traumatic antecedents and negative cognitions and vulnerability)

Model 3 (in which covariates were entered in Step 1, traumatic antecedents were entered in the Step 2, and negative cognitions / vulnerabilities were entered in Step 3) accounted for a significant proportion of the variance in: total *Perpetration* scores (Nagelkerke R^2 = .179, p = .000); verbal *Perpetration* sores (Nagelkerke R^2 = .066, p = .014); sexual *Perpetration* scores (Nagelkerke R^2 = .328, p = .040); and physical *Perpetration* scores (Nagelkerke R^2 = .161, p = .000) (cf., Tables 5.20-5.27).

From Tables 5.21, 5.23, 5.25, and 5.27 (see ΔR^2) it is evident that across all forms of *Perpetration*, covariates (Block 1) and traumatic antecedents (Block 2) accounted for a greater proportion of the variance than did negative cognitions and vulnerabilities (Block 3).

Variables which accounted for a significant proportion of the explained variance in *Perpetration* scores for Model 3 were:

- Total *Perpetration*: female gender (*OR* = 0.42, p = .000), childhood molestation (*OR* = 1.54, p = .071), domestic physical abuse (*OR* = 1.65, p = .015), exposure to community violence (*OR* = 1.80, p = .005), and greater vulnerability (*OR* = 2.47, p = .000);
- Verbal *Perpetration:* female gender (*OR* = 0.50, p = .001), and neglect (*OR* = 1.62, p = .049);

- Sexual *Perpetration*: female gender (*OR* = 0.07, *p* = .000), poverty (*OR* = 2.01, *p* = .038), molestation (*OR* = 2.73, *p* = .000), emotional abuse (*OR* = .57, *p* = .044); and greater vulnerability (*OR* = 2.39, *p* = .028); and
- Physical *Perpetration*: female gender (*OR* = .52, *p* = .001), race (*OR* = 4.02, *p* = .004), exposure to community violence (*OR* = 2.13, *p* = .000), emotional abuse (*OR* = .06, *p* = .027), and greater vulnerability (*OR* = 2.76, *p* = .000).

Table 5.20

Binary logistic regression – total Perpetration (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	0.98	.668	0.96	.428	0.94	.230
Race (not black African)	1.90	.184	2.54	.063	2.68	.058
Gender (being female)	0.36	.000	0.37	.000	0.42	.000
No biological parent in the home	1.23	.378	1.29	.300	1.25	.358
Poverty (greater)	1.69	.064	1.44	.235	1.65	.113
Block 2: Traumatic antecedents						
Rape			1.06	.877	1.10	.815
Molestation			1.65	.017	1.54	.041
Domestic physical abuse			1.59	.021	1.65	.015
Exposure to community violence			1.76	.005	1.80	.005
Witness community violence			1.07	.722	1.10	.646
Witness domestic violence			1.22	.358	1.32	.232
Emotional abuse			0.72	.163	0.70	.133
Neglect			1.05	.855	1.07	.810
Death, illness & separation			1.24	.251	1.30	.183
Poly-victimisation			0.96	.902	0.92	.788
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					0.98	.212
Vulnerability (greater)					2.47	.000

Table 5.21

Binary logistic regression analysis – total Perpetration model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	42.18	5	.000			
Model 1	42.18	5	.000	.084	.084	66.12
Total Block 2	35.44	10	.000			
Model 2	77.62	15	.000	.150	.067	65.53
Total Block 3	16.29	2	.000			
Total Model	93.92	17	.000	.179	.029	67.31

Table 5.22

Binary logistic regression – verbal Perpetration (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Demographic variables						
Age (older)	0.96	.497	0.97	.555	0.97	.514
Race (not black African)	0.65	.366	0.73	.513	0.72	.503
Gender (being female)	0.50	.000	0.51	.001	0.50	.001
No biological parent in the home	1.43	.107	1.39	.161	1.38	.167
Poverty (greater)	1.07	.805	0.87	.635	0.86	.612
Block 2: Traumatic antecedents						
Rape			0.89	.759	0.87	.706
Molestation			1.52	.041	1.49	.053
Domestic physical abuse			1.28	.215	1.26	.253
Exposure to community violence			1.27	.239	1.25	.275
Witness community violence			0.97	.882	0.94	.764
Witness domestic violence			1.15	.531	1.10	.654
Emotional abuse			1.13	.593	1.14	.577
Neglect			1.62	.049	1.62	.049
Death, illness & separation			0.87	.441	0.83	.344
Poly-victimisation			0.72	.278	0.72	.270
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.01	.493
Vulnerability (greater)					1.23	.424

Table 5.23

Binary logistic regression – verbal Perpetration model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	17.45	5	.004			
Model 1	17.45	5	.004	.036	.036	69.99
Total Block 2	13.68	10	.188			
Model 2	31.13	15	.008	.064	.028	71.03
Total Block 3	1.12	2	.571			
Total Model	32.25	17	.014	.066	.002	70.73

Table 5.24

Binary logistic regression – sexual Perpetration (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Demographic variables						
Age (older)	1.08	.198	1.09	.194	1.08	.257
Race (not black African)	0.30	.062	0.40	.165	0.38	.139
Gender (being female)	0.07	.000	0.07	.000	0.06	.000
No biological parent in the home	1.10	.726	1.17	.587	1.14	.651
Poverty (greater)	1.95	.022	1.98	.037	2.01	.038
Block 2: Traumatic antecedents						
Rape			1.36	.484	1.26	.603
Molestation			2.86	.000	2.73	.000
Domestic physical abuse			1.61	.043	1.53	.076
Exposure to community violence			1.28	.297	1.25	.354
Witness community violence			0.86	.552	0.80	.384
Witness domestic violence			1.02	.952	0.95	.856
Emotional abuse			0.56	.040	0.57	.044
Neglect			0.93	.794	0.93	.813
Death, illness & separation			1.12	.603	1.06	.810
Poly-victimisation			1.30	.458	1.28	.488
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.02	.363
Vulnerability (greater)					2.38	.028

Table 5.25

Binary logistic regression analysis – sexual Perpetration model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	109.28	5	.000			
Model 1	109.28	5	.000	.224	.224	75.93
Total Block 2	51.41	10	.000			
Model 2	160.69	15	.000	.317	.093	78.01
Total Block 3	6.42	2	.040			
Total Model	167.11	17	.000	.328	.011	78.16

Table 5.26

Binary logistic regression – physical Perpetration (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	0.97	.485	0.96	.379	0.94	.202
Race (not black African)	2.99	.016	3.82	.004	4.02	.004
Gender (being female)	0.44	.000	0.48	.000	0.52	.001
No biological parent in the home	1.01	.964	1.10	.674	1.07	.751
Poverty (greater)	1.45	.138	1.34	.289	1.48	.167
Block 2: Traumatic antecedents						
Rape			1.20	.612	1.19	.632
Molestation			1.09	.665	1.00	.994
Domestic physical abuse			1.19	.355	1.19	.368
Exposure to community violence			2.12	.000	2.13	.000
Witness community violence			0.90	.600	0.88	.529
Witness domestic violence			1.13	.541	1.14	.528
Emotional abuse			0.62	.031	0.61	.027
Neglect			0.97	.894	0.97	.892
Death, illness & separation			1.37	.075	1.36	.099
Poly-victimisation			1.18	.552	1.15	.625
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.00	.797
Vulnerability (greater)					2.76	.000

Table 5.27

Binary logistic regression – physical Perpetration model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	33.37	5	.000			
Model 1	33.37	5	.000	.064	.064	58.99
Total Block 2	35.65	10	.000			
Model 2	69.01	15	.000	.130	.065	64.19
Total Block 3	17.36	2	.000			
Total Model	86.37	17	.000	.161	.031	64.04

5.4.3. Predicting *Self-Injury:* model summaries

5.4.3.1. Model 1 (covariates)

Model 1 (in which only covariates were entered as independent variables), accounted for a significant proportion of the variance in *Self-Injury* scores (Nagelkerke R^2 = .048, p =.000) (cf., Tables 5.28-5.29).

Variables which accounted for a significant proportion of the explained variance in *Self-Injury* scores for Model 1 were: age (*OR* = 0.90, p = .037), female gender (*OR* = 1.74, p = .003), and no biological parent in the home (*OR* = 1.80, p = .020).

5.4.3.2. Model 2 (covariates and traumatic antecedents)

Model 2 (in which covariates were entered in Step 1 and traumatic antecedents were entered in the Second step) accounted for a significant proportion of the variance in *Self-Injury* scores (Nagelkerke R^2 = .15, p = .000) (cf., Tables 5.28-5.29).

Variables which accounted for a significant proportion of the explained variance in *Self-Injury* scores for Model 2 were: age (*OR* = 0.87, p = .012), female gender (*OR* = 1.74, p = .006), no biological parent in the home (*OR* = 1.72, p = .042), domestic physical abuse (*OR* = 2.30, p = .000), and neglect (*OR* = 0.52, p = .036).

5.4.3.3. Model 3 (covariates, traumatic antecedents and negative cognitions and vulnerability)

Model 3 (in which covariates were entered in Step 1, traumatic antecedents were entered in the Step 2, and negative cognitions/vulnerabilities were entered in Step 3) accounted for a significant proportion of the variance in *Self-Injury* scores (Nagelkerke R^2 = .186, p = .000) (cf., Tables 5.28-5.29).

Variables which accounted for a significant proportion of the explained variance for *Self-Injury* scores for Model 3 were: age (*OR* = 0.85, p = .004), female gender (*OR* = 1.71, p = .014), no biological parent in the home (*OR* = 1.73, p = .043), domestic physical abuse (*OR* = 2.22, p = .000), neglect (*OR* = 0.52, p = .038), negative trauma-related appraisals (*OR* = 1.04, p = .045), and greater vulnerability (*OR* = 2.51, p = .000).

From Table 5.29 (see ΔR^2), it is evident that for *Self-Injury*: (a) traumatic antecedents (Block 2) accounted for a significantly greater portion of the explained variance than did covariates (Block 1), and (b) negative trauma-related cognitions and vulnerability (Block 3) accounted for a significantly lower proportion of the explained variance, than did variables entered in Blocks 1 and 2.

Table 5.28

Binary logistic regression – Self-Injury (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Covariate variables						
Age (older)	0.90	.037	0.87	.012	0.85	.004
Race (not black African)	0.59	.189	0.76	.512	0.75	.496
Gender (being female)	1.74	.003	1.74	.006	1.71	.014
No biological parent in the home	1.80	.020	1.72	.042	1.73	.043
Poverty (greater)	1.49	.165	0.95	.882	0.98	.953
Block 2: Traumatic antecedents						
Rape			1.05	.898	0.98	.963
Molestation			1.22	.352	1.10	.667
Domestic physical abuse			2.30	.000	2.22	.000
Exposure to community violence			1.22	.347	1.16	.497
Witness community violence			1.08	.709	1.22	.355
Witness domestic violence			0.90	.645	1.02	.926
Emotional abuse			1.05	.848	1.05	.853
Neglect			0.52	.036	0.52	.038
Death, illness & separation			0.86	.429	0.99	.947
Poly-victimisation			0.76	.389	0.76	.397
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.03	.045
Vulnerability (greater)					2.51	.000

Table 5.29

Binary logistic regression – Self-Injury model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	23.43	5	.000			
Model 1	23.43	5	.000	.048	.048	68.80
Total Block 2	54.19	10	.000			
Model 2	77.63	15	.000	.153	.105	69.99
Total Block 3	18.05	2	.000			
Total Model	95.67	17	.000	.186	.033	71.77

5.5. Comorbidity of traumatic re-enactment and posttraumatic diagnoses

Co-morbidities between traumatic re-enactments and posttraumatic disorders (PTSD and CDT) were explored in three phases. First, descriptive statistics and prevalence rates for PTSD and CDT were calculated. Second, Pearson's Product-Moment correlations were calculated to examine the association between re-enactment behaviours and posttraumatic disorders. And third, multivariate binary logistic regression analyses were employed in order to determine whether PTSD outcomes are predicted by the same (or different) variables to those identified for traumatic re-enactments in this study**.**

5.5.1. PTSD and CDT outcomes

Descriptive statistics were calculated for the Davidson Trauma Scale (DTS) and the SIDES-SR Scale. Scores for the DTS, indicated that nearly half of the sample (*n* = 328, 45.3%) met the criteria for a diagnosis of PTSD (Table 5.30), with SIDES-SR scores indicating that 69 participants (9.2%) met the criteria for a diagnosis of CDT (Table 5.31).

Table 5.30

PTSD diagnosis within the sample using the Davidson Trauma Scale (N = 724)

Clinical presence	*n*	(%)
PTSD Diagnosis	328	(45.3)
Criteria A (Traumatic event)	474	(65.5)
Criteria B,C,D B: Intrusion C: Avoidance / Numbing D: Hyperarousal	418	(57.7)

Table 5.31

CDT diagnosis using the SIDES-SR scale (N=752)

Clinical presence	*n*	(%)
SIDES Diagnosis	69	(9.2)
I. Alteration in regulation and affect	195	(25.9)
A. Affect regulation	195	(25.9)
B. Modulation of anger	209	(27.8)
C. Self-destructive behaviour	270	(35.9)
D. Suicidal preoccupation	99	(13.2)
E. Difficulty modulating sexual involvement / preoccupation	406	(54.0)
F. Excessive risk taking	244	(32.4)
II. Alterations in attention or consciousness	557	(74.1)
A. Amnesia	260	(34.6)
B. Transient dissociative episodes and depersonalisation	509	(67.7)
III. Alterations in self-perception	352	(46.8)
A. Ineffectiveness	136	(18.1)
B. Permanent damage	274	(36.4)
C. Guilt and responsibility	261	(34.7)
D. Shame	156	(20.7)
E. Nobody can understand	244	(32.4)
F. Minimizing	218	(29.0)
IV. Alterations in relationships with others	473	(62.9)
A. Inability to trust	473	(62.9)
B. Revictimisation	326	(43.4)
C. Victimising others	162	(21.5)
V. Somatisation	232	(30.9)
A. Digestive system	152	(20.2)
B. Chronic pain	255	(33.9)
C. Cardiopulmonary symptoms	167	(22.2)
D. Conversion symptoms	158	(21.0)
E. Sexual symptoms	58	(7.7)
VI. Alterations in systems of meaning	471	(62.6)
A. Despair and hopelessness	364	(48.4)
B. Loss of previously sustaining beliefs	306	(40.7)

An analysis of SIDES-SR subscale scores indicated particularly high prevalence rates on three subscales (cf., Table 5.31): "alteration in attention or consciousness" (*n* = 557, 71.4%), "alterations in relations with others" (*n* = 473, 63.9%), and "alterations in systems of meaning" (*n* = 471, 62.6%).

5.5.2. Associations and concordance between PTSD/CDT and traumatic re-enactments

Zero-order correlations were calculated between PTSD outcomes and re-enactment behaviours in order to determine the association between these variables. Two different correlations were run. The first correlation measured associations between the presence or absence of trauma (CDT and PTSD) and re-enactment behaviours, and the second assessed the relationship between trauma severity (CDT and PTSD) and the severity of re-enactment behaviours. Both of these correlations are summarised in Table 5.32.

From Table 5.32 it is evident that: (a) the severity of CDT scores were significantly associated with severity scores for all forms of traumatic re-enactment, with (b) the severity of PTSD scores being significantly associated with all forms of traumatic re-enactment except for Verbal *Perpetration*. The comparisons involving the presence of PTSD and complex PTSD produced generally lower correlations, particularly in relation to forms of *Perpetration.*

Comorbidities between PTSD and traumatic re-enactments (ranging from 48.4% to 51.4%) and between CDT and traumatic re-enactments (ranging from 10.1% to 12.1%) indicate moderate to small concordance rates between these outcomes (cf., Table 5.33).

Table 5.32

Pearson product-moment correlation between PTSD and CDT scales, and traumatic re-enactment behaviours

	Correlation with prevalence of re-enactment (no/yes)		Correlation with severity of re-enactment	
	CDT (no/yes)	PTSD (no/yes)	CDT (Severity)	PTSD (Frequency and Severity)
Victimisation	.093*	.179**	.439**	.347**
Verbal abuse	.151**	.129**	.387**	.291**
Sexual abuse	.159**	.198**	.346**	.248**
Physical abuse	.027	.140**	.289**	.256**
Perpetration	-.007	.076*	.204**	.123**
Verbal abuse	.042	.059	.184**	.075
Sexual abuse	-.044	.058	.138**	.116**
Physical abuse	.025	.075	.143**	.120**
Self-Injury	.147**	.219**	.537**	.382**

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

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

Table 5.33

Concordance / divergence rates between posttraumatic outcomes (PTSD and CDT) and forms of traumatic re-enactment

		Concordance/divergence rates			
		PTSD present		CDT present	
		No	Yes	No	Yes
		n (%)	*n (%)*	*n (%)*	*n (%)*
PTSD present	No	- -	- -	- -	- -
	Yes	- -	- -	- -	- -
CDT present	No	369 (60.1)	245 (39.9)	- -	- -
	Yes	9 (14.8)	52 (85.2)	- -	- -
Victimisation present	No	96 (74.4)	33 (25.6)	141 (95.9)	6 (4.1)
	Yes	282 (51.6)	264 (48.4)	542 (89.6)	63 (10.4)
Perpetration present	No	119 (71.3)	48 (28.7)	175 (93.6)	12 (6.4)
	Yes	259 (51.0)	249 (49.0)	508 (89.9)	57 (10.1)
Self-Injury present	No	154 (72.0)	60 (28.0)	231 (97.1)	7 (2.9)
	Yes	224 (48.6)	237 (51.4)	452 (87.9)	62 (12.1)

5.5.3. Predictors of posttraumatic outcomes

The same independent variables that were used to predict re-enactment behaviours were entered into multivariate binomial regression analyses in order to predict the presence of CDT and PTSD.

5.5.3.1. Predictors of CDT

When the presence of CDT was entered as the criterion variable, model coefficients were significant, $x^2(17, N=673) = 64.625$, $p < .001$, indicating that the model was able to distinguish participants who qualified for a diagnosis of CDT from those who did not (cf., Tables 5.34-5.35). The model accounted for between 9.2% (Cox & Snell *R* square) and 20.3% (Nagelkerke *R* square) of the variance in CDT diagnoses, and correctly classified a large number of participants (91.4%).

Only two independent variables accounted for a significant proportion of the variance in CDT outcomes: poverty and negative trauma-related appraisals (Table 5.34). Although *gender* initially accounted for a significant proportion of the variance in CDT outcomes (i.e., the test of Model 1), this relationship fell away in multivariate analysis after controlling for negative trauma-related appraisals (Model 3).

A somewhat unexpected finding was that the presence of CDT was not predicted by any of the individual forms of traumatic exposure considered in the analysis (cf., Table 5.33), suggesting that CDT is influenced by multiple chronic traumatic events.

5.5.3.2. Predictors of PTSD

When PTSD scores were entered as the criterion variable, model coefficients were significant, $x^2(17, N=673) = 140.29$, $p < .001$, indicating that the model was able to distinguish between participants who were diagnosed with PTSD and those who were not (cf.., Tables 5.36-5.37). The model accounted for between 18.8% (Cox & Snell *R* square) and 25.2% (Nagelkerke *R* square) of the variance in PTSD diagnoses, and correctly classified 69.9% of participants.

As shown in Table 5.36, two predictor variables accounted for a unique proportion of the variance in PTSD scores: gender and negative trauma-related appraisals.

Table 5.34

Binary logistic regression – CDT diagnosis (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Demographic variables						
Age (older)	1.13	.148	1.10	.259	1.09	.323
Race (not black African)	3.01	.297	2.58	.406	2.31	.455
Gender (being female)	2.62	.001	2.37	.004	1.86	.054
No biological parent in the home	1.55	.186	1.49	.260	1.48	.278
Poverty (greater)	3.49	.000	2.24	.030	2.15	.046
Block 2: Traumatic antecedents						
Rape			0.46	.759	1.26	.625
Molestation			0.58	.041	1.12	.731
Domestic physical abuse			0.81	.215	0.82	.550
Exposure to community violence			0.86	.239	0.96	.897
Witness community violence			0.89	.882	0.80	.568
Witness domestic violence			0.64	.531	0.89	.730
Emotional abuse			0.32	.593	1.49	.264
Neglect			0.86	.049	1.06	.867
Death, illness & separation			0.19	.441	1.29	.494
Poly-victimisation			0.10	.278	2.30	.099
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.07	.002
Vulnerability (greater)					2.56	.097

Table 5.35

Binary logistic regression – CDT model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	31.60	5	.000			
Model 1	31.60	5	.000	.102	.102	91.08
Total Block 2	20.94	10	.022			
Model 2	52.55	15	.000	.166	.065	90.94
Total Block 3	12.08	2	.002			
Total Model	64.63	17	.000	.203	.036	91.38

Table 5.36

Binary logistic regression – PTSD diagnosis (N=802)

	Model 1		Model 2		Model 3	
	OR	*p*	*OR*	*p*	*OR*	*p*
Block 1: Demographic variables						
Age (older)	1.09	.076	1.08	.144	1.09	.128
Race (not black African)	1.70	.235	1.19	.715	1.24	.667
Gender (being female)	2.54	.000	2.50	.000	1.87	.002
No biological parent in the home	0.83	.401	0.77	.281	0.76	.256
Poverty (greater)	2.73	.000	1.80	.040	1.53	.151
Block 2: Traumatic antecedents						
Rape			1.75	.130	1.43	.345
Molestation			1.25	.271	1.19	.399
Domestic physical abuse			1.36	.114	1.20	.361
Exposure to community violence			1.38	.105	1.24	.282
Witness community violence			1.13	.555	0.87	.525
Witness domestic violence			1.23	.318	0.91	.681
Emotional abuse			1.24	.332	1.34	.203
Neglect			1.31	.278	1.33	.263
Death, illness & separation			1.71	.003	1.25	.252
Poly-victimisation			1.12	.692	1.12	.700
Block 3: Negative cognitions and vulnerability						
Negative trauma-related appraisals					1.10	.000
Vulnerability (greater)					1.38	.217

Table 5.37

Binary logistic regression - PTSD model summary (N=802)

	Model Coefficients			Nagelkerke	Proportion of variance explained	Classification correctly predicted
	x^2	*df*	*p*	R^2	ΔR^2	%
Total Block 1	50.82	5	.000			
Model 1	50.82	5	.000	.098	.098	64.88
Total Block 2	50.43	10	.000			
Model 2	101.25	15	.000	.187	.090	69.05
Total Block 3	39.04	2	.000			
Total Model	140.29	17	.000	.252	.065	69.94

5.6. Summary of key findings

5.6.1. Descriptive analyses

The descriptive analyses indicated that over half of the study participants came from homes with divorced/separated parents, with most participants having experienced: (a) a range of traumatic antecedents, and (b) some form of re-enactment behaviour. The majority of respondents had experienced some form of *Victimisation* (81.4%), *Perpetration* (64.9%) or *Self-Injury* (68.4%).

Many participants come from disadvantaged backgrounds, with over half the sample having experienced death, illness or parental separation in the family, and a third having witnessed domestic violence during childhood. Nearly half of respondents had experienced physical abuse at home and a quarter had been subjected to emotional abuse. Neglect and poverty had also been experienced by many of the participants, with poverty being linked to *Victimisation*, and with 62.1% of participants having witnessed community violence. In summary, the sample of participants had been, and continued to be, exposed to environments in which there is widespread exposure to developmental trauma, with the majority of participants (85.2%) reporting some form of traumatic re-enactment in the past year.

In addition, a sizeable portion of the sample can be diagnosed with PTSD (45.3%) or CDT (9.2%).

5.6.2. Univariate logistic analysis

Univariate analyses indicated the following regarding **covariates** considered in the study (cf., Table 5.7):

- All covariates had a significant association with at least one form of traumatic re-enactment; and
- Gender was the most consistent predictor of re-enactment behaviours.

The following key findings were identified for **traumatic antecedents**:

- Each form of traumatic re-enactment was predicted by a unique combination of predictor variables;
- Each form of traumatic exposure considered in the study, was significantly associated with at least one form of re-enactment behaviour;
- Childhood exposure to community violence and poly-victimisation were the forms of traumatic exposure which were most consistently associated with re-enactment outcomes;
- Sexual re-enactment was associated with a history of child sexual abuse (rape and molestation);
- Physical abuse was associated with a childhood history of exposure to physically violent behaviours (domestic physical abuse, and exposure to community violence); and
- Sexual *Victimisation* and *Self-Injury* were associated with the highest number of traumatic antecedents.

The following key findings were found for **negative cognitions and vulnerability**:

- Negative trauma-related appraisals were significantly associated with all forms of *Victimisation* and for *Self-Injury*, and
- Greater *Vulnerability* was significantly associated with all forms of *Perpetration*, and *Self-Injury*, and with two forms of *Victimisation* (total *Victimisation* and sexual *Victimisation*)

5.6.3. Multivariate logistic regression analysis

Significant findings from the multivariate analyses analysis are summarised in Table 5.38. With respect to **covariates**, gender emerged as the most consistent of all covariates in predicting re-enactment behaviours.

Key finding regarding **traumatic antecedents** were:

- Exposure to community violence was the most consistent predictor of re-enactment behaviours;
- Domestic physical abuse and molestation were both significantly associated with four forms of traumatic re-enactment (total *Victimisation*, physical *Victimisation*, total *Perpetration*, and *Self-Injury*);
- Rape, emotional abuse, and neglect were moderately associated with re-enactment behaviours; and

- Four predictor variables were not significantly associated with any form of traumatic re-enactment: witnessing community violence, witnessing domestic violence, death, illness and separation in the family, and poly-victimisation.

Key findings regarding **negative cognitions and vulnerability** were:

- Negative trauma-related appraisals were significantly associated with *Self-Injury*; and
- Greater vulnerability was significantly associated with most forms of *Perpetration* and *Self-Injury*.

5.6.4. Analysis of PTSD and CDT outcomes

The analysis of associations and comorbidities between all forms of traumatic re-enactment and posttraumatic outcomes indicated the following:

- Traumatic re-enactment behaviours were significantly associated with posttraumatic outcomes (PTSD and CDT); and
- Moderate to small concordance rates were observed between traumatic re-enactment behaviours and posttraumatic outcomes (i.e., PTSD and CDT).

With respect to risk factors for posttraumatic outcomes, the clinical presence of both PTSD and CDT was most strongly predicted by negative trauma-related appraisals, while traumatic re-enactments were most strongly predicted by a history of exposure to developmental trauma experiences.

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Table 5.38

Significant findings from binary regression analyses by form of traumatic re-enactment

	Victimisation				*Perpetration*				*Self-Injury*
	Total	Verbal	Sexual	Physical	Total	Verbal	Sexual	Physical	
	OR p	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*	*OR p*
Block 1: Covariate variables									
Age (older)									0.85 .004
Race (not black African)								4.02 .004	
Gender (being female)			3.27 .000		0.42 .000	0.50 .001	0.06 .000	0.52 .001	1.71 .014
No biological parent in the home	2.44 .012								1.73 .043
Poverty (greater)							2.01 .038		
Block 2: Traumatic antecedents									
Rape		2.77 .004	5.03 .000						
Molestation	1.76 .037		2.13 .000		1.54 .041		2.73 .000		
Domestic physical abuse	2.03 .006			1.95 .001	1.65 .015				2.22 .000
Exposure to community violence	2.18 .004	2.22 .000	1.66 .014	2.34 .000	1.80 .005			2.13 .000	
Witness community violence									
Witness domestic violence									
Emotional abuse							0.57 .044	0.61 .027	
Neglect				0.49 .013		1.62 .049			0.52 .038
Death, illness & separation									
Poly-victimisation									
Block 3: Negative cognitions and vulnerability									
Negative trauma-related appraisals									1.03 .045
Vulnerability (greater)					2.47 .000		2.38 .028	2.76 .000	2.51 .000
Total model co-efficients (x^2, p)	65.01 .000	47.73 .000	123.77 .000	74.31 .000	93.92 .000	32.25 .014	167.11 .000	86.37 .000	95.67 .000
Correctly classified (%)	81.4	63.6	70.4	70.0	67.3	70.7	78.2	64.0	71.8

CHAPTER 6: DISCUSSION – STUDY FINDINGS

6.1. Introduction

In this chapter, the study findings are discussed in relation to the primary goal of the study, which was to explore the association between traumatic exposure during childhood and adolescence, and traumatic re-enactments in adolescence. Study findings are discussed in relation to the primary objectives of the study and in the context of extant literature.

6.2. Findings in relation to key objectives

The four key objectives of the study were to: (1) define what type of traumatic events adolescents experience; (2) understand the types of behavioural re-enactment that are associated with traumatic exposure; (3) explore the relationship between forms of traumatic re-enactment and traumatic antecedents; and (4) explore the association between traumatic re-enactments and posttraumatic stress disorders (PTSD and CDT).

6.2.1. Nature and extent of traumatic exposure

The first key objective was to understand the types of traumatic events that participants had experienced. A wide range of traumatic experiences were surveyed in this study in order to obtain a comprehensive picture of childhood and adolescent experiences.

6.2.1.1. Prevalence of traumatic exposure

Consistent with findings from previous studies, three primary trends emerged with respect to participants' experiences of traumatic exposure. **First, high levels of traumatic exposure were reported by participants in the present study; a finding which is consistent with findings from previous South African research** (as consolidated and summarised by Kaminer & Eagle, 2010). In the present study, participants reported direct exposure to various forms of childhood interpersonal violence, with the most common forms being exposure to death, illness or separation in the family (57.0%); domestic abuse (48.1%); sexual abuse (40.3%); direct exposure to community violence (30.0%); emotional abuse (27.7%); and domestic neglect (15.8%). Participants also reported high levels of vicarious trauma (witnessing interpersonal violence: 64.0%).

The United Nations Children's Fund (2014a) highlights the occurrence of physical, sexual, and mental violence, and neglect against children, which is evidenced in this sample; and it highlights how these experiences have adverse effects on a child's physical, psychological, and social development and can have negative life-long repercussions. Global statistics show that in the year 2012, 95,000 people below the age of 20 were victims of homicide which was the largest cause of preventable death among children; approximately 60% of children (ages 2-14) experience corporal punishment by caregivers on a regular basis; almost a third of children (ages 13-15) experience regular bullying; and about 10% of girls have experienced sexual abuse during their lifetimes (United Nations Children's Fund, 2014a).

Many forms of violence have been studied in South Africa, with these studies reporting that South African children experience high levels of traumatic exposure including: direct or

vicarious exposure to interpersonal violence (Kaminer, et al., 2013; Seedat, et al., 2009; Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004b), xenophobic attacks (Sharp, 2008), school violence and bullying (Harber, 2001; Seedat, et al., 2004b; Zulu, et al., 2001), sexual abuse and rape (Fortier, et al., 2009; Jewkes, Sikweyiya, et al., 2010; Prinsloo, 2006), community or township violence (Govender & Killian, 2001; Lalor, 2013; Shields, Nadasen, & Peirce, 2009; Shields, et al., 2006), and intimate partner violence (Gupta, et al., 2008), and gang violence (Kynoch, 1999).

A second trend that emerged in the study was that participants reported traumatic experiences which go beyond the narrow definition of traumatic experiences that have been focussed on in much of the extant literature. In addition to interpersonal traumatic exposure, participants also reported structural violence during childhood and/or adolescence: such as adversity associated with death, illness or separation in the family (57%), and exposure to poverty (11%).

It has been argued that structural trauma has been largely neglected in trauma assessment, and needs to be studied (Kira, 2001; Kira, et al., 2014). In addition structural trauma needs to be considered in a South African context characterised by high levels of unemployment, poverty and death due to violence and illnesses such as HIV AIDS, malaria and tuberculosis (George, et al., 2013; Kidman & Thurman, 2014; Statistics South Africa, 2014; UNAIDS, 2014; World Health Organization, 2002). Within South Africa, it is estimated that approximately 3.4 million children have experienced the death of one or more parent, with between 1.6 and 2.4 million of these being due to AIDS (UNICEF/UNAIDS, 2010). In addition, it is estimated that approximately 65.5% of children experience poverty within the South African context (Statistics South Africa, 2008). These variables, which reflect

structural violence, have previously been addressed in a limited way, but they have not tended to be defined as traumatic experiences which have the potential to impact on traumatic outcomes and/or traumatic re-enactments.

The various forms of traumatic exposure reported by participants in the present study have been addressed across different studies within the South African context, but seldom within a single study. South Africa has high rates of interpersonal violence (Kaminer & Eagle, 2010; World Health Organization, 2002), with it generally being acknowledged that a comprehensive assessment of children's exposure to violence needs to focus on a broad range of traumatic experiences (Collings, et al., 2014). For this reason, children's exposure to traumatic events was assessed in the present study using the Developmental Trauma Inventory (DTI), which is specifically designed to assess a broad range of potentially traumatic experiences (Collings, et al., 2014).

Lastly, nearly half of the participants (48.8%) experienced poly-victimisation (i.e., exposure to +3 types of interpersonal violence). By way of comparison, in a sample of 2,030 nationally representative American children (aged 2 to 17), 22% were found to have experienced poly-victimisation (Finkelhor, et al., 2007a). Finkelhor, et al. (2007a) emphasise how studies need to address a broad range of traumatic experiences and not only focus on a single form of victimisation (such as sexual abuse or bullying). When individuals experience poly-victimisation, the likelihood of chronic traumatic outcomes increases, with an association between multiple traumatic experiences and posttraumatic outcomes having been noted by a number of authors (e.g. Finkelhor, et al., 2007b; Ford, Elhai, et al., 2010; Turner, et al., 2010b).

6.2.1.2. Conclusions

Study findings confirm that:

- South African children are exposed to high levels of interpersonal violence, with further research being indicated in order to more clearly understand the reasons for these high prevalence figures.
- Current understandings and definitions of trauma need to be extended to include a broader range of experiences such as poverty and death of a family member. In addition, it needs to be acknowledged that South African children are frequently exposed to multiple traumatic events (i.e., poly-victimisation).

6.2.2. Traumatic re-enactments

The second key objective of the study was to understand the types of behavioural re-enactment that are associated with traumatic exposure.

6.2.2.1. Adequacy of measurement: different types of traumatic re-enactment, alpha levels for scales, correlation between different forms of re-enactment

In the absence of any comprehensive measure of traumatic re-enactment behaviours (cf., Penning & Collings, 2014), a traumatic re-enactment measure was developed as part of this study. Consistent with the work of van der Kolk (1989), it was assumed that traumatic re-enactment behaviours would take three primary forms: *Victimisation* (verbal, sexual, and/or

physical), *Perpetration* (verbal, sexual, and/or physical), and *Self-Injury* (NSSI and/or suicidal behaviour).

Scales and subscales developed in the present study to assess these forms of traumatic re-enactment were found to have acceptable levels of internal consistency. Further, Pearson product-moment correlations indicated that while these various forms of re-enactment were significantly correlated, effect sizes were small, suggesting that different forms of re-enactment could usefully be considered to be associated, although largely independent constructs.

6.2.2.2 Incidence of different forms of traumatic re-enactment behaviour

The analysis highlighted three main issues associated with the incidence of traumatic re-enactment behaviours. **Firstly, incidence rates for all forms of re-enactment behaviours were high (ranging from 25% for sexual *Perpetration* to 81% for total *Victimisation*)**.

These high levels of re-enactment behaviours have not previously been reported, as available studies have tended to report prevalence rates for traumatic re-enactment based on a single form of re-enactment behaviour. For example, in a sample of adults in the United States (Finkelhor et al., 1990), 27% of participants reported a history of childhood sexual abuse and 20% reported a history of adult sexual assault, with 61% to 68% of women who had experienced childhood sexual abuse reporting rape or attempted rape as adults.

Arata (2002) highlights the difficulties in comparing prevalence rates for sexual revictimisation, and discusses three ways in which prevalence statistics for sexual

victimisation are reported: (1) the prevalence of childhood sexual assault on rape victims; (2) the prevalence of sexual victimisation reported by anyone reporting sexual assault (including adult rape, incest, and molestation); and (3) comparisons of rates of victimisation among women divided into two groups: those who had, and those who had not, experienced childhood sexual abuse. As a result, comparisons have been difficult to make, with such comparisons tending to be more complex when multiple forms of re-enactment behaviours are compared.

A second issue raised by the present findings, relates to the relative incidence of different forms of traumatic re-enactment. Of the three major forms of re-enactment examined in the study, *Victimisation* was reported most often (81.4%), followed by *Self-Injury* (68.4%) and lastly, by *Perpetration* (64.9%). Extant research on re-enactment indicates a large number of studies on *Victimisation* as a form of re-enactment, with this focus being consistent with the high incidence rates for *Victimisation* observed in the present study.

Self-Injury, including non-suicidal self-injury and/or suicidal behaviour had the second highest incidence rate. *Self-Injury* has been extensively researched and linked to childhood or adolescent trauma (e.g. Miller, 1994; Trippany, et al., 2006; van der Kolk, et al., 1991), but unlike *Victimisation*, *Self-Injury* has largely not been recognised as a form of re-enactment, but rather an independent disorder which has been linked to earlier stressors. However, in studies of Borderline Personality Disorder, *Self-Injury* has been identified as a form of re-enactment, linked to childhood sexual trauma (Trippany, et al., 2006).

Over two thirds of the sample engaged in some form of *Self-Injury*. This incidence rate is high and somewhat concerning in a sample of adolescents. Research has indicated that *Self-Injury* is associated with adverse life experiences (or traumas), and is often used to cope with strong negative emotions associated with traumatic experiences (e.g. Kira, 2001; Mulvihill, 2005; Streeck-Fischer & van der Kolk, 2000).

It could be argued that the relatively low incidence rate for *Perpetration* could be due to participants' reluctance to admit to these behaviours. Fewer studies have been conducted on *Perpetration* than on *Victimisation* or *Self-Injury*, with available studies tending to have focussed on forensic samples. However, research on domestic violence and bullying perpetrated by adolescent and/or adult males, indicates that many such perpetrators have a history of childhood maltreatment (Abrahams & Jewkes, 2005; Cho & Wilke, 2010; Feldman, 1997; Finkel, 2008; Jewkes, Sikweyiya, et al., 2010; Losel & Bender, 2014; McVie, 2014; Wilson, et al., 2014).

The study findings also permitted a more in-depth exploration of incidence rates for specific forms of traumatic re-enactment within each of the three major re-enactment categories examined. Within the broad category of *Victimisation*, physical abuse (64.0%) was reported most frequently, followed by verbal abuse (41.8%), and sexual abuse (36.7%). Similarly, within the broad category of *Perpetration*, physical abuse (49.7%) was reported most frequently, followed by verbal abuse (30.2%) and sexual abuse (24.9%).

Relative incidence rates for different forms of re-enactment have not previously been reported in the literature. For example, verbal abuse has not been addressed by many studies, except within the realm of bullying, where it has frequently been found to constitute the most

common form of bullying (Olweus, 1993; Penning, 2009). In addition, physical bullying has been extensively studied, but difficulties arise in interpreting obtained findings due to differences in the ways in which physical bullying has been operationalised (Olweus, 1993). Sexual *Victimisation* has been extensively studied, and research shows a strong link between childhood sexual trauma and subsequent *Victimisation* (e.g. Cloitre, et al., 2002; Dirks, 2004; Erickson, 2010; Field, et al., 1999; Gold, et al., 1999; Krahe, Scheinberger-Olwig, Waizenhofer, & Kolpin, 1999; Mason, et al., 2009; Testa, et al., 2010).

6.2.2.3. Conclusion

Study findings regarding forms of traumatic re-enactment suggest that:

- Incidence rates for all forms of re-enactment behaviours were high in the study sample, suggesting the need for effective primary and secondary prevention efforts designed to address the undesirable consequences of such behaviours; and
- Traumatic re-enactment behaviours take a number of forms, with each of these forms of re-enactment needing to be targeted in any comprehensive primary and secondary prevention programming.

6.2.3. Univariate analyses: relationships between predictor variables and forms of traumatic re-enactment

The third key objective of the study was to explore associations between traumatic antecedents and re-enactment behaviours. The design of this study enabled the influence of three blocks of predictor variables to be examined in relation to re-enactment behaviours: (1) covariates, (2) traumatic antecedents, and (3) cognitions and risky behaviours. The

relationship between blocks of predictor variables and forms of re-enactment were initially analysed using a series of univariate logistic regression analyses in order to independently examine the relationship between each predictor variable and re-enactment behaviours. The main trends identified in these analyses are summarised below:

6.2.3.1. Covariates and traumatic re-enactment behaviours

Consistent with findings from previous studies, participants' gender was found to be strongly associated with re-enactment behaviours. This trend was most marked in relation to a history of child sexual abuse, with female participants who reported a history of child sexual abuse being nearly three times more likely than males to report recent sexual *Victimisation* and male participants with a history of child sexual abuse being more than 11 times more likely than females to report recent sexual *Perpetration*. Taken together, these findings suggest that the inter-generational transfer of sexual violence tends to be perpetuated by males in the form of sexual *Perpetration*, but by females in the form of sexual *Victimisation* (cf., Penning & Collings, 2014b).

Structural factors (such as poverty and other forms of adversity) were also found to be significantly associated with selected forms of re-enactment, with poverty being associated with sexual *Victimisation* ($p < .045$) and physical *Victimisation* ($p < .007$), and with the absence of biological parents in the home being associated with total *Victimisation* ($p < .006$), physical *Victimisation* ($p < .050$) and *Self-Injury* ($p < .005$). This trend is consistent with the view that: (a) social/structural factors need to be considered as an antecedent to traumatic outcomes (Kira, 2001; Kira, et al., 2014), and (b) antecedents of traumatic outcomes need to be conceptualised using an eco-systemic perspective which

embraces social/structural influences on traumatic outcomes (Grauerholz, 2000; Miethe & Meier, 1994; Rasmussen, 1999, 2013).

6.2.3.2. Traumatic antecedents and re-enactment behaviours

Five main themes emerged from the univariate analysis in which traumatic antecedents were entered as independent variables.

Firstly, different forms of re-enactment behaviours were found to be associated with different traumatic antecedents, with each type of traumatic antecedent being found to be associated with one or more type/s of re-enactment behaviour/s.

Secondly, direct forms of exposure to interpersonal violence during childhood tended to be more strongly associated with re-enactment behaviours than were vicarious forms of exposure. Direct exposure to community violence, domestic physical abuse, and childhood molestation were each significantly associated with each form of re-enactment behaviour. The observed association between a past history of exposure to community violence and re-enactment behaviours was unanticipated, as previous research in the field has not systematically explored this association (e.g. Arata, 2002; Barnes, et al., 2009; Feldman, 1997; Ferbusson, et al., 1997; Fortier, et al., 2009).

Witnessing domestic and community violence were not found to be independently associated with re-enactment behaviours. This finding is, of course, inconsistent with findings from previous studies which suggest that vicarious traumatic experiences can result in posttraumatic outcomes (e.g. Abrahams & Jewkes, 2005; Cook, et al., 2005; Kitzmann, et al.,

2003; Turcotte-Seabury, 2010; Voisin & Jun, 2012). Although the reasons for this discrepancy are not clear, it is possible that vicarious forms of traumatic exposure may be associated with conventional posttraumatic outcomes (i.e., as per DSM) but not with traumatic re-enactment behaviours – with further research being indicated in order to further explore this hypothesis..

Thirdly, the univariate analysis yielded different findings for different forms of child sexual abuse, with childhood molestation being more strongly associated with re-enactment behaviours than was childhood rape. Although the reasons for this trend need to be systematically explored in future research, the observed trends highlight the fact that apparently less intrusive forms of child sexual abuse should not be minimised or ignored in research on traumatic outcomes (Herman, 1992b; Kaminer & Eagle, 2010).

Fourth, the extent of poly-victimisation experienced during childhood was found to be associated with the incidence of re-enactment behaviours. Those who had experienced poly-victimisation (exposure to +3 types of interpersonal violence during childhood) were twice as likely to report re-enactment behaviours. This finding is consistent with findings reported in previous studies (e.g. D'Andrea, et al., 2012; Finkelhor, et al., 2007b; Lacelle, et al., 2012), and is consistent with the predictions of the Cumulative Trauma Model which maintains that the extent of traumatic exposure is likely to predict the intensity of traumatic symptoms (Follette, et al., 1996).

Finally, family structure had a relatively small impact on re-enactment behaviours. This finding was somewhat surprising as many participants in the present study did not come from traditional two parent families, suggesting that other traumatic events studied were

perceived as more negative, thereby having a greater influence on the participants. More than half of the participants did not have both a mother and father in the home, and 16% lived in a home with neither parent. The burden of care was higher for females (mother or female guardian) as they were responsible for the upbringing of 41% of the participants.

6.2.3.3. Cognitions, risky behaviour, and traumatic re-enactments

Internalising (negative trauma-related cognitions) and externalising behaviours (risky behaviours) were found to be associated with a number of forms of re-enactment. Maladaptive coping strategies (i.e. a tendency to engage in risky behaviours) showed strong univariate associations with *Perpetration and Self-Injury*, and with some forms of *Victimisation*, while negative cognitions showed strong univariate association with *Victimisation* and *Self-Injury.*

The impact of negative cognitions on *Victimisation* and *Self-Injury* is consistent with what would be predicted from a cognitive behavioural perspective on posttraumatic outcomes (Allwood & Bell, 2008; Pynoos, et al., 2009; Trippany, et al., 2006; van der Kolk, 2005a). Available studies indicate that: (a) negative trauma-related cognitions tend to mediate posttraumatic outcomes (Fortier, et al., 2009); (b) overwhelming traumatic events can result in long-term changes to cognitions (emotions and behaviour) (Friedman, et al., 2011); and (c) effective PTSD interventions often include the normalisation of cognitions and emotions associated with the trauma (Luxenberg, et al., 2001). Further, cognitive learning theory would predict that negative trauma-related cognitions are likely to maintain and perpetuate trauma symptoms through operant conditioning (Fortier, et al., 2009).

Consistent with findings from previous studies, risky behaviours were also found to be associated with posttraumatic outcomes (Allen & Lauterbach, 2007; Arata, 2002; Ford, Courtois, Steele, et al., 2005; Fortier, et al., 2009; Mason, et al., 2009; Messman-Moore, et al., 2010; Testa, et al., 2010; Trippany, et al., 2006; Voisin & Jun, 2012; Wilson, et al., 2014); with D'Andrea, et al. (2012) having proposed that such risky behaviours may reflect attempts at self-soothing.

Maladaptive coping strategies (or risky behaviours) – including externalising behaviours such as alcohol use, being placed in dangerous situations, and/or risky sexual activity – were found to be associated with *Perpetration* and *Self-Injury* in the present study. This finding is consistent with findings from previous studies which have linked bullying behaviour, with both externalising behaviours and subsequent adult offending (Lyons, 2006).

6.2.3.4. Conclusions

Findings from the univariate analyses can be summarised as follows:

- The association between re-enactment behaviours and exposure to traumatic events observed in the present study suggests that traumatic exposure could be used as a marker to identify children and adolescents who are "at risk" for subsequent re-enactment behaviours. In other words, *Victimisation*, *Perpetration* or *Self-Injury* need to be understood in the context of a child or adolescent's history, especially where violence, trauma, and/or poverty are evident in the home.

- Study findings suggest that there are gender differences in re-enactment behaviours, with females being more likely to engage in *Victimisation* or *Self-Injury*, and males being more likely to engage in *Perpetration*.
- Study findings indicate that exposure to community violence is strongly associated with all forms of behavioural re-enactment, a finding which is likely to have particular significance in the contemporary South African context in which violence is endemic in many communities (Kaminer & Eagle, 2010).

6.2.4. Findings from multivariate analysis: the relationships between predictor variables and forms of traumatic re-enactment

Significant multivariate associations were found between predictor variables examined in the study and forms of re-enactment. Key trends which emerged from the multivariate analyses are discussed separately for each of the three main forms of re-enactment behaviours examined in the study.

6.2.4.1. *Victimisation* models

With respect to the *Victimisation* models, two main trends were identified. **Firstly, traumatic antecedents accounted for a significant proportion of the variance across all forms of *Victimisation* considered in the study** (7.0% for verbal *Victimisation* through to 13.2% for sexual *Victimisation).* With respect to traumatic antecedents, a history of childhood sexual abuse and direct exposure to physical forms of interpersonal violence accounted for the greatest proportion of the explained variance in *Victimisation* scores; with participants being

five times more likely to be sexually *Victimised* if they had been raped during childhood or adolescence.

The observed influence of traumatic experiences on re-enactment behaviours is congruent with previous studies on *Victimisation*. Many previous studies have identified an association between various forms of childhood sexual abuse and *Victimisation* experiences (e.g. Barnes, et al., 2009; Breitenbecher, 1999; Classen, et al., 2005; Cloitre, 1998; Ferbusson, et al., 1997; Finkelhor, et al., 2007b; Katz, May, Sörensen, & DelTosta, 2010; Littleton, et al., 2009; Messman-Moore, et al., 2011; Walsh, 2009)

The present finding that exposure to community violence was significantly associated with all forms of *Victimisation*, is also consistent with findings reported in a number of previous national and international studies (Foster, Kuperminc, & Price, 2004; Garrido, Culhane, Raviv, & Taussig, 2010; Martin, et al., 2012; Schwartz & Proctor, 2000; Shields, et al., 2009; Shields, et al., 2006).

Secondly, negative cognitions and risky behaviours were found to play a minimal role in predicting the variance in *Victimisation experiences.* This trend is contrary to findings from previous studies which suggest that negative trauma-related cognitions and risky behaviours are likely to play an important aetiological role in *Victimisation* experiences (e.g. Allwood & Bell, 2008; Walsh, 2009). The reasons for these divergent findings are, however, far from clear, with further research being indicated in order to further explore this trend.

6.2.4.2. *Perpetration* models

Five key trends were identified across the Perpetration Models. **Firstly, gender significantly predicted variations in all forms of *Perpetration* behaviours,** with males being significantly more likely than females to engage in *Perpetration* behaviours. Compared to females, males were twice as likely to perpetrate verbal and/or physical abuse, and 15 times more likely to perpetrate sexual abuse. These findings are consistent with findings from previous studies which show that males are more inclined to perpetrate all forms of violence, especially sexual violence (Kaminer & Eagle, 2010).

Secondly, the *Perpetration* models (compared to the *Victimisation* models) had significant associations with a wide variety of predictor variables, with identified predictor variables varying across different forms of *Perpetration*. Taken together these findings suggest that there may be different aetiological pathways for different forms of *Perpetration*.

Thirdly, exposure to physical abuse during childhood emerged as the most consistent predictor of *Perpetration* behaviours. This trend is consistent with findings from previous studies which have found that: (a) childhood exposure to domestic violence is one of the most consistent correlates of later domestic violence (Feldman, 1997), (b) witnessing domestic violence against a boy's mother is associated with violent behaviour in public as an adult (Abrahams & Jewkes, 2005), (c) witnessing violence at home and in the community is associated with violent behaviours (Allwood & Bell, 2008), and (d) witnessing inter-partner violence during childhood is associated with subsequent bullying perpetration (Voisin & Jun, 2012).

Fourth, participants who were perpetrators of interpersonal violence experienced childhoods characterised by inadequate or neglectful parenting. Study findings suggest that *Perpetrators* were more likely to have experienced limited caregiver attention or oversight during childhood or adolescent. *Perpetrators* were more likely to have experienced neglect and molestation, and were more likely to engage in risky behaviours (such as excessive drinking of alcohol, risky sexual activities or being careless about safety), although they were less likely to have experienced emotional abuse than non-*Perpetrators.*

Lastly, negative trauma-related appraisals were not found to be associated with *Perpetration* behaviours. This finding contrasts markedly with findings obtained for PTSD outcomes (Agar, Kennedy, & King, 2006; Ehlers & Clark, 2000; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; Hembree & Foa, 2004; Shenk, Putman, Rausch, Peugh, & Noll, 2014), suggesting that PTSD and traumatic re-enactments may be characterised by different aetiological pathways; with further research being indicated in order to further explore this hypothesis.

6.2.4.3. *Self-Injury* model

Three main trends were identified in the *Self-Injury* multivariate analysis. **First, with respect to traumatic antecedents, *Self-Injury* was most strongly predicted by domestic forms of maltreatment (physical abuse and neglect).** The plight of children who experience domestic maltreatment has been highlighted by the United Nations Children's Fund (2014a) and the World Health Organisation (2002); with available literature showing a link between domestic maltreatment and forms of *Self-Injury* (Mulvihill, 2005; van der Kolk, 2005a).

Second, childhood sexual abuse (rape and molestation) was not found to be associated with *Self-Injury*. Although there was a significant univariate association between child sexual abuse and *Self-Injury* – a finding which is consistent with those of Miller (1994) – this association fell away in multivariate analysis after controlling for other forms of child maltreatment. Taken together, these findings confirm the view of Finkelhor et al. (2007) who maintain that a focus on a single form of child maltreatment may provide an overestimation of the aetiological significance of specific forms of maltreatment on posttraumatic outcomes.

Third, *Self-Injury* was the only form of re-enactment which was significantly predicted by negative trauma-related appraisals. *Self-Injury* has been found to be associated with negative cognitions (Luxenberg, et al., 2001), with such an association being consistent with the predictions of the TOPA (Trauma Outcome Process Assessment) model (Rasmussen, 2013) which draws a link between traumatic experiences, cognitive distortions, and *Self-Injury*.

6.2.4.4. Conclusions

Findings from the multivariate analysis can be summarised under the following points:

- All forms of re-enactment were found to be associated with traumatic antecedents; with *Victimisation* and *Perpetration* being most strongly predicted by exposure to community violence and *Self-Injury* being most strongly predicted by exposure to physical abuse in the home. These findings suggest that there is need for a greater focus on community violence in studies of *Victimisation* and *Perpetration* in the South African context.

- The present findings suggest the value of a comprehensive measure of children's exposure to potentially traumatic life events (such as the DTI), which not only provides a comprehensive measure of the individual's full victimisation profile but also permits an analysis of the unique contribution of each form of traumatic exposure to posttraumatic outcomes.

- Traumatic antecedents accounted for a larger proportion of the variance in re-enactment behaviours than did trauma-related appraisals, risky behaviours, or covariates considered in the study; with this trend being evident across all forms of re-enactment. The study confirmed the strong association between childhood traumatic experiences and re-enactment behaviours which has been suggested in a number of previous studies on various forms of traumatic re-enactment: e.g. sexual *Victimisation* (Arata, 2000; Breitenbecher, 1999; van der Kolk, 1989); adult inter-partner *Victimisation* (Griffing, et al., 2005) and *Perpetration* (Feldman, 1997; Hamby & Grych, 2013; Streeck-Fischer & van der Kolk, 2000); bullying *Perpetration* (Voisin & Jun, 2012); and criminal *Perpetration* (Widom & White, 1997; Wilson, et al., 2014).

- There were significant gender differences in traumatic re-enactment behaviours. These gender differences are consistent with previous findings in indicating that females are more likely to be *Victims* of abuse or *Self-Injury*, while males are more likely to *Perpetrate* abuse (Abrahams, et al., 2010; Cho & Wilke, 2010; Finkelhor, et al., 2007b; Mason, et al., 2009; Streeck-Fischer & van der Kolk, 2000; United Nations Children's Fund, 2014a; Zink, Klesges, Stevens, & Decker, 2009).

6.2.5. The relationship between traumatic re-enactment and posttraumatic outcomes

The last objective of the study was to explore the relationship between forms of traumatic re-enactment and posttraumatic outcomes (as assessed using standardised measures of PTSD and complex PTSD).

6.2.5.1. Associations between PTSD/CDT and traumatic re-enactment behaviours

Scores for all forms of *Victimisation* and *Self-Injury* significantly predicted the presence of both PTSD and CDT. However, scores for all forms of *Perpetration* were not found to be predictive of either PTSD or CDT outcome. Moreover, significant correlations between forms of *Victimisation* and *Self-Injury* and PTSD outcomes were not particularly high (R^2 values = .01-.05). In addition the concordance rates for traumatic re-enactment behaviours, and CDT and PTSD were quite low.

Taken together these findings suggest that: (a) re-enactment behaviours and PTSD diagnoses are associated, although largely independent outcomes, which can meaningfully be explored independently, and consequently (b) that formal diagnoses for both PTSD and CDT fail to adequately capture/address re-experiencing phenomena.

6.2.5.2. Predictors of PTSD and CDT outcomes

In marked contrast to findings for re-enactment behaviours, **PTSD outcomes (both PTSD and CDT) were significantly predicted by negative abuse-related cognitions but not by any of the forms of traumatic exposure examined in the study.** These finding are

consistent with cognitive models of PTSD outcomes in terms of which the traumagenic potential of exposure to interpersonal violence is assumed to subsist in the manner in which traumatic experiences are appraised, rather than in traumatic exposure *per se* (cf., Agar, et al., 2006; Calvete, 2014; Cromer & Smyth, 2010; Foa, et al., 1999; Játiva & Cerezo, 2014; Moser, Hajcak, Simons, & Foa, 2007; Shenk, et al., 2014; Verelst, De Schryver, De Haene, Broekaert, & Derluyn, 2014).

In terms of cognitive models of PTSD, the development and maintenance of posttraumatic outcomes is assumed to be based on the victim's cognitive appraisal of traumatic experiences; an assumption which is consistent with both general cognitive theories of stress reactions (e.g. Lazarus & Folkman, 1984; Scherer, Klaus, Schorr, & Johnstone, 2001) as well as with cognitive theories of reactions to traumatic experiences (Calvete, 2014; Ehlers & Clark, 2000; Finkelhor & Browne, 1986; Foa & Cahill, 2001; Janoff-Bulman, 1992; Spaccarelli, 1994; Young, Klosko, & Weisharr, 2003).

Consistent with these predictions, the present findings provide support for the view that cognitive appraisals mediate the association between traumatic exposure and PTSD outcomes. For example, significant univariate associations between specific forms of child maltreatment (child molestation and neglect) and PTSD outcomes fell away in multivariate analysis after controlling for negative abuse-related appraisals. However, the fact that traumatic re-enactment behaviours were not found to be significantly predicted by negative trauma-related appraisals, would suggest that re-enactment behaviours and formal posttraumatic outcomes (i.e., PTSD and CDT) may be characterised by different aetiological pathways, with further research being indicated in order to further explore this hypothesis.

6.3. Conclusions

The study findings suggest that re-enactment behaviours and formal posttraumatic outcomes (PTSD and CDT) are associated, although somewhat distinct outcomes of traumatic exposure. Although correlations between PTSD outcomes and re-enactment behaviours were largely significant, these correlations were generally low, with the analysis of predictors of traumatic outcomes suggesting that re-enactment behaviours and posttraumatic outcomes are likely to be predicted by different variables.

CHAPTER 7: DISCUSSION – IMPLICATIONS AND LIMITATIONS

7.1. Introduction

This chapter discusses the implications of the study findings in relation to the key study objectives, and concludes by considering the limitations of the study.

7.2. Implications of study findings

The implications of the study findings are discussed with reference to the four study objectives.

7.2.1. Study objective 1: Participants' exposure to developmental trauma experiences

High rates of traumatic exposure reported by participants in the present study suggest that there is a need for further research designed to identify risk factors for traumatic exposure among South African children, as well as a need for the development of effective primary, secondary and tertiary prevention programmes (c.f.,Collings, 2015) designed to address high rates of traumatic exposure among South African children and adolescents. According to Seedat, et al. (2009) such prevention efforts are likely to be most successful if they are directed at specific forms of traumatic exposure (including: beatings, sexual violence, bullying, emotional violence and neglect, death of parents, and witnessing domestic violence), as well as at broader structural factors, including: poverty, unemployment (and youth unemployment in particular), gender and other social inequalities, the intergenerational transfer of violence (i.e. traumatic re-enactments), a culture of alcohol abuse, a culture of

limited law enforcement and security within the townships, and an almost uncontrolled access to firearms.

In addition to high prevalence rates for developmental trauma, study participants reported exposure *to a broad range* of traumatic experiences, with such experiences encompassing different loci (i.e. intra-familial versus extra-familial) and different modes (direct versus vicarious) of exposure. Each of these forms of traumatic exposure needs to be considered if a comprehensive, focused, and effective prevention programme is to be developed. To this end, both researchers and practitioners are likely to benefit from the use of comprehensive assessment measures, such as the DTI, which are specifically designed to provide an indication of a child's full victimisation profile.

Study findings also indicate that poly-victimisation (experiencing more than three different types of traumatic exposure) was common in the study sample (experienced by 48.8% of participants). This finding is consistent with previous findings which indicate that children are often exposed to multiple types of victimisation (Finkelhor, et al., 2007b). For example, a number of studies have shown that there are connections between:

- Child abuse and witnessing domestic violence (Appel & Holden, 1998; Bowen, 2000; Kitzmann, et al., 2003; Sternberg, et al., 2004; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003);
- Child abuse and sexual abuse during childhood and adolescence (Grauerholz, 2000); as well as
- Intra- and extra-familial forms of child victimisation (Baldry, 2003; Perry, Hodges, & Egan, 2001).

Despite a growing body of evidence which suggests that multiple forms of developmental trauma are the norm, the available literature has tended to focus on single forms of child maltreatment. This approach fails to provide a complete victimisation profile, and possibly provides an overestimation of the traumatic significance of specific forms of child maltreatment (Finkelhor, et al., 2007a). As such, Finkelhor and his colleagues (2007b, p. 23) suggest that:

> *"Future research and practice in the field of child victimization might benefit from a more comprehensive approach to assessment, one that takes into account a broader range of victimizations. The benefit for research may be a better ability to account for the effects of victimization and a better ability to understand the…pathways that lead to victim vulnerability. The benefit for practice may be…a better ability to target intervention and prevention to the full range of harm-causing episodes that children have experienced."*

Taken together these findings suggest that South African researchers and practitioners working in the field of developmental trauma need to: (a) assess for a broad range of lifetime victimisation types: and (b) understand the limitations of studies and assessments organized around a single form of victimisation (e.g. sexual abuse).

7.2.2. Study objective 2: Re-enactment behaviours reported by participants

The present findings are consistent with the view that behavioural re-enactments of trauma are most usefully conceptualised as encompassing three associated, although conceptually distinct, forms of behaviour: *Victimisation*, *Perpetration*, and *Self-Injury* (van der Kolk,

1989). The measures of these three forms of re-enactment employed in the study were characterized by (a) high levels of internal consistency, and (b) significant, although generally low, inter-correlations suggesting that different forms of re-enactment can usefully be considered to be associated, although largely independent constructs.

The heuristic value of an integrated approach to traumatic re-enactment in the present study, suggests that future research would benefit from adopting such an integrated perspective in order to more effectively (a) evaluate the relative importance of different forms of traumatic re-enactment, (b) investigate the degree of multiple/poly forms of re-enactment, and/or (c) explore risk factors for different forms of traumatic re-enactment in any given sample (Penning & Collings, 2014b).

Although gender differences in PTSD outcomes have been previously noted (e.g., Canetti, et al., 2015; Resick, et al., 2012; Voisin & Jun, 2012), these differences have tended to reflect (a) differences in the prevalence of PTSD, rather than (b) differences in the profile of PTSD symptoms reported by males and females. A unique finding of the present study was that there were gender differences in the incidence of different forms of re-enactment, with females reporting a higher incidence of sexual *Victimisation* and *Self-Injury*, and with males reporting a higher incidence of *Perpetration* (cf., Table 5.7).

This pattern of findings possibly provides some resolution to what has become known as the *cycle of abuse paradox*. The cycle of abuse hypothesis turns on the assumption that sexually abused children will go on to subsequently become sexual abusers. However, the *paradox* lies in the fact that if the hypothesis were true (and given that most CSA victims are female)

one would expect that most CSA offenders would be female (but this is not the case). As indicated elsewhere:

> *"The broader lens—provided by the extended definition of traumatic reenactment employed in the present study—suggests that it might be more accurate to talk about a cycle of traumatic reenactments (rather than a cycle of abuse), with there being gender differences in the nature of traumatic reenactments. Support for such a view is provided by the results of the present study in which male CSA survivors were found to be over-represented among respondents who reported sexually abusive behavior while female survivors were overrepresented among respondents who reported other forms of traumatic reenactment (revictimization and self-injury)"* (Penning & Collings, 2014b, p. 718).

7.2.3. Study objective 3: Risk factors for traumatic re-enactments

At a conceptual level, the study findings provide support for aetiological theories of re-enactment behaviours which maintain that traumatic exposure is likely to be of primary aetiological significance in the development of re-enactment behaviours (cf., Chapter 3, Section 3.4.2). In the present study traumatic antecedents accounted for a significant proportion of the variance across all forms of re-enactment, with different forms of re-enactment being associated with a unique constellation of traumatic antecedents (cf., Chapter 6, Section 6.2.3.2.).

However, what cannot be ascertained from the present study is *how* or *why* traumatic antecedents lead to re-enactment outcomes, with further research being indicated in order to

explicate the dynamics of this observed association. Ideally such research needs to be informed by risk factors for re-enactment behaviours suggested by available theoretical and empirical understandings in the field, with the work of van der Kolk (1989) suggesting a number of hypotheses regarding the dynamics of how and why traumatic experiences may lead to subsequent re- behaviours. For example, van der Kolk proposes that re-enactment behaviours may, inter alia, be a consequence of:

- biologic responses to traumatisation and the modulation of physiological arousal;
- state dependent learning where an early memory can be activated by later events;
- the "*return of the repressed*", in which stress triggers a return to earlier behavioural patterns;
- addiction to trauma, where individuals are preoccupied with the trauma and try to re-create it for themselves or others; and/or
- the effects of endogenous opiates which are activated by traumas, resulting in an addiction to traumas.

A somewhat unexpected finding of the present study, was that exposure to community violence was the form of developmental trauma that was most consistently associated with traumatic re-enactment behaviours. This finding is clearly inconsistent with the prevailing view that re-enactment behaviours are most consistently predicted by child sexual abuse experiences (for a review see, Penning & Collings, 2014a). However, in interpreting this inconsistency, it needs to be borne in mind that previous re-enactment studies have tended to focus almost exclusively on a narrow range of developmental trauma experiences (such as sexual abuse, physical abuse, emotional abuse, and/or neglect); a practice which has possibly led to an over-estimation of the aetiological significance of child sexual abuse (and an

associated underestimation of the aetiological significance of community violence) on traumatic re-enactment outcomes.

While further research is indicated in order to confirm the association between community violence and re-enactment behaviours observed in the present study, an association between exposure to community violence and re-enactment behaviours is likely to be particularly salient in a South African context characterized by high levels of community violence (Kaminer & Eagle, 2010; Seedat, et al., 2009) and in which exposure to community violence has been found to constitute one of the most common form of interpersonal trauma experienced by children and adolescents (Collings, 2013).

The finding that negative trauma-related appraisals were not significantly predictive of re-enactment behaviours was somewhat unexpected, as:

- Cognitive theories of reactions to traumatic exposure (e.g., Calvete, 2014; Ehlers & Clark, 2000; Finkelhor & Browne, 1986; Foa & Cahill, 2001; Janoff-Bulman, 1992; Spaccarelli, 1994; Young, et al., 2003), would predict that victims' appraisals of traumatic events are likely to play a key mediating role in the development and maintenance of PTSD outcomes; and
- Cognitive appraisals of self, significant others, and the world are assumed to play a central role in CDT outcomes (cf., D'Andrea, et al., 2012).

Taken together, these trends suggest the somewhat intriguing possibly that PTSD and CDT outcomes on the one hand, and re-enactment behaviours on the other, may be characterized by different dynamics/aetiological pathways (at least as far as the role of cognitive appraisals

are concerned); with further research being indicated in order to both validate, and to further explore, the role of cognitive appraisals across different traumatic outcomes.

7.2.4. Study objective 4: Associations between PTSD, CDT, and traumatic re-enactments

The study findings permit some tentative conclusions regarding the association between PTSD, CDT, and traumatic re-enactments.

7.2.4.1. PTSD and CDT

Extremely high comorbidity rates for PTSD and CDT observed in the present study (85%) are consistent with results of previous studies (Ford, Courtois, Steele, et al., 2005; van Emmerik & Kamphuis, 2011). This raises questions regarding the scientific validity and practical utility of considering PTSD and CDT as two discrete diagnostic categories at this time. As Weiss (2012) has indicated, further research – directed at attempts to: (a) obtain a more precise description of the symptoms that comprise CDT, and (b) develop more precise and validated measures of CDT – is required before the diagnostic status of CDT, particularly in relation to PTSD, can be established with any degree of certainty.

7.2.4.2 PTSD and traumatic re-enactments

Study findings suggest that PTSD and traumatic re-enactments comprise related, although largely distinct, outcomes, with this distinctiveness being reflected in a number of ways. For example:

- Correlations between the severity of PTSD and traumatic re-enactment behaviours were significant, although generally small, suggesting that PTSD and traumatic re-enactments constitute related, although largely independent, constructs.

- Comorbidities between PTSD and various traumatic re-enactment behaviours (range from 48.4% for *Victimisation* through to 51.4% for *Self-Injury*) were comparatively low, and in fact not markedly different from convergence rates reported for number of other 'Axis I' disorders. [For example, convergence rates for PTSD reported by Pietrzak, Goldstein, Southwick, and Grant (2011) are: 59% for an anxiety disorder other than PTSD, 62% for a mood disorder, and 46% for any substance abuse disorder]. Taken together, these findings suggest that convergence rates for PTSD and re-enactment behaviours are similar to convergence rates reported for PTSD and a number of other established 'Axis I' diagnoses.

- Study findings suggest that PTSD and traumatic re-enactments may be characterised by different aetiological pathways. Compared to other predictor variables, traumatic re-enactments were found to be most strongly predicted by traumatic forms of exposure, with negative abuse-related cognitions accounting for little, if any, of the variance in re-enactment outcomes. Conversely, PTSD outcomes: (a) were most strongly predicted by negative trauma-related appraisals, with (b) traumatic forms of exposure *per se* failing to account for a significant proportion of the variance in PTSD outcomes.

Taken together, these findings suggest that while re-enactment behaviours appear to constitute a posttraumatic outcome, such re-enactments are sufficiently distinct form PTSD outcomes to warrant independent study.

7.2.4.2. CDT and traumatic re-enactments

Although traumatic re-enactments were conceptualised as a form of CDT in the present study, findings suggest that re-enactment behaviours are in a number of ways distinct from the symptoms of CDT assessed by the SIDES-SR. For example:

- Correlations between the severity of CDT and traumatic re-enactment behaviours were significant, although generally small, suggesting that CDT and traumatic re-enactments constitute related, although largely independent, constructs.

- Comorbidities between CDT and various re-enactment behaviours were low (10% for *Perpetration* through to 12% for *Self-Injury*) suggesting that the constructs measured by traumatic re-enactment behaviours are largely distinct from the constructs measured by the SIDES-SR.

- As was the case for PTSD, study findings suggest that CDT and traumatic re-enactments may be characterised by different aetiological pathways. Traumatic re-enactments were found to be most strongly predicted by traumatic forms of exposure, with negative abuse-related cognitions accounting for little, if any, of the variance in re-enactment outcomes. Conversely, CDT outcomes: (a) were most strongly predicted by negative trauma-related

appraisals, with (b) traumatic forms of exposure *per se* failing to account for a significant proportion of the variance in CDT outcomes.

These distinctions (in relation to both CDT and PTSD) were somewhat unexpected, with further research being indicated in order to establish whether traumatic re-enactments are best conceptualised as: (a) a discrete entity within the posttraumatic spectrum, (b) an associated symptom of PTSD, or (c) a form of CDT or complex PTSD which is not adequately addressed by current measures of CDT/complex PTSD. In other words, there would appear to be a strong need for conceptual clarity regarding the relationship between traumatic re-enactments and other posttraumatic outcomes.

7.3. Limitations of the study

All conclusions and recommendations made in this thesis need to be considered with the following study limitations in mind:

- Data were derived from a sample of South African school-going adolescents attending a school in an urban area of South Africa. As such, study findings may not generalise to non-school going adolescents, to pre- or post-adolescent samples, or to samples of adolescents drawn from different regions. Further research involving large and representative samples of South African adolescents is therefore indicated in order to establish the generalizability of the study findings reported here.

- In the present study, PTSD and CDT were assessed using validated self-administered questionnaires rather than the generally accepted 'gold standard' of a structured clinical

interview. As such, estimates of PTSD and CDT used in the study may differ from estimates that may have been obtained using a structured clinical interview. Future research on re-enactment behaviours would benefit from the use of structured clinical interviews as a strategy for deriving estimates of PTSD and CDT prevalence and comorbidities.

- The present study employed a cross sectional design which: (a) does not permit strong causal inferences, and (b) may have led to errors in recall of childhood maltreatment experiences. Future research on re-enactment behaviours would benefit from the use of prospective research designs.

- In the present study, PTSD was defined using DSM-IV (rather than DSM-V) criteria (data having been collected prior to the publication of DSM-V in 2013). Although available studies suggest that the use of DSM-IV rather than DSM-V criteria is unlikely to have led to significant differences in prevalence or comorbidity estimates in the study sample (cf., van Emmerik & Kamphuis, 2011), future research on re-enactment behaviours needs to define PTSD with respect to the most recent (DSM-V) conceptualisations of the disorder.

- Logistical limitations were experienced while conducting the study. The school was going through a turbulent time, with a change in school head having resulted in teacher despondency and an uncertain mood in the school. The previous head had been suspended due to the use of excessive force and intimidating leadership. Further, a number of study participants were quite unruly, leading to the need for two researchers to be present during questionnaire administration to ensure that questionnaires were appropriately completed. In addition, questionnaires were administered during Life Orientation classes,

which are generally considered by learners as being a time during which little work is done. As such, some participants were less than eager to concentrate on the questions, preferring rather to talk with their class mates and/or to interrupt the class. These issues/disturbances may have impacted on some participants' ability/preparedness to give open, honest, and complete answers to research questions.

7.4. Conclusions

This chapter explored the implications of the study findings and outlined the study limitations. Briefly stated, study findings suggest: (a) that both developmental trauma experiences and traumatic re-enactment behaviours may be common among South African adolescents (with further epidemiological research and appropriate interventions being indicated in relation to both of these findings), and (b) that re-enactment behaviours are most strongly predicted by traumatic antecedents (suggesting that re-enactment behaviours can meaningfully be conceptualised as a traumatic outcome).

One of the key findings of the study was that traumatic re-enactment behaviours appear to be somewhat distinct from PTSD and CDT outcomes (in terms of both risk factors and comorbidity rates) suggesting the need for further research designed to more clearly establish how traumatic re-enactments are most usefully conceptualised along the continuum of posttraumatic outcomes. Given the high incidence rates of traumatic re-enactment behaviours observed in the present study, such research efforts would appear to be strongly indicated.

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APPENDICES

Appendix 1: University of KwaZulu-Natal ethical clearance

UNIVERSITY OF
KWAZULU-NATAL

Research Office, Govan Mbeki Centre
Westville Campus
Private Bag x54001
DURBAN, 4000
Tel No: +27 31 260 3587
Fax No: +27 31 260 4609
Ximbap@ukzn.ac.za

29 March 2011

Mrs. SL Penning (862867155)
School of Psychology

Dear Mrs. Penning

PROTOCOL REFERENCE NUMBER: HSS/0149/011D
PROJECT TITLE: Traumatic re-enactment of childhood trauma: A complex developmental trauma perspective in a non-clinical sample of South African school-going adolescents.

EXPEDITED APPROVAL

I wish to inform you that your application has been granted Full Approval through an expedited review process:

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....

Professor Steven Collings (Chair)
HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

cc. Supervisor – Dr. Valjee
cc. Mrs. S van der Westhuizen

Appendix 2: School approval letter

22 November 2010

Attention : Susan Penning

RE : PHD RESEARCH

Dear Susan

Please be advised that your request to conduct your research at Brettenwood High School in 2011 has been granted.

Yours Sincerely

Mr AD Pinheiro
(acting Principal)

BRETTONWOOD HIGH SCHOOL
399 Oliver Lea Drive, Umbilo, Durban 4001 P.O. Box 41635 Rossburgh 4072
Telephone: (031) 4654288 Fax: (031) 4656546
Correspondence: info@brettonwoodhighschool.co.za

Appendix 3: Ethical consent letters to parents

UNIVERSITY OF
KWAZULU-NATAL

Mrs Susan Penning
School of Psychology
University of KwaZulu-Natal

23 March 2011

Dear Parent / Guardian of learners at Brettonwood High School

Research on Interpersonal Conflict

I am a mother of 2 and also a Doctoral (Ph.D) Student, in the School of Psychology, at the University of KwaZulu-Natal (Howard College). A Ph.D is a research qualification and I am required to conduct a research study. I have chosen the area of trauma and re-enactment (through, for example, interpersonal conflict such as bullying) and its effects on adolescents. Violence and conflict affects all learners whether they are victims, participants or witnesses to it. Research indicates that conflict can affect how children and adolescents develop, particularly their emotional and cognitive (thinking) development. There is concern that the cycles of conflict become repeated if interventions are not taken. Literature indicates that there is a window of opportunity to correct the effects of conflict during adolescence, if an adolescent has someone to talk to. It is anticipated that this study will indicate the prevalence of bullying and other forms of conflict at Brettonwood High School and also out of school that learners are exposed to; and this can be used to inform anti-bullying programmes and counselling interventions initiated by the school.

I have been given permission by the principal Mr. M.G.H. Jhetam to conduct research at the school during the second term. The study will take place in the form of a self-administered survey. It has been agreed that the learners' will complete the questionnaires during 2 of their Life Orientation lessons. The learners' anonymity and confidentiality will be guaranteed (the benefit of having an outside party to conduct the study). The learners' will also be asked to sign informed consent forms. At no time will they be forced to participate and they can withdraw at any time without giving a reason; and will then be asked to write an essay during that time. Should there be any sensitive issues that arise from the research, either Miss Konar (Guidance Counsellor) or any of the Life Orientation teachers can be spoken to. The services of our clinic at the School of Psychology will also be made available as necessary. In the case of any enquiries, please do not hesitate to contact Miss Konar directly at Brettonwood High School or you can contact me on 073-7711473 or email: suepenning@mweb.co.za

For those parents not wanting their child to participate, please complete the slip below and return to Miss Konar by Friday 1st April 2011.

Your cooperation is appreciated.

Best Regards

Susan Penning (Mrs)

✂==========

Research on Interpersonal Conflict (for those who **do not wish** to participate). **Please return permission slip to Miss Konar by Friday 1st April.**

I _____, parent of _____ in Grade _____

do not consent to my child/ward participating in the research project.

SIGNATURE OF PARENT **DATE**

_____ _____

Appendix 4: Ethical consent forms for students

UNIVERSITY OF
KWAZULU-NATAL

Research on Interpersonal Conflict

Informed consent form:

I ..... (full names of participant) in Grade ..... hereby confirm that I understand the contents of what was read to me prior to completing the questionnaire and the nature of the research project, that my parent/guardian has given permission for me to participate in and further that I freely agree to participate in the research project.

I understand that I am at liberty to withdraw from the project at any time without giving a reason.

SIGNATURE OF PARTICIPANT DATE

....

Please tear off these details below in case you need to talk to someone.

✂==========

Research on Interpersonal Conflict:

In the case of any enquiries, please do not hesitate to contact Miss Konar (Guidance Counsellor) directly or you can contact me.

Contact Details: Mrs. Susan Penning
073-7711473
suepenning@mweb.co.za

Thank you for participating. Your cooperation is really appreciated.

Appendix 5: Questionnaire

UNIVERSITY OF KWAZULU-NATAL

RESEARCH QUESTIONNAIRE (STAGE 1)

PLEASE ANSWER ALL QUESTIONS

- Before completing the questionnaire, please ensure that you have signed an informed consent form.
- The Questionnaire you are about to fill in is **anonymous**. Please do not write your name anywhere.
- This form is **confidential**. Once completed and given to the researcher, none of the teachers or learners at your school will have access to this form.
- If you do not feel comfortable with participating in this study then you may withdraw at any point.
- There are no wrong or right answers; we are interested in **your o**pinions/ views/ experiences.

Date:_____ Class:_____

Please enter a 6 digit number based on the questions to the right of each block. This number will be used to match stage 2 to stage 1:

		Your Birthday (Date)			Your Birthday (Month)		How many sisters do you have?

1. How old are you?

   ☐ years

2. What grade are you in?

   Grade ☐

3. What is your ethnic group?

   ☐ African
   ☐ Coloured
   ☐ White
   ☐ Asian

4. Are you male or female?

   ☐ Male
   ☐ Female

5. Who takes care of you at home?

   ☐ Father and mother
   ☐ Father only
   ☐ Male guardian: e.g. uncle / grandfather
   ☐ Other (specify)_____
   ☐ Mother only
   ☐ Female guardian: e.g. aunt / granny
   ☐ Sister or Brother

1

6. **Circle** one number to indicate how much you have been bothered by each of the following **over the past month?**

	Not at all	A little	Quite a lot	Very much so
1. Small problems have made me very upset. For example, I get angry or upset at minor frustrations	0	1	2	3
2. I have found it hard to settle down after I become upset.	0	1	2	3
3. When upset, I have trouble finding a way to calm down.	0	1	2	3
4. I have felt angry most of the time.	0	1	2	3
5. I have had thoughts or images of hurting someone else	0	1	2	3
6. I have trouble controlling my anger.	0	1	2	3
7. I have worried about people finding out how angry I am.	0	1	2	3
8. I have been in accidents or near accidents.	0	1	2	3
9. I have been careless about making sure that I am safe.	0	1	2	3
10. I have deliberately tried to harm myself (like burning or cutting myself)	0	1	2	3
11. I have thought about killing myself.	0	1	2	3
12. I have made an active effort to keep myself from thinking about sex.	0	1	2	3
13. It has bothered me to be touched in general.	0	1	2	3
14. I t has bothered me to be touched in an intimate way.	0	1	2	3
15. I have actively avoided intimacy.	0	1	2	3
16. I have found myself thinking about sex more than I want to.	0	1	2	3
17. I have felt driven to engage in intimate behaviour without really feeling I had a choice.	0	1	2	3
18. I have been sexually active in ways that I know put me in danger.	0	1	2	3
19. I have placed myself in situations that may be dangerous (e.g. been in unsafe places).	0	1	2	3
20. There have been parts of my life, or past events, that I have been confused about or can't remember.	0	1	2	3
21. I have trouble keeping track of time in my daily life.	0	1	2	3
22. I have felt 'spaced' out when I am frightened or under stress.	0	1	2	3
23. I have sometimes felt that I am unreal, or in a dream, or 'not really there'.	0	1	2	3
24. I have sometimes felt that 2 people live inside me or control how I behave at different times.	0	1	2	3
25. I have felt that I have not influence on what happens in my life.	0	1	2	3
26. I have felt that I have something wrong with me because of things that happened that I can't change.	0	1	2	3
27. I have often felt guilty about all sorts of things.	0	1	2	3
28. I have felt too ashamed of myself to allow other people to get to know me.	0	1	2	3
29. I have felt separate from and very different from other people.	0	1	2	3

.... continued	Not at all	A little	Quite a lot	Very much so
30. Other people have made too much fuss about the dangerousness of situations I have been in.	0	1	2	3
31. I have had trouble trusting people.	0	1	2	3
32. I have avoided being in relationships with other people.	0	1	2	3
33. I have had difficulty dealing with conflicts in relationships.	0	1	2	3
34. I have felt hurt in relationships, or by people I love or trust.	0	1	2	3
35. I have hurt other people in ways that I have been previously hurt.	0	1	2	3
36. I have trouble with one or more of the following (underling items that apply) although doctors have not found a clear cause for it: - vomiting - stomach pains - nausea - upset stomach - food intolerance	0	1	2	3
37. I have had chronic pains in one or more of the following areas (underline items that apply) although doctors have found no cause for the pains: - arms and legs - my back - my joints - headaches - elsewhere	0	1	2	3
38. I have suffered from trouble with (underline items that apply) although doctors have found no clear cause for it: - chest pains - palpitations - shortness of breath - dizziness-	0	1	2	3
39. I have suffered from (underline items that apply) although doctors have found no clear cause for it: - memory problems - problems swallowing - fainting - losing your voice - blurred vision - blindness - losing consciousness - being unable to walk - fits - muscle weakness - difficulties walking - difficulties urinating (passing water	0	1	2	3
40. I have suffered from (underline items that apply) although doctors have found no clear cause for it: - burning sensations in the sexual organs or rectum - irregular menstruation - excessive premenstrual tension - excessive menstrual bleeding	0	1	2	3
41. I have felt hopeless and pessimistic about the future.	0	1	2	3
42. I have not expected to find happiness in love relationships.	0	1	2	3
43. I have been unable to find satisfaction in my work or studies.	0	1	2	3
44. I have felt that life has lost its meaning.	0	1	2	3
45. I have doubted the religious and personal beliefs I grew up with.	0	1	2	3

7. How often have **you experienced** each of the following in the **past year** **at school** and **away from school** (for each item provide a number from 0-6 using the scoring guide)?

Scale for Questions
Never – 0
Once -1
Several times - 2
Once a month - 3
Several times a month – 4
Once a week - 5
Several times a week – 6

	At school	Away from school
1. Someone, or a group of people, called me names, teased me, or made hurtful comments to me	0 1 2 3 4 5 6	0 1 2 3 4 5 6
2. Someone, or a group of people, spread hurtful rumours or lies about me	0 1 2 3 4 5 6	0 1 2 3 4 5 6
3. Someone, or a group of people, deliberately damaged my property or stole money from me	0 1 2 3 4 5 6	0 1 2 3 4 5 6
4. Someone, or a group of people, made hurtful comments about my race or colour	0 1 2 3 4 5 6	0 1 2 3 4 5 6
5. Someone, or a group of people, made hurtful comments about my sexual orientation	0 1 2 3 4 5 6	0 1 2 3 4 5 6
6. Someone touched me in a sexual way when I did not want them to	0 1 2 3 4 5 6	0 1 2 3 4 5 6
7. Someone attempted (unsuccessfully) to have sex with me against my will	0 1 2 3 4 5 6	0 1 2 3 4 5 6
8. Someone had sex with me against my will	0 1 2 3 4 5 6	0 1 2 3 4 5 6
9. Someone, or a group of people, threatened me or my family with physical violence	0 1 2 3 4 5 6	0 1 2 3 4 5 6
10. Someone, or a group of people, hit me, kicked me, or pushed me around	0 1 2 3 4 5 6	0 1 2 3 4 5 6
11. Someone attacked me with a weapon (gun, knife, stick or some other object)	0 1 2 3 4 5 6	0 1 2 3 4 5 6
12. Someone tried to kill me	0 1 2 3 4 5 6	0 1 2 3 4 5 6

8. How often have **you been involved in** each of the following experiences in the past year **at school** and **away from school** (for each item provide a number from 0-6 using the scoring guide)?

Scale for Questions
Never – 0
Once -1
Several times - 2
Once a month - 3
Several times a month – 4
Once a week - 5
Several times a week – 6

	At school	Away from school
1. I have called other people names, teased them, or made hurtful comments to them	0 1 2 3 4 5 6	0 1 2 3 4 5 6
2. I have spread hurtful rumours or lies about other people	0 1 2 3 4 5 6	0 1 2 3 4 5 6
3. I have deliberately damaged another person's property or stolen money from them	0 1 2 3 4 5 6	0 1 2 3 4 5 6
4. I have made hurtful comments about other people's race or colour	0 1 2 3 4 5 6	0 1 2 3 4 5 6
5. I have made hurtful comments about other people's sexual orientation	0 1 2 3 4 5 6	0 1 2 3 4 5 6
6. I touched someone else in a sexual way when they did not want me to	0 1 2 3 4 5 6	0 1 2 3 4 5 6
7. I attempted (unsuccessfully) to have sex with another person against their will	0 1 2 3 4 5 6	0 1 2 3 4 5 6
8. I had sex with someone against their will	0 1 2 3 4 5 6	0 1 2 3 4 5 6
9. I threatened another person or their family with physical violence	0 1 2 3 4 5 6	0 1 2 3 4 5 6
10. I hit, kicked, or pushed another person around	0 1 2 3 4 5 6	0 1 2 3 4 5 6
11. I attacked someone with a weapon (gun, knife, stick or some other object)	0 1 2 3 4 5 6	0 1 2 3 4 5 6
12. I tried to kill someone	0 1 2 3 4 5 6	0 1 2 3 4 5 6

9. How often have **you seen the following behaviours happen to other people** in the **past year** **at school** and **away from school** (for each item provide a number from 0-6 using the scoring guide)?

Scale for Questions
Never – 0
Once -1
Several times - 2
Once a month - 3
Several times a month – 4
Once a week - 5
Several times a week – 6

	At school	Away from school
1. I observed someone, or a group of people, call another person names, tease him/her, or make hurtful comments to him/her	0 1 2 3 4 5 6	0 1 2 3 4 5 6
2. I observed someone, or a group of people, spread hurtful rumours or lies about another person	0 1 2 3 4 5 6	0 1 2 3 4 5 6
3. I observed someone, or a group of people, deliberately damaged another person's property or steel money from him/her	0 1 2 3 4 5 6	0 1 2 3 4 5 6
4. I observed someone, or a group of people, make hurtful comments about another person's race or colour	0 1 2 3 4 5 6	0 1 2 3 4 5 6
5. I observed someone, or a group of people, make hurtful comments about another person's sexual orientation	0 1 2 3 4 5 6	0 1 2 3 4 5 6
6. I observed someone touch another person in a sexual way when he/she did not want them to	0 1 2 3 4 5 6	0 1 2 3 4 5 6
7. I observed someone attempted (unsuccessfully) to have sex with another person against his/her will	0 1 2 3 4 5 6	0 1 2 3 4 5 6
8. I observed someone have sex with another person against his/her will	0 1 2 3 4 5 6	0 1 2 3 4 5 6
9. I observed someone, or a group of people, threatened another person or his/her family with physical violence	0 1 2 3 4 5 6	0 1 2 3 4 5 6
10. I observed someone, or a group of people, hit another person, kicked him/her, or push him/her around	0 1 2 3 4 5 6	0 1 2 3 4 5 6
11. I observed someone attack another person with a weapon (gun, knife, stick or some other object)	0 1 2 3 4 5 6	0 1 2 3 4 5 6
12. I observed someone try to kill another person	0 1 2 3 4 5 6	0 1 2 3 4 5 6
13. I observed someone being killed	0 1 2 3 4 5 6	0 1 2 3 4 5 6

10. How often have **you had** each of the following experiences in the **past year** (for each item provide a number from 0-6 using the scoring guide).

Scale for Questions
Never – 0
Once -1
Several times - 2
Once a month - 3
Several times a month – 4
Once a week - 5
Several times a week – 6

1. I have deliberately cut myself with a knife, a blade or a sharp object	**0 1 2 3 4 5 6**
2. I have thought about the idea of killing myself (but did not try to do so)	**0 1 2 3 4 5 6**
3. I have made a suicide attempt	**0 1 2 3 4 5 6**
4. I have got so drunk on alcohol that I didn't know what I was doing	**0 1 2 3 4 5 6**
5. I have used illegal drugs	**0 1 2 3 4 5 6**
6. I have placed myself in dangerous situations (e.g. going to unsafe places)	**0 1 2 3 4 5 6**
7. I have been sexually active in ways that I know puts me in danger	**0 1 2 3 4 5 6**
8. I have deliberately burned myself	**0 1 2 3 4 5 6**
9. I have deliberately bitten myself in a way that leaves lasting marks	**0 1 2 3 4 5 6**
10. I have hurt myself by banging my head against hard surfaces	**0 1 2 3 4 5 6**
11. I have strangled myself until I passed out	**0 1 2 3 4 5 6**
12. I have been careless about making sure that I am safe	**0 1 2 3 4 5 6**
13. Other people worry about the dangerous things I do	**0 1 2 3 4 5 6**
14. I don't worry about my own safety	**0 1 2 3 4 5 6**
15. Sometimes I think that if I get hurt or harmed, people may care for me more	**0 1 2 3 4 5 6**
16. I have injured on harmed myself (in a way not mentioned above). Please specify_____	**0 1 2 3 4 5 6**

UNIVERSITY OF KWAZULU-NATAL

RESEARCH QUESTIONNAIRE (STAGE 2 which continues from STAGE 1)

PLEASE ANSWER ALL QUESTIONS

- Before completing the questionnaire, please ensure that you have signed an informed consent form.
- The Questionnaire you are about to fill in is **anonymous**. Please do not write your name anywhere.
- This form is **confidential**. Once completed and given to the researcher, none of the teachers or learners at your school will have access to this form.
- If you do not feel comfortable with participating in this study then you may withdraw at any point.
- There are no wrong or right answers; we are interested in **your o**pinions/ views/ experiences.

Date:_____ Class:_____

Please enter a 6 digit number based on the questions to the right of each block. This number will be used to match stage 2 to stage 1:

		Your Birthday (Date)			**Your Birthday (Month)**		**How many sisters do you have?**

1. How old are you? ☐ years	2. What grade are you in? Grade ☐
3. What is your ethnic group? ☐ African ☐ Coloured ☐ White ☐ Asian	4. Are you male or female? ☐ Male ☐ Female
5. Who takes care of you at home? ☐ Father and mother ☐ Father only ☐ Male guardian: e.g. uncle / grandfather ☐ Other (specify)_____ ☐ Mother only ☐ Female guardian: e.g. aunt / granny ☐ Sister or Brother	

Numbering continues from Stage 1 (starting with question 11)

11. What is the scariest or most upsetting thing that has ever happened to you (describe what happened in the space below):

_____

_____

12. **In the past week**, how have you felt about the experience you described above? For each statement use a number from the scale provided to indicate how often you have had the symptom **and** how upset you have been by the symptoms.

	FREQUENCY 0= Not At All 1=Once only 2= 2-3 Times 3= 4-6 Times 4= Every Day	**SEVERITY** 0= Not At All Upsetting 1= A Bit Upsetting 2= Somewhat Upsetting 3= Very Upsetting 4= Extremely Upsetting
1. Have you ever had painful images, memories or thoughts of the event?	**0 1 2 3 4**	**0 1 2 3 4**
2. Have you ever had worrying dreams of the event?	**0 1 2 3 4**	**0 1 2 3 4**
3. Have you ever felt as though the event was recurring? Was it as if you were reliving it?	**0 1 2 3 4**	**0 1 2 3 4**
4. Have you been upset by something that reminded you of the past event?	**0 1 2 3 4**	**0 1 2 3 4**
5. Have you been physically upset by reminders of the event? (This includes sweating, trembling, racing heart, shortness of breath, nausea, or diarrhoea).	**0 1 2 3 4**	**0 1 2 3 4**
6. Have you been avoiding any thoughts or feelings about the event?	**0 1 2 3 4**	**0 1 2 3 4**
7. Have you been avoiding doing things or going into situations that remind you of the event?	**0 1 2 3 4**	**0 1 2 3 4**
8. Have you found yourself unable to recall important parts of the event?	**0 1 2 3 4**	**0 1 2 3 4**
9. Have you had difficulty enjoying things?	**0 1 2 3 4**	**0 1 2 3 4**
10. Have you felt distant or cut off from other people?	**0 1 2 3 4**	**0 1 2 3 4**
11. Have you been unable to have sad or loving feelings?	**0 1 2 3 4**	**0 1 2 3 4**
12. Have you found it hard to imagine having a long life span and fulfilling your goals?	**0 1 2 3 4**	**0 1 2 3 4**
13. Have you had trouble falling asleep or staying asleep?	**0 1 2 3 4**	**0 1 2 3 4**
14. Have you been irritable or had outburst of anger?	**0 1 2 3 4**	**0 1 2 3 4**
15. Have you had difficulty concentrating?	**0 1 2 3 4**	**0 1 2 3 4**
16. Have you felt on edge, been easily distracted, or had to stay "on guard"?	**0 1 2 3 4**	**0 1 2 3 4**
17. Have you been jumpy or easily startled?	**0 1 2 3 4**	**0 1 2 3 4**

13. Did you have any of the following unwanted sexual experiences before your 18th birthday (put a cross next to as many as apply)?

	No	Yes
Someone having anal sexual intercourse with you when you did not want them to	O	O
Someone having genital sexual intercourse with you when you didn't want them to	O	O
Someone touching your sexual organs when you did not want them to	O	O
Someone making you touch their sexual organs when you did not want them to	O	O
Someone kissing or touching you in a sexual way	O	O
Someone making you touch them in a sexual way	O	O

If you answered yes to any of the above questions please answer the following questions about that experience (if you had more than one experience, please answer the questions in relation to the experience that was most upsetting for you).

[If you answered NO to all of the above questions, please go to question 20]

14. How old were you when you when you first had this experience?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

15. Over what period of time did the experience take place?

The experience only happened once	O
1 day – 1 month	O
1 month to 1 year	O
More than 1 year	O

16. Was the other person involved in this experience male or female?

Male	O
Female	O

17. What was the other person's relationship to you?

A parent (biological, step, or foster)	O
Some other family member	O
A non-family member you knew	O
A stranger	O

18. To what extent did you experience the following abuse related feelings or emotions?

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

19. At the time, did you tell anyone else about the experience?

No	O
Yes, and the person I told was very helpful and supportive	O
Yes, and the person I told was not helpful or supportive	O

20. Did *a family member* physically harm you in any of the following ways before your 18th birthday (put a cross next to as many as apply)?

	No	Yes
Being punched or kicked by a family member	O	O
Being physically attacked by a family member	O	O
A family member cutting you with a knife or some other sharp object	O	O
A family member hitting you with a stick or some other object	O	O
A family member trying to strangle you	O	O
A family member deliberately burning you with a cigarette or a flame	O	O

If you answered yes to any of the above questions please answer the following questions about that experience (if you had more than one experience, please answer the questions in relation to the experience that was most upsetting for you).

[If you answered NO to all of the above questions, please go to question 27]

21. How old were you when you when you first had this experience?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

22. **Over what period of time did the experience take place?**

The experience only happened once	O
1 day – 1 month	O
1 month to 1 year	O
More than 1 year	O

23. Was the other person involved in this experience male or female?

Male	O
Female	O

24. What was the other person's relationship to you?

A biological parent	O
A step- or foster- parent	O
A brother or sister	O
Some other family member	O

25. T**o what extent did you experience the following abuse related feelings or emotions?**

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

26. At the time, did you tell anyone else about the experience?

No	O
Yes, and the person I told was helpful and supportive	O
Yes, and the person I told was not helpful or supportive	O

27. Did a person who was *not a family member* harm you in any of the following ways before your 18th birthday (put a cross next to as many as apply)?

	No	Yes
Being punched or kicked by a non-family member	O	O
Being physically attacked by a non-family member	O	O
A non-family cutting you with a knife or some other sharp object	O	O
Being hit with a stick or some other object by a non-family member	O	O
A non-family member trying to strangle you	O	O
A non-family member deliberately burning you with a cigarette or a flame	O	O

If you answered yes to any of the above questions please answer the following questions about that experience (if you had more than one experience, please answer the questions in relation to the experience that was most upsetting for you).

[If you answered NO to all of the above questions, please go to question 34]

28. How old were you when you when you first had this experience?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

29. Over what period of time did the experience take place?

The experience only happened once	O
1 day – 1 month	O
1 month to 1 year	O
More than 1 year	O

30. Was the other person involved in this experience male or female?

Male	O
Female	O

31. What was the other person's relationship to you?

A friend	O
A neighbour	O
A community member	O
A stranger	O

32. **To what extent did you experience the following abuse related feelings or emotions?**

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

33. At the time, did you tell anyone else about the experience?

No	O
Yes, and the person I told was helpful and supportive	O
Yes, and the person I told was not helpful or supportive	O

34. **Were any of the following statements true for you while you were a child or growing up)?**

	No	Yes
I witnessed physical violence in my home	O	O
My parents hurt each other physically when they argued and fought	O	O
Someone in my family got medical treatment because of family violence	O	O
I saw someone in the community being beaten, stabbed, or shot	O	O
I saw someone in the community being killed	O	O
I saw someone in the community being assaulted	O	O

If you answered yes to any of the above questions please answer the following questions about that experience (if you had more than one experience, please answer the questions in relation to the experience that was most upsetting for you).

[If you answered NO to all of the above questions, please go to question 41]

35. How old were you when you first witnessed this behaviour?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

36. Over what period of time did you witness this behaviour?

The experience only happened once	O
1 day – 1 month	O
1 month to 1 year	O
More than 1 year	O

37. Did the experience involve family members or community members?

Family members	O
Community members	O

38. Who was the person who was responsible for what happened?

A mother or father	O
Some other family member	O
A non-family member you knew	O
A stranger	O

39. **To what extent did you experience the following abuse related feelings or emotions?**

	Not at all	A little	Moder-rately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

40. At the time, did you tell anyone else about the experience?

No	O
Yes, and the person I told was very helpful and supportive	O
Yes, and the person I told was not helpful or supportive	O

41. Are any of the following questions true about the family in which you grew up (put a cross next to as many as apply)?

	No	Yes
My caretakers treated me in a way that made me feel ashamed	O	O
I felt unloved at home	O	O
Hurtful or insulting things were said to me by my caretakers	O	O
In my caretaker's eyes, nothing I ever did was good enough	O	O
People in my family called me insulting names	O	O

If you answered yes to any of the above questions please answer the following questions about the experiences [If you answered NO to all of the above questions, please go to question 46]

42. How old were you when you first became aware of how you were being treated?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

43. Over what period of time were you treated this way?

1 day – 1 month	O
1 month – 1 year	O
More than 1 year	O

44. **How did you feel about the way you were treated?**

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

45. At the time, did you tell anyone else about the experience?

No	O
Yes, and the person I told was very helpful and supportive	O
Yes, and the person I told was not helpful or supportive	O

(Please turn over for Question 46)

46. Are any of the following questions true about the family in which you grew up (put a cross next to as many as apply)?

	No	Yes
I spent time away from the house and no one cared where I was	O	O
My caretakers used alcohol or drugs and couldn't always care for me	O	O
Someone made sure that I got up in the morning and went to school	O	O
I felt nobody cared if I lived or died	O	O
My caretakers did not care when I was unwell or in trouble	O	O

If you answered yes to any of the above questions please answer the following questions about the experiences [If you answered NO to all of the above questions, please go to question 51]

47. How old were you when you first became aware of how you were being treated?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

48. Over what period of time were you treated this way?

1 day – 1 month	O
1 month – 1 year	O
More than 1 year	O

49. **How did you feel about the way you were treated?**

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

50. At the time, did you tell anyone else about the experience?

No	O
Yes, and the person I told was very helpful and supportive	O
Yes, and the person I told was not helpful or supportive	O

(Please turn over for Question 51)

51. Did you have any of the following experiences while you were growing up (put a cross next to as many as apply)?

	No	Yes
One of my parents died	O	O
Someone, other than a parent, who I was close to died	O	O
I spent time living with caretakers other than my parents (like relatives or foster parents)	O	O
Someone close to me was seriously ill or injured and had to go to hospital	O	O
My parents were divorced or separated	O	O

If you answered yes to any of the above questions please answer the following questions about the most important experience you had [If you answered NO to all of the above questions, please go to Question 55]

52. How old were you when this happened?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

53. **How did you feel about what happened?**

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

54. Were you able to talk to anyone about the experience?

No	O
Yes, and the person I talked to was very helpful and supportive	O
Yes, and the person I talked to was not helpful or supportive	O

(Please turn over for Question 55)

55. Are any of the following questions true about the family in which you grew up (put a cross next to as many as apply)?

	No	Yes
Our family was so poor that we sometimes did not have enough food to eat	O	O
My parents could not afford to send me to the doctor when I was sick	O	O
My parents did not earn enough money to support a family	O	O

If you answered yes to any of the above questions please answer the following questions about your family circumstances [If you answered NO to all of the above questions, then this is then end]

56. How old were you when you first became aware of your families circumstances?

0 – 6 years-old	O
7 – 12 years-old	O
13 – 18 years-old	O

57. Over what period of time were your family in such circumstances?

1 day – 1 month	O
1 month – 1 year	O
More than 1 year	O

58. **How did you feel about your family circumstances?**

	Not at all	A little	Moder-ately	Quite a lot	Extremely
At the time I felt angry	O	O	O	O	O
At the time I felt afraid	O	O	O	O	O
At the time I felt numb or in shock	O	O	O	O	O
I have felt guilty or to blame for what happened	O	O	O	O	O
Since the experience I have found it hard to trust others	O	O	O	O	O
The experience has changed me in a negative way	O	O	O	O	O
Because of the experience, I no longer believe the world is a safe place	O	O	O	O	O
Despite the experience, I have always believed that things will turn out well in the end	O	O	O	O	O
I have always believed that I have the ability to 'bounce back' and overcome the experience	O	O	O	O	O
I have never stopped hoping things will turn out well	O	O	O	O	O

59. Were you able to talk to anyone about the experience?

No	O
Yes, and the person I talked to was very helpful and supportive	O
Yes, and the person I talked to was not helpful or supportive	O

THE END
Thank you for completing the questionnaire.