

**A systematic review: The effects of trauma on child mental health
and well-being**

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ABSTRACT

Trauma exposure during childhood increases the risk of multitude complex post-trauma symptomology. Extensive research has been conducted on the effects of trauma exposure on adults, and the findings have been thereafter applied to children. This is problematic due to the developmental differences between adults and children. There is thus a need to understand the unique symptomology of children, who have been exposed to trauma, as understanding the effects of childhood trauma will certainly aid in the prevention and treatment of childhood trauma. This study incorporated a systematic review methodology to analyse the effects of exposure to childhood trauma on children's mental health and well-being. Relevant literature from all the methodological paradigms that were published during the specified time period of this study (2000 – 2016) were considered for. Furthermore, the inclusion criteria also specified that only studies of which the participants were children were allowed to be included in the review; studies focusing on adults and their exposure were deliberately excluded. The initial search strategy yielded a total of 316 articles; after all duplicates had been removed and, the titles and abstracts of the remaining articles had been assessed, the number of relevant articles was reduced to 22. These 22 articles were thereafter assessed by means of a critical appraisal tool to evaluate whether they were suitable for inclusion. Several articles were excluded as the focus of the studies were on treatment modalities and the effects of child trauma in adulthood. This signifies a gap in the literature with regard to studies that investigate the effects of child trauma. Ultimately, only 13 of the 22 articles remained. These underwent full-text evaluation and data extraction.

Results of this study provide insight into the effects of child trauma on child mental health and well-being. Based on thematic analysis, the results clearly show that children, who are traumatised, have a negative worldview. In addition, the symptoms they manifest are complex, which often lead to misdiagnosis. Moreover, these studies also explain the resilience processes involved when a child is exposed to trauma. In essence, this study provides parents, caregivers, researchers and mental health professionals with an all-inclusive understanding of the effects of childhood trauma based on a scientific body of literature.

KEYWORDS

Trauma

Child

Childhood trauma

Child mental health

Well-being

Effects of trauma

Psychological effects of child trauma


Bronfenbrenner's Ecological Model



DECLARATION STATEMENT

I hereby declare that the dissertation “A systematic review: The effects of trauma on child mental health and well-being” is my own work and that all resources used within this paper are acknowledged in the reference list.

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Date: 9 November 2016



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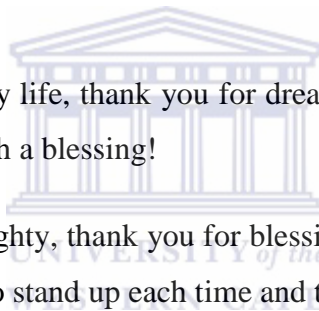
First and foremost I want to thank my father for turning my dreams into a reality, for blessing me with the opportunity to further my education. Your constant encouragement and guidance has enriched this journey of learning; not only has it allowed me to grow academically but also in all spheres of life. My loving mother, thank you, for always supporting me in everything that I do. I love you both.

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CHAPTER 1

INTRODUCTION

1.1 Background

Childhood is a pivotal period of life span development and being exposed to trauma during those years has been found to implicate biological, cognitive and socioemotional processes (Santrock, 2009). Similarly, Sudbrack, Manfro, Kuhn, de Carvalho and Lara (2015) state that childhood trauma arises not only from specifically harmful experiences, but also from the more generalised absence of a supporting and reliable environment that fosters child development. Maltreated children have been described as a heterogeneous group, in that trauma may have an effect on some individuals while having no effect on others (White, Klein, Kirschbaum, Kurz-Adam, Uhr, & Muller-Myhsok, 2015)

Many children recover without the assistance of a mental health care professional when they have been exposed to a traumatic event. Research has shown that many of the acute stress symptoms that follow trauma are short-lived and that most children will adapt to them and continue to progress through life (Barber, Kohl, Kassman-Adams, & Gold, 2014). A study conducted with 10,800 adults in Brazil, focusing on the relationship between traumatic experiences and personality traits, revealed that trauma can in fact have a positive effect on dysfunctional emotional traits and affective temperaments (Sudbrack, et al., 2015). Furthermore, emotional trauma was mainly related to adverse temperament, and physical abuse and neglect were associated with positive attributes such as coping, low fear and volition (Sudbrack, et al., 2015).

Trauma exposure can have life-long detrimental effects on an individual's mental health and well-being. Emotional and internalising symptoms are the most prevalent and consistent of the numerous effects exhibited by individuals with a background of childhood trauma (White et al., 2015). Little is known about why there is such a discrepancy in the aftermath of childhood trauma, especially with regard to children and adolescents. White et al., (2015) explain that conducting longitudinal studies on maltreated groups is challenging as it is difficult to recruit a large enough sample of trauma exposed children and families. They

further added that the bulk of such potential participants suffer from poverty, lack motivation and tend to be non-compliant in research.

Children may face numerous challenges during their childhood, such as domestic violence, sexual abuse, bullying and community violence. Classifying events as traumatic, however, depends upon the accompanying threats of injury or death, or the physical integrity of self or others, and whether such events cause horror, terror, or helplessness at the time they occur (Jonkman, Verlinden, Bolle, Boer, & Lindauer, 2013). Historically, it was believed that children are too young to be affected by trauma (James & Gilliland, 2013). However, growing research in this field has shown that childhood trauma exposure is extremely common, to the extent that it is regarded as a silent epidemic (Andrea, Ford, Stolbach, Spinazzola, & Van der Kolk, 2012). By the age of sixteen, more than two thirds of children will have experienced one or more traumatic event (Barber et al, 2014)

Van Westrhenen and Fritz (2014) state that, even though many cases of child abuse go unreported, it appears to be alarmingly common, given media reports, both locally and internationally. Worldwide, it has been estimated that one third of children will experience physical abuse during their childhood and adolescence, and that one in four girls and one in five boys will be victims of sexual abuse (Andrea, et al., 2012). In the United States, 30% to 50% of the 74 million children in the country will experience at least one traumatic event by their 18th birthday (James & Gilliland, 2013). In South Africa, statistics reveal that 54,000 crimes against children have been reported between March 2011 and April 2012; this figure does not include reports made to non-governmental organisations (Gregorowski & Seedat, 2013). Interestingly, it has been found that the prevalence of Post-Traumatic Stress Disorder (PTSD) in children and adolescents who have been exposed to trauma varies greatly (Gillies, Taylor, Gray, O'Brien, & D'Abrew, 2013). Children are more vulnerable than adults to developing PTSD symptomology, primarily because they tend to have underdeveloped coping skills. Traumatic experiences that begin at an early age and that are prolonged, or where restorative experiences are lacking, or whether the caregiving system itself is involved are associated with disruptions in psychological, neurobiological, relational and cognitive development (Price, Higa-Mc Millan, Kim and Frueh, 2013). Research has indicated that children who are exposed to various traumas are at greater risk of developing psychopathology and problematic behaviours. Compared to their counterparts who do not experience trauma, children who are exposed to violence, abuse or maltreatment, will

experience twice as many psychiatric disorders (Barber, et al., 2014). The risk of developing mental health problems is higher when an individual is directly exposed to trauma as opposed to experiencing it vicariously. In addition, Barber, et al., (2014) found that children portrayed a higher degree of trauma-associated symptomology and depression within one month of the trauma, if they perceived their life to be in danger during the relevant incident. Thus, it is clear that trauma exposure during childhood can have destructive and long-lasting detrimental effects on mental health and well-being. Current reviews in this area of research are limited, as most studies focused on adults (Gregorowski & Seedat, 2013). This study therefore aims to provide a comprehensive systematic review of the available literature specifically relating to childhood trauma and the effects thereof on mental health and well-being, to create a helpful and comprehensive database for future research in this field.

1.2 Problem Statement

According to Hodges, Godbout, Biere, Lanktree, Gilbert and Kletzka (2013), the literature relating to childhood trauma proposes that early maltreatment or adversity has a significant impact on the overall mental health status of individuals once they become adults. Poor mental health and well-being in adults moreover contribute to the high percentage of members of the South African population who do not and who are unable to contribute effectively to their communities due to the symptomology that results in challenges such as unemployment. Understanding childhood trauma is vital since it is highly correlated to future psychiatric care, poor mental and physical health throughout a person's lifespan (Price, et al, 2013).

When mental health care workers and society in general have a better understanding of the mechanisms that underlie childhood trauma, then the symptomology can be detected earlier and more effective treatment programs can be implemented (Alistic, Jongmans, Wesel and Kleber, 2011). Childhood trauma exposure is a worldwide epidemic and, if not prevented and treated effectively, it will increase the numbers of people and communities with poor mental health and well-being (Alistic, et al., 2011). This study therefore addresses the need to review the available literature systematically, to provide a concise yet comprehensive overview of the prevalence of trauma and its effects on child mental health and well-being. Such a systematic review also allows researchers to identify areas of study on child trauma that need attention, thus identifying gaps where further research is needed.

1.3 Rationale

Traditionally, literature and studies about trauma have been based on adults and only afterwards applied to trauma exposed children with some modifications (Gregorowski & Seedat, 2013). It has been stressed by White et al., (2015) that it is vital to assess child mental health accurately; to date, data very much relied on brief questionnaires, which are mostly completed by a single external informant, such as a parent or caregiver. Studies on adult experiences of trauma cannot be generalised to children for several reasons (Mc Lean, Morris, Conklin, Jayawickreme, & Foa, 2014). Firstly, the trauma is more recent for children and adolescents the length of time since trauma significantly predicts the likelihood and intensity of PTSD. Secondly, the factors that predict PTSD soon after a trauma are different to those that predict PTSD at a later stage. Lastly, children and adolescents express trauma differently than adults do (Mc Lean, et al., 2014).

Thus far, limited numbers of studies discuss the effects of trauma on child mental health and well-being holistically. Additionally, studies of trauma exposure on adults cannot be applied too readily on children; for example, children rely on how the caregivers around them manage stressors, and children's coping strategies and ability to regulate emotion depend on their development stage (Talwar, 2007). This study thus aims to provide a review of the available literature on the effects of trauma on child mental health and well-being to address this gap in the literature and to identify further areas for future research.

1.4 Theoretical Framework

The theoretical foundation of this review is based on systems theory, and specifically on Bronfenbrenner's ecological theory that is explored to comprehend the effects of child trauma on child mental health and well-being. The occurrence of a traumatic event is not distinct; rather, the impact of trauma may potentially disrupt all systems and spheres of an individual's life. Thus Bronfenbrenner's theoretical approach is helpful, as it also emphasises the interconnectedness of events and their cause and effect. The multifaceted nature of traumatic events and their impact on each of the five systems identified by Bronfenbrenner, namely, microsystem, mesosystem, exosystem, macrosystem and chronosystem, is further discussed in Chapter 2.

1.5 Research Questions

The main research question is: What scientific body of literature is available with regard to the effects of trauma on child mental health and well-being?

Additional questions asked are:

- How prevalent is child trauma?
- What are the causes of child trauma?
- What is the resiliency threshold for children exposed to trauma?
- What are the consequences of child trauma exposure?

1.6 Aim and Objectives

Based on the research questions cited above, the aim of this study was to conduct a comprehensive systematic review of the literature available on the prevalence of child trauma exposure in order to identify its effects on child mental health and well-being.

The specific objectives of this study were:

- To determine the prevalence of child trauma
- To explore the effects of trauma on child mental health and well-being
- To conduct a comprehensive review of the available literature on child trauma and its effects and to identify gaps in the literature

1.7 Research Methodology

This study incorporated a systematic review methodology. Systematic reviews have become an essential part of research due to the challenges that arise with the rapid publication of data. Khan, Kunz, Kleijnen and Antes, (2003) stated that a systematic review is a method of conducting research where the primary research is based on the research question which will then the identification of studies that are relevant to a particular research topic according to various inclusion criteria. This is followed by an appraisal and analysis of such studies, and the summation of relevant conclusions to provide all-inclusive findings based on the research question.

This systematic review filters articles according to various inclusion and exclusion criteria: only studies published between the year 2000 and 2016, which speak of the effects of trauma on children's mental health and well-being, and of which the participants are children are to be included in the review. The relevant articles were retrieved from databases from the University of the Western Cape's (UWC) library and had to undergo various processes of elimination before full text evaluation could commence to ensure that the articles' results were in accordance with ethical guidelines and requirements. This assessment strategy incorporated four main steps, namely: identification, screening, eligibility and inclusion, which are outlined and discussed in Chapter 3 and Chapter 4. The results and discussion follow in Chapter 5.

1.8 Significance of the Study

This study is based on the fact that there is a large gap in the literature with regard to the effects of trauma on children's mental health and well-being. This study thus sets out to filter the existing literature in a rigorous and systematic manner to identify where future research is needed. This comprehensive overview of the literature may also aid in the development and implementation of intervention programmes aimed at dealing with the effects of child trauma exposure. It also facilitates a better understanding of what the world is like for a child who has been exposed to trauma, as the symptomology is often disregarded as described in the findings. Incorporating the systems theory of Bronfenbrenner's ecological model also aids in the conceptualisation of child trauma symptomology in all spheres of systems such as the immediate caregiving environment and education in the external environment.

1.9 Definition and Description of Keywords

Trauma: In this paper, trauma refers to psychological trauma, a process initiated by an event that confronts an individual with an acute or overwhelming threat, so that the inner agency of the mind loses its ability to control the disorganising effects of the experience, which in turn results in disequilibrium (James & Gilliland, 2013).

Child: A child is defined as a person between the age of two years and 21 years of age, which includes the period of development between early childhood and adolescents (Santrock, 2009).

Childhood trauma: This includes exposure to traumatic life events, such as physical abuse or neglect during the childhood development phase.

Child mental health: This relates to the child's ability or inability to achieve and maintain optimal psychological and social functioning. Good child mental health is indicated by a sense of identity and self-worth, healthy relationships, an ability to be productive and to learn the capacity to overcome developmental challenges (WHO, 2005).

Well-being: Well-being in this study refers primarily to psychological well-being, which is defined as a combination of positive affective states that aid overall psychological functioning (Winefield, Gill, Taylor, & Pilkington, 2012).

Effects of trauma: These refer to the symptomology that is present when a child is exposed to trauma, and include both physical and psychological symptoms.

Psychological effects of child trauma: These comprise the results of trauma exposure on the psychological development of a child in terms of their interaction with the social environment (Santrock, 2009).

Bronfenbrenner's Ecological Model: This is the systems theory model utilised in this study, which explores the interrelationship of the various systems (microsystem, mesosystem, exosystem, macrosystem and chronosystem), in which an individual interacts with and shapes his or her persona (Santrock, 2009).

1.10 Structure of Thesis

Chapter 1 the first chapter of this study, introduces the topic, the effects of trauma on children's mental health and well-being. This chapter also presents the background, the problem statement, the rationale, the purpose of the study and the research questions; it gives a brief outline of the theoretical framework and an overview of the methodology, and also sets out the significance of the study and the definitions of keywords.

Chapter 2 is an overview of the literature pertaining to the effects of trauma on children's mental health. This conceptual framework provides insight into the relevant statistics of child trauma and identifies the gaps in the literature. This chapter also outlines the theoretical framework used in this study, i.e. Bronfenbrenner's ecological theory.

Chapter 3 presents the methodology used, which comprises the aim, objectives, research questions, research design, inclusion and exclusion criteria, levels of the review, method of the review, an analysis and lastly the ethical considerations. It further outlines the procedures used in research to create new knowledge.

Chapter 4 comprises the results and discussion of this study. It is divided into three main sections, namely, process results, descriptive meta-synthesis and theory explicative meta-synthesis.

Chapter 5 is the concluding chapter of this study; the findings are discussed in light of the objectives of the study and the theoretical framework. This is followed by a summary of the limitations of the study, and a discussion of the significance of the study. Lastly, this chapter makes various recommendations to be considered for future studies.



CHAPTER 2

CONCEPTUAL FRAMEWORK

2.1 Introduction

The purpose of this chapter is to provide only a brief overview of the literature that is currently available in the field of childhood trauma; a comprehensive review and discussion based on the articles that were considered for inclusion is presented in Chapter 4 and 5. This chapter also discusses Bronfenbrenner's ecological theory of systems as it serves to comprehend the effects of child trauma on child mental health and well-being.

2.2 Literature Review

Physical, psychological and emotional development is a continuous and life-long process. It has been found that childhood experiences of trauma can have detrimental effects not only during childhood but throughout an individual's life span (Santrock, et al., 2009). Beyond the question of whether child trauma occurred or not, one must also identify precisely what type of trauma it was, when and how often it occurred, and during which periods of development of the child. An accurate chronology of the traumatic events will assist the researcher to determine and evaluate the role played by factors such as genetics and psychology in the outcomes post trauma exposure (White, et al., 2015). The areas that child trauma could affect include biological, cognitive and socioemotional processes. While the literature review will address the implications of childhood trauma exposure on these aforementioned processes, one must keep in mind that the symptomology of trauma is complex and intertwined with other symptoms that may not be directly related to the trauma. For example, the main component of the socioemotional effects of trauma is the development of PTSD and includes symptomology that can affect cognitive functioning.

White et al. (2015) stated that human development results from the exchanges between the individual and his/her environment, and the relationship between these must be considered to comprehend the impact of childhood trauma on development. Developmental factors play a strong role in the presentation of PTSD symptoms. As stated by Gillies et al. (2013), the characteristic symptoms of PTSD include; re-experiencing the trauma, avoidance of stimuli

associated with the trauma and increased arousal. Gillies et al. (2013) also concluded that children and adolescents display symptoms of PTSD, such as developmental regression and behavioural problems, that are different from those expressed by adults.

Moreover, childhood trauma may lay the groundwork for various psychosocial challenges throughout the individual's lifespan. Psychosocial needs can be understood as the physical, emotional, social and mental necessities required for an individual to function optimally (Strydom & Kivedo, 2009). Such needs must be met in a satisfactory manner for optimal functioning to occur. According to research, if a child has been exposed to abuse by his/her parents and if it has witnessed violence, then their development is negatively affected (Moore & Ramirez, 2015). Consequently, when aspects of psychosocial needs are affected by trauma, this may have a negative impact on the child exposed to trauma.

How a child behaves in the classroom is closely related to the environment to which the child is exposed. Research has shown that there is a correlation between trauma exposure and community violence, poverty and being marginalised (Lieberman, Chu, Van Horn, & Harris, 2011). Many teachers in South Africa face challenging classroom behaviour as a result of their pupils coming from violent or poor backgrounds (Paterson & Perold, 2013). The importance of educational attainment of vulnerable children has become a global priority (Escueta, Whetten, Ostermann, & O'Donnell, 2014). Challenging behaviour in the classroom includes aggression, stubbornness, attention seeking and attention deficit behaviours, overall negative mood, disobedience and a refusal to take responsibility. Often children who display such behaviours are diagnosed with anxiety or mood disorders.

Understanding the nature of the impact of trauma on their psychosocial well-being can be linked to symptoms of psychiatric disorders, such as PTSD, as it is noted in the diagnostic criteria that the disturbance causes clinically significant distress or impairment in critical areas of functioning (Bolton, 2004). A study conducted on orphans that examined the correlation between psychosocial wellbeing and cognitive development and success in learning found that emotional difficulties tend to slow down cognitive development (Escueta, et al., 2014). Thus barriers to educational attainment are created when a child is exposed to trauma. Escueta et al., (2014) indicated that intervention strategies must operate from a holistic perspective and target all collateral areas, such as adverse childhood events, psychosocial wellbeing and socioeconomic status. Yet not many studies have focused on the

psychosocial effects of trauma on mental health (Bolton, 2004). Hence this study attempts to shed light on the link between childhood trauma and its psychosocial effects.

Paterson and Perold (2013) argue that the roots of such disruptive behaviours include a lack of parental love, of emotional support and of attention, especially in environments where the living conditions are perceived as unsafe and insecure. Furthermore, traumatic life events, like emotional, physical and sexual abuse, may lead to low levels of motivation, low self-esteem and a poor academic self-concept, and will also result in disruptive classroom behaviour. Likewise, child trauma is associated with stigmatisation from the educators and peers. Van Zelst (2015), in support of the aforementioned findings, posits that childhood trauma increases vulnerability, which can result in negative beliefs about oneself and others.

Challenging traumatic experiences, social marginalisation, unsupportive family environments and chronic stress all fuel maladaptive schemas (Van Zelst, 2015). These aforementioned elements all have an interrelated result on the child who has been exposed to trauma. A study on maltreatment and mental health in a high risk adolescent population found that youth in welfare settings experienced a high degree of poly-victimisation (Greger, Myhre, Lydersen, & Jozefiak, 2015). The study, which was based in Norway, again stresses the importance of a supportive environment, as the participants came from backgrounds where they had been exposed to multiple traumas. It also concluded that suicidal ideation, psychiatric disorders and comorbidity of psychiatric disorders were highly prevalent amongst the participants (Greger et al., 2015). Hence, when a child is confronted with traumatic experiences, their daily events may be perceived as more stressful, leading to overwhelming trauma symptomology; this is exacerbated by a lack of coping skills, and ultimately results in poorer health (Infurna, Rivers, Reich, & Zautra, 2015).

The ability to cope with a traumatic experience or not is correlated to the presentation of the trauma symptomology. Coping strategies used among children and adolescents exposed to trauma can be divided into two types, i.e. approach and avoidant. The former involves the use of problem solving skills and access to social resources, while the latter includes distancing and distracting approaches in response to stressors (Elzy, Clark, Dollard, & Hummer, 2013). Thus childhood trauma is associated with lower levels of overall psychosocial well-being.

According to Li (2014), childhood and adult psychopathology is often associated with the experience of traumatic events in childhood. Psychopathology that result from traumatic

experiences include attention deficit and hyperactivity disorder, mood and anxiety disorders, and personality disorders. Children who have been exposed to trauma were assessed and diagnosed according to the Diagnostic and Statistical Manual for Mental Disorders, 4th edition (DSM-IV-TR), text revision. These diagnostic criteria were developed and based on the data of patients aged 15 years and older. This raised concern for clinicians because the DSM-IV-TR did not take into account the developmental differences, which consequently resulted in under-diagnosis of highly symptomatic children (Gregorowski & Seedat, 2013). However, the new Diagnostic and Statistical Manual for Mental Disorders 5th edition (DSM 5) does make provision for children younger than 6 years with the new PTSD Pre-school Subtype. Thus, PTSD is now recognised as developmentally sensitive, as the diagnostic threshold has also been lowered for children and adolescents along with the added subtype (American Psychiatric Association, 2013).

These changes to the PTSD criteria opens up a whole new dimension of possible prevention and treatment plans for children who suffer from PTSD symptomology. As argued by Gregorowski and Seedat (2013), a developmentally sensitive framework for understanding and assessing trauma in children is pivotal, since trauma exposure affects the rapidly evolving neurological, physical, social and psychological capacities of children and thus affects their overall development. In this study, childhood trauma refers to a display of PTSD symptoms after exposure to a traumatic event and not only when a diagnosis of PTSD is made; due to the history of criticism of the PTSD diagnostic criteria when these are applied to children and the amendments made in the DSM-V. Childhood trauma may also cause mental health disorders other than PTSD, and often two or more co-exist. It is believed that certain forms of traumatic experiences are associated with particular mental health disorders, for example, physical abuse is correlated with antisocial personality disorder (Li, 2014).

Trauma exposure during childhood is furthermore linked to an increased risk of depression. The co-occurrence of depression and PTSD is well documented (McCutcheon, 2009). A study done by McCutcheon (2009) on the relationship between trauma and depression found that child abuse and neglect were associated with an increased risk of early onset depression during childhood and into adulthood. Additionally, there is a clear and complex link between childhood trauma and psychosis. For some individuals, psychotic experiences can be a result of trauma exposure, given the prevalence of psychosis after exposure to childhood trauma (Morrison, 2009).

Psychotic experiences, such as auditory and visual hallucinations, have been found to be a common result of sexual abuse in young people with no prior psychiatric history (Morrison, 2009). Psychosis tends to emerge as a reaction to trauma. Spencer (2006) states that psychosis and PTSD can be viewed on a spectrum of reactions to trauma. Over 40 studies were reviewed by Read et al. (2004) on the rates of child abuse among female psychiatric patients. They found that the rates for physical abuse ranged from 17 – 87% and 22 – 85% in sexual abuse amongst children. Accordingly, childhood trauma is correlated with more severe psychiatric disorders. Similarly, a study done by Spencer (2006) examined the prevalence of childhood trauma in a population with schizophrenia and a population with non-psychotic psychiatric diagnoses. It also investigated the effects of trauma on the symptoms of schizophrenia, finding that there is a high correlation between childhood trauma and schizophrenia. In essence, childhood trauma has a powerful effect on mental health.

Childhood trauma exposure also affects the biological processes of life span development, thus influencing healthy physical development. Fascinatingly, Greger et al. (2015) argued that research has shown that the prevalence of psychiatric disorders related to trauma during childhood and adolescents escalate with age. Furthermore, childhood and adolescents are at critical developmental periods for brain development. Hence brain trauma during this period can disrupt neurodevelopmental processes and lead to long-term damage. As stated by Watts-English, Fortson, Gibler, Hooper and Bellis (2006), “prolonged stress or prolonged exposure to glucocorticoids (i.e., the adrenal steroids secreted during stress) and elevated levels of catecholamines that result from dysregulated stress response systems during this period are likely to affect brain development adversely”. Additionally, cumulative effects of exposure to multiple traumas have been shown to have a greater impact on early cognitive development than any single risk factor amongst vulnerable children (Escueta., 2014). Furthermore, the stress associated with child maltreatment has been related to alterations in the neurobiological systems that are vital for brain maturation, cognitive development, and regulation of emotions (Watts-English, et al., 2006).

Affect regulation is the ability of an individual to adapt healthily to stress or trauma, while affect dysregulation requires clinical intervention. Talwar (2007) defines affect as genetically hard-wired, physiological building blocks from which feelings, emotions, and moods are constructed. The impact of a traumatic event will depend on the individual’s ability to cope and regulate his/her affect within the adverse life event. As stated by White et al. (2015),

another contributing factor that will determine the impact of the traumatic event is the child's representation of the caregiver. The results revealed that an insecure attachment tends to contribute to negative experiences during future relationships. Moreover, Moore and Ramirez (2015) indicate that positive and consistent parenting is crucial to healthy development during childhood, particularly when a child is very often experiencing multiple traumas, or if there is a lack of adequate parenting, as these events can lead to negative outcomes such as depression.

This notion of the relationship between the victim and the perpetrator was also supported by McLean et al. (2014), who identified it as an important predictor of the incidence and severity of PTSD symptoms among adult survivors of childhood sexual abuse. Elzy et al. (2013) similarly indicated that the interpersonal nature of childhood trauma associated with abuse and neglect places the victims at a higher risk for developing PTSD, compared to non-interpersonal traumatic experiences. Exposure to trauma can be dealt with adaptively or non-adaptively, as pointed out previously. In terms of the former, the individual will go through the normal stages of grief and loss in a supportive environment. In terms of the latter, trauma related memories will be suppressed. When trauma is dealt with in a non-adaptive manner, the memories related to the trauma preserve their power and freshness on an affective level. The sensory experiences of a traumatic event, such as sounds, smell, touch, taste or images form a state of heightened physiological arousal. These sensory experiences can be triggered by memories of the trauma. As outlined in the DSM-V, Criterion B, the traumatic event is thus persistently re-experienced; for example, children may experience frightening dreams without recognisable content. The challenge in treating patients with PTSD is that the sensory symptoms do not fade over time. According to Talwar (2007), un-adaptive mechanisms of coping with trauma lead to memory dysfunction, as images, emotions, sensations and muscular reactions related to the trauma become deeply imprinted in the mind. Knowledge of the limbic system is essential to understand the connection between emotions and memory and their relationship with trauma (Talwar, 2007).

2.3 Theoretical Framework

The socio-cultural and economic context in which families are embedded influences the manner in which individuals interact within the family context and the norms and values that are passed on through generations by means of socialization (Levendosky et al., 2004). The

analysis of systems, contexts and socialisation agents has generated a vast literature, which have been moving away from the westernised individualistic manner of thinking to a more collectivist and culturally orientated approach (Levendosky et al., 2004). One of the factors that lead to this may well be globalization, in terms of which the world is “shrinking”. In some way or the other, we are all influencing one another, whether it is in terms of our environment, our culture or our religion. Bronfenbrenner’s ecological theory is used as the theoretical framework for this research study to determine how the different intertwined systems affect one another in relation to the effects of childhood trauma on mental health and well-being. This theory is used to explore how child trauma affects and influence the different spheres of the model.

Bronfenbrenner’s approach emphasises the interrelationship of the different processes that contribute to an individual’s persona and their contextual variations. This ecological theory maintains that development reflects the influence of five environmental systems namely, microsystem, mesosystem, exosystem, macrosystem and chronosystem (Santrock, 2009).

The microsystem is the system in which an individual lives. It is the system that has a direct effect on the individual; the most direct interactions take place with social agents within this system (Santrock, 2009). It includes the following: school, peers, neighborhood, religion, health services and family. Visser (2007) added that this system also comprises of the immediate experiences and personal interactions of interpersonal relationships within the different settings. For example in this study, the microsystem might refer to the direct trauma experienced by the child, where the perpetrator is a family member, thus exposure to trauma that occurs in the microsystem is of a personal nature for example physical and emotional abuse where the parents are the perpetrators.

The mesosystem involves relations between microsystems or connections between contexts (Santrock, 2009), for example, the relationship between the family experiences and the school experiences. The social agents in the microsystem are not simply black and white or isolated; they all influence one another (Visser, 2007). Thus the mesosystem attempts to explain the nature of the relationship between the different social agents in the microsystem. Therefore, the mesosystem is the set of linkages between the different microsystems of an individual. According to Visser (2007), Bronfenbrenner proposed that development will be enhanced if the different settings in which the developing person is involved are strongly

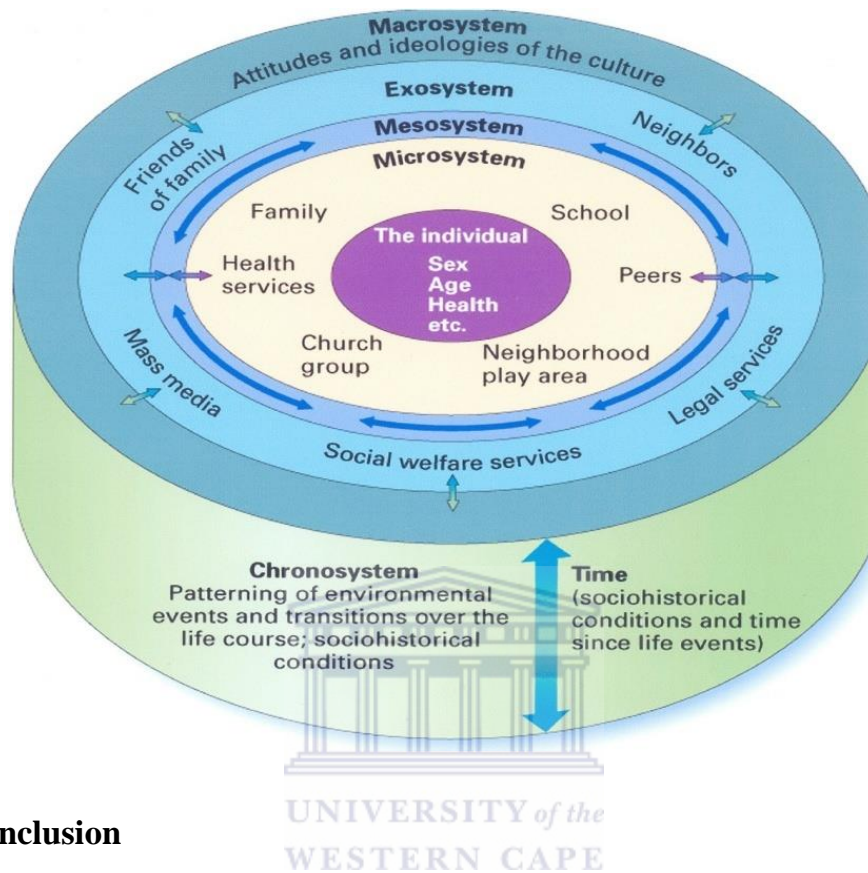
linked, such as when the values taught at school and the values taught at home correspond; this will also contribute to the resilience of a trauma exposed child.

The exosystem (Santrock, 2009) consists of links between the social settings in which the individual does not play an active or direct role and the individual's immediate context. Examples of factors in the exosystem include: neighbours, legal services, social welfare services, mass media and friends and family. Visser (2007) posited that this system consists of interconnectedness between the micro and mesosystems and those system with which the individual has no direct contact, but which may affect the functioning of these two systems. Cultural factors that have an impact on an individual also comprise behaviour patterns and beliefs, and these are usually passed on from generation to generation (Santrock, 2009). Even though an individual is not directly involved in the exosystem it can still contribute significantly to childhood trauma, as it is within this system where awareness campaigns and prevention programmes needs to be employed with regards to child trauma. The macrosystem is the system that deals with the cultural context. According to Visser (2007), the macrosystem can be defined as the wider system of ideology and organisation of social institutions common to a particular social class, ethnic group or culture. Within the macrosystem of a community one can find the views and perspectives that the community has of child trauma, where is child protection on their agenda is it regarded as utterly important or not.

Lastly, the chronosystem consists of the patterning of environmental events and transitions over the life of an individual, and includes sophisticated circumstances as stated by Santrock (2009). It is clear that there is a vast number of factors that contribute to one's persona. In this research study, these systems were used to explore the effects of trauma on children's mental health and well-being. Figure 1 illustrates Bronfenbrenner's ecological model (Santrock, 2006) and highlights the interconnectedness between and within the systems.

Figure 1: Bronfenbrenner's Ecological Model

As found in Santrock (2009)



2.4 Conclusion

As discussed within this chapter, child trauma research is diverse yet limited. Trauma during childhood may present with complex symptomology furthermore, the root of the trauma may be just as complex as the various systems of Bronfenbrenner's ecological model are intertwined. The next chapter explains the methodological steps taken to meet the aim and objectives of this study.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The purpose of this chapter is to describe the various steps involved in the conduction of this study. Therefore this discussion on methodology include: the aim, objectives, research questions, research design, inclusion and exclusion criteria, levels of the review, method of the review, an analysis and lastly the ethical considerations.

3.2 Aim of the Study

This study aims to provide a comprehensive and systematic review of the research that is currently available on the prevalence of child trauma exposure in order to identify the effects of trauma on child mental health and well-being.

3.3 Objectives of the Study

This study has the following objectives:

- To determine the prevalence of child trauma;
- To explore the effects of trauma on child mental health and well-being;
- To provide a comprehensive review of the available literature on child trauma and the effects thereof and to identify gaps in the literature.

3.4 Research Questions

As articulated in Chapter 1, Section 1.5, the main research question that this study sets out to answer is the following: What scientific body of literature is available with regard to the effects of trauma on child mental health and well-being?

- Additional questions asked are: How prevalent is child trauma?
- What are the causes of child trauma?
- What is the resiliency threshold for children exposed to trauma?

- What are the consequences of child trauma exposure?

3.5 Research Design

The methodological approach for this study is a systematic review. These have become increasingly important, as they allow more effective decision making to take place, since the aim of such reviews is to appraise, summarise and bring together the relevant facts by appraising existing studies (Smith & Devane, 2011). A systematic review can be defined as primary research on a clearly formulated question that identifies relevant studies, appraises their quality and summarises the relevant evidence based on explicit methodology (Khan et al., 2003). As mentioned in Chapter 1 the rapid rate of publication increases the significance of systematic reviews.

Furthermore, Lipp (2003) argues that, when articles are looked at individually, it may be possible that they provide little insight. Hence, the aim of a systematic review is to provide a comprehensive and consistent analysis of the given topic across a large number of studies and articles. A systematic review of the literature is thus appropriate for this study, as it allows the researcher to accumulate all available research and then synthesise the studies that fit the inclusion criteria. Hence, it provides a high-quality compilation of evidence-based peer-reviewed literature that is relevant to the research topic. The researcher also aimed to conduct this study in an unbiased manner.

3.6 Inclusion Criteria

Smith and Devane (2011) argue that locating and retrieving relevant literature is essential for the success of a systematic review since the data sourced will be used to derive recommendations and conclusions. A mixed method systematic review approach, incorporating qualitative, quantitative and mixed method research studies to optimise the findings was used. The criteria used to consider which literature to include were the following: studies had to fall into the time period of the year 2000 – 2016, they had to focus on the effects of trauma on child mental health and well-being, and they had to be limited specifically to children of all ages, rather than adults. Publications from all disciplines and a wide range of databases were included, to use as many relevant citations as possible.

3.7 Exclusion Criteria

The use of exclusion criteria is critical to ensure high quality research. In this comprehensive review, the exclusion criteria included, but were not limited to the following: studies that were not published within the proposed time period were excluded; studies that were not peer reviewed and those that were not found within the UWC database or in the reference list of related articles, were also excluded. Also studies were excluded if they did not relate precisely to the topic of this study, for example, studies that looked at adults and their exposure to trauma. Likewise, studies on the prevention of trauma and abuse and intervention programmes were excluded.

3.8 Levels of the Review

Appropriate and successful information retrieval is fundamental when conducting a systematic review. Consequently, before the literature search began, the researcher formulated an effective search strategy. The search strategy was divided into three levels, namely: the search for appropriate titles, the screening of abstracts, and the evaluation of the full texts. This search strategy assisted the researcher to meet the requirements of the systematic review and to ensure a comprehensive, objective and thorough synthesis of the retrieved data (Smith & Devane, 2011). The topic of any systematic review must be approached impartially in order to ensure objectivity by reducing any possible bias of the researcher (Lipp, 2003). The following sub-sections provide a narrative of the strategies and instruments that were used at each level.

3.8.1 Identification

According to Smith and Devane (2011), search terms for a systematic review should be clearly defined to obtain optimal results. Therefore the researcher made use of the following steps in the retrieval strategy to ensure that appropriate articles were identified. Firstly, keywords relating to the title and the research question were used in the preliminary search. These keywords were: trauma, child, childhood trauma, child mental health, well-being, effects of trauma, socioemotional effects of trauma, cognitive effects of trauma and biological effects of trauma. These keywords also included synonyms and other related keywords that could be considered. The keywords used in the retrieval of literature should be focused in such a way that it is broad enough to retrieve all relevant data yet concise enough to minimise

extraneous data (Smith & Devane, 2011). Hence the researcher set out a refined list of keywords based on the results of the preliminary search; these keywords were: child trauma, child mental health and well-being, effects of child trauma and child maltreatment. These refined keywords were used to create the following Boolean strings, to assist the data retrieval process by enhancing the potential matches sourced:

- 1.) Child trauma AND mental health OR well-being
- 2.) Effects of child trauma on AND mental health OR well-being
- 3.) Child maltreatment AND effects thereof OR outcomes of child trauma

Secondly, a comprehensive search was conducted with the aforementioned Boolean strings, across the databases available at the University of the Western Cape (UWC). These databases are arranged according to their disciplines (UWC Library, 2015). The disciplines and the corresponding databases are outlined in Table 1, in an attempt to identify a set of core and secondary databases across disciplines. Table 1 lists the distribution of databases per discipline for 1) Health, 2) Education, 3) Social Science and 4) Natural Science.

Table 1: Databases per Discipline

Discipline	Database
Health	<ul style="list-style-type: none"> • Academic Search Complete (EbscoHost) • BioMed Central • Cambridge Journals Online • CINAHL (Cumulative Index to Nursing and Allied Health) (EbscoHost) • Cochrane Library • Health Source: Consumer Edition (EbscoHost) • MEDLINE (EbscoHost) • MEDLINE (Pubmed) • Sabinet Reference • SAGE Journals Online • ScienceDirect • SciFinder Scholar • SCOPUS
Education	<ul style="list-style-type: none"> • African Journal Archive • Africa-Wide Information

	<ul style="list-style-type: none"> • EbscoHost Web • ERIC • PsychARTICLES • Sabinet Reference • Sage Journals Online • SAGE Research Methods (SRMO) • Teacher Reference Center
Social Science	<ul style="list-style-type: none"> • Academic Search Complete • Africa Journal Archive • Africa-Wide Information • EbscoHost Web • Project MUSE • SA ePublications • SA Media • Sabinet Reference • SocINDEX
Natural Science	<ul style="list-style-type: none"> • Academic Search Complete (EBSCO) • Agricola • Cambridge Journals Online • JSTOR • MEDLINE (via EBSCO) • PubMed (BioMed Central) • Sabinet Reference • SAGE Journals Online • ScienceDirect • SCOPUS • SpringerLink

Table 1 listed the disciplines and the corresponding databases that allowed for the identification of the core databases and secondary databases across disciplines; these are outlined below in Table 2.

Table 2: The Primary and Secondary Databases

Primary databases	Secondary databases
<ul style="list-style-type: none"> • Africa-wide NiPAD • Biological abstracts • Biomed central • Cambridge journals online • Cochrane library • Credo Reference • Ebscohost • Google scholar • JSTOR • Pubmed • Sabinet Reference • Sage journals online • ScienceDirect • Scopus • SpringerLink • Wiley Online Library 	<ul style="list-style-type: none"> • Academic Search Complete • African Journal Archive • Afri-Wide Information • Agricola • CINAHL • ERIC • Health source: nursing/academic • MEDLINE • NEXUS • Poverty monitoring database • PsychArticles • SA ePublications • SA media • Sage research methods online • SocIndex • Teacher reference centre



Lastly, the researcher also made use of the reference lists of articles that were considered relevant to source additional data, a process that is defined as reference mining. All potential articles as identified per the inclusion criteria were evaluated according to the aim, objectives and research questions of this study. All data that met the inclusion criteria were identified and passed on to the next level of the review. The Title Summary Extraction Sheet (see Appendix B), was used to gather the relevant information from all the titles searched, and it documents the recommendation for either inclusion or exclusion in the current study.

3.8.2 Screening

The articles that were sourced on the previous level were screened according to the inclusion and exclusion criteria of this study. The following elements were assessed to categorise the articles further: their time frame, whether full-text articles were available, whether they focused on the effects of trauma on child mental health and well-being. Only studies that fulfilled the requirements of the inclusion criteria could proceed to the next level of review. The information that was used to assess whether articles could proceed to the next level of the

review can be found in the Abstract Summary Sheet (see Appendix C). This step of the review process was revised and approved by the supervisor to ensure accuracy.

3.8.3 Eligibility

The articles that had been successfully screened in the previous level were retrieved from the database, and underwent full text evaluation for methodological quality using a critical appraisal tool. Such tools are used by researchers to make sense of evidence; they are specifically designed to use when reading research studies and papers. The critical appraisal tool that was used in this study is outlined below along with the threshold score that was set for the inclusion criteria.

3.8.3.1 Critical appraisal tool

The inclusion criteria of this study made provision for quantitative and qualitative research as well as mixed method research to be considered for inclusion. Thus the researcher took into account the guidelines for reviewing both quantitative (Law, Stewart, Pollock, Letts, Bosch & Westmorland, 1998) and qualitative (Letts, Wilkins, Law, Stewart, Bosch & Westmorland, 2007) studies. A critical appraisal tool developed by Smith, Franciscus and Swartboo which is still under review, was used for the full text reviews. This tool was originally developed to assess full text articles on their methodological components and to then assign scores based on the extent to which a criterion was present or reported. This tool consists of eight sections that assess the methodologies in intervention studies, namely: purpose, design, ethics, data collection, data analysis, sample, results and conclusions. Moreover, there are three versions of this tool, for use with 1) intervention studies, 2) general quantitative studies and 3) psychometric studies.

However, in this study, the researcher made use of an adapted form of the second version, which made it possible to evaluate quantitative and qualitative methodologies using the same form. This made administration much easier, and provided a comparable basis for evaluating methodological quality. The original eight subsections of the original scale were retained, although the items were pared down to allow each subsection to contribute equally to the overall score (see Appendix D: Critical Appraisal Tool).

3.8.3.2 Threshold score

Based on the overall quality of the article, it was scored as follows: weak (0-40%), moderate (41-60%), strong (61-80%) or excellent (81-100%). For an article to be considered in the review, it had to obtain a strong score of more than 60%. Thereafter, articles that obtained such a score or more, thus satisfying the threshold criteria, were subjected to the data extraction process.

3.8.3.3 Data extraction

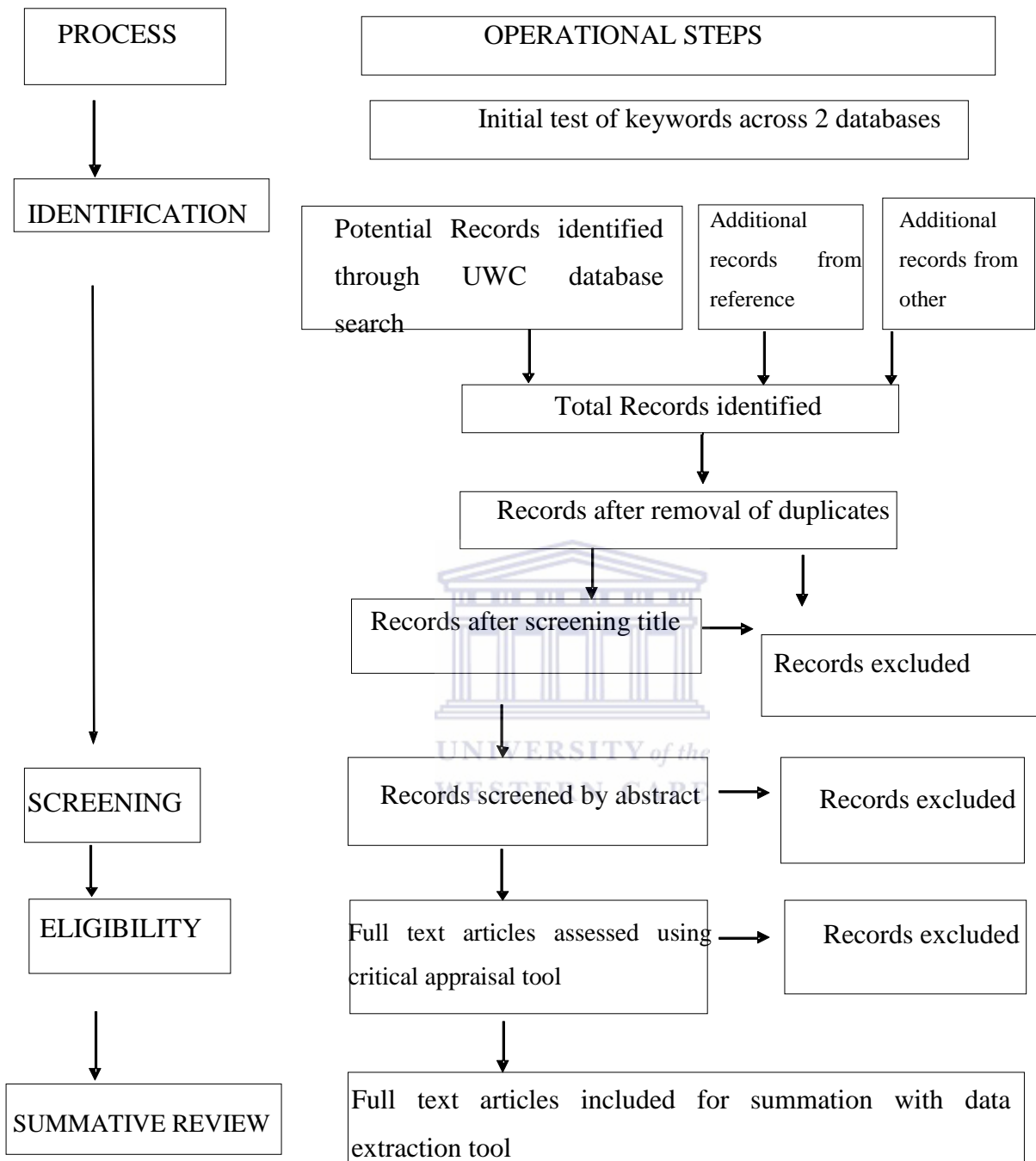
The data extraction process was completed by the use of a self-constructed data extraction sheet, which is based on the objectives of the study and the different levels of the analysis.

3.9 Method of the Review

At all levels of the review, the researcher worked collaboratively with the supervisor; this meant that there were two independent reviewers responsible for the evaluation process, with each documenting their findings independently. More than one reviewer is essential for ensuring methodological validity prior to deciding whether articles are to be included or excluded (Khan et al., 2003). Findings were compared after each level had been completed, and recorded accordingly. Discrepancies regarding articles that had been considered for inclusion were evaluated objectively, according to the validity of the article.

It is crucial that researchers illustrate the strategy that was used in order to account for transparency (Walsh & Downe, 2005). Figure 2 displays a flow chart that outlines the levels of the review and the operational steps at each level. This flow chart is an indication of the above mentioned method that was used to maximise authenticity, relevance and validity. The flow chart is an amended version of the one endorsed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), as proposed by Higgins and Green (2006).

Figure 2: Levels of Review



3.10 Analysis

The next step in the process was the analysis. For the purposes of this study, a meta-synthesis was applied. As stated by Walsh and Downe (2005), conducting a meta-synthesis allows reviewers to facilitate the emergence of new insights, and understanding such a process values richness and depth of description. Thus meta-synthesis is defined as the compilation and interpretation of findings to understand and explain phenomena to generate new information or to facilitate a more profound understanding of findings (Korhonen, Hakulinen-Viitanen, Jylha, & Holopainen, 2012). Furthermore, Erwin, Brotherson and Summers (2011, p188) stressed the essence of interpretation: “the researchers conducting the metasynthesis are not only synthesizing the findings from a carefully selected pool of studies but also are actively engaged in a complex and in-depth analysis and interpretation of these data”. As outlined in Figure 2, it is important that meta-synthesis is guided by a protocol to ensure strict adherence to the principles of scientific research; this is key, since meta-synthesis is still a relatively new approach (Walsh & Downe, 2005).

Trauma related symptomology is complex and cannot be fully understood by means of statistics. Meta-synthesis was therefore identified as the most appropriate methodology to use for this study, as it allows the researcher to summarise and analyse the literature to provide a comprehensive outline of the effects of trauma on child mental health and well-being. This notion was supported by Korhonen et al., (2012) after systematically searching and critically appraising the literature, it is important to synthesise knowledge to ensure uniform decision making. Meta-synthesis has also been described as an ever-expanding and boundary breaking exercise by Walsh and Downe (2005). It moves away from the notion that phenomena can be summarised in a final and unarguable manner. There are various techniques of conducting a meta-synthesis and these will be outlined in the following sections. Conclusions made about the items will be based on the topic of this study. In essence, it should be noted that this approach is not just an in-depth compilation of existing studies. Rather, it is characterised by a highly sophisticated process of synthesis and analysis (Erwin et al., 2011).

3.10.1 Types of Meta-Synthesis

Three types of meta-synthesis have been identified by Sandelowski, Docherty and Edem (1997), namely, Descriptive Meta-synthesis, Theory Explication and Theory Building. The first of these, Descriptive Meta-Synthesis, involves the synthesis of qualitative data, which is

followed by a comprehensive analysis of such data (Finfgeld, 2003). The second, Theory Explication, is a form of meta-synthesis that reconstructs the original phenomena; it can be defined as a lateral and deductive process in which an abstract concept of one study will be reconceptualised through the synthesis of other studies (Zimmer, 2006). The third, Theory Building, accumulates findings of data on a theoretical level to draw conclusions for a tentative theory. Such accumulated findings are utilised to support the theory beyond the point that is possible with single investigations (Walsh & Downe, 2005). These theories are not distinct but rather intertwined (Walsh & Downe, 2005). The framing of the meta-synthesis is based on this paper's research question, purpose and aim; as posited by Walsh and Downe (2005), framing of such kind allows the process to be manageable and for the transferability of findings to be delimited. For the purpose of this study, the researcher integrated Descriptive and Theory Building and Theory Explicative Meta-syntheses.

3.10.2 Descriptive and Theory Building Meta-Syntheses

Descriptive Meta-synthesis consisted of ranking the articles and creating a table of the extracted data. Ranking is based on the results obtained by means of the critical appraisal tool, which assesses the various strengths and weaknesses (Downe, Simpson, & Trafford, 2006). The critical appraisal tool moreover assessed the overall methodological rigour to identify which articles would be best suited for this study. The articles that gained strong results after being assessed by the critical appraisal tool were ranked in ascending order. Ranking articles does not imply greater internal validity but rather overall enriched methodological rigour, based on the aim and purpose of this study.

Thereafter, the data from the articles that were eligible for this study after being assessed by the critical appraisal tool were extracted by means of four different tables, which are presented in Chapter 4 as Tables 3 to 6. The first table (Table 3) gives a general descriptive summary of the articles; this includes the target group, the geographical location, the aim and the problem statement. The second table (Table 4) provides an overview of the methodological appraisal, which includes the design, the participants, the sample type, the sample size as well as the data collection instruments used. The third table (Table 5) summarised the fundamental elements of the aim and objectives of the respective studies, namely, their theoretical orientation, the scope of the intervention, the nature of the activities, and the facilitation styles. The fourth and final table (Table 6) is an overview of the analysis and the results of the included data.

3.10.3 Theory Explicative Meta-Synthesis

Thereafter, Theory Explicative Meta-Synthesis was conducted by means of three sequential stages, as identified by Noblit and Hare (1988), namely, the reciprocal stage, the refutational stage and the line of argument stage.

3.10.3.1 The Reciprocal and Refutational Stage

In this stage, the translation of data to findings takes place, with the use of metaphors and concepts that correspond to the same themes (Walsh & Downe, 2005). As defined by Noblit and Hare (1998), this stage involves the translation from individual studies into one another by synthesising the overarching themes. This process spontaneously leads to the Refutational Stage, because, even though the reciprocal translation will produce mostly commonalities, there will also be discrepancies of studies that do not fit within the overarching concepts. Hence, the Refutational Stage is defined as involving the recognition of themes and ideas that go against the majority of themes produced by the body of data. In this study, therefore, the researcher noted such discrepancies between the main themes and opposing themes, and they were identified and explored. According to Walsh and Downe (2005), such discrepancies should not be overlooked, as they often facilitate the creation of new understanding, reflecting the differences in context.

3.10.3.2 Synthesis of Translation

This is the final stage of the meta-synthesis process. In this stage, the data is further synthesised to clarify and refine the meanings, exploratory theories and new concepts (Walsh & Downe, 2005). This process must take into account any discrepancies or contradictions found, if reciprocal translations propose a lack of congruence. This is also where the researcher draws certain conclusions with regard to formulate a line of argument, based on the findings. As stated by Noblit and Hare (1988), the researcher must ultimately be able to illustrate how the whole is greater than the sum of the constituent parts. Based on all the retrieved and synthesised data, the researcher can either agree or disagree with the findings; such opinion will be based on an all-encompassing perspective.

3.11 Ethics Considerations

As a first step, when the researcher embarked on this study, the topic, research question, aim and purpose of this study were carefully considered and deliberated with the supervisor. Next, a research proposal to conduct this study was submitted to the Higher Degrees and Senate Research Committees at UWC. Thereafter, the researcher had to make slight amendments to the proposal. Next, this study received ethics clearance from the Higher Degrees and Senate Research Committees of UWC. Since this study is a review study, no further ethics clearance was required.

When systematic reviews are conducted, there is a high risk for the researcher to publish unethical research, due to the risk of including unethical studies. As stated by Vergnes, Marchal-Sixou, Nabet, Maret and Hamel (2010), the factors that increase such a risk are the researcher's desire to collect an exhaustive amount of information and subjectivity to publication bias. To ensure a high regard for ethical research, however, the data used within this study was limited to the inclusion of peer reviewed published literature. The critical appraisal tool that was applied within this study also made provision for assessing the ethical consideration of an article. Vergnes et al. (2010) advised that authors of systematic reviews must be able to guarantee a minimum of ethical assessment to ensure high standards and good ethical research.

3.12 Conclusion

Each of the sections in this chapter discussed the methodological process undertaken and all reports on significant parts of the process. As a result a justified pool of literature can be concluded from which conclusion may be drawn. In the following chapter the steps taken to obtain the results of this study is discussed.

CHAPTER 4

RESULTS

4.1 Introduction

The purpose of this chapter is to provide a descriptive interpretation of the results found within the thirteen articles that were assessed by die critical appraisal tool. Firstly, this chapter presents the manner in which the journal articles were processed which entailed: identification, screening and eligibility. Next is the method of analysis which for this study was descriptive meta-synthesis, with all components discussed descriptively. Thereafter the thirteen journal articles are ranked. This is followed by the theory explicative meta-synthesis process where the reciprocal findings and the refutational findings are discussed. Lastly, this chapter presents a line of argument.

4.2 Process Results

As discussed in Chapter 3, an amended version of the PRISMA flow chart was utilised in this study to graphically represent the overall progress of the review process (see Figure 2). This figure is repeated in this chapter to illustrate the results at the various stages and to restate and recap the review process (see Figure 3).

4.2.1 Identification

The initial search strategy generated a total of 316 articles; this was made up of 303 articles from the UWC database, 2 articles gained through reference mining and 11 additional articles from other sources. The initial search was completed by the use of keywords and the Boolean strings. When the researcher screened the articles for duplicates, the number of total records identified decreased to 227 articles. These articles were then screened according to their title, which then resulted in the number of records decreasing to 60.

4.2.2 Screening

Thereafter, a total of 60 articles were screened by abstract. Of these, only 22 were eligible for inclusion and for being reviewed in full text. The total number of excluded articles at this stage was 38. Reasons for exclusion varied, however most of the articles (n=29) were

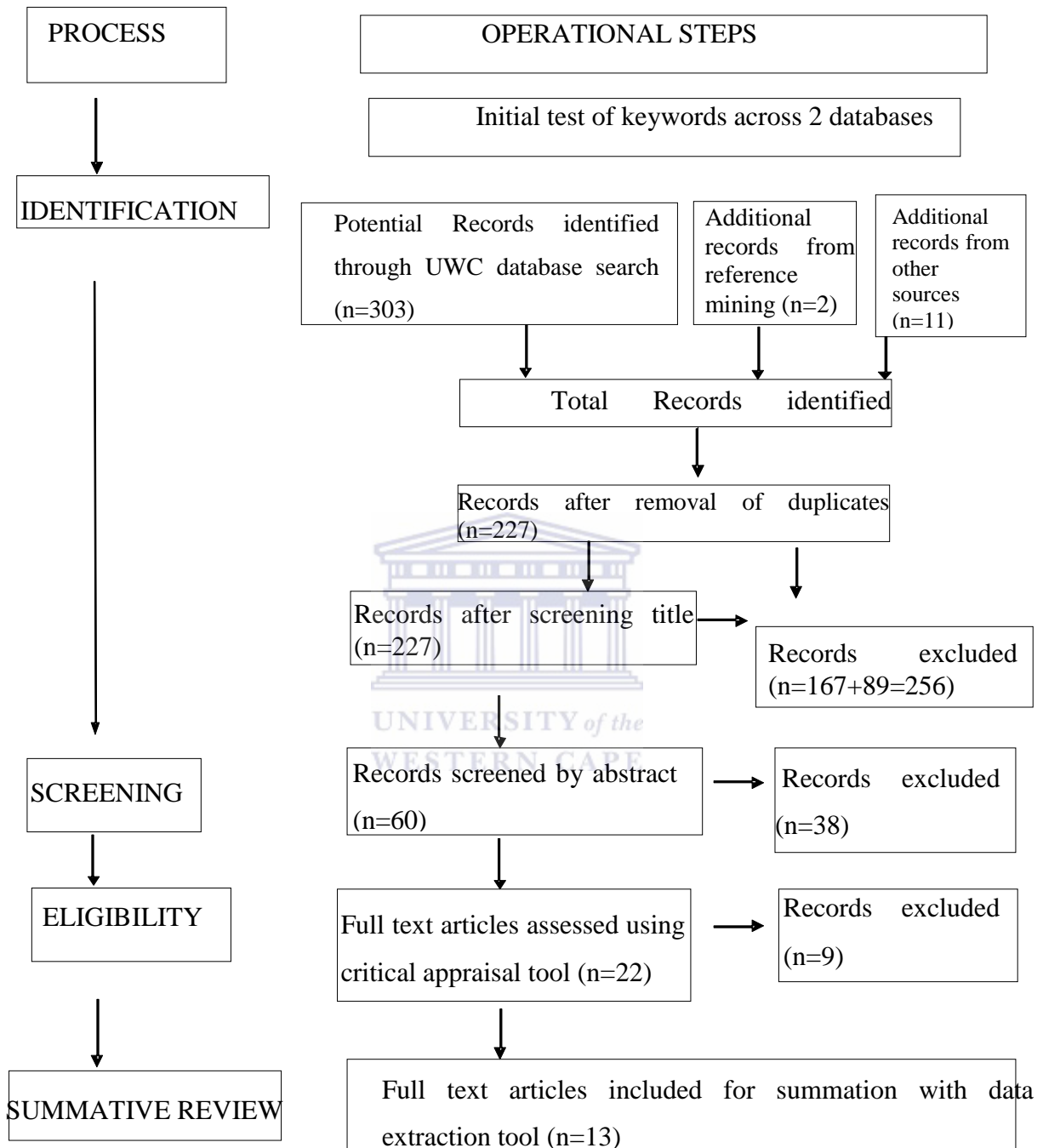
excluded due to irrelevant content, such as a focus on therapeutic modalities, parenting, risk factors etc. A further three articles were excluded because their time frame was not in line with the inclusion criteria, and an additional five articles were excluded because they did not focus on children but on adults, which is not congruent with the inclusion criteria. This left a remainder of 22 articles, which met all the inclusion and exclusion criteria.

4.2.3 Eligibility

In the next phase, the critical appraisal tool was applied to do a full text evaluation of the 22 articles that were eligible for full text analysis after being assessed by abstract. After full text analysis, only 8 articles were excluded. These were articles that obtained scores below 65% and that had various inconsistencies pertaining to their methodology, study design and sampling methods. The remaining thirteen articles all obtained scores between 66% and above and can thus be rated as good; these were eligible for the final phase of the review process.



Figure 3: Completed Levels of Review



4.3 Descriptive Meta-Synthesis

As detailed in Chapter 3, descriptive meta-synthesis encompasses the ranking of articles and the tabulation of extracted data. This section provides a comprehensive analysis of the above mentioned process.

4.3.1 Data Extraction

The data extraction tool consisted of four distinctive sections, which were each represented as a separate table, namely: the general description (Table 3), a methodological appraisal (Table 4), the content of the strategy or intervention (Table 5), and the analysis of the results (Table 6). Once the studies were analysed, the thirteen articles that gained a score above the threshold were subjected to the data extraction procedure in terms of these four tables. Each table is discussed in turn below.

4.3.2 General Description

The first part of the data extraction tool looked at the general descriptions of each of the selected thirteen articles; it extracted the information pertaining to the target group, the geographical location, the aim of the study, and the problem statement. Table 3 below summarises this information.

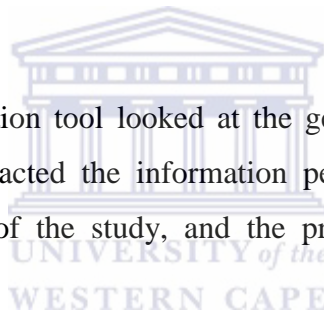


Table 3: General Description

Authors	General description			
	Target group	Geographical Location	Aim	Problem statement
Collins et al. (2013)	Young children	North-eastern city in the United States	Aim of the study was to examine the association between exposure to violence in the community and trauma symptomology amongst young children.	Little is known about the mediators between the stressors of community violence and the effects of trauma symptomology amongst children. Attributions about trauma stimuli have been demonstrated to be positively correlated with psychological and behavioural symptomology. However, no research was found by the author that examined the relationship among children's about the causes of violence, community violence exposure and trauma symptomology in children.
Panter-Brick et al. (2015)	Afghan child-caregiver dyads	Kabul (Afghanistan) & Peshawar (Pakistan)	The two main objectives of this study were, firstly, to examine the consistency of trauma reporting in two waves of data collection among Afghan youth (n=331) and, secondly, to analyse the nature, level and malleability of trauma prediction changes in post-traumatic stress or depression over	As stated by the author, previous studies of war affected youth have not yet examined how trauma memories relate to prospective changes in mental health and to subjective social experiences. Also the majority of the research in this field has mainly focused on adults and addressed a debate focused on traumatic reports. Furthermore, the research suggests that forgetting bad memories or creating more

			time	benign memories are important components of resilience to adverse experiences. Yet the literature on child and adolescent trauma memory is very limited, according to the author.
Harpur et al. (2015)	High risk and exposure to maltreatment among the study participants; study based on archival data from Longitudinal Studies of Child Abuse and Neglect (LONGSCAN)	Ithaca, New York, USA	This study aims to fill a gap in the literature by using large longitudinal data to assess the impact of maltreatment and its timing on adolescent symptoms of depression and anxiety; it also empirically tests a model in which intelligence is conceptualized as a major resilience factor to adolescent depression and anxiety symptoms following child maltreatment.	Research has highlighted the many adverse psychological outcomes resulting from childhood maltreatment, particularly increased symptoms of depression and anxiety. However, not all maltreated children experience such symptoms of depression and anxiety, despite their high-risk status. Studies exploring resilience to maltreatment mostly focus on social support and coping skills; less is known about the role of intelligence and the timing of maltreatment.
Levendosky et al. (2002)	Pre-school learners	Not explicitly stated; a midsize Midwestern city, USA	This study aimed to examine the effects of domestic violence on trauma symptoms in an understudied population (viz. pre-school learners).	Limited research has established that pre-school children (younger than 6 years old) living in families with domestic violence exhibit greater levels of social, behavioural and cognitive and other problems when compared to children living in non-violent households. There has also been limited research on the traumatic


				symptoms that such children may develop as a result of domestic violence.
Helminem and Punamaki. (2008)	Children and adolescents	Palestine	<p>The aim of this study was to examine how traumatic events in the context of war and military violence affect emotional dream characteristics and how these emotional images are associated with children's mental health.</p> <p>This study had two main aims:</p> <ol style="list-style-type: none"> 1) to determine the impact that military trauma has on contextualised emotional images in dreams and whether the intensity and valence of such images differs according to gender, 2) to examine the mental health function of the contextualised emotional images in dreams. 	<p>Researchers agree that stressful experiences are incorporated into dreams, although they disagree about the mechanisms. Emotions are suggested as one possible process by which traumatic events enter into the content and structure of dreams.</p> <p>There is evidence that dream content mirrors the dreamer's emotional experience of trauma rather than the actual event.</p>
Kugler et al. (2012)	Children residing in a residential setting for foster children that need a higher level of care than children		<p>This study aimed to determine the extent to which somatic symptoms are associated with sociodemographic (gender and age of assessment) and clinical</p>	<p>As stated by the authors, there is little research available on somatic symptoms and child abuse despite its clinical importance. Understanding the association between somatic symptoms and trauma in children is essential because it can</p>

	who live in traditional foster homes		variables, for example, type of abuse and anxiety.	highlight the need to include measures of somatic symptoms in the routine psychological and physical assessments of children following a traumatic event. Furthermore, if healthcare providers can rule out somatic symptoms in their initial screening, then it will reduce medical costs and save time. It will also allow the inclusion of additional interventions that focus specifically on somatic symptoms, in the treatment of childhood trauma.
Flannery et al. (2004)	Grade 3 to grade 12 learners	Cleveland, Ohio, USA	<p>To examine the relationship between school specific violence and two outcomes, viz.</p> <ol style="list-style-type: none"> 1) child self-reported psychological trauma and 2) violent behaviour. <p>Two hypotheses were made:</p> <p>Hypothesis 1: “Witnessing violence and being a victim of violence at school would be related significantly to psychological trauma symptoms and violent behaviour, independent of the influence of demographic factors.”</p>	<p>According to the literature, rates of victimisation as a result of school violence are declining, while witnessing violence in the school setting is becoming more prominent. Recent research has examined the impact of exposure to violence on mental health and behaviour but so far little research has focused on the impact of school-specific exposure to violence (defined as either witnessing violence or being a direct victim of violence while at school). Furthermore, studies on exposure to violence in a school setting have mostly focused on adolescents in high-risk populations. Therefore, this study examines the relationship of exposure to violence at school and its</p>

			<p>Hypothesis 2: “Children and adolescents who are exposed to frequent incidents of violence at school would be more likely to experience clinical levels of trauma symptoms, such as anger, anxiety, depression, dissociation and post-traumatic stress compared to youth who are exposed to low levels of violence at school.”</p>	<p>relationship to psychological trauma (symptoms) and violent behaviour in both children and adolescents. It is essential to address this gap in the literature, since children and adolescents spend most of their time at school, and the earlier they are exposed to violence at school, the greater is the chance of long-term psychological damage.</p>
<p>Cloitre et al. (2009)</p>	<p>Children, adolescents and adults</p>	<p>Not indicated</p>	<p>To assess the relationship between accumulated exposure to different types of traumatic events and the complexity of symptom. The study had the following aims:</p> <ol style="list-style-type: none"> 1) To replicate the findings of a study that was done by Briere et al (2008) with a clinical sample of women and to determine whether childhood cumulative adversity and trauma were predictive of the complexity of symptoms 2) To test whether, regardless of childhood cumulative adversity 	<p>Individuals with a history of trauma rarely suffered from only one event, but usually from multiple events. Complex trauma symptoms arise when an individual is exposed to repeated, sustained and multiple traumas, particularly during childhood. As stated by Kessler (2000), “the importance of evaluating the multiple effects of trauma in their cumulative form is critical, as this circumstance characterises the experience of the majority of trauma survivors.”</p>

			<p>and trauma, adult cumulative trauma was also associated with symptom complexity</p> <p>3) To compare the impact of child cumulative trauma versus adult cumulative trauma with regard to symptom complexity</p> <p>4) To evaluate the relationship between the range of childhood traumas experienced and the types of symptoms displayed to those of the adult population.</p>	
Cluver et al. (2015)	Adolescents aged 10 – 18 years	South Africa	To determine if cumulative exposure to adverse childhood experiences leads to suicidality, as well as to determine if heightened risks are mediated by mental health disorder and substance abuse.	At the time of this study, there was no known research in sub-Saharan Africa on whether (as found to be the case in the United States) cumulative exposure to adverse childhood experiences was linked to suicidality.
Enlow et al.(2013)	Young children	Minnesota, USA	Goal: To examine prospective associations among interpersonal trauma exposure, sociodemographic risk, developmental competence, and	At the time of this study, young children (younger than 6 years old) had usually been excluded from traumatic stress studies, due to a belief that young children were not as affected by trauma as adults. However, the authors

			PTSD symptoms in a community of birth cohort followed to the first grade.	stipulated that there was a great need for this kind of study, since the evidence did suggest that young children could be highly vulnerable to persistent and severe traumatic stress responses.
Kisiel et al. (2014)	Children and adolescents	Illinois, USA	<p>To determine if specific patterns of chronic interpersonal trauma within the caregiving system are related to specific constellations and symptoms and dysregulations across various areas. This study addressed the following:</p> <ol style="list-style-type: none"> 1) It identified youth with histories of distinct patterns of interpersonal trauma upon entry into the child welfare system, 2) It sought to determine whether there were differences in the patterns and severity of symptoms for the different trauma groups, 3) It sought to determine whether youth with specific constellations of trauma exposure and symptoms were more likely to have negative 	As stated by the authors Kisiel et al. (2014), empirical evidence is required to conceptualise how constellations of interpersonal trauma exposure and symptoms relate to each other and how they co-occur.

			child welfare outcomes compared to youths with complex interpersonal trauma histories.	
Brennen et al. (2010)	Adolescents	Study 1: Tuzla, Bosnia, Herzegovina	Exploring how long-lasting exposures to severe traumas in childhood influence autobiographical memory in adolescents. 	The retrieval of categoric generic memories is a relatively automatic process. Young children inhibit categoric recollection to assess life events. However, the normal retrieval process of autobiographical memories will be negatively affected when a child is exposed to chronic distress, as growing up in such an environment will foster tendencies to avoid retrieval of negative affect, thus influencing the normal development process of memory retrieval.

The thirteen studies listed in Table 3 all obtained scores above the cut-off point for the inclusion criteria, based on their target populations. As is evident from the table, the target groups of these studies were all children, which is in line with the inclusion criteria. The geographical locations at which these studies were conducted, however, are widespread, which stresses the importance of studying child trauma on an international level. One study was based in South Africa, while the rest were based in countries as far afield as the United States, the Middle East and Eastern Europe. The aims of the studies were similar and all had the same focus point, viz. child trauma. Most investigated the relationship between child trauma and its subsequent effects, such as symptomology and mental illness. The problem statements were similar too, and had many features in common. Most studies emphasised the lack of available literature pertaining to the subject and the critical need to address and focus on child trauma symptomology.

4.3.3 Methodological Appraisal

The second stage of the data extraction process consisted of the extraction of data pertaining to the methodological appraisal and included the design, the participants, the sample type, the sample size and the data collection instruments. This information can be found in Table 4 which is presented below.

Most of the studies (n=11) adopted a mixed method approach, combining both quantitative and qualitative research methods. Due to the delicate nature of the research topic and the age group studied, it is to be expected that most studies will not be able to rely solely on quantitative methods. Most of the studies used secondary analysis (n=5), the second most common sampling method was purposive sampling (n=3), and the remaining studies (n=3) made use of random sampling. Furthermore, only one study failed to mention its sampling method. All of the participants were young children and adolescents; the youngest participant was three years old and the oldest twenty years old. The smallest sample size consisted of 89 participants and the largest sample size was 16,212 participants. The data collection tools were all-encompassing in that a wide variety of tools were used to assess a broad sphere, which is necessary in areas of research relating to child trauma. The researcher also noted that all the studies used more than one instrument and that they adapted instruments to the needs of the samples. The Child Trauma Symptom Checklist was utilised in various studies. In essence, all the studies took on a holistic approach with regard to the data collection instruments.

Table 4: Methodological Appraisal

Authors	Methodological appraisal				
	Design	Participants	Sample type	Sample size	Data collection and instruments
Collins et al. (2013)	Self-report measures and questionnaire Mixed method	Children from high risk urban neighbourhoods between the ages of 6 and 16 years that have been exposed to at least one violent incident in the past 6 months	Sample was recruited through a social services agency	120 children between the ages of 6 and 16 years participated in the study (47% boys and 53% girls)	<p><u>Kid SAVE</u> was used; this is a self-report measure to assess the frequency and severity of children's exposure to various types of community and interpersonal violence over the past year. This measure was modified by the authors, based on the Screen for Adolescent Violence Exposure (SAVE) to include asking children to identify the location where they were exposed to violence.</p> <p><u>Children's Attributions and Perceptions Scale (CAPS)</u>: this measure was developed to assess the attributions and perceptions that were relevant to children who had been sexually abused; it is an 18-item scale that is rated on a 5-point scale ranging from 1 (never) to 5 (always).</p> <p><u>The Trauma Symptom Checklist for Children (TSCC)</u>: this is a 54-item questionnaire scale that has been used extensively in violence and trauma research to assess children's symptoms of sexual concerns, anxiety, depression, anger, dissociation</p>

					and post-traumatic stress.
Panter-Brick et al. (2015)	Surveys Mixed method	Surveys were conducted at primary schools to obtain a community-based sample	The study adopted a two-stage stratified sampling design, randomly selecting schools with a probability sampling method, based on proportional size, stratification of gender and geographical representation and randomly selecting students in primary schools of Grades 5 – 10.	331 Afghan youth (170 boys and 161 girls) in Grade 5 – 10	<p><u>Trauma Event Checklist</u>: this checklist assesses lifetime trauma; it featured 20 items differentiating between personal experiences and witnessing or hearing about events. An item on rape was excluded on the grounds that it was culturally offensive and would not yield accurate data.</p> <p><u>Child Revised Impact of Events Scale (CRIES)</u>: this was used to assess child mental health outcomes and the impact of traumatic experiences.</p> <p><u>Depression Self Rating Scale</u>: a 3-point scale developed for 8 – 14 year-olds.</p> <p><u>Strengths and Difficulties Questionnaire</u>: a screening tool that provides balanced coverage for emotional behavioural and social difficulties.</p>
Harpur et al. (2015)	Quantitative	Data from LONG-SCAN was used	Study was based on secondary analysis of archival data from Longitudinal Studies of Child Abuse and Neglect	1354 children aged from 4 to 20 years who were at high risk of exposure to maltreatment	<p><u>Family and Parental Characteristics</u>: These were assessed by means of 3 observed variables: level of education of primary caregiver (measured in years), income (measured by income brackets) and the use of food stamps.</p> <p><u>CAGE Questionnaire</u>: to assess whether primary</p>

			(LONGSCAN)		<p>caregivers abused substances. (Age 0-4)</p> <p><u>Modified Maltreatment Classification System:</u> CPS (Child protection services) files were assessed by LONGSCAN abstractors to detect maltreatment experiences among participants. Thereafter, abstractors coded the maltreatment information using the Modified Maltreatment Classification System. (Age 0-4; 6-8; 10-12)</p> <p><u>Wechsler Pre-school and Primary Scale of Intelligence – Revised (WPPSI-R):</u> Two subtests were administered to assess IQ, viz. the 14-item block design test and the 25-item vocabulary test. (Age 6)</p> <p><u>Centre for Epidemiological Studies Depression Scale (CES-D):</u> A measure that consists of 20 questions to measure symptoms of depression. (Age 14)</p> <p><u>National Institute of Mental Health Diagnostic Interview Schedule for Children (NIMH-DISC IV):</u> this was utilised to measure symptoms of anxiety (Age 14)</p>
Levendosky et al. (2002)	Mixed method	Pre-school learners and their mothers	Participants were part of a larger study that was examining	64 pre-school children aged 3 – 5 years and their	<u>Domestic Violence:</u> A 46-item Severity of Violence Against Women Scale (SVAWS) was used to assess the mother’s experiences of domestic violence.



		living in families with domestic violence.	the effects of domestic violence on children's family relationships and behavioural functioning.	mothers.	<p><u>Children's Behavioural Functioning:</u> Children's emotional and behavioural functioning was assessed through a maternal report on the Child Behaviour Checklist. (This measure has high reliability and validity).</p> <p><u>Children's Trauma Symptoms:</u> These were assessed by maternal reports on two instruments: 1.) The PTSD scale from the CBCL – this measure was adapted for the two age groups (2-3y/o) and (4+y/o). 2.) An 18-item measure of PTSD symptoms in pre-school children (PTSD-PAC), which was developed for this study based on DSM-IV criteria for PTSD symptoms.</p>
Helminem and Punamaki. (2008)	Mixed method, quantitative analysis & qualitative analysis	Palestinian children and adolescents	The participants were selected from a basic sample of 412 children, based on the narrative report of having had at least one dream	345 Palestinian children and adolescents between the ages of 6 and 16 years. This group is divided into two groups: 1) Trauma group, which consists of children living in conditions of	<p>The aim of the study was to measure the participants' dream characteristics; a semi-structured dream and sleep diary was developed.</p> <p>This documented information in the dream and sleep diary was analysed using the scoring system of contextualised emotional images in dreams.</p> <p>The aim of this measure is to look for vivid and emotional images that contextualise strong emotions and current concerns of the participants.</p> <p>Traumatic events in Gaza were measured by means of the <u>Traumatic Events Checklist</u> – a 15-item</p>

				<p>military violence and war in Gaza,</p> <p>2) Non-trauma group, children living in peaceful conditions in Galilee.</p> <p>Trauma group = 224 participants</p> <p>Non-trauma group = 121 participants</p>	<p>measure that describes typical events that children and adolescents are most likely to experience under such conditions.</p> <p>Psychological distress was measured by the <u>Psychological Symptom Scale</u> – this measure consists of 34 symptoms associated with psychological distress that includes post-traumatic stress symptoms, depressive symptoms, anxiety etc.</p>
Kugler et al. (2012)	Mixed method	Children who need more specialised care than children living in traditional foster homes	<p>The participants of this study were screened by the following inclusion criteria:</p> <p>a) at least 8 years old;</p> <p>b) had completed the Multidimensional Anxiety for Children Scale & the Trauma Symptom Checklist for Children as well</p>	<p>241 children were excluded from the study based on the inclusion criteria.</p> <p>161 children aged 8 – 17 participated in this study.</p>	<p><u>Child Background Information</u>: This was obtained through psychological write-ups found in each child's file.</p> <p><u>Child Behaviour Checklist</u>: 118-item report completed by parent or primary caregiver with regard to child's behaviour.</p> <p><u>Children's Depression Inventory</u>: Measure for children to rate the presence and severity of 27 symptoms of depression. <u>Multidimensional Anxiety Scale for Children</u>: 39-item scale that addresses the various symptoms of anxiety.</p> <p><u>Trauma Symptom Checklist for Children</u>: 54-item</p>

			<p>as the Children's Depression Inventory;</p> <p>c) Primary caregivers had completed the Child Behaviour Checklist; and</p> <p>d) if background information of the child was available.</p>		<p>measure, completed by children, to evaluate trauma related symptoms in children.</p> <p><u>Somatic Symptoms Measures:</u> Two composite measures of somatic symptoms were formed to represent both caregiver and child-rated somatic symptoms. The child-rated somatic symptoms were derived from summing the 12 items in the MASC, and the caregiver-rated somatic symptoms were obtained from the items of the CBCL that dealt with somatic symptoms.</p>
Flannery et al. (2004)	<p>Survey & questionnaire</p> <p>Mixed method</p>	Grade 3 to grade 12 learners	Data was used from two different studies, the first included children from grade 3 to 8 and the second included children from grade 9 to grade 12.	N= 5856 children and adolescents from grade 3 through to grade 12	<p><u>Recent Exposure to School Violence:</u> This used two subscales, namely, witnessing school violence and being victimised by violence at school, and employed a 6-point Likert Scale ranging from "never" to "almost every day".</p> <p><u>Trauma Symptoms:</u> Psychological trauma was assessed using the 54-item Trauma Symptom Checklist for Children.</p> <p><u>Violent Behaviour:</u> Aggressive and violent behaviours were assessed by asking students to indicate their violent or aggressive behaviour during the past year.</p>

Cloitre et al. (2009)	Clinician Administered Instruments Mixed method	Adult clinical sample N = 582 Child clinical sample N = 152	Study 1: 582 women of 849 women who were part of treatment studies were selected based on the availability of their childhood and adulthood data. Study 2: Children and adolescents N = 152, presenting to a trauma clinic for trauma-focused evaluation and treatment services.	Adult clinical sample N = 582 Child clinical sample N = 152	<u>Study 1:</u> Trauma exposure and adversity were measured by the Childhood Maltreatment Interview Schedule & the Sexual Assault and Additional Interpersonal Violence Schedule. PTSD symptoms were evaluated with the Clinician Administered PTSD scale. Emotion regulation was also tested on 4 different levels. <u>Study 2:</u> Trauma history was assessed by self and by means of caregivers' reports by using the UCLA PTSD Reaction Index for DSM-IV and the Diagnostic Interview for Children and Adolescents PTSD and Psychosocial Stressors sections. Researchers also gathered all possible collateral information such as hospital records.
Cluver et al. (2015)	Longitudinal Qualitative	3515 Children and adolescents aged 10 to 18 years	For this study two urban and two rural areas were selected within two South African provinces, namely, Mpumalanga and the Western Cape. Selected areas have	N = 3,515 participants were interviewed at baseline during 2009-2010; a follow-up interview was conducted 1 year later in 2011-2012 with a retention rate	Longitudinal repeated interviews were conducted one year apart. Measure consisted of: suicidal history, mental health screening, substance abuse and adverse childhood experiences.

			>30% antenatal HIV prevalence.	of 96.8%.	
Enlow et al. (2013)	Cohort study Mixed method	200 children	Participants were recruited from the Minnesota Longitudinal Study of Risk and Adaptation; women were recruited in their 3 rd trimester of pregnancy by the Minneapolis Department of Public Health Clinic and the Hennepin County General Hospital and were eligible for the study if their income was below the official poverty line.	N = 200 dyads	<p><u>Sociodemographic risk factors:</u> These were assessed by assigning one point to various factors, such as the mother being unmarried at the time of birth and not having completed high school at the time of birth etc.</p> <p><u>Interpersonal trauma exposure:</u> Maltreatment was assessed by means of repeated home and videotaped laboratory observations, repeated structured maternal interviews, reviews of the child's medical and child protection records.</p> <p><u>Exposure to interpersonal violence:</u> This was assessed by means of maternal interviews and questionnaires and interviewer observations, which took place at numerous times during the study.</p> <p><u>Developmental competence:</u> This was assessed at two points during this study using validated theory. Pre-school assessment involved Barrier Box tasks, which are a videotaped procedure meant to challenge the child's regulatory capacities. School age competence measure was an integrative approach.</p> <p><u>Childhood PTSD symptoms:</u> These were assessed</p>

					by using the parent-teacher forms of the Child Behaviour Checklist.
Kisiel et al. (2014)	Longitudinal – mixed method	16,212 children and adolescents from the child welfare department of Illinois	<p>The participants were divided into four groups based on patterns of trauma exposure:</p> <ol style="list-style-type: none"> 1) exposure to a violent trauma and/or repeated exposure to an interpersonal trauma, 2) exposure to non-violent attachment-based trauma, 3) exposure to both violent / interpersonal trauma and non-violent attachment-based trauma and 4) no significant identified trauma exposure. 	<p>N = 16 212</p> <p>Data were collected from July 2005 to April 2012.</p>	<p>The Child and Adolescents Needs and Strengths (CANS) Comprehensive Tool was used; this is a trauma-informed and strength-based structured assessment that utilises data from various sources, such as child and caregiver interviews, clinical observations, case record reviews and teacher reports.</p>

Brennen et al. (2010)	Mixed method	40 Bosnian Adolescents & 49 Norwegian Adolescents	Adolescents	N = 89	<p><u>Autobiographical Memory Tests:</u> uses various cue words to prompt participants to recall memories related to the cue words</p> <p><u>The Beck Depression Inventory:</u> measures current levels of depression</p> <p><u>The Impact of Event Scale Revised:</u> a 22-item scale aimed at measuring stress reactions</p> <p><u>The Dissociative Experiences Scale:</u> measures frequency of dissociative phenomena</p> <p><u>The War Trauma Questionnaire:</u> measures the number of war-related traumatic experiences</p>
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4.3.4 *Content of Strategy and Intervention*

During the third stage of the data extraction process, the content of the strategy or intervention was evaluated to shed light on the theoretical orientation, the scope of the intervention, the nature of the activities and the facilitation styles that were utilised by the selected studies. The results of this section are outlined and summarised in Table 5 below.

The bulk of the studies did not identify only one specific theoretical orientation; instead, each of the literature reviews contained various theoretical underpinnings and made reference to the DSM-IV diagnostic criteria for PTSD, Developmental Trauma Disorder, somatic symptoms, resilience and so forth. Within this range of activities and facilitation styles, various trained mental health workers and researchers within the field conducted the data collection. Not only children were investigated but also persons who could provide collateral information, such as parents, caregivers and teachers. Furthermore, the data collection processes were well structured to ensure ethical and comprehensive research. This highlights the delicate nature of the topic once again.

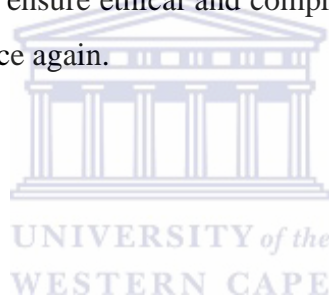


Table 5: Content of Strategy or Intervention

Authors	Strategy/ Intervention content			
	Theoretical orientation	Scope of interventions	Nature of activities (what)	Facilitation styles (how)
Collins et al. (2013)	Not identified.	<p>Diagnostic features of the sample:</p> <p>The participants self-identified as Caucasian (50%), African American (39%), Biracial (10%) and Hispanic/Latino (1%). Aged 6 – 16 years and M10.66 & SD=2.78</p>	<p>Children and parents were recruited through social services agencies. Once the sample group was identified, parents were informed that if their children disclosed unreported incidents of self-harm or abuse during the course of the interview, then the interviewers were required to report them to the local child protection service system.</p> <p>During the interview session with the parents and children, the study was explained and informed consent forms were signed.</p>	<p>Three different interviewers conducted the interviews; they took approximately 45 min to 1 hour to complete. Interviewers had at least a master’s degree and received extensive training in research interviewing protocols.</p>
Panter-Brick et al. (2015)	Not identified.	<p>Diagnostic features: 40% of the sample lived in food insecure households, the</p>	<p>The study took place within primary schools to obtain a community based sample, to negotiate strict dictates regarding</p>	<p>11 – 16 year-old students were interviewed as well as their principal caregivers; informed consent was obtained.</p>

		<p>remaining lived in families characterised as poor (17%), average (22%) and better-off (21%).</p> <p>Only 28% had a literate mother.</p> <p>71% resided in Kabul and 29% in Peshawar</p>	<p>access to women and girls, and to secure interview safety and privacy for participants.</p>	<p>This study gained international and local ethics approval.</p> <p>This study was conducted on a two-wave basis thus one year later all participants had to be interviewed again; only 54% of the original participants in Kabul and 31% of the original participants in Peshawar were part of the follow-up study.</p>
Harpur et al. (2015)	<p><u>Empirical Model of Resilience Process: The role of timing of maltreatment and IQ:</u> This study tested two models of the resilience process, accounting for temporal associations between variables:</p> <p>1) The Moderated Mediation Model and</p> <p>2) Simple Mediation Model.</p> <p>In both models, adverse early childhood (age 0-4) and family circumstances predict the experience of early, mid, and late maltreatment, along with the development of</p>	<p>The sample consisted of 1,354 children, of which 47.6% were female, 45.1% male and 7.3% missing gender (unidentified gender).</p>	<p>Quantitative measures were administered</p>	<p>LONGSCAN data were provided by NDACAN in 249 separate SPSS files; all files were merged.</p> <p>Missing data was handled by Bayesian multiple imputations in AMOS, whereby the program computes and inserts all missing values in all variables based on the proposed model.</p>

	depressive and anxious symptoms at age 14.			
Levendosky et al. (2015)	DSM-IV criteria for PTSD symptomology	<p>25 boys and 37 girls between the ages of 3 and 5 years took part in this study along with their mothers.</p> <p>24% were Caucasian, 42% were African American, 19% were biracial and 15% were from other minority groups.</p> <p>Marital status of parents: 39% were single, 37% were married or living with a partner and 24% were separated/divorced.</p>	<p>The families were recruited from the community through distributing flyers. Mothers who were interested in the study contacted the project office, after which a brief screening was conducted to determine eligibility, which was based on the child's age and a lack of developmental disabilities. Interviews were either conducted at the family's home or at the university offices.</p>	<p>The following were used:</p> <ul style="list-style-type: none"> • Flyers • Screening • Interviews
Helminem and Punamaki. (2008)	This study utilises various literature about the impact of emotions on dreams. As stated by the authors, there is evidence that dream content is	<p>The total participants were 345; they were divided into 2 groups:</p> <p>1) the trauma group =</p>	<p>In 1993, children and adolescents were contacted at their homes in Gaza and Galilee. Thereafter, the field work continued in two stages:</p>	<p>The following methods were used:</p> <ul style="list-style-type: none"> • Psychologist

	<p>a reflection of the dreamer's emotional experiences of the trauma rather than of the actual event.</p> <p>Disruption-avoidance-adaption (DAA) model of Wright and Koulack: "The model depicts the dream process as an oscillation between mastery and compensatory dreams" = After trauma, dreams will contain vivid content of the traumatic event, thus presenting an illustration of actual events. When trauma-related dreams are written down, repeated and rehearsed, then it is an attempt by the dreamer to master the event.</p>	<p>224 children, and</p> <p>2) the non-trauma group = 121 children</p> <p>Both groups were similar in terms of gender: 55% boys and 45% girls</p>	<p>Stage 1: Authors gained informed consent from the parents and then they were given the dream diaries. Over a seven-day period the participants were required to report their dreams every morning with the semi-structured dream and sleep diary.</p> <p>Stage 2: When the dream diary entries had been completed, the authors collected it and thereafter participants had to complete the questionnaires.</p>	<ul style="list-style-type: none"> • Interviews • Consent forms • Dream diaries • Two questionnaires
Kugler et al. (2012)	<p>Not limited to one specific theory, the authors include several theories in the literature review. Theories on the presence of somatic symptoms following trauma conclude that both somatic symptoms and negative reactions to trauma share a similar psychological vulnerability.</p>	<p>For this study there were no significant clinical and demographic differences between the excluded and the included group.</p> <p>44.7% females, age 8 – 17 years with a mean</p>	<p>The measures of this study were administered to children in the residential facility 3-6 months after they were admitted. The children's "house parent" completed the primary caregiver model.</p>	<p>Psychological measures</p> <p>Archival data from 1966 to 2011</p>

		of 10.89 years and a SD of 2.23 years.		
Flannery et al. (2004)		<p>Study 1: The sample consisted of high-school learners in grades 9 – 12; the study investigated the relationship between exposure to violence and symptoms of psychological trauma by means of an anonymous self-reported questionnaire. N=3,724</p> <p>Study 2: This was designed to investigate the relationship between exposure to violence and symptoms of</p>	<p>Schools for this study were selected on the basis of their geographical location, as being representative of their location and environment. Children who were present at school during the day of the survey participated in the survey under supervision of the class teacher. Once the surveys were completed learners placed them in an unmarked envelope, thus teachers did not see the completed surveys.</p>	<p>Children completed the survey during a class period, under supervision of their class teachers. Parents were given a letter to allow them to withdraw their child from the survey if they wanted to do so.</p> <p>The study protocol was approved by the University Review Committee for Human Studies of Case Western Reserve University (Cleveland, Ohio).</p>

		<p>psychological trauma among children in grade 3 through to grade 8, utilised a self-report questionnaire similar to that used in study 1 with the high school learners.</p> <p>N=2245</p>		
<p>Cloitre et al. (2009)</p>	<p>Much of this study was based on (and replicated) the findings of Biere et al. (2008) who conducted studies on child trauma and accumulative trauma.</p>	<p>Study 1: Average age of participants was 36.1 years, most of the women (45.7%) were Caucasian, the majority of the women (53.5%) were single, the majority also had an education with 64.1% having finished college.</p> <p>Study 2: All the children and adolescents had experienced at least one DSM PTSD</p>	<p>Study 1: Gained informed consent from participants. Instruments were administered by clinicians.</p> <p>Study 2: The children and adolescents were referred by a variety of sources, such as children's advocacy centres, child protective service investigators, word of mouth etc.</p>	<p>Study 1: Participants took part in the study willingly and all measures were completed by clinicians.</p> <p>Study 2: Gained informed consent from legal guardians, children aged 7 and above gave their assent. All the children were assessed by licenced mental health workers.</p>

		Criterion A traumatic stressor.		
Cluver et al. (2015)	Not identified	56% of the participants were female, N = 3,515 participants were interviewed at baseline during 2009 – 2010, a follow-up interview was conducted one year later in 2011 – 2012 with a retention rate of 96.8%.	Within the areas chosen for this study, areas were sampled using random number generation; each household was visited and if the household had an adolescent resident, then the individual could be included in the study. All questionnaires, information and consent forms were translated into Xhosa, Zulu, Sotho, Swati and Shangaan.	This study gained ethics approval from the Universities of Oxford, Cape Town, and KwaZulu-Natal, and from the Department of Provincial Health and the Education Departments of both provinces (Western Cape and KwaZulu-Natal). Participants participated on a voluntary basis and the forms were signed by caregivers as well as by adolescents. All interviewers were trained. Confidentiality rules were strictly adhered to and no incentives were given.

Enlow et al. (2013)	Not identified	<p>At the child's birth mothers were aged between 12 and 34 years, with a mean age of 20.61.</p> <p>63.4% of the mothers were not married and 38.5% had not completed their high school education.</p>	<p>Eligible mothers whose income was clearly below the poverty line were recruited through the Minneapolis Department of Public Health and the Hennepin County General Hospital. The children of these mothers (N=200) were assessed at numerous stages until the age of 7.</p>	<p>All procedures were approved by the University of Minnesota's Institutional Review Board and the mothers gave their written informed consent.</p>
Kisiel et al. (2014)	Developmental Trauma Disorder	<p>Children and adolescents (aged 0 to 18 years) were identified by the Child Welfare Department of Illinois.</p> <p>49.1% were female and 50.9% were male and average age 5.2 years.</p>	<p>In 2005, an Integrated Assessment Model was implemented that required that all youth between the ages of 0 and 18 years old who entered state custody, had to undergo the Integrated Assessment process. This process made it possible to capture significant amounts of information regarding the child's wellbeing.</p>	<p>The CANS assessment tool was completed by clinicians who were trained in its reliable use. Participants were divided into 4 distinct groups, after which specific CANS items were mapped onto corresponding symptom domains in accordance with the developmental trauma framework. Next, the 4 groups were compared in terms of the severity of their symptoms and in relation to other indicators</p>

				pertaining to level of care within the welfare system. Lastly, Rasch modelling techniques were used to determine natural clustering of items within the symptom domains.
Brennen et al. (2010)	Based on Williams' (1996) work on memory recall and trauma	47 male adolescents and 42 female adolescents.	The author met with the heads of schools and obtained consent to conduct the study; testers then invited potential participants (pupils) to a meeting where all the procedures on how to participate in the study were discussed.	Participants were tested individually in their respective community by testers who were trained postgraduate students in psychology.

4.3.5 *Analysis and Results*

The last stage of the data extraction process provides a summary of the analysis and results of the included studies. Table 6 below presents the data analysis, the empirical evidence and results and the relevant author's conclusions. As mentioned earlier, most studies used a mixed method design, incorporating qualitative and quantitative techniques. This is evident from Table 6 as well, since the data was analysed by integrating various methods.

Multiple regression analysis was performed by Collins et al. (2013) and latent transition modelling and multinomial logistic regressions by Panter-Brick et al. (2015). Both sets of authors used these methods to assess trauma symptomology over time. Moreover, various data analysis methods were employed by Harpur et al. (2015) to assess a range of variables, including family and parental characteristics, maltreatment, intelligence, depressive symptoms and anxiety symptoms. Helminen et al. (2008) only made use of two separate analyses, namely, ANOCVA and MANCOVA. Three authors made use of Pearson correlations along with other data analysis methods. Various other statistical and descriptive approaches were utilised by the authors.

Overall, the results of the studies confirm that childhood trauma has a negative impact on childhood mental health and well-being. A child's perception of the trauma has a significant impact on the post-trauma symptoms, as identified by Collins et al. (2013). The results supported the notion that abuse specific attributions influence the relationship between the trauma and symptom formation. This is also confirmed by Helminem and Punamaki (2008), in their study of the presentation of trauma in the child's dreams. Light was also shed on the resilience of children and on the protective factors that become apparent when children are exposed to trauma (Harpur et al., 2015). Other studies indicated that a developmental trauma framework needs to be incorporated when assessing child trauma due to the complexity of the related symptomology. This brief overview of the results illustrates the complexity of childhood trauma and child mental health and well-being. The conclusions of the studies will be further discussed in Chapter 5.

Table 6: Analysis and Results

Authors	Analysis & Results		
	Data analysis	Empirical evidence and results	Authors' conclusions
Collins et al. (2013)	<p>Method of analysis used by authors included descriptive statistics.</p> <p>Multiple regression analyses were performed to test both direct and mediated effects of the 3 types of violence exposure on trauma symptoms.</p>	<p>Consistent with the primary expectation of this study, children who had higher levels of direct, indirect, physical and verbal exposure to trauma also displayed significantly higher levels of trauma symptoms.</p> <p>Moreover, children who had higher amounts of direct exposure or who were victims of physical and verbal aggression appeared to have conceptions that are more consistently and strongly affected by a perceived lack of credibility and higher amounts of self-blame.</p> <p>The perceived lack of trust was only evident among those who had been directly exposed to violence</p> <p>Children who heard about violence reported a perceived lack of credibility.</p>	<p>Tests for the significance of mediation showed children's perceived lack of credibility mediated all types of children's exposure to violence and the manifestation of trauma symptoms.</p> <p>Also children's perceived lack of trust mediated their direct exposure and trauma symptoms as self-blame for the violent event they had experienced or witnessed; this finding approached significance.</p> <p>Lastly, children's self-blame also mediated the impact of higher amounts of physical and verbal aggression on trauma symptoms.</p> <p>Results are supported by the notion that abuse-specific attributions influence the relationship between</p>


			child sexual and physical abuse and the formation of trauma symptoms.
Panter-Brick et al. (2015)	<p><u>Latent transition modelling</u>: to examine the consistency of trauma recall over time and to identify trauma trajectories</p> <p><u>Multinomial logistic regressions</u>: to assess the predictors of post-traumatic stress and depression trajectories.</p>	<p>From baseline to follow-up, reports of lifetime trauma changed significantly ($p \leq 0.01$). A third of the cohort reported no trauma exposure; only 10% identified the same event as their most distressing experience. The study identified four CRIES trajectories: low to no distress 52%, rising distress 15%, declining distress 21% and sustained high distress 12%.</p> <p>Youth with chronic post-traumatic stress to be mainly girls, who reported more trauma exposure at baseline and follow-up and who experience ongoing domestic violence.</p> <p>The risk for rising distress and sustained distress showed a steady increase for youth recalling up to four traumatic experiences.</p> <p>Depression and CRIES trajectories showed weak comorbidity.</p>	<p>Memories of violent events are malleable, embedded in social experiences and present heterogeneous associations with post-traumatic distress. This study demonstrated that Afghan youth significantly changed their recollection of trauma. At cohort level, they forgot or repressed memories of lifetime events, and there was a significant decrease in reported overall exposures.</p> <p>Only witnessing military action was recalled with consistency. Youth were either very much protected by their families and support systems or remarkably able to differentiate between everyday stressors from out-of-the-ordinary trauma. This study emphasises the resilience of youth coping with toxic adversity.</p>

<p>Harpur et al. (2015)</p>	<p><u>Family and Parental Characteristics:</u> Cronbach Alpha</p> <p><u>Maltreatment:</u> Recoded binary variables</p> <p><u>Intelligence:</u> For descriptive and comparative analysis a total IQ factor score was computed using AMOS</p> <p><u>Depressive Symptoms:</u> A standardized score was computed in SPSS</p> <p><u>Anxiety Symptoms:</u> Exploratory Factor Analysis</p>	<p>Descriptive Statistics included the following:</p> <p><u>Maltreatment Timing and Family Characteristics:</u> In early childhood (0-4yrs) 63% of participants experienced one alleged incident of maltreatment; this decreased to 20% in mid childhood (6-8yrs) and 16% in late childhood (10-12yrs). Depressive symptoms were the highest in late childhood 10 - 12 yrs.</p> <p><u>Maltreatment and Intelligence:</u> Participants scored below average; the mean sum equated to an approximate IQ of 90, which is below the expected population average of 100. Thus, given the many children in the LONGSCAN sample who had a low IQ, there is a positive link between low IQ and early childhood maltreatment. This may indicate that only children whose cognitive functioning was adequate were able to comprehend the meaning of the experience of maltreatment and thus able to report it, leaving children with low IQ with underreported maltreatment.</p> <p>Testing the two hypothesised models of resilience</p> <p><u>Moderated Mediation Model with Interaction Terms:</u> IQ at age 6 and maltreatment at age 6 – 8 and IQ and maltreatment at ages 10 – 12 were not statistically significant predictors of anxiety and depression symptoms.</p> <p><u>Simple Mediation – Direct Effects:</u> as found by correlational analysis, children who reported maltreatment</p>	<p>the paths leading to low anxiety symptoms and low depression symptoms following child maltreatment differed: early childhood maltreatment at age 0 – 4 yrs predicted IQ age 6, which in turn predicted symptoms of adolescent anxiety, but IQ was unrelated to symptoms of depression.</p> <p>Early and mid-childhood maltreatment did not have the direct effects expected on anxiety and depression at age 14.</p> <p>But depression symptoms at age 14 were directly predicted by late childhood and cumulative experiences and anxiety symptoms were predicted indirectly by low SES, presence of biological mother at age 0 – 4 yrs and IQ at 6 yrs.</p>
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Levendosky et al. (2002)	Quantitative Measures not clearly stated	<p><u>Post-traumatic stress symptoms in children:</u> All of the mothers in the sample had reported that they experienced domestic violence over the past year; of the 62 children who formed part of this study, their mothers reported that 63% (n=39) had actually witnessed the violence and the rest (n=23) were living in the home during the period of abuse. The 39 children who had witnessed domestic violence reported the following with the PTSD-PAC</p>	<p>The results indicate that pre-school children who are directly or not indirectly exposed to domestic violence in their households suffer from PTSD symptoms.</p> <p>Pre-school children are the most vulnerable to re-experiencing and hyperarousal symptoms. Using the</p>

		<p>measure (most frequently reported) = talking about the violent event, an upset reaction in response to memory triggers, hypervigilance, separation anxiety.</p> <p>The CBL-PTSD scale identified the most reported symptoms = argues a lot, can't sit still, restlessness, fears of certain animals, situations or places. * No significant differences in sex on either scale.</p> <p><u>PTSD Symptoms and experiences of maternal domestic violence:</u> Re-experiencing symptoms in pre-school children were associated with increased violence. Hyperarousal symptoms in pre-school children were associated with increased threats to violence.</p> <p><u>PTSD Symptoms and children's adjustment:</u> The entire group of children in the sample had highly elevated externalising behaviour compared to the normal population. In contrast, these children did not have high internalising behaviours.</p> <p><u>Comparisons between witnesses and non-witnesses:</u> Comparisons were made with regard to externalising and internalising behaviours, but no significant differences were found.</p>	<p>DSM-IV criteria for PTSD, few of the children met the criteria.</p> <p>Thus the authors concluded that the current diagnosis criteria for PTSD are not applicable to young children. Avoidant symptoms are also not indicated in this sample; this may be due to a developmental factor: children may respond by clinging to their mother or other attachment figures.</p> <p>This study also indicated that symptoms of PTSD were associated with increased severity of the trauma.</p> <p>There is a need for future research to focus on trauma symptoms and young children.</p>
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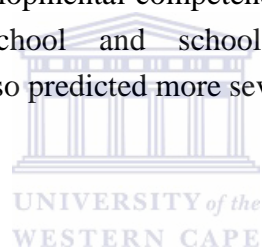
<p>Helminem and Punamaki. (2008)</p>	<p>Analyses of variance were applied to examine the impact of exposure to military trauma, gender and age on the contextualised emotional images in dreams using 2 separate analyses, ANOCVA & MANOCVA</p>	<p>The study found a total number of 1,275 reported dreams, of which 85% (1,086) were rated as having contextualised emotional images. The number of reported dreams was significantly greater for the trauma group than for the non-trauma group.</p> <p>Also in the trauma group the participants with greater exposure to trauma reported more contextualised emotional images in dreams than their counterparts.</p> <p>Results of ANOCVA: In accordance with the study's main hypothesis, the dreams of children in the trauma group incorporated more intense and negative emotional images compared to the non-trauma group. However, against the hypothesis, trauma exposure was not associated with positive valence of emotional images in dreams.</p> <p>Gender: Boys displayed more intense emotional images in dreams than girls.</p> <p>Age: Age was found to be associated with the intensity of emotional images in dreams. Adolescents displayed more distressing images.</p> <p>MANOCVA: Revealed that both negative and positive valence of emotional images in dreams had significant main effects on psychological symptoms.</p>	<p>This study showed that, if the dreamer had low negative valence and high positive valence in their dreams, their mental health was better (as indicated by low levels of aggression, anxiety, depression, symptoms of PTSD).</p> <p>As dreams reflect the person's emotional response to and processing of the trauma, it can also give significant insight into clinical work.</p> <p>The presence of low intensity images and high negative valence in dreams indicates that the individual is struggling to cope and process the trauma.</p>
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<p>Kugler et al. (2012)</p>	<p>Pearson correlations Mediational analyses</p>	<p>Rates of somatic symptoms were high, with 92.5% of children presenting with at least one somatic symptom on the child rated measure, while 80.7% presented with at least one somatic symptom on the caregiver measure.</p> <p>Independent t-test revealed significant group differences on child rated somatic symptoms between children who experienced sexual abuse and those who did not.</p> <p>Pearson's correlations revealed that age of assessment was negatively correlated to child rated somatic symptoms but positively correlated to caregiver rated somatic symptoms.</p> 	<p>This study highlights the prevalence of somatic symptoms post trauma exposure with 95.2% of children reporting at least one somatic symptom. Children reported the following symptoms: feeling jumpy, sick to their stomach, and having sweaty hands.</p> <p>The study found significant gender differences in the clinical characteristics of somatic symptoms. Females presented with more somatic symptoms, which may be due to their willingness to report symptoms and a physiological sensitivity to anxiety. Children who were exposed to sexual abuse displayed more somatic symptoms than those who were not.</p> <p>This study postulates the importance of mental health workers and other practitioners to look out for somatic symptoms in their screening and to include measures that address it in the treatment of children who experience</p>
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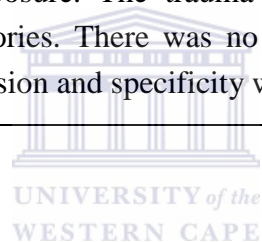
			trauma.
Flannery et al. (2004)	<p>Pearson correlations</p> <p>Hierarchical regressions</p> <p>Exploratory analyses</p>	<p>Exposure to violence at school: Slightly more males than females reported higher levels of witnessing violence at school. High school learners reported that they had witnessed more violence than younger learners. There was little difference in the amounts of threats witnessed at school between youths in urban and non-urban settings. Rates of being victimised at school were 10 – 15% higher for males than for females. Also, older learners more frequently reported witnessing violence at school and younger learners reported higher rates of victimisation.</p> <p>Trauma symptoms: With hierarchical regression the authors assessed the degree to which learners’ self-reported symptoms and violent behaviour could be explained by self-reported exposure to violence at school after controlling the influence of demographic factors. Results revealed that gender has a significant influence on trauma symptoms.</p> <p>Demographic variables accounted for 4% of the variance in total trauma symptoms. Witnessing violence at school and being a victim of violence at school were related both</p>	<p>Regardless of the demographic characteristics, violence at schools remain unacceptably high. Being a learner in a school setting, where there is exposure to violence, either witnessing it or experiencing victimisation, were both significantly and positively correlated to child psychological trauma symptoms, even after controlling the effects of demographic characteristics.</p> <p>School personnel and mental health practitioners should be mindful of the impact that violence at school has on the learners’ mental health, behaviour and overall functioning.</p>

		<p>significantly and positively to psychological trauma symptoms. When examining violent behaviour all variables were significant; for example, males displayed more violent behaviour than females. Witnessing violence at school and being a victim were both significantly and positively correlated to violent behaviour.</p> <p>Exposure to violence and mental health: Learners who were in an environment of high violence at school reported significantly more clinically significant symptoms of trauma.</p>	
Cloitre et al. (2009)	<p>Study 1: Chi Square Tests, Jonckheere Terpstra Tests, Cumulative Logic Regression</p> <p>Study 2: Identical analysis as in Study 1</p>	<p>Study 1: Cumulative childhood trauma was strongly associated with symptom complexity, while the relationship between adult trauma and symptom complexity was not significant. The lifetime cumulative trauma was significantly related to symptom complexity.</p> <p>Study 2: As among the adults, cumulative trauma in children was associated with symptom complexity. The cumulative logistic regression indicated that, for every unit increase in child cumulative trauma, the odds of being at a higher level of symptom complexity increased by 17%.</p>	<p>This study demonstrates that children as well as adults with greater trauma exposure tend to have more complex symptom presentation. The symptom pattern in the child sample is consistent with the concept of Developmental Trauma Disorder, and the symptom pattern of adults corresponds with the concept of complex PTSD. This study highlights the need for more research on the standardisation of these proposed disorders.</p>

Cluver et al. (2015)	Multivariate logistic regression and multiple mediation tests	Past month suicidality rates were: 3.2% of adolescents attempting, 5.8% planning and 7.2% reporting ideation. Results indicated a strong graded relationship between cumulative adverse childhood experiences and all suicide behaviours 1 year later (when controlling for baseline suicidality and sociodemographic factors).	There is a definite link between adverse childhood experiences and suicidality. Thus this study indicates the importance of prevention and the implementation of effective mental health services.
Enlow et al. (2013)	Distributions of the variables were examined via Mann-Whitney U tests, Spearman's rank order correlational analyses, linear regression analyses and path analyses.	Greater trauma exposure predicted more severe PTSD symptoms ($r=0.43$). Greater sociodemographic risk ($r=.22$) and lower developmental competence ($r_s = -.31$ and $r_s = -.54$ for pre-school and school age developmental competence) also predicted more severe PTSD symptoms.	This study concludes that exposure to maltreatment and interpersonal violence has additive effects on post-traumatic symptoms early in life. The link between sociodemographic factors and poor mental health is suggested to be attributed by increased trauma exposure in disadvantaged communities. Lastly, early trauma exposure has a negative impact on developmental competence and mental health.
Kisiel et al. (2014)	Rasch Modelling Techniques	Findings of the study revealed that youth exposed to both violent and non-violent traumas within the caregiving system had significantly higher levels of affective/physiological, attentional/behavioural and self/relational dysregulation when compared to the group with either type alone or in relation to other traumatic	This study concludes that a developmental trauma framework will allow more accurate capturing of the spectrum of needs that these complex traumatised youth exhibit.



		experiences. These participants exhibited higher levels of functional impairment and were more likely to have placement disruptions and psychiatric hospitalisations.	
Brennen et al. (2010)	Quantitative and Qualitative (Two way mixed ANOVA's, t-tests and Pearson Correlations)	Mean scores on BDI test were 13.7 for the trauma group sample and 10.7 for the non-trauma group sample. The War Trauma Questionnaire revealed that the trauma group's symptoms comply with the DSM-IV Criterion A for trauma exposure. The trauma group also had more extended memories. There was no significant correlation between depression and specificity with both groups.	This was the first study to explore the relationship between war trauma and autobiographical memory in adolescents. Results conclude that the trauma group responded with significantly fewer specific memories to all types of cue words.



4.4 Ranking of Articles

Before the data extraction process as discussed in the previous sections could commence, the articles first had to be assessed by the critical appraisal tool. As mentioned earlier, the purpose of the critical appraisal tool is to assess the purpose of the article or study, the literature review it conducted, the design, the sampling, the outcomes, the findings and the ethics, based on a scoring system. If an article's combined methodological score was 66% or above, it would be included in the last and final step; full text analysis for summation with the data extraction tool. Initially, twenty-two articles were assessed with this tool; only thirteen of those met the threshold score for inclusion. Table 7 summarises the articles that met the threshold for inclusion; it outlines the articles in a ranking order.

Table 7 shows that Collins et al. (2013) obtained the highest score and Panter-Brick et al. (2015) the second highest score. This meant that both articles were considered as excellent, having both scored 81% and or above. These two articles obtained high scores in all of the critical appraisal tool categories, which indicates their overall methodological consistency. Brennen et al. (2010) obtained the lowest score of 67% as the purpose of the study was not explicitly indicated; nonetheless, it is still a respectable score. In essence higher ranked articles (i.e. 1 – 2) tended to score highly in all the categories of the critical appraisal tool. Lower ranked articles (i.e. 3 – 13) tended to score low in purpose, literature review, conclusion and ethics.

Table 7: Ranking of Articles

Ranking	References	Quality	Subsections							
			Purpose	Literature Review	Study Design	Sampling	Outcomes	Findings	Conclusion	Ethics
1	Collins et al. (2013)	>81%	4	3	3	7	7	4	4	3
2	Panter-Brick. (2015)	Excellent	4	3	5	6	7	4	4	2
3	Harpur et al. (2015)	Strong	4	3	4	6	4	4	4	2
4	Levendosky et al. (2002)		4	3	5	5	6	4	4	3
5	Helminem and Punamaki. (2008)		4	2	3	7	7	4	3	3

6	Kugler et al. (2012)		5	3	3	5	6	4	4	2
7	Flannery et al. (2004)		2	3	4	7	4	3	4	4
8	Cloitre et al. (2009)		3	3	4	7	4	4	1	4
9	Cluver et al. (2015)		4	3	4	7	6	4	4	3
10	Enlow et al. (2013)		5	3	4	4	4	4	4	3
11	Kisiel et al. (2014)		4	3	3	6	6	4	3	1
12	Sudbrack et al. (2015)		3	2	5	6	4	4	1	2
13	Brennen et al. (2010)		2	3	4	7	7	4	3	3



4.4.1 Purpose

The study's purpose section forms a very crucial part of the critical appraisal tool. This section was made up of five questions, which evaluated whether an article provided sufficient information regarding the following: background information, problem statement, rationale, aims and whether the aim was linked to the research question. Most of the thirteen articles scored high marks in this section, as seen in Table 7. When an article contains the elements that are mentioned in the study purpose section, then it orientates and guides the reader.

Even though the purpose section does not explicitly form part of the methodology, it is as important, since it is one of the requirements to conduct good ethical research. Articles need to meet various standards and follow certain procedures in order to be published and to meet ethics requirements. As stated by Calfee and Valencia (2010), the introduction of an article should provide the reader with an overview of the background and the contextual information, it should summarise the rationale, and state the aims and objectives as well as the hypothesis. The high scores from this section, as seen in Table 7, reflect that the articles met these requirements and that it remained uniform overall. Although Brennen et al. (2010) did not obtain a high score in this section, the article still met the requirements for inclusion due to obtaining higher scores in other sections. It is important for articles to contain the identifying information as discussed above, as that will ensure that they are well written.

4.4.2 Study Design

The study design section of the critical appraisal tool assessed the research design methods and features, whether or not these were appropriate for the particular study, and whether the authors indicated reasons for choosing the particular design method. Furthermore, it also assessed whether the research design addressed the aims and objectives of the study. All thirteen articles obtained good scores within this section of the critical appraisal tool: Panter-Brick et al. (2015), Levondosky et al. (2015) and Sudbrack et al. (2015) all attained full marks. The high scores obtained within this section show that the design choices were well stipulated and relevant with regard to the aims and objectives of the study.

4.4.3 Ethics

Ethical principles in research guide professionals to conduct good ethical research, according to standard principles and procedures. Ethics are key in conducting research; even before the

data collection process can commence, various procedures need to be followed. Such as obtaining ethics clearance from the relevant boards. Ethical research also allows a study to be replicated and to be used by other researchers. With regard to a systematic review, ethics also plays an important role. As it is a synopsis process it is crucial to ensure that articles undergo procedures before inclusion can commence such as the strict exclusion criteria and tool used for full text analysis.

As is evident from Table 7 Flannery et al. (2004) obtained the highest score with regard to the critical appraisal tool. The ethics section of the critical appraisal tool assessed the following: whether ethical approval was obtained from an identifiable committee, whether the study reported on how it gained access to appropriate institutions, and whether the researchers took into consideration issues around confidentiality, anonymity and withdrawal of participants. The study that obtained the lowest score in this section was Kisiel et al. (2014), with a score of 1; the study failed to provide the relevant information on ethics. Ethical consideration should also be included in the methodological section of a study; researchers need to fulfil all ethical requirements when administering measures and conducting research with participants. All ethical procedures relating to the participants, such as informed consent and debriefing, should be clearly outlined in the study (Calfee & Valencia, 2010).

4.4.4 Data Collection

The method of data collection was also assessed by the critical appraisal tool, with questions that focused on the use of the instruments and the psychometric properties. A maximum of 10 points could be scored in this section. The questions assessed whether the authors reported on the following aspects: clear use of instruments with references, relevance of instruments, reliability, sample bias, measurement bias, performance bias, psychometric properties, psychometric properties on the scale of sample, data produced and lastly the relationship between the data produced and the proposed analysis.

Four of the thirteen articles obtained the highest score of 7 within this section of the critical appraisal tool. The authors of these four articles were Collins et al. (2013), Panter-Brick et al. (2015), Helminen and Punamaki. (2008) and Brennen et al. (2010). The areas where scores were more readily attained was covered by the first section, which focused on the instruments. Five out of the thirteen articles all scored the lowest mark of four points (see Table 7). The articles that scored the lowest points failed to clearly indicate the data

collection methods and they failed to report on the psychometric properties. When the data collection section lacks sufficient information, it diminishes the ability of other researchers to duplicate the study. A study that is conducted in such a way that it can be duplicated indicate that it is a good and well written study. Calfee and Valencia (2010) stated that the method section should be written in a clear manner as well as to include a thorough description of the methods and procedures regarding participants and apparatus. Furthermore, Calfee and Valencia (2010) emphasised that measures should be correctly referenced with supporting information of their reliability and validity.

4.4.5 Data Analysis

The data analysis section of the critical appraisal tool asked four questions namely: is the statistical significance of the results indicated, is such statistical significance is justified, are analysis methods appropriate and the results correctly interpreted in relation to the research question. All of the articles scored well in this section, with twelve of the articles obtaining full marks. This indicated that the articles included the following: the statistical significance of the results, the fact that the statistical significance was justified, the fact that the method of analysis was appropriate and the fact that the results were correctly interpreted with regard to the research question. The only article that did not obtain a full score was Flannery et al. (2004), which lost a point for not making it clear whether the method of analysis was appropriate.

4.4.6 Sample

The sample section of the critical appraisal tool was one of the sections with the highest scores. This section consisted of 7 questions, all relating to the sampling methods and procedures. The questions addressed in this section were: whether the source population was identified, whether there was a distinction between probability and non-probability sampling, whether the sample choice was motivated, whether the sampling method was appropriate, whether the sample is representative of the population, whether the sampling size is justified and lastly, whether informed consent has been obtained from the participants. Six of the thirteen articles obtained full marks for this section. Enlow, Blood and Egeland (2013) obtained the lowest mark of four.

The sampling section was just as significant as all the other sections of the critical appraisal tool. When published research reports adequately on the sampling procedures, it allows the

study to be replicated by other researchers due to access to and clear explanation of the sampling method, the size of the population etc. Accessibility to sampling procedures and methods also allow readers and researchers to determine whether the findings can be generalised and it gives one the scope to put in the results into context. Calfee and Valencia (2010, p. 8) explained that “the soundness of the study hinges on clean methodology, that is, use of appropriate, valid, and unflawed methods of sampling and use of instruments, procedures, and analysis”. The good scores obtained by the articles suggest that they will assist the reader in grasping the characterization of the sample used and allow future researchers to replicate the findings.

4.4.7 Conclusion

The last section of the critical appraisal tool, the conclusion section, was made up of four questions. These four questions assessed the concluding factors of the studies: whether the conclusion was clear, whether the conclusion was supported by the findings, whether the recommendations were appropriate and, lastly, whether the limitations were clearly stipulated. Clear conclusions were found in Flannery et al. (2004) and Cloitre et al. (2009); the conclusions were also supported by findings, the recommendations were appropriate and the limitations were identified. This is reflected by the full marks given to these studies. The low score associated with Kisiel et al. (2014) in Table 7 reflects the lack of a sufficiently clear conclusion.

4.5 Theory Explicative Meta-Synthesis

This section outlines the results of the theory explicative meta-synthesis process, which involved three sequential steps: the reciprocal findings, the refutational findings and the line of argument.

4.5.1 Reciprocal Findings

Each of the thirteen articles included in the summation investigated different aspects of child trauma and child mental health. Yet all aimed to shed insight into the symptomology that might result from childhood trauma and how this symptomology presents itself. Throughout the reciprocal stage, findings from the thirteen articles that correlate with the literature were identified. The findings that resonated with one another were grouped into main themes. These themes are often interrelated and should be viewed as such and not as isolated. The

themes included attribution of trauma, trauma symptomology, somatic symptoms, suicide and neurobiological link to trauma. Themes aimed to shed light on the vulnerability of a child when exposed to trauma. Also how the symptoms might present themselves with regard to the mental health and well-being of the child.

4.5.1.1 Attribution of trauma

Trauma exposure during childhood has a significant impact on the shaping of cognitive maps and developmental competences of such children. If health care professions have better insight into the attributions that follow when children are exposed to trauma, then the diagnosis and treatment plan can be implemented more holistically. Collins et al., (2013) defined attribution as the suspected or inferred causes of an event, situation or behaviour. Hence, if one wants to grasp how trauma exposure during childhood affects the mental health and well-being of the children, then it is necessary to have a conceptualisation of the child's perception of violence in their community. In addition extent of their exposure, the relationship with the perpetrator and the meaning that is attached to the trauma (Collins et al., 2013). For example, when the trauma is perpetuated by an individual as opposed to the result of a natural disaster, then it is simultaneously an interpersonal, psychological and physiological event (Levendosky, 2015).

In 1985, Eikelhor and Brown proposed that there is a link between specific attributions and specific trauma symptomology. The attribution of personal vulnerability reflects the common view of children in the literature, which is that abuse happens often to children, it could happen again, and children are not able to prevent bad things from happening (Collins et al., 2013). Exposure to trauma in early childhood is correlated to developmental maladaptation. Developmental competence is the effectiveness and quality of individual adaptation in the use of internal and external resources to navigate oneself through developmental milestones (Enlow et al., 2013). Thus developmental maladaptation causes great concern, as prior forms of adaptation will influence future adaptational patterns (Enlow et al., 2013). If adaptational patterns are damaged, then it increases the risk of experiencing greater trauma symptoms in future and it facilitates the development of negative attributions. This belief and perception of personal vulnerability may potentially develop into a worldview, where children believe that adults cannot be trusted and that society victimises children (Collins et al., 2013). Thus, attributions are what children use to make meaning and which they will use in the future to evaluate life events, and trauma exposure has a direct impact on such attributions.

4.5.1.2 Trauma Symptomology

Conceptualising the symptoms that follow children's exposure to trauma have been challenging. Children with complex histories are at risk of being misdiagnosed, or may receive multiple diagnoses or even no diagnosis at all (Kisiel, et al., 2014). Many traumatised children fail to meet the criteria for PTSD and thus the possibility increases that they will receive inadequate treatment modalities. The three clusters of PTSD symptomology in the DSM-IV, namely, re-experiencing, avoidance and hyperarousal are focused on adults (Collins et al., 2013). Therefore the diagnosis for PTSD that has been used for the past three decades fail to capture the varied effects of child trauma. This is problematic, since comorbidity is not uncommon amongst traumatised children, and the risk for multiple diagnoses increases, when the incorrect treatment procedures are implemented (Kisiel et al., 2014). Nonetheless, the DSM-IV does provide some insight into the recognition that trauma exposed children's symptoms of re-experiencing may include repetitive play with trauma themes, frightening dreams and specific re-enactments of the trauma (Levendosky et al., 2002).

Chronic and multiple exposures to trauma that occurs within the child's caregiving system at an early age are associated with a range of multifaceted symptoms and impairments across all areas of development. The relationship between symptom complexity and accumulated trauma was assessed by Cloitre et al., (2009) in a child and adult clinical sample. The results of this study indicate that childhood trauma is a predictor of symptom complexity in adulthood, as opposed to adult cumulative trauma (Cloitre, et al., 2009). Thus cumulative trauma in childhood significantly influences the presence of trauma symptomology in adulthood. In order to address child trauma screening, it has been proposed that a Developmental Trauma Framework is included in the DSM-V to offer a framework that is more appropriate for treating children and adolescents who present with complex trauma symptoms. The proposed criteria should address "(a) exposure to multiple or prolonged adverse events over a period of at least one year, including both direct abuse and witnessing, as well as disruptions in protective caregiving system, separation or emotional abuse and (b) complex traumatic reactions with included patterns of dysregulation across the multiple areas" (Kisiel, et al., 2014).

Results of several studies have validated the above statement. As stated by Kisiel et al., (2014) it has been found that just under a half of their child welfare sample had not received

any diagnosis despite having complex trauma histories. Moreover, the treatment and intervention that a trauma exposed child will receive depends largely on the type of trauma exposure: children with a history of sexual abuse are more likely to be diagnosed correctly than children who were neglected or abused. Also, the challenges of understanding child trauma symptoms are also reflected in the scarcity of trauma symptoms research in children younger than six years old (Levendosky et al., 2002).

Collins et al. (2013) accurately described the aftermath of being exposed to violence for children as a sense of hopelessness that is characterised by the belief that they may not reach adulthood. Children also experience an absence of social norms and values along with feelings of hopelessness and low self-esteem. Furthermore, exposure to trauma may overwhelm the ego's capacity to conceptualise the traumatic events that took place (Levendosky et al., 2002). Responses to trauma in early childhood that have been outlined by Kisiel et al., (2014) include the following: challenges with affect and impulse regulation, shattered self-perception, problems with attachment and interpersonal relations, attention seeking behaviour and challenges with systems of meaning. It has also been established by developmental neuroimaging research that the effects of child trauma do have an impact on brain development.

Child trauma exposure may cause structural changes in the brain that are inevitably associated with greater trauma symptoms. However, this is highly dependent on the level of trauma exposure: higher levels of indirect, direct, physical and verbal traumatic experiences result in more severe trauma symptoms (Collins et al., 2013). Additionally, the study completed by Levendosky et al., (2002) on the effects of domestic violence on trauma symptoms, provides significant insight into this problem, as it was based on a population that had not been studied much before, viz., children aged three to five years old. This study has found that children are specifically vulnerable to symptoms of re-experiencing the trauma and hyperarousal without directly witnessing the event. Furthermore, only 13% of the sample studied by Levendosky et al., (2002) met the criteria for PTSD, which again highlights the inability of the PTSD criteria to fully screen and capture child trauma symptoms. This study also stressed that young children experience avoidance symptoms very differently when compared to adults. Levendosky et al., (2002) stated that young children might respond to the trauma by being more attached to a parental or care-giving figure as opposed to avoiding people, feelings and places. Furthermore, Levendosky et al., (2002) concluded that these

younger children show greater externalising behaviours, which reflects the aggressive nature of a violence filled household; the modelling of violence and aggression is then acted out in the children's social environment.

4.5.1.3 Somatic Symptoms

Somatic symptoms that are defined as extreme anxiety over a physical complaint, for example, headaches and muscle tension, have been associated with exposure to trauma (Kugler, Bloom, Kaercher, Truax, & Stroch, 2012). Somatic symptoms have the potential to have a negative impact on a child's daily functioning and emotional well-being. As missed school days, anxiety and loss of sleep are often the outcomes; they thus play a significant role after the original trauma has occurred. Somatic symptoms in children are evident and displayed in behaviour of an inattentive or hyperactive or disruptive nature.

The study conducted by Kugler et al., (2012) on somatic symptoms in children and adolescents found that 55% of the 161 participants revealed feeling tense, uptight, jumpy, sick to their stomach and having sweaty hands. Moreover, the results of this study also indicated a significant gender difference, with females reporting more somatic symptoms than males. The gender difference could be indicative of a physiological sensitivity to anxiety in females; also females are usually more willing to reveal their experience of somatic symptoms. With regard to the type of abuse and its correlation to somatic symptoms, sexual abuse has a more significant relationship to somatic symptoms compared to other forms of abuse. The health anxiety that is provoked by sexual abuse results in somatic symptoms (Kugler et al., 2012).

4.5.1.4 Suicide

Children very often reveal remarkable resilience when exposed to trauma; nonetheless, cumulative exposure to stressors can wear down their coping ability. Cluver, Orkin, Boyes, and Sherr (2015) published the first study to date to determine if continuous exposure to adverse childhood events predicts later suicidality and if heightened risk results in mental health disorders and substance abuse in South Africa. The results of this study correlated with previous literature, which highlights the differences in suicidality with regard to gender (Cluver et al., 2015). Females revealed higher rates of suicidality, while males reported higher rates of completed suicide. Data from a South African hospital outlined a 3:1 female to male ratio for non-fatal suicide attempts and a 5:1 male to female ratio for fatal suicides.

Furthermore, the authors concluded a strong graded relationship between adverse childhood events and subsequent suicidality. This relationship was also mediated by internalising mental health problems.

4.5.1.6 Neurobiological Link to Trauma

Childhood trauma has the potential to cause neurobiological alterations, which in turn may cause and contribute to the presence of personality disorders and emotional and behavioural deficits (Amstader, Berenz, Kjennerud, Knudsen, Kendler, & Gardner, 2013). The personality disorders that have the strongest relationship to childhood trauma include: Borderline, Obsessive-Compulsive, Schizotypal and Antisocial personality disorders (Amstader et al., 2013). Furthermore, maladaptation has the potential to initiate pathways to psychopathology. Likewise, as found by Enlow et al., (2013), poor developmental competence mediates the relationship between interpersonal trauma and PTSD symptomology. Additionally, Williams (1996) and other subsequent studies have established that exposure to traumatic events at an early age is associated with an increase.

The process of retrieving specific memories is considered to be an automatic process even for very young children. However, the development of autobiographical memory retrieval is prevented when a child grows up in an environment that is characterised by chronic stress and trauma, due to the constant avoidance of specific memories in order to avoid negative affect (Brennen et al, 2010). As a result, over-generalised retrieval of both positive and negative memories becomes a stable trait throughout adulthood. Consistent with Williams' proposed theory (1996), Brennen et al., (2010) established in their study that adolescents who were exposed to trauma in childhood have difficulty retrieving specific autobiographical memories, even with the absence of psychopathological symptoms. Also, results confirmed that an over-generalised style of retrieval is an adaptive and self-protecting response to childhood trauma (Brennen et al., 2010).

4.5.2 Refutational Findings

The refutational findings stage is an outline of the ideas and themes found within the thirteen articles that questioned and opposed those found within the reciprocal findings stage. There were two ideas identified, namely, resilience and dreams. Both these ideas may explain how and why children very often overcome traumatic events, thus what contribute to their mental health and well-being. The above mentioned is discussed in the segments below.

4.5.2.1 Resilience

The study completed by Panter-Brick, Grimon, Kalin, and Eggerman (2015) revealed how a traumatic event can show dramatic and unexpected changes regarding the recall of that event over time. Panter-Brick et al., (2015) examined how traumatic memories relate to prospective changes in mental health; they made significant contributions to the literature on global mental health and adverse childhood experiences. Their study proposed that forgetting actual events and or creating more benign memories are essential features of resilience. Their study, which was based in war-torn communities of Pakistan and Afghanistan, demonstrated that Afghan youth profoundly changed their recollection of trauma (Panter-Brick et al., 2015). Trauma memories of violence were either forgotten or repressed. Previous literature have described war-affected communities as resilient and resistant towards cumulative stressors. This raises the question of just how these individuals manage such stressors, especially when surrounded by an environment characterised by extreme violence and insecurity (Panter-Brick et al., 2015). The trajectories of their study revealed that 15% showed rising distress, 21% manifested declining distress and 52% maintained low distress, which supports the notion that post-traumatic resilience is standard in war-affected communities.

The complex resilience processes in which the child's intelligence mediates the relationship between early childhood maltreatment and adolescent symptoms of depression and anxiety were examined by Harpur, Polek, & Harmelem (2015). Findings from their study showed that the timing of maltreatment had different effects on development. Cumulative maltreatment that occurred during mid-childhood predicted symptoms of depression, whereas earlier maltreatment was correlated to symptoms of anxiety (Harpur et al., 2015). The different periods of brain development and physiological changes are responsible for such differences. Thus the timing of maltreatment has a direct effect on the aetiology of post-traumatic symptoms and resilience.

4.5.2.2 Dreams

The human mind can be phenomenally protective, as can be seen among children who have been exposed to trauma. The mind is remarkably flexible and adaptable, and if there is good physical and mental health in the family and communal support, children are able to process and overcome horrendous trauma (Helminem & Punamaki, 2008). However, the environments that children are exposed to are not always as safe as one would expect; for

example, children spend the greatest portion of their day at school, which is often seen as a safe haven for children who experience trauma at home and in their communities (Flannery, Wester, & Singer, 2004). However, the school environment poses great risk for child trauma exposure, especially if there are high rates of bullying and weapon carrying. Flannery et al., (2004) argued that bullying can result in significant psychological, academic and physical harm for the victim and it also has a negative influence on the mental health and well-being of both the perpetrator and the observers. Violence in the school environment affects the entire school, as the school climate is shifted from being a safe place to being a place characterised by feeling powerless and fearful.

Nonetheless, there are numerous factors that contribute to the resilience and protection of child mental health during trauma exposure. One such contributor, the intensity and valence of emotional images in children's dreams, has been studied by Helminem and Punamaki (2008). Dreaming is a protective factor; it is believed that dreaming facilitates the processing of traumatic events. According to Helminem and Punamaki (2008), dreaming serves as a coping mechanism that mediates between the unconscious and conscious processes. While dreaming, the traumatised child is able to process overwhelming emotions and trauma. Within these dreams, the emotional reactions and attributions are represented rather than the actual events of the trauma. Researchers have compared dreaming to a therapeutic space, as both are a safe place, where the traumatised individuals can make new and healing contextualised images of their dominant emotional concerns.

Healing after trauma requires the process of making connections, which is an integrating process, where associations are made between shocking and threatening emotional states with similar but more soothing memories of the past. Wright and Koulack (1987) explained the pattern that occurs in dreaming after trauma through the distribution-avoidance-adaption model (DAA model), which proposes that after a traumatic incident, the dream will contain vivid images that represent the traumatic scene (Helminem & Punamaki, 2008). Thereafter, the process entails rehearsal and repetition of the traumatic scenes in order to assist the achievement of mastery. Next the process involves the experience of compensatory dreams, in which the content opposes that of the actual trauma by integrating more positive events, which provides relief and contributes to an increase in resilience and mental health, as the individual becomes gradually desensitised. Their study concluded that, if the dreamer had low negative valence and high positive valence then outcomes of the mental health state

would be improved, as indicated by a reduction in symptoms of post-traumatic stress, depression, anxiety and aggression. There was also a significant difference with regard to the impact of trauma when comparing younger and older children. Due to developmental differences, younger children reported more negative images than adolescents. In essence, emotions are the motivational force behind resilience, adaptation and balance when faced with environmental needs and stressors (Helminen & Punamaki, 2008).

4.5.3 *Line of Argument*

Throughout this research project, it became clear that childhood trauma has an enormous effect on child mental health and well-being. Despite this, there is a large gap in the literature, with young children and adolescent being a significantly understudied population. This study thus aimed to fill this gap by asking “*What are the effects of child trauma exposure on child mental health and well-being?*”. It is evident from the summation of the results that there is no clear answer to the research question; rather, it is all-encompassing as the symptomology that may present after trauma varies greatly since it is dependent on individual characteristics of the victim and the external environment. For this reason child trauma exposure and all its facets should be viewed holistically and within context.

As a researcher, my line of argument pursuant to analysing the available literature in this field is thus as follows: I believe that children have tremendous resilience within them but in the face of continuous trauma exposure, particularly in settings where the child is supposed to feel safe, such as in their home and in their school environment, then it is understandable that their presentation of trauma symptoms is so complex, so varied and so difficult for adults to conceptualise. I believe that, as health care practitioners, parents and teachers, we must be more alert and aware of the frequency of trauma exposure during childhood, and we need to understand that it does have an impact on the child’s mental health and well-being. We therefore need to investigate and seek to understand strange behaviours and symptoms rather than dismissing them, by assuming that the child is just behaving badly and that he or she will grow out of it. It is the responsibility of researchers, parents and health care workers to ensure that the young children and adolescents of today overcome trauma to the best of their ability.

How a child perceives the world is very different to how adults perceive it; this also applies to trauma. It is evident from the results that trauma exposure during childhood has the ability to alter a child’s worldview dramatically. In order to understand the child’s attributions, one

should aim to view the world through the child's eyes. Furthermore, it is also noted that negative attributions are significantly correlated to developmental maladaptation. Treatment modalities revolving around child trauma should thus focus on the child's attributions to prevent the development of a distorted worldview.

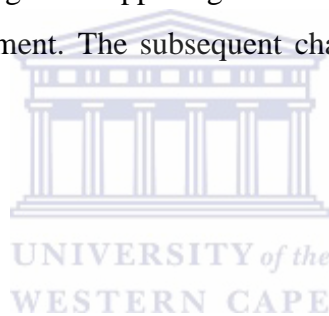
From the results it is clear that the presentation of trauma symptoms seen in children and adolescents is vastly different compared to adults, yet trauma exposure during childhood affects symptom presentation in adulthood. Screening methods for childhood trauma should be more developmentally appropriate, since trauma exposure can cause structural changes in the brain and prevent the achievement of developmental milestones (Collins et al., 2013). Also noted within the summation is that childhood trauma is linked to neurobiological alterations, which contribute to the development of personality disorders and memory retrieval. The symptomology identified within the summation of literature includes the following: repetitive play with traumatic scenes, frightening dreams, re-enactment of trauma, negative worldview, sense of futurelessness, absence of social norms, low self-esteem, hopelessness, problems with affect and impulse regulation, problems with attachment, behavioural problems and aggression. These symptoms need to be simplified and described in a manner in which key role players in the child's life would be able to recognise them; thus there is a need to create greater awareness of child trauma symptoms, as perceived through the eyes of the child.

It was also noted that there is a range of symptoms that can often be dismissed, namely, somatic symptoms. Kugler et al., (2012) found that more than half of their clinical sample presented with somatic symptoms, such as feeling tense and jumpy. Awareness of somatic symptoms post trauma is critical to ensure that parents and teachers do not simply dismiss it as behavioural problems or sickness. The literature also discussed the remarkable resilience of young children and adolescents; children in war-torn communities are often remarkably resistant and resilient in the face of cumulative stressors and trauma. The results did not focus on resilience yet it is known and discussed in the literature review that there are numerous factors that contribute to resilience, such as the correct treatment measures, a safe and trusting home environment, and the physiological make-up for survival. Nonetheless, an interesting phenomenon that was found within the results is that of dreams as a contributor to resilience. Flannery et al., (2004) posited that the human mind is flexible and adaptable and serves as a great protective factor in the face of trauma. If dreams are a representation of the child's

experience of the trauma rather than the actual events, then practitioners should examine these dreams in an attempt to address the trauma, as it may shed light on the unknown process that a child goes through. However, resilience is not always enough; as seen in the results, cumulative trauma exposure can result in suicide ideation and fatal suicide. As found in previous studies, Cluver et al., (2015) South African based study confirmed that there is a relationship between adverse childhood events and subsequent suicidality.

4.6 Conclusion

This chapter explained the process that had to take place in order to meet the requirements for data extraction in response to the research question, aim and objectives. Each step of the data extraction process was explained by means of tabularisation along with thorough discussions thereof. Furthermore, it also contained the theoretical explicative meta-synthesis procedure; where the main themes in findings and opposing themes are discussed. In conclusion this chapter presented a line of argument. The subsequent chapter contains a discussion of the findings in the current chapter.



CHAPTER 5:

DISCUSSION, LIMITATIONS AND RECOMMENDATIONS

5.1 Introduction

This is the final chapter of this study and provides a discussion of the study along with the limitations and recommendations thereof. The aim of this study is to report by means of a systematic review what the effects of child trauma on child mental health and well-being is. A systematic review was the appropriate methodology employed as it is evident throughout this study that the available literature in child trauma is limited. The methodological approach utilised in this study allowed the researcher to provide a comprehensive summation of the available literature on the effects of child trauma.

5.2 Discussion

The aftermath of child trauma exposure affects all spheres of Bronfenbrenner's ecological model. As discussed in the results section of this study (Chapter 4), the symptomology that develops subsequent to trauma exposure are greater when the child's world view is impaired. The attributions that the trauma exposed child manifests can provide useful insight into the effects on the interrelated systems of Bronfenbrenner's ecological model. When the perpetrator of the trauma is personally known and shares a relationship with the victim, the effect is much greater than would be the case in a natural disaster or war, for instance. Often the perpetrator is located within the child's microsystem, which is where a child is supposed to experience a sense of safety and security in order to ensure optimum development (Santrock, 2009). In the microsystem the child interacts with the world, for example, at school and in the home environment and when the trauma occurs within this system, it may potentially shatter the experience of trust, safety and security. The negative worldview that a traumatised child may develop is then reflective in the chronosystem. As it is believed that trauma symptomology and especially trauma of a continuous nature results in a heightened risk for future trauma exposure. This increases the risk that the child will grow up to be an adult with negative ideologies and worldviews.

As is prominent in the literature and in the findings of this study, the challenges with regard to the diagnosis and treatment of traumatised children have been present for many years. Individuals such as mental health care practitioners, teachers and parents in the exosystem have not been able to fully conceptualise the symptoms that follow post trauma. For example it is well known that in South Africa many children fall victim to abuse of some kind; it is also well known that teachers in South Africa struggle greatly with what is often referred to as “bad behaviour”. There is a strong likelihood that labelled behaviour in South African schools reflect the trauma exposure of the child and that the behaviours are just part of the symptoms. This in turn directly influences the mesosystems; in terms of Bronfenbrenner’s ecological model, the mesosystem involves the interaction between the microsystem and the mesosystem (Santrock, 2009). As a result, children exposed to trauma are at risk of not receiving the correct and most effective forms of treatment. As discussed in Chapter 4, children exposed to trauma may also present with somatic symptoms, which may erroneously be dismissed as illness or bad behaviour by the child. If a clear set of symptoms can be identified, then, after a child has been exposed to trauma, then it will enable caregivers, parents, teachers and health workers to recognise these symptoms when they appear and to begin to see through the eyes of the child. This will enable the interaction between the exosystem and mesosystem to be more effective and thus contribute to the mental health and well-being of the traumatised child.

Nonetheless, the findings of this study also revealed how the different systems within Bronfenbrenner’s ecological model may contribute to the resilience of trauma exposed children. A safe and secure home environment and thus the experience of a healthy and functioning mesosystem contribute to the resilience of the traumatised child. The results also discussed how individuals exposed to trauma go through processes within themselves, such as the desensitising that occurs within dreams to overcome the trauma. In essence, all systems within the ecological model of Bronfenbrenner may be helpful in understanding the healing process after a child has been exposed to trauma. Yet it also has the potential to fail the needs of the traumatised child completely; as the systems may provide support and healing for a traumatised child or it may provide an experience of being revictimised.

Based on the findings and objectives of this study, the following conclusions can be drawn:

- *Negative worldview:* Trauma exposure during childhood involves attributions that contribute to a negative worldview on the part of the child.

- *Complex symptomology*: The symptoms that develop in children after they have been exposed to trauma are complex and vastly differ from the set of symptoms seen in adults.
- *Misdiagnosis*: Many children failed to receive a correct diagnosis after being exposed to trauma, which in turn prevents the implementation of effective treatment procedures.
- *Understudied population*: Children and adolescents exposed to trauma are a greatly understudied population; this was reiterated by various authors in the articles reviewed herein, and is moreover evident as many articles had to be excluded since they focused only on adults.
- *Unrecognised symptoms*: As noted in the findings, children exposed to trauma may present with somatic symptoms which are not always recognised as being a result of trauma, and this may contribute to misdiagnosis.
- *Impact on development*: One of the main reasons why children exhibit different symptoms than adults when exposed to trauma is the difference in their developmental makeup. Trauma exposure during childhood has the potential to have a negative impact on the child's developmental competence and contribute to neurobiological alterations.
- *Resilience*: Children are tremendously resilient and may often overcome massive trauma; however, the resilience largely depends on the state and level of healthy functioning systems that surround the child.

5.3 Limitations of the Study

The most important limitation of this study was publication and language bias as the articles were summative documents. When publishing an article, numerous guidelines must be met, as journal articles require specific information. Consequently authors did not include all relevant information in the journal articles such as the methodological rigour which in turn increases the risk to exclude relevant articles. Language bias was also problematic as only journal articles written in English could be considered for inclusion, hence the risk of excluding relevant research increases.

Another limitation of this study was the sourcing method of the data. Although the resources for sourcing data were available at the UWC library, it was still a challenge to locate all the

articles. As the articles considered for inclusion criteria were also restricted by an inability to gain access to all journal articles.

Another limitation of this study is that the findings may not be generalizable to all children, as the levels of trauma exposure were different. Thus the results need to be interpreted within their particular context and viewed holistically. Despite these limitations, this study provided insight into the effects of child trauma exposure on child mental health and well-being, and identifying gaps in the literature also adds to child trauma research.

5.4 Significance of the Study

Based on the results and the data extraction sheets, it is evident that no single article outlines a set of symptoms that one would expect a child to develop after being exposed to trauma in childhood; however, each article did shed light on certain aspects of this topic. Therefore, this study is significant, as it identified the large gap in child trauma research and provides a summary of what literature is indeed available in relation to this understudied population. As discussed in most of the studies and in the literature review of this study, most child trauma research were based on symptom presentation in adulthood. Furthermore, it is challenging to investigate young children and adolescents due to the ethical constrictions faced by researchers.

5.5 Recommendations

The findings from this study call for further research on the effects of trauma exposure on child mental health and well-being. Since young children and adolescents are an understudied population, as is evident from the findings, most studies on child trauma had to be excluded due to the participants being adults. Thus most of the literature found in the initial search strategy were based on child trauma symptoms and its correlation to and presentation in adulthood. In addition, it is clear from this study that young children and adolescents do present with complex symptoms, which are markedly different from those of adults.

This gap in the literature needs to be addressed, if clinicians want to fully understand the nature of the child's symptoms and their presentation and to ensure early detection and more effective implementation of treatment modalities. Longitudinal studies of a qualitative and quantitative nature are required to investigate the experience of child trauma through the eyes

of the child and to determine statistically how trauma exposure affects the developmental growth of the child. In essence, future studies should include large samples and diverse methodologies. It is also suggested that future studies capture the entire history of the child's trauma exposure. The challenges of recruiting such a large sample were addressed by White et al. (2015), which, as mentioned previously, is that participants with trauma histories often lack motivation and tend to be non-compliant in studies. This hurdle would need to be overcome by researchers. Furthermore, it would be beneficial to investigate the level and potential of misdiagnosis among trauma exposed children, as it became clear in the study that the challenges that result from the complexity of the symptoms often results in misdiagnosis, under- or overdiagnosis, or even no diagnosis at all.

Awareness campaigns about the signs and symptoms of child trauma exposure should be implemented on an international and national level. In South Africa campaigns like 16 Days of Activism and The Child Protection Week are indeed effective however it is not enough as the number of children who face trauma on a daily basis speak for itself. The systems within the chronosystem of Bronfenbrenner's ecological model such as the religious institutions, schools and non-governmental organisations should aim to be more involved in the prevention of child trauma inducing elements on a daily basis. Specifically in schools it would be beneficial if all the teaching personal attend courses in child trauma and counselling so that the symptomology could be detected earlier and to reduce the risk of secondary victimisation of the traumatised child. Lastly, life skills programmes that aim to increase resilience would be valuable for all children especially in high risk communities.

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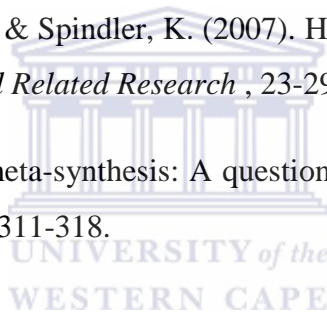
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APPENDIX A: LIST OF DATABASES

Health and Education:

- Academic Search Complete
- BioMed Central
- Cambridge Journals Online
- Cochrane Library
- Health Source: Consumer Edition (EbscoHost)
- MEDLINE
- Credo Reference
- AfricaWide NiPAD
- SCOPUS
- BMJ
- African Journal Archive
- ERIC
- Sabinet
- Sage Journals Online
- SAGE Research Methods (SRMO)
- Teacher Reference Centre
- EbscoHost
- Africa-Wide Information



Social Sciences:

- CINALH
- EbscoHost Web
- PsychArticles
- SocIndex
- Sabinet Reference
- SA ePublications
- SA Media
- HealthSource:Nursing/Academic Edition

- Africa Journal Archive
- Africa-Wide Information

Natural Sciences:

- BioMed Central
- Metapress
- JSTOR
- MEDLINE
- ScienceDirect
- Cambridge Journals Online
- PubMed
- Sabinet Reference



APPENDIX B: TITLE SUMMARY SHEET

AUTHOR	DATE	TITLE AND SOURCE	DATABASE	LOCATION WHERE STORED	OUTCOME ; Exclude/include



APPENDIX C: ABSTRACT SUMMARY SHEET

Type of study design	Study population	Instrument/s used	Outcome	Results of study analysis/ Quality of results



**APPENDIX D: CRITICAL APPRAISAL TOOL – SYSTEMATIC
REVIEW**

Critical Appraisal Tool for Qualitative / Quantitative and Mixed method studies		
Reviewer: _____ Author: _____ Title: _____ Year: _____		
Study Purpose	Yes (1)	No (0)
Is the problem statement been made explicit? Is a clear rationale for the study provided? Have the Aims been clearly stated? Are the objectives clearly stated? Are the aims and objective explicitly linked to the research question? Total:		
Literature Review		
Has an extensive literature review been conducted to inform the context and background of the study? Are gaps in literature identified? Is the need for further research addressed? Total:		
Study Design	Yes (1)	No (0)
Is the research design clearly identified (e.g. RCT, Cohort design, case study, cross-selection, etc.)? Are the essential features of the design stipulated? Is the study design appropriate? Have author/s indicated reasoning for their design selection? Does the research design address the aims and objectives of the study? Total:		

Sampling	Yes (1)	No (0)
<p>Is the source population identified?</p> <p>Is there a clear distinction between probability and non-probability sampling?</p> <p>Did the author/s motivate their sample choice?</p> <p>Is the sampling method appropriate?</p> <p>Is the sample representative of the population?</p> <p>Is the sampling size justified?</p> <p>Has informed consent been obtained from participants?</p> <p>Total:</p>		
Outcomes	Yes (1)	No (0)
<p>Where the instruments used clearly identified with references?</p> <p>Are these instruments appropriate?</p> <p>Were steps taken to ensure the reliability of outcome measures?</p> <p>Did the Author/s account for:</p> <p>Sample bias?</p> <p>Measurement bias?</p> <p>Performance bias</p> <p>Which psychometric properties were reported on:</p> <p>Did they report on psychometric properties?</p> <p>Psychometric properties on the scale of the sample?</p> <p>Type of data produced by instrument?</p> <p>Did the data produced support the proposed analysis?</p> <p>Total:</p>		
Findings	Yes (1)	No (0)
<p>Is the statistical significance of results indicated?</p> <p>Is such statistical significance justified?</p> <p>Are analysis methods appropriate?</p> <p>Are results correctly interpreted in relation to the research question?</p> <p>Total:</p>		

Conclusion	Yes (1)	No (0)
Is the conclusion clear? Is the conclusion supported by findings? Are appropriate recommendations made? Are limitations explicitly identified? Total:		
Ethical Considerations	Yes (1)	No (0)
Is ethical approval obtained from an identifiable committee? Did the Author/s report of gaining access from appropriate institutions? Have these ethical issues been reported on: Confidentiality? Anonymity? Withdrawal? Total:		
Total Score/ Percentage Weak (0-30%) Moderate (31-65%) Strong (66-80%) Excellent (81-100%) (Studies below the threshold stipulated in the category excellent shall be excluded. Studies not focusing on the effects of childhood trauma on mental health and well-being will be excluded)	Score (/36)	%
Overall Outcome: Include <input type="checkbox"/> Exclude <input type="checkbox"/> Seek Further Info <input type="checkbox"/>		



APPENDIX E: DATA EXTRACTION SHEET

Authors	General description			
	Target group (Specify age of child)	Personal/ demographic variables addressed	Main effects of trauma	Geographical location

Authors	Methodological appraisal				
	Design	theoretical orientation	Sample type	Sample size	Outcome measures

Authors	Analysis and results			
	Findings / Results	Conclusion	Recommendations	Sample size

APPENDIX F: UWC FORM



UNIVERSITY *of the* WESTERN CAPE

DEPARTMENT OF RESEARCH DEVELOPMENT

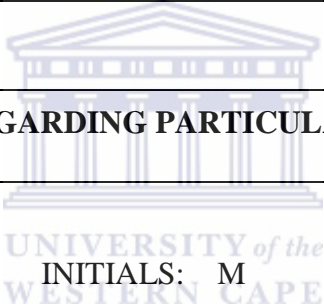
UWC RESEARCH PROJECT REGISTRATION AND ETHICS CLEARANCE APPLICATION FORM

This application will be considered by UWC Faculty Board Research and Ethics Committees, and then by the UWC Senate Research Committee, which may also consult outsiders on ethics questions, or consult the UWC ethics subcommittees, before registration of the project and clearance of the ethics. No project should proceed before project registration and ethical clearance has been granted.



PARTICULARS OF INDIVIDUAL APPLICANT	
NAME: Martinique Almendro	TITLE: Miss
DEPARTMENT: Social Work	
FACULTY: Community & Health Science	
FIELD OF STUDY: Child & Family Studies	
ARE YOU:	
A member of UWC academic staff?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A member of UWC support staff?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A registered UWC student?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
From outside UWC, wishing to research at or with UWC?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

PARTICULARS OF PROJECT	
PROJECT NUMBER: TO BE ALLOCATED BY SENATE RESEARCH COMMITTEE:	
EXPECTED COMPLETION DATE: December 2015	
PROJECT TITLE: Systematic Review: The effects of trauma on child mental health and well-being	
THREE KEYWORDS DESCRIBING PROJECT: Child trauma, effects, mental health	
PURPOSE OF THE PROJECT: M-DEGREE: Master's thesis in Child and Family Studies D-DEGREE: POST GRADUATE RESEARCH:	

PARTICULARS REGARDING PARTICULAR RESEARCHERS	
	
FAMILY NAME: Martinique	INITIALS: M TITLE: Miss
PRINCIPAL RESEARCHER: Martinique Almendro	
OTHER RESEARCH PROJECT LEADERS: None	
OTHER CO-RESEARCHERS: None	
THESIS: STUDENT RESEARCHER: Martinique Almendro	
THESIS: SUPERVISOR: Professor Nicolette Roman	

GENERAL INFORMATION	
STUDY LEAVE TO BE TAKEN DURING PROECT (days): None	
IS IT INTENDED THAT THE OUTCOME WILL BE SUBMITTED FOR PEER REVIEWED PUBLICATION?	
YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	

COMMENTS: DEPARTMENTAL CHAIRPERSON:

SIGNATURE OF THESIS STUDENT RESEARCHER – WHERE APPROPRIATE:

DATE

SIGNATURE OF THESIS SUPERVISOR – WHERE APPROPRIATE:

DATE

SIGNATURE OF PRINCIPAL RESEARCHER – WHERE APROPRIATE:

DATE:

SIGNATURE OF DEPARTMENTAL CHAIRPERSON:

DATE:

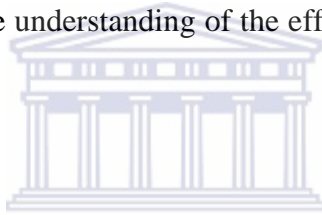


NOTE: THESE SIGNATURES IMPLY AN UNDERTAKING *BY THE RESEARCHERS*, TO CONDUCT THE RESEARCH ETHICALLY, AND AN UNDERTAKING BY THE THESIS SUPERVISOR (WHERE APPROPRIATE), AND THE DEPARTMENTAL CHAIRPERSON, TO MAINTAIN A RESPONSIBLE OVERSIGHT OVER THE ETHICAL CONDUCT OF THE RESEARCH.

DESCRIPTION OF PROJECT AND RESEARCH ETHICS STATEMENT

Abstract:

Trauma exposure during childhood increases the risk for multitude psychosocial, psychiatric and medical problems. Extensive research has been conducted on the effects of trauma exposure on adults and then applied to children. However, this poses concern due to the developmental differences between adults and children. Therefore there is a need to understand the unique symptomology of trauma exposed children, comprehending the effects of childhood trauma will inevitably aid the prevention and treatment of childhood trauma. This study will incorporate a systematic review methodology to facilitate the analysis of the effects of childhood trauma exposure on child mental health and well-being. This study will specifically focus on the psychosocial, psychiatric and medical effects of childhood trauma exposure. Relevant literature from all methodological paradigms that were published during the given time period of this study (2000 – 2015) will be considered for inclusion to enable a comprehensive understanding of the effects of childhood trauma on mental health and well-being. In essence, this study will provide parents, caregivers, researchers and mental health professionals with an all-inclusive understanding of the effects of childhood trauma based on a scientific body of literature.



Ethics considerations:

Permission from the relevant boards of UWC will be obtained to conduct this study. Since this is a review study no additional clearance will be required. The data used within this study will be published literature. Should any amendments be made to this study, then it will be submitted to the relevant boards for approval.