

An investigation into the relationship between resilience, protective factors and Posttraumatic Stress Disorder in a sample of psychology students at the University of the Western Cape.

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Research Project

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November 2018



Mini-thesis Presented in Partial Fulfilment of the Requirements for the Masters Degree in Clinical Psychology at the Faculty of Community & Health Sciences, University of the Western Cape

## Abstract

Due to the recent findings that the majority of South African's have been exposed to high levels of trauma, the effects of trauma on mental health and wellbeing have become an important area of research in the South African context. Although many individuals in our country experience high exposure and multiple incidences of trauma, there are a significant number of people who seem to cope well in the face of adverse circumstances and trauma and do not develop stress symptomology as a result of exposure to a traumatic event. These individuals are viewed as resilient as they are able to utilize protective factors at their disposal, aiding them in preventing the development of symptoms associated with Posttraumatic Stress Disorder (PTSD). A large body of literature exists that identifies various protective factors, which may have a positive influence on an individual's response to a traumatic event, thus making them more resilient. However, there is a gap in the South African research on the relationship between exposure to trauma, protective factors and the development of PTSD. The aim of this study is to explain how protective factors mediate PTSD symptoms. It investigates protective factors that resilient individuals utilize in the face of trauma such as; internal characteristics or traits, various demographic factors (i.e., age, gender), supportive interpersonal relationships, religious affiliation and community and family factors that have been identified as protective factors in the literature. Resilience emerged as significant in that it mitigated the development of posttraumatic symptoms (PTS) amongst the sample of university students. This indicates that despite the high incidences of exposure to trauma, individuals have the ability to be resilient, which therefore serves as a protective factor in the event of trauma.

The present study constitutes a secondary analysis of previously collected survey data. The data being analysed is from a quantitative, cross-sectional survey that adopted a non-random, convenience sampling method. Logistic regression was undertaken in order to determine the relationship between age, religious affiliation, type of exposure, resilience and posttraumatic stress

exposure. Only resilience emerges as a significant predictor underlying its importance for mediating traumatic outcomes. It highlights the importance of including protective factors in future research and interventions.

**KEYWORDS:** *PTSD; trauma; exposure; resilience; protective factors; ecological systems theory; South Africa; exploratory study; violence; risk*





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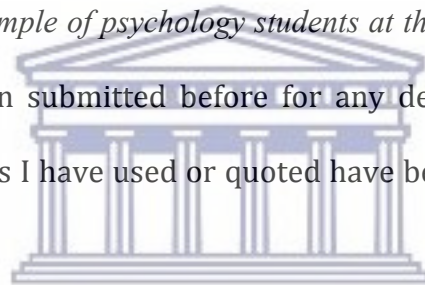
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#### Plagiarism Declaration

I declare that *“An investigation into the relationship between resilience, protective factors and Posttraumatic Stress Disorder in a sample of psychology students at the University of the Western Cape”* is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the resources I have used or quoted have been indicated and acknowledged as complete references.



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Roxanne Neubert

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Date

## ACKNOWLEDGEMENTS

I would like to thank the following people for their support and important contributions to this project:

Firstly to my supervisor, Dr Rashid Ahmed, for all his support and encouragement throughout this process. The hardest part about writing this thesis may be attempting to adequately put into words how much I appreciate all the hard work and effort that you have put into helping me complete this. Thank you for your passion for resilience research, it has proven to be highly contagious. Your sense of humour and understanding during the challenging moments as well as your incredible ability to provide clarity enhanced the learning process and provided a space for personal as well as professional development. My hope is that this does not mark the end of our professional relationship, but only the beginning.

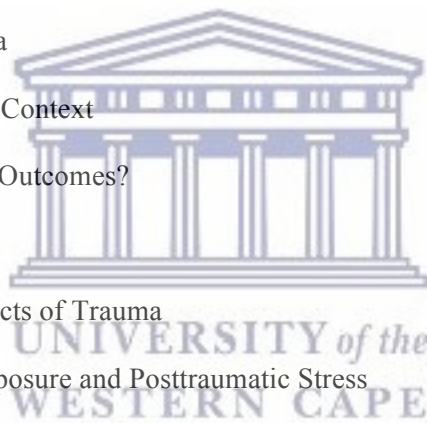
Secondly, thank you to my family, friends and partner for their unwavering support. Thank you for reminding me of the purpose and relevance of the work and for redirecting my gaze towards the future, and the ‘bigger picture’, which motivated me to keep moving forward.

Dr Maria Florence for her help regarding the statistical aspects of the thesis and assistance with the statistical analyses of the data. Thank you for your time and patience.

May this project be dedicated to all those who participated as well as to all of those who have experienced trauma, your strength and resilience is remarkable.

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## CHAPTER ONE

### OVERVIEW OF THE STUDY

Direct and indirect exposure to violence is linked to the development of Posttraumatic Stress Disorder (PTSD) and related symptomology (Yehuda, McFarlane & Shalev, 1998). Recent studies have indicated that the majority of South Africans have been exposed to high levels and multiple incidences of trauma (Suliman, Mkabile, Fincham, Ahmed, Stein & Seedat, 2009). This results in an increased vulnerability to developing Posttraumatic Stress (PTS), which may in turn negatively impact various aspects of an individual's wellbeing (Atwoli et al., 2013).

The negative aspects of exposure to trauma are of primary focus in the literature (e.g., dysfunctional behaviour) and associated risk factors (Hjemdal, Friborg, Stiles, Rosenvinge & Martinussen, 2006). However, many individuals fare well when exposed to a traumatic event and do not develop stress symptomology or other psychological patterns (Agaibi, 2005). This area of research focuses on individual and environmental characteristics (i.e., protective factors) which may influence (i.e., mediate) an individual's response to a traumatic event, and whether the development of PTSD symptomology takes place (Agaibi, 2005; Hjemdal et al, 2006). Individuals who are able to overcome adversity (e.g., exposure to a traumatic event) by utilising available protective factors (personal and environmental) are considered to be resilient (Hjemdal et al, 2006).

Resilience draws on protective factors in the face of adversity and trauma, a framework that has been used in numerous settings such as; natural disasters (Baker, 2009), general psychological impact of military service in Vietnam (Kaylor, King & King, 1987), and interpersonal violence (Weaver & Clum, 1995). Investigators have addressed a number of equally valid but quite separate questions in terms of the symptom development of PTSD in the face of trauma, however, few studies have investigated the protective factors that aid in the prevention or reduction of symptom

development and severity (Brewin, 2000). While it is well known that certain conditions may negatively affect psychological and psychosocial functioning and quality of life, little research has aimed at examining the role of protective factors such as psychological resilience, and social support in safeguarding against PTSD and depressive symptoms (Pietrzak, Johnson & Goldstein et al, 2009). According to Southwick et al (2005), aspects of resilience such as positive emotions, cognitive flexibility, meaning-making and active coping also protect against the development of mental illness such as PTSD and depression. The study of resilience has surged over the past decade in many disciplines. Global concerns about climate change, natural and technological disasters, economic instability, war, and terrorism have spurred intensified attention to resilience (Masten, 2018). Although initially the focus of research was concentrated on the negative consequences of adversity and were conceptualized primarily in terms of risk for psychopathology, dysfunction, breakdown, and other problematic outcomes, there has been a recent shift in studies focussing more on the importance of understanding the influences that promote positive adaptation or that were able to mitigate the effects of risk or adversity (Masten, 2018).

Due to the high rates of violence in South Africa, it is useful to investigate what factors may serve to protect an individual from developing symptoms of PTSD or posttraumatic stress (PTS). This is particularly helpful for low and middle-income populations in high-risk contexts like South Africa. Recognising the importance of social, cultural and economic environments in understanding the actions, choices and outcomes of individuals is highlighted in the ecological approach and is the framework used in this study. Individual characteristics of resilience are explored and viewed as culturally situated and socially mediated (Runswick-cole & Goodley, 2013).

This study will investigate the role that resilience plays in the development of symptomology as a result of traumatic experience(s) among psychology students at the University of the Western Cape.

The study begins with a literature review that highlights some of the key gaps in the area of focus. Drawing on this literature review the rationale for the study is more fully discussed, followed by the theoretical framework and research questions. The methodology is then detailed as well as the limitations and ethical considerations.

### **1.1 Motivation and Rationale for the Study**

Overall, the primary motivation and rationale for this study is to expand on the body of research regarding resilience as well as to build on the study conducted by Nortjie (2017). Although there have been studies focussing on facilitating a better understanding of the relationship between demographic factors, resilience, trauma, and negative outcomes (Hjemdal et al., 2006; Masten, 1994; Ungar 2013), the extent to which this is applicable within the South African context, which is characterized by the exposure to multiple traumas, remains a gap in the literature, requiring further investigation. The need for this is relevant in the South African context due to the high incidences and multiple exposures to trauma. This highlights the rather unknown relationship between exposure to trauma and how this relates to resilience as well as psychopathology within a diverse context. The study was undertaken for three principal reasons. Firstly, numerous studies have found exposure to traumatic events to be highest among adults who are therefore considered a high-risk group, who are consequently at an increased risk for developing subsequent psychopathology (Mc Gowan & Kagee, 2013; Suliman, Kaminer, Seedat, & Stein, 2005; Williams et al., 2007). However, few studies have been conducted among university students in South Africa (Hoffman, 2002; Mc Gowan & Kagee, 2013). Secondly, due to the high rates of exposure to trauma, with the majority reporting the exposure to multiple traumas in South Africa, the role that protective factors play in the negative outcomes following trauma are relatively sparse, highlighting a gap in the literature (Suliman et al.,

2009). Thirdly, the majority of studies focusing on the relationship between resilience, trauma, and the development of psychopathology are from the Euro-American context, and focus on a single exposure to trauma or chronic stressors in high-income contexts (Hjemdal et al., 2006). Therefore, the relevance for diverse contexts like South Africa in which people frequently experience multiple traumas is less clear. The studies by Veenendaal (2006) and Mokoena (2010) are exceptions in that they shed light on the link between resilience, race and trauma, and explore the relationship between socioeconomic status (SES), gender and exposure to violence within the South African context, respectively.

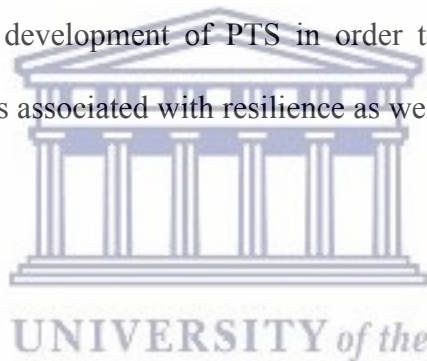
The present study extends this research, focussing on whether differences in types of exposure to trauma (i.e., interpersonal violence, or non-interpersonal violence), have an effect on the development of PTS symptoms, and secondly, which protective factors play a mediating role in the negative outcomes when exposed to multiple traumas. The rationale for this study is to expand on the existing body of resilience research as well as to build on the research undertaken by Nortjie (2017). The present study builds on the original study in that it explores areas that were not explored by Nortjie (2017) such as the role of religion/spirituality as a protective factor, the discourse surrounding resilience in the South African context as well as the type of trauma and the impact this has on PTS outcomes. Although the original study improved on and extended other studies, gaps in the literature still remain. Resilience is a vast, complex topic with multiple factors and variables that need to be considered in order to understand and uncover what it means to be resilient. Although certain factors may be identifiable as contributing to resilience in one individual or community, this may differ for the next. Discussing the most commonly perceived protective factors aiding and fostering resilience will enable researchers and clinicians to more accurately design and tailor interventions aimed at increasing these variables in the face of trauma.

Therefore, when particular risk, protective and resilience factors have been identified as contributors towards the relationship between trauma and PTS, steps may be taken to address such

factors in order to decrease risk and improve psychological wellbeing among students. As a resilience study, this may help to better inform intervention efforts to develop protective factors in response to exposure to trauma in low-income contexts.

## **1.2 Aim of the Study**

The primary aim of the study was to explore the extent to which resilience mediates negative outcomes with regards to PTS. A secondary aim of the study was to investigate the relationship between demographic variables and differences in terms of types of exposure to trauma and how these may also mediate negative outcomes. Therefore, as a study on resilience, the overall aim was to investigate the relationship between certain sociodemographic factors, types of exposure to trauma and resilience in relation to the development of PTS in order to identify and better understand possible risk and protective factors associated with resilience as well as to build on the original study undertaken by Nortjie (2017).



## **1.3 Research Questions**

In light of the main aim and motivation for the study, there are three research questions: 1) *what role do demographic factors play with regards to the development of PTS when there is exposure to trauma?* 2) *what is the relationship between the type of exposure to trauma (i.e., interpersonal violence vs. non-interpersonal violence) and the development of PTS?;* and 3) *is a higher level of resilience associated with lower levels of PTS when there is exposure to trauma?*

## **1.4 Delineation of Chapters**

The introductory chapter (chapter one) briefly focuses on and discusses the exposure to trauma, the development of PTS and the mediating role resilience, protective and risk factors play in the South African and international context.

Chapter two reviews the relevant literature pertaining to the present study and aims to identify and address key gaps in the current literature. Broadly, the chapter reviews literature on resilience, trauma and PTS as well as risk and protective factors.

Chapter three focuses broadly on trauma within the global and South African context, as well as demographic characteristics (race, religion, SES, age and gender as well as the broader community and family context), in relation to exposure to trauma and PTS. The final section of this chapter discusses the discourse surrounding resilience and trauma and thereafter examines Bronfenbrenner's ecological systems theory (1977), which provides the theoretical basis used for this study.

Chapter four discusses the methodology used for this study in light of the research questions, in particular; research framework, research design, research setting and population, sampling strategy and participants, procedure for data collection, instruments, data analysis, procedures, and ethical considerations.

Chapter five presents the results of the study including descriptive statistics, a brief overview of internal reliability consistencies (Cronbach alpha), and the logistic regression analysis.

Chapter six discusses the results presented in chapter four. The discussion combines the results with the research questions of the study, relevant literature and theoretical framework. Lastly, the limitations of the study are highlighted as well as the recommendations for future research.

# LITERATURE REVIEW

## CHAPTER TWO

### RESILIENCE, TRAUMA AND POSTTRAUMATIC STRESS

This chapter reviews the literature on resilience, trauma and PTS. Resilience has been defined as the ability to recover quickly from disruptions in functioning that result from stress appraisals and to return to the previous level of functioning (Steinhardt & Dolbier, 2008). Resilience is a dynamic construct, encompassing various interrelated social and personal factors, which play a vital role in mediating the effect on negative outcomes when exposed to various types of adversities (Cicchetti, 2010). The concept of resilience has received increased attention over the years in an attempt for researchers to understand why certain individuals in some populations experiencing adversity do not succumb to those difficult circumstances, but rather survive despite such exposure (Steinhardt & Dolbier, 2008). Both risk factors as well as protective factors are influential in the adversity-outcome link, necessitating that the role each of these factors play in the development of PTSD symptomology be further investigated. This chapter aims to explore the concept of resilience, specifically in relation to trauma and the development of PTS, respectively. Firstly, the various definitions and related meanings of the concept of resilience will be explored, and a definition of resilience will be given for the study. This will be followed by a discussion of factors typically considered as risk or protection in the existing literature as well as the research highlighting the relationship between the exposure to a traumatic event and the development of PTS. Thereafter the gaps in the existing literature on resilience and the relationship between risk and protective factors are highlighted.

## 2.1 The Concept of Resilience

Resilience is defined as a dynamic process through which positive adaptation is achieved in spite of serious threats to adaptation or development (Luthar et al, 2000; Masten, 2001). Resilience is hypothesised to involve protective mechanisms that moderate the impact of risk, or adversity; that is, protective mechanisms inhibit or mitigate the effect of risk factors, such that the negative outcome is avoided or at least substantially reduced (Cameron, Scott, & Wallander, 2015). These assets or measurable characteristics associated with positive outcomes, become salient as protective mechanisms once adversity is substantial (Rutter, 1985; Masten, 2001). It is argued that resilience develops when protective processes and factors are present (i.e., the correct combination of protective factors may inhibit the negative effect of exposure to risk factors) (Hjemdal et al., 2006; Werner & Smith, 1992). Therefore by identifying risk factors (e.g., high crime rates) and protective factors (e.g., religion) within an individual's context, researchers are able to recognise an integrated, interactive process, which shapes a response to adversity.

Resilience is viewed as a multidimensional and dynamic concept, rather than being fixed or static. It is like any other individual quality in that it may be altered in differing contexts and situations, as well as be strengthened or diminished. However, it remains a quality that everyone has the capacity to build and attain. In this way it is considered to be a complex biopsychosocial process that develops from interactions between both risk and protective factors within any given environment. Resilience includes environmental and/or systems-level factors such as the availability of and access to social resources. In the succeeding subsections the factors and processes related to resilience are further explored.

According to Rutter (1987) resilience cannot be seen as a fixed attribute of an individual, as for those who successfully manage with difficulties at one point in their lives may react poorly to other stressors when their situation differs. Resilience is a dynamic process that may be adapted and altered depending on the situation as well as the individual (Masten, 2001). Consequently, it can be



said that individuals may not all possess resilience in the same way or in the same quantity, but that it is unique for each individual and can be drawn upon in various ways and at different periods of time. The notion of resilience focuses attention on coping mechanisms, mental sets, and the operation of personal action. Its primary focus is not on external risks but on how these external risks are dealt with by the individual. Resilience, unlike risk and protective factor approaches, forces attention on dynamic processes, rather than on static factors that act in a cumulative fashion (Rutter, 2006). Likewise, in human development, resilience is recognized as a dynamic process that results from ongoing transactions between an individual and their environment. The central objectives here being to identify vulnerability and protective factors that may modify the negative effects of adverse life circumstances, and thereafter identifying mechanisms or processes that might underlie the association found (Brown & Westaway, 2011). Literature on human development portrays resilience as a dynamic, multidimensional, and multiscale characteristic. Protective factors are viewed as characteristics of not only the individual, but include the family, and community, referred to as the triarchic framework of resilience, that transforms the effects of adversity on child outcomes in a positive direction (Brown & Westaway, 2011). According to Werner (1995), the triarchic framework of resilience transcends the ethnic, social class, and geographic boundaries that are otherwise restricting. Therefore highlighting the importance of family and community as well as individual traits as protective factors mitigating the negative effects of exposure to trauma.

Resilience is therefore multidimensional in that a resilient individual is a) able to tolerate hardship (Rutter, 1987); b) determined to survive (Bandura, 1989); c) able to recover from adverse conditions (Tugade & Fredrickson, 2004); and d) able to adapt to changing circumstances (Bonanno, 2004). Resilience can be understood as either a) a process (i.e., focus on the internal and external resources); b) a state (i.e., adopt positive psychology constructs such as hope and optimism); c) a trait (i.e., a set of internal, positive personality characteristics such as self-efficacy); or d) an outcome (i.e., the ability to “bounce back” after a traumatic event) (Pangallo, Zibarras, Lewis & Flaxman,

2015). Resilience can be conceptualised as a set of personal resources and social supports that are seen as mediating factors between an individual's exposure to a traumatic event and the development of PTS. Resilience is therefore concerned with the individual variations in response to risk (Rutter, 1987).

Resilience is regularly defined as a static or predetermined construct in that it is simply a combination of unique individual qualities that one either possesses or not (Dandura, 1989; Bensimon, 2012). Though, in defining resilience as such, a central aspect of the construct is negated in that external factors may be influential in and/or contribute towards the development of resilience (Rutter, 1985). Therefore, for the purpose of this study, Rutter's (1987) definition of resilience is adopted, in that it maintains that the construct is dynamic, and may differ across individuals as well as circumstances. Rutter (1987) posits that individuals' may be able to cope and adapt to stressors in a certain context or during a certain period of their lives, however, when circumstances change their resilience may be altered. This is more applicable in the South African context in that circumstances may change frequently, consequently altering one's ability to be resilient in the face of cumulative, diverse trauma. This definition of resilience instils hope in the way that it is changeable in nature, allowing for the future ability to be resilient and/or to be resilient in diverse circumstances, despite one's reaction to current stressors. Resilience may therefore develop or be altered. The idea regarding the influence of circumstances takes into account possible access to and utilisation of social resources (church communities), or alternatively, environmental factors (SES) which may inhibit a once resilient individual. Considering these factors may allow researchers to identify elements that either inhibit or mediate risk in the context of varying social resources, traumas and environmental factors that characterize the South African context.

Resilience may play out in different ways. In some cases, resilience is preventative, allowing individuals to avoid poor outcomes by drawing on resources or developing coping strategies that make possible positive trajectories through chronic, adverse circumstances, such as living with a

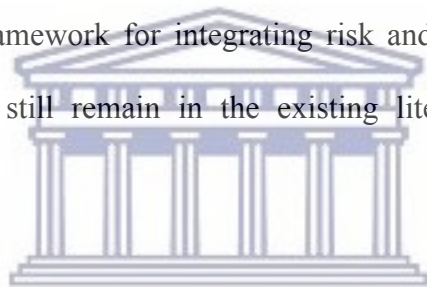
debilitating disability or in the context of severe poverty. In other cases, resilience is responsive, facilitating recovery from particular, traumatic life events, such as the sudden death of a parent or an incidence of victimization (Masten et al., 1990, cited in Chaskin, 2008). Masten et al., (1990) referred to resilience as ‘ordinary magic’ in that it appeared to be a common phenomenon, resulting in most cases from the operation of basic human adaptation systems. He hypothesised that if those systems were protected and in good working order, development would be robust, despite being faced with severe adversity.

Likewise, recovery from trauma and adversity is equally as unique and dynamic as resilience. It draws upon complex biopsychosocial processes, which are dependent on the individual’s life context (e.g., the severity of the adversity or exposure to trauma; Stewart, Reid, & Mangham, 1997), and numerous internal (e.g., attitude and temperament) as well as external (e.g., community and family) factors (Greene, 2014). Resilience is therefore an ability that all individuals are capable of achieving, and is more common than it was once initially thought out to be (Masten, 2001).

A study undertaken by Rutten et al., (2013) further demonstrates the dynamic nature of resilience and the various ways in which it may be influential on a biological as well as psychosocial level. His study on attachment and experiences of trauma and stress in early life indicate that individuals with secure attachment are less stress reactive in adulthood than those without. Experiencing positive emotions during daily interactions was found to buffer against stress reactivity as well as against the genetic influence on stress reactivity. It has been speculated that secure attachment and relationships (community, family, spousal) may be important in the reprogramming of the sensitivity of the reward system, mitigating the impact of stress systems when activated (Rutten et al., 2013). Furthermore, the recent literature pertaining to resilience has led to a shift in focus from addressing the negative consequences of adversity to the mediating role protective factors (i.e., attachment, relationships) may play. It is argued that resilience is developed in the face of adversity rather than in the absence of it. When protective factors and processes are present,

resilience is fostered and developed. Therefore, resilience is cultivated in the presence of the correct combination of protective factors that inhibit the negative outcomes of exposure to risk factors (Hjemdal et al., 2006; Werner & Smith, 1992).

Traditionally, the concept of resilience has been primarily examined in the context of chronic stressors (i.e., long-term, universal stressors such as poverty; e.g., Werner & Johnson, 2004). However, recent studies indicate that adversities facing adults are often considered to be acute stressors (e.g., exposure to violence, loss; Bonanno & Diminich, 2012). The recent shift from the negative consequences of adversity to the mediating role protective factors play in the link between exposure to trauma and PTS has sparked interest in the features or elements that safeguard against the development of symptomology. Studies on resilience complement others focussing on risk, providing a useful conceptual framework for integrating risk and protective factors. However, in spite of this shift several gaps still remain in the existing literature, some of which will be highlighted in this study.



## 2.2 Risk and Protective Factors

The importance of understanding adversity, risk, protective factors and resilience within their social and cultural contexts has been highlighted in the literature (VanderPlaat, 2016). Given the multiple ways of understanding and defining these concepts, it has been concluded that there are no universal understandings of risk and protective factors, or generalizable pathways to resilience. In light of this, we can, based on the existing literature, hypothesise and further investigate which factors may be considered risk or protection. This section will discuss factors typically considered as risk or protection in the existing literature as well as explore the various definitions and related meanings of these concepts.

Resilience and trauma are viewed in relation to one another in that individuals are seen as resilient when they are faced with a traumatic experience, which is viewed as a precipitant to the

activation of resources that enables an individual to be resilient. In addressing risk and protective factors in light of trauma, the pertinent question of what determines trauma arises. This study aims to answer this question by addressing the nature of risk itself (i.e., the severity of the trauma, the cumulative effects of the trauma), as well as the various types of protective factors that are viewed as mitigating against the development of PTS and aiding in individuals resilience.

Potentially Add recommendation here – risk and protective factors important for students / other individuals that age, then highlighting how sparse the literature is

The majority of studies on resilience have focused on children rather than adults (Taormina, 2015; Masten, 2018). These children-focussed studies have been aimed at understanding how children who grow up in long-term, adverse circumstances are able to successfully prevent the development of psychological disorders (Friborg et al., 2003). Such studies have looked at what factors enable the child to be resilient in the face of long-term adverse circumstances and thus what protective factors were tapped into in order to prevent the development of psychological disorders in response to such unfavourable circumstances. Studies on adults remain a gap in the literature, however, longitudinal studies such as the Lundby study (Cederblad, 1996) and the Kauai study (Werner, 1992) highlight salient characteristics of resilient individuals who have overcome adverse conditions, these are referred to as protective factors; ranging from demographic factors (e.g., age, race, SES, education), personal characteristics (e.g., flexibility, adaptability), to the management of environmental resources (i.e., social support systems,; e.g., coping strategies, family and community support, religious support). These aspects are considered protective in that they mediate the impact an adverse effect may have on an individual and/or are utilized by the individual in times of duress (Ginzenko & Fisher, 1992).

For the purpose of this study, resilience will be explored in light of individual-and environmental-related factors. Resilience is conceptualized as personal (traits) factors, social resources, and external influences (e.g., demographic characteristics) that play a role in the mediation

between adversity and negative outcomes. The definitions used in this study are not exhaustive of all conceptualizations of resilience, however, they address the flexibility and timing of resilience, incorporating major trends in the field of research, as well as clinical significance to the identification and response to resilience. Although the concepts of protection and resilience are typically understood to be factors and processes that mediate the effect of risk, the concepts are elusive and often used interchangeably (Fraser, Galinsky & Richman, 1999).

According to Panter-Brink (2014), risk and resilience are major conceptual paradigms currently deployed in the social and biomedical sciences. These concepts are used as complementary lenses through which to understand and address the persistence of human health disparities. In a matter of health, research on risk often trumps research on resilience, however, there is growing momentum to shift attention from risk to resilience in research and practice (i.e., interventions). Risk and resilience are both polysemous words in that they have multiple but interrelated meanings (Panter-Brink 2014). Risk is defined as possible danger, harm, loss or other adverse consequences, whereas resilience is the capacity to recover from difficulties. Resilience is viewed as an intuitive albeit opaque concept associated to fortitude in the face of adversity. It is often associated with toughness, elasticity (flexibility), and resistance, but also with insensitivity and invulnerability. However, in the context of this study, resilience is viewed as a trait that is not fixed but rather one that may wax and wane (dynamic) depending on variables such as race, religion, context and gender. Resilience is therefore not viewed as invulnerability, but rather as a quality that may come to the fore in the face of adversity and despite vulnerabilities. According to Panter-Brink (2014), because of the ambiguity regarding resilience, research often falls short in measuring it comprehensively and meaningfully; the same is true of risk. According to Masten (2011), in light of the fact that the majority of definitions of resilience are linked to risk and function in the context of significant adversity, there needs to be a better understanding of different dimensions of adversity and domains

of functioning relevant to health and wellbeing. This is relevant for the South African context where exposure to trauma is typically high (Cloitre et al., 2009).

According to (Brown & Westaway, 2011; Taormina, 2015), traditional risk theories have to a large extent neglected personal characteristics (e.g., adaptability, endurance, determination and recuperability). Human agency is often highlighted in environmental change literature as a critical factor in determining how individuals, households, and communities can respond to different types of stressors (Brown & Westaway, 2011). It is highlighted that because resilience is not an “across the board” phenomenon, at-risk children (and adults) can display remarkable strengths in one domain, whilst simultaneously displaying deficits in others (Brown & Westaway, 2011). Taormina (2015), suggests that human resilience may be an intrinsic property that all individuals possess (at different levels and at different times) which, therefore influences their response and adaptability to the experience of a traumatic event. Brown & Westaway (2011) have referred to resilience as; a) positive outcome despite the experience of adversity (beating the odds, better than predicted); b) continued positive or effective functioning in adverse circumstances (stress resistance, coping); and c) recovery after a significant trauma (bouncing back, self-righting) or severe deprivation (normalisation). The relationships between adaptive capacity and resilience are diversely interpreted. Some authors equate adaptive capacity with resilience and social resilience, where agency is defined as the capacity of individuals to act independently and to make their own free choices. A significant factor to consider when identifying risk is the dilemma of how and who defines and constitutes significant risk. Generally, in the individual literature, significant risk has been determined retrospectively by examining population-based negative outcomes experienced by the majority of persons exposed to any given significant risk (Patterson, 2002). However, from stress theory, it is argued that stressor events or risks are subjectively perceived as well as objectively defined. Therefore defining significant risk exposure (of the sort where recovery from it would be considered

resilience) is less clear, particularly with regard to high-risk status as a necessary precondition to be viewed as resilient (Patterson, 2002).

Trait resilience is defined as “a generalized, characterological quality of an individual [that] does not simply apply to a highly specific, one-time behaviour” (Block & Kremen, 1996; p.351). The view is that the resilience is a specialized ability that is innate and stable to select individuals. A recent meta-analysis determined that trait resilience was constant as it provided a “stable” prediction of mental health compared to external protective factors (Hu, Zhang, & Wang, 2015). However, according to Dolan (2008) resilience is ‘active’ inside and outside a child and is not a static state of wellbeing. Therefore, resilience in children, their families and communities are more operational in that they are players themselves who, through their own capacity (agency) are suspected to fare relatively well in the midst of trauma due to their supportive environments and relationships. This highlights that not only are relationships key, but that resilience encompasses ongoing positive social bonds that are demonstrated by the core value of ordinary things (Masten, 2004; cited in Dolan, 2008).

With regards to the population used in this study, research has found that while undergoing the transition from adolescence to adulthood, college students experience many challenges that can ultimately have a negative impact on their health. Reports of psychological stress in this population are increasing steadily and result from stressors as numerous and as varied as intrapersonal (e.g., changes in sleeping and eating habits), academic (e.g., increased class workload), interpersonal (e.g., changes in social activity) and environmental (e.g., computer problems) (Steinhardt & Dolbier, 2008). Exposure to these stressors coupled with the students’ developmental gaps in their coping ability makes this population particularly vulnerable to resultant psychological and physical health problems (Steinhardt & Dolbier, 2008). Over the past few years all students on the University of the Western Cape’s campus have experienced increased exposure to trauma due to the violence that accompanied the *fees must fall* movement. In addition to this and in light of UWC’s historically



disadvantaged background and the demographics of the students that attend the university, it is clear that this population is potentially at risk for developing PTS symptoms as a result of exposure to trauma. Students at UWC were therefore used as the sample in this study due to their exposure to *fees must fall*, the historical background of the university as well as their age group and demographics, placing them at increased risk.

The concepts of risk, protection and resilience have recently emerged as important constructs regarding the conceptualisation of social and individual health problems, with the concept of risk being pervasive in trauma-related research. The term typically conveys the idea that an individual, social group, family, organisation or neighbourhood is likely to experience a negative outcome (Fraser et al., 1999). In social research, risk was described as a hindrance to normal functioning and development (Masten, 1994), as well as a factor potentially leading to negative and possibly harmful outcomes. It has been argued that contributing toward prevention research, the most significant development occurs in the identification of various risk factors as they are thought to be linked to a multitude of psychological illnesses and social problems (Fraser, 1997).

Risk and protective factors are argued to be biological, psychological, social, environmental or spiritual in nature (Ashford, LeCroy & Lortie, 2000). In addition, risk and protective factors are viewed as influential in that they may occur or take place at any level related to an individual's context (i.e., family, community or societal level). Therefore, these factors may either threaten potential adaptive outcomes, or alternatively may facilitate positive adaptation within a given system (Fraser, 1997). For example, within the individual system, risk and protective factors may involve cognitive abilities, personality attributes or general health and wellbeing. The family context may include attachment style, availability of and relationship to the caregiver, deviant siblings or role flexibility; whereas the community system may include support groups, or level of community violence (i.e., gangsterism). Factors such as poverty, oppressive structures of social policies, may also have a far-reaching impact within the larger environmental or social systems. According to

Ashford et al., (2000), risk and protective factors are flexible and not predetermined characteristics specified for particular individuals or groups of people or systems. As the research on resilience advances, the role these factors played were separated into “promotive” and “protective” factors on the basis of functional roles. Promotive Factors (Sameroff, 2000), also described as “assets” or “resources”, were generally associated with desirable outcomes at nearly all levels of risk, whereas protective factors appeared to play a special role when adversity was high (Masten, 2018). These functions are frequently confused, primarily due to the many widely reported protective factors, such as good parenting or good problem-solving, as they also show promotive effects, whether conceptualized at the individual or family level. Parents who in general are doing a good job of raising children, for example, can also respond to a child or family crisis by taking additional actions to protect the child or family functioning (Masten 2018). For the purpose of this study protective factors mitigating the effects of exposure to trauma will be further explored and discussed. Although it may be useful to hold in mind the dual nature of the concept.

Resilience theory and research have the potential to enhance the understanding of this population (university students/young adults) and therefore provide greater insight into possible interventions that may assist students through this time in their lives (Steinhardt & Dolbier, 2008). In studies of University students, succumbing to stress is frequently characterized by impairments to their psychological functioning as they often exhibit symptoms relating to anxiety and depression. Poorly managed stress, may have further consequences impacting on the physical wellbeing of students, leading to frequent illnesses and somatization. Many young adults (i.e., students) have maladaptive coping mechanisms that may, although applied with the best intentions, contribute to or exacerbate their psychological and physical symptomology. Avoidance and emotion-orientated strategies are of the most popular employed coping techniques, typically resulting in negative outcomes on a psychological and physical level (Steinhardt & Dolbier, 2008). Understanding the factors that mediate this populations’ reaction to stress and trauma whilst simultaneously holding in

mind the risk factors that contribute to their stress, may allow us to accurately pitch future interventions, in the aim of providing more adaptive coping strategies enabling young adults to navigate their experience of stress and their subsequent reactions more effectively.

In summary, risk and protective factors may be diverse, impacting an individual on various levels and in differing ways. Researching and understanding resilience in human development, is aimed at supporting efforts to integrate models, knowledge and applications pertaining to the adjustment and development of individuals and their broader social context (i.e., family) as this will inform future interventions that may allow people to activate and strengthen protective systems and factors when faced with risk or adversity.



## CHAPTER THREE

### TRAUMA

This chapter reviews the literature on trauma, resilience and posttraumatic stress, emphasising the concept of trauma and the various consequences thereof. The multiple definitions of trauma will be addressed, followed by the definition used for the purpose of the current study. The consequences of trauma resulting from various factors that may determine traumatic outcomes such as the severity of the trauma, the accumulation of trauma, the various types of trauma as well as other contributing factors will be discussed. Thereafter, trauma in the South African context will be addressed. Lastly, protective factors illustrated in the literature (i.e., internal characteristics and traits, demographic factors, SES, age, gender, supportive interpersonal relationships, religion and spirituality, family and community protective factors) will be highlighted and discussed.

#### 3.1 The definition of Trauma

The word trauma comes from the ancient Greek word for wound, related to physical injury (Danese & Baldwin, 2017). It was only in the late nineteenth century that the word started to acquire a new metaphorical meaning in popular culture. Since then the term gained momentum as clinicians tried to understand the psychological impact (i.e., patients with non apparent physical wounds) of trauma. Sigmund Freud further developed Charcot and Janet's psychological theory and popularized the notion that intensely distressing experiences (e.g., psychological trauma) could have significant impact on psychological development and psychopathology (Freud, 1962; cited in, Danese & Baldwin, 2017). Since then, various theories on psychological trauma, and particularly childhood trauma, have progressively emerged.

The literature is saturated with definitions of trauma, and healthcare professionals have, over the years, been grappling with the question of what exactly constitutes trauma. Consequently, definitions have evolved a great deal over a number of years. Spiegel (2008) describes the essence of traumatic stress as helplessness, which he defined as a “loss of control over one’s body”. Whilst Peichl (2007) describes trauma as a toxic condition, a mixture of intense anxiety, and absolute helplessness and loss of control. Trauma is frequently associated with loss of meaning and a sense of helplessness and hopelessness for one’s future. The immense impact of trauma can influence one’s capacity to participate in the formation of society, therefore, making it an important concept to address.

For the purpose of this study, trauma may be defined as an experience or event that overwhelms the coping strategies people ordinarily possess (de Sánchez, 2003). Trauma, unlike typical, everyday events, are likely to result in feelings of powerlessness or loss of control due to the often dangerous nature or circumstances of the acts involved in such events. Furthermore, the rare occurrence of traumatic experiences renders them unusual to everyday life experiences (Hamber & Lewis, 1997). Trauma is combined with feelings of extreme fear and desperation (de Sánchez, 2003) and can lead to complex traumatic stress disorders as well as chronic thoughts of suicide, the extreme expression or repression of emotions (e.g., sexuality or rage), loss of memory, states of fear, low self-esteem, feelings of guilt and shame, feelings of stigmatization, feelings of powerlessness, paralysis of initiative, idealisation of the perpetrator, chronic mistrust, feelings of isolation, isolation in social life, and/or loss of faith and hopelessness (de Sánchez, 2003). Studies have demonstrated the transgenerational nature of trauma in that it can be transmitted over generations, causing lasting effects in society (Bergmann, Jucovy & Kerstenberg, 1995; cited in de Sánchez, 2003). Furthermore, de Sánchez, (2003) makes reference to a study conducted by Salasin & Rich (1993) that takes into consideration that many male victims of trauma later become perpetrators themselves, and like their

victims, also suffer from PTSD due to the dehumanising effects of their violence. Healing and prevention of violence are clearly closely linked and require further investigation.

The DSM-5 describes a traumatic event as “exposure to actual or threatened death, serious injury, or sexual violence” (American Psychiatric Association [APA], 2013, p. 271). According to Williams et al., (2007) most South Africans experience at least one traumatic event during their lifetime, with the majority reporting multiple traumas. South Africans with a history of trauma seldom experience only a single traumatic event in their lifetime, and are more likely to have experienced or been exposed to multiple traumatic events (Cloitre et al., 2009; Fincham et al., 2009). This phenomenon of continuous trauma is a relatively new area in trauma research (Suliman et al., 2009). Earlier authors such as Straker (cited in Hamber & Lewis, 1997) argued that the DSM-5 classification of PTSD neglected to incorporate the potential effect of continuous trauma on an individual. Due to the high levels of ongoing violence and long-term trauma in South Africa, it was further suggested that PTSD, as classified by the DSM-5, cannot be directly applied to the South African context. They therefore proposed the notion of continuous traumatic stress syndrome (Straker, cited in Hamber & Lewis, 1997). For the purpose of this study, the researcher maintains the DSM-5 (APA, 2013) definition of trauma as it is considered to be most appropriate towards understanding and categorising differences in traumatic events. However, instead of referring exclusively to PTSD, the researcher makes reference to the associated spectrum of symptomatology (i.e., PTS) in order to consider trauma outcomes related to the South African context (i.e., continuous trauma).

### **3.2 The Consequences of Trauma**

The effects of exposure to trauma are diverse and may impact individuals in a number of ways. Although the development of Posttraumatic Stress Disorder is one of the primary psychiatric conditions that may be triggered by a traumatic event, symptomology may present in alternative

ways, not necessarily meeting the criteria for PTSD. The following section discusses the various outcomes or consequences of trauma, giving particular attention to PTS and the prevalence of the condition in the South African context as well as the transgenerational transmission of trauma.

A study undertaken by Atwoli et al. (2013) suggests that the majority of South Africa's general population is exposed to high levels of trauma. It is reported that the majority of South African's experience at least one traumatic event during their lives, with a high percentage reporting multiple traumas (Williams et al., 2007). This places South African's at an increased risk for developing PTSD. Unlike other mental disorders, PTSD is a psychological disorder that is directly related to (i.e., *causal* relationship) and precipitated by exposure to an event that threatens an individual's life or which evokes an intense fear response (Yehuda et al., 1998). According to the most recent version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013), PTSD is characterised by negative alterations in mood and cognitions, negative changes in responsiveness and arousal, psychological disturbances, and violent behaviour.

The study conducted by Atwoli et al. (2013) discovered that the lifetime prevalence of PTSD among the South African population to be 2.3% and a 12-month prevalence of 0.7%, while initial prevalence rates of PTSD after exposure to trauma was 3.5%. For South African youth, prevalence rates of exposure to trauma and subsequent psychopathologic development (i.e., PTSD) are higher, ranging from 82% and 100%, and 6% to 22% respectively (Suliman et al., 2009). South African individuals with a trauma history often experience multiple traumatic events (Cloitre et al., 2009; Fincham, Altes, Stein & Seedat, 2009). Recent literature pertaining to continuous trauma has suggested that multiple exposures to trauma in high trauma settings (e.g., war zones or police services; Kopel & Friedman, 1997) are associated with elevated levels of PTSD (Suliman et al., 2009). However, relatively few studies within the general population (especially in low-income contexts) have been undertaken, highlighting a gap in research on resilience and exposure to continuous trauma (Suliman et al., 2009). There is increasing acceptance of the idea that exposure to

trauma may not always be sufficient to explain the development of PTSD and that other factors such as individual vulnerability and individual protective factors may have a role to play in understanding this condition (e.g., Yehuda, 1999; Yehuda & McFarlane, 1995).

According to a study undertaken by St. Cyr et al., (2014) on a sample of treatment-seeking Canadian military personnel with military-related PTSD, it was found that somatic complaint severity was highly correlated with PTSD symptom clusters and depressive symptom severity, as well as physical and mental quality of life. Previous research has demonstrated an association between PTSD and physical health symptoms in both military and civilian samples, with up to 70% of individuals with psychological trauma reporting somatic symptoms (St. Cyr et al., 2014). Therefore, it has been conceptualised that the development of somatic symptoms such as pain and neurological symptoms for which no organic cause can be found, is viewed as a physical manifestation of psychological distress (McFarlane et al., 1994). In light of this, although the etiology remains unclear, there is a disagreement as to whether they are a consequence or causal factors in PTSD, or independent sequelae of psychological trauma. Despite this ambiguity, it is clear that unexplained physical symptoms can impact PTSD severity (Beckham et al., 1998).

Among the hypotheses attempting to explain the association between somatization and PTSD, is the experience of Major Depressive Disorder (MDD) that is frequently comorbid with a diagnosis of PTSD and the association between depressive symptoms and PTSD is well documented (St. Cyr et al., 2014). Therefore, it may be possible that the presence of comorbid MDD influences the association between PTSD and somatization. PTSD may manifest in a variety of ways, and often presents as physical symptoms. In this case, many people may misinterpret psychiatric symptoms as having a physical basis and therefore seek medical care as opposed to specialized mental health care services, and thus may risk delaying their path to recovery. Physical symptoms commonly reported include; being tired/having low energy, having problems sleeping, and experiencing back, arm, leg and joint pain. The findings in this study suggest that somatic complaints have a significant influence



on physical and mental wellbeing and frequently present with symptoms of PTSD. This supports previous research, which found that individuals with PTSD reported lower-than-average physical and mental health and high somatic symptom severity.

Posttraumatic Stress Disorder is a debilitating psychiatric condition that can be triggered by exposure to extraordinarily traumatic events (Wang, Cao, Wang, Zhang & Li, 2012). However, PTSD is not the only consequence of experiencing a traumatic event, as there are a host of subsequent outcomes that may impact on an individual's life in the wake of trauma. PTSD remains an important potential outcome, and is unique in its diagnostic criteria in that it has a direct relationship to (causal relationship) a traumatic event (APA, 2013). Clinical studies conducted by Braga, Mello & Fiks, (2012) reported a wide range of affective and emotional symptoms in their studies on the transgenerational transmission of trauma. Distrust of the world, impaired parental function, chronic sorrow, inability to communicate feelings, and ever-present fear of danger, pressure for educational achievement, separation anxiety, lack of entitlement, unclear boundaries, and overprotectiveness within a narcissistic family system, were amongst the symptoms identified specifically in the second generation of Holocaust survivors. Many studies suggest that genocides in Rwanda, Nigeria, Cambodia, Armenia and former Yugoslavia brought about distinct psychopathological symptoms in the offspring of survivors. Depression, posttraumatic stress disorder, attention deficits, and behaviour disorders were found more pronounced in children of tortured parents as compared to controls (Braga, Mello & Fiks, 2012). The transgenerational transmission of trauma was thought to be as a result of a 'survivor syndrome' proposing that the psychiatric disorders were perpetuated from one generation to the next. Trauma experiences within the family system and amongst those in communities may manifest in the second generation despite their personal trauma experiences, or lack thereof.

The effects of trauma can be far-reaching and may impact people in a number of different ways, ranging from PTSD to symptoms of anxiety and behavioural difficulties. There is growing

literature on ‘second generation’ trauma and controlled studies have shown that Holocaust trauma has psychological impacts on the children of survivors such as higher levels of childhood trauma, increased vulnerability to PTSD and other psychiatric disorders (Braga, Mello & Fiks, 2012). The trauma and resulting symptomology may be so severe that the victims’ symptoms of PTSD may be passed down through generations, creating a wave of trauma, directly and indirectly marking the lives of many.

Interviews investigating the transgenerational transmission of trauma revealed its diverse, multidimensional nature. Although people cope in various ways, the study highlighted three elements linking transgenerational transmission patterns or resilience patterns to phenomenon related to parental trauma. The three categories were; modes of parental psychic working over, ways in which survivors communicate the traumatic message to their offspring, and repercussions of trauma on second-generation experiences (Braga, Mello & Fiks, 2012). The consequences of traumatic events are not limited to the persons immediately exposed to the event, instead, they often affect significant others in their environment such as family, friends and caregivers. These effects may include difficulties such as; intrusive imagery, heightened sense of vulnerability, difficulty trusting others, and emotional numbing (Braga, Mello & Fiks, 2012). Survivors find diverse ways of working through their traumatic experiences by; creating their own personal narrative, documentary records, cultural rituals and expressions, tapping into collective memory or defending universal values. Many rely on their cultural and spiritual rituals in order to help them create meaning regarding the event. Resilience was found to be a more recurring outcome among offspring of families who engaged in more open and affectionate communication styles, and who frequently made use of humour as a symbolic resource (Braga, Mello & Fiks, 2012). Researchers have found that ‘echoes of parental traumatic memory’ are more easily transmitted when parents do not deal with or address the trauma they endured with their offspring. Therefore, the manner in which the traumatic message is either conveyed or silenced by parents can have distinct repercussions on the physical working over in the

next generation. The repercussions of traumatic messages on the lives of others, may contribute to the development of resilient patterns in that people may come together to transform their ‘cursed inheritance’ into a memorable legacy. Meaning making is a means by which to change the trauma of the past into a significant and meaningful event, often through the lens of spirituality and the sense of community. Therefore, just as the traumatic dimensions of a traumatic experience can be conveyed transgenerationally, so can the possibility of overcoming trauma, with the development of resilience mechanisms by survivors’ offspring (Braga, Mello & Fiks, 2012). In light of South Africa’s trauma history and the distress caused under the apartheid regime, addressing the transmission of transgenerational trauma and factors associated with resilience within families, communities and the role played by religion may assist South African citizens in the recovery of and protection against further transmission of trauma, therefore allowing for more healing and meaning making in an attempt to redirect the future.

Exposure to trauma has been associated with the development of numerous psychopathological disorders and negative outcomes such as; PTSD (e.g., Atwoli et al., 2013), anxiety (e.g., Freh, 2016), depression (e.g., Lehavot & Simpson, 2014), and aggression (e.g., LaMotte, Taft, Weathermill, Scott & Eckhardt, 2014). PTSD is often comorbid with other mental disorder such as social anxiety disorder (SAD). In a study undertaken by McMillan and Asmundson, (2016), approximately 13% of the participants met the criteria for comorbid PTSD and SAD. Due to the nature of PTSD in that it is a psychological disorder that is related to and precipitated by exposure to an event that threatens an individual’s life or which evokes an intense fear response (APA, 2013; Yehuda et al., 1998), this sets it apart from other mental disorders. According to the DSM-5, PTSD is characterised by PTS symptoms, which are allocated into four categories; intrusion symptoms (e.g., recurrent and involuntary distressing memories, dreams, or recollections associated with the trauma); avoidant behaviour (e.g., efforts to avoid feelings, places, conversations, or thoughts associated with the trauma); negative alterations in mood and cognitions (e.g., negative

beliefs about oneself, negative emotional state); and symptoms of increased arousal and changes in responsiveness (e.g., irritability, insomnia, hypervigilance; APA, 2013). Although many people are exposed to traumatic events, not everyone will develop PTSD. A diagnosis of PTSD is made if the aforementioned symptoms are experienced after a traumatic event and do not subside (APA, 2013). Research has shown that initially, the majority of individuals present with PTS symptoms following a traumatic event, however, it is reported that only a portion of such individuals who are exposed to a traumatic event develop and sustain PTS symptoms. The diagnosis of PTSD is given if the symptoms persist for more than one month following the trauma (APA, 2013).

The literature has highlighted the link that exists between trauma characteristics and the development of PTSD such as intensity or duration, interpersonal context, and direct versus indirect exposure (McMillan & Asmundson, 2016). Trauma research has focussed on the variations in the prevalence, types of trauma and differences in exposure, and their relationship with PTS in an attempt to explain these differences. A complex interplay of pre-, peri-, and posttrauma risk factors have been hypothesized to affect the development and maintenance of PTSD symptoms. One pretrauma variable reported to contribute to this vulnerability is prior exposure to trauma (Irish, Ostrowski, Fallon, Spoonster, van Dulmen, Sledjeski & Delahantry, 2008). Prior trauma history is consistently associated with PTSD, but to varying extents and with somewhat low effect sizes. It has been suggested that exposure to a traumatic event may sensitise an individual to the negative effects of subsequent traumas, creating more intense posttraumatic stress (van der Kolk & Greenberg, 1987; Yehuda, McFarlane & Shalev, 1988; cited in Irish et al., 2008). Likewise, Atwoli et al., (2013) argues that the impact of experiencing a traumatic event is likely to be more distressing for individuals with a history of trauma exposure (i.e., continuous trauma), and these individuals often experience greater psychiatric symptoms (Suliman et al., 2009). A number of studies have found that the cumulative number of prior traumatic experiences significantly increased the risk for PTSD in a variety of populations. Suliman et al., (2009), highlights recent literature suggesting that exposure to

continuous trauma in high-trauma settings (i.e., war zones or police services; Kopel & Friendman, 1997) is associated with elevated levels of PTSD. A small number of studies failed to find a significant association between prior trauma exposure and PTSD risk following a subsequent trauma (Irish et al., 2008). However, in some cases, research has shown that participants with multiple exposures to traumatic events had disproportionately poorer mental health that was not correlated to the cumulative number of traumatic events experienced, but rather due to the severity of the events, which is supported by Schilling, Aseltine and Gore (2008) in that it is argued that the severity of adversity or exposure to trauma contributes to poor mental health and the development of PTS.

In addition to number and type of prior traumatic events, the victim's age at the time of prior trauma may also alter the impact of a prior trauma (Irish et al., 2008). Research has consistently found that a history of childhood traumatic events is associated with increased PTSD symptoms upon subsequent exposure to a traumatic event in adult trauma victims (Bremner et al., 1993; Brewin et al., 2000; Follette, Polusny & Milbeck, 1994; King, King, Foy, Keane & Fairbank, 1999; Nishith, Mechanic & Resick, 200; cited in Irish et al., 2008). Furthermore, in addition to characteristics of the event itself, the manner in which one responds to or interprets a prior trauma may alter the impact of the prior trauma on subsequent trauma reactions (Irish et al., 2008). Theorists have recently suggested that a victim's perceptions of the trauma influence the degree of PTS they experience. Victims with more negative appraisals of their trauma are at higher risk for PTSD.

In identifying risks associated with negative outcomes (i.e., PTS) when an individual is exposed to a traumatic event, the variations in the types of events, types of exposures, the incidences of subsequent pathological development, age of initial trauma and the way in which an individual is able to process the trauma may be considered. For the purpose of this study, the association between trauma and PTS will be explored in greater detail in order to highlight the particular risks associated with differences in exposure to trauma.

### 3.3 Trauma in the South Africa Context

Over decades many people in South Africa have been traumatized through a variety of forms of personal and structural violence (de Sánchez, 2003). In light of South Africa's political past, a very real task lies ahead of learning to cope with the transformation processes and the building of a new society. Highlighting trauma and healing in South Africa are vital steps towards a more inclusive, safe society for all races; both however need to be addressed within their political contexts. According to de Sánchez (2003), trauma refers to the psychic trauma caused by human violence, including structural violence (e.g., the apartheid system), as well as personal violence (e.g., rape or torture). This section will discuss the prevalence of trauma in the South African context, identifying the most frequently reported types of trauma documented amongst the South Africa population in comparison to international studies.

In a recent study undertaken by McGowan and Kagee (2013) on a sample of South African university students, approximately 90% of the respondents (N=1213) reported experiencing a traumatic event in their lifetime. The most commonly reported traumatic event was exposure to suicide and/or homicide. In an early study conducted on South African university students, 70.6 % reported exposure to at least one or more traumatic events (Hoffmann, 2002). International studies conducted by Vrana and Lauterbach (1994), on university students in the United States (US), found that 84% of the respondents had experienced at least one traumatic event and more than one third experienced multiple traumatic events. In another international study undertaken by Elhai et al. (2012), 67% of the total student sample reported that they had experienced at least one traumatic event within their lifetime, therefore reflecting slightly lower levels of exposure to trauma when compared to studies conducted in South Africa.

According to Kessler (2017), the lifetime exposure to one or more traumas was reported by 70.4% of the respondents in the WMH (World Mental Health) survey (N=50855). The most commonly reported trauma types were the unexpected death of a loved one (reported by 31.4% of

respondents) and direct exposure to (witnessing or discovering) death or serious injury 23.7%). The next most common types of traumas were muggings (14.5%), life-threatening automobile accidents (14.0%), and life-threatening illnesses (11.8%). 'Private' traumas were reported by 4.8% of respondents (Kessler, 2017).

According to a global review undertaken by Atwoli et al. (2015) the World Mental Health (WMH) surveys documented significant variances in the prevalence and distribution of exposure to traumatic events across the world. South Africa, when compared to Europe and Japan who reported a lifetime traumatic event prevalence rate ranging between 54% and 64% of the South African population reported a higher prevalence of 73.8% (Atwoli et al., 2015). The variation in rates and prevalence of traumatic events across the world has been argued to reflect historical, cultural and political factors, varying across regions. South Africa's apartheid history is thought to have contributed towards the higher rates of trauma exposure when compared to Japan and Europe, as both the pre- and postliberation periods were characterised by violence. According to Atwoli et al., (2015) in the post-apartheid era similar rates of violence have persisted, perpetuated by social inequity and economic disparity and the legacy left by the apartheid regime of an underinvestment in education and skilled-job training. During the apartheid era, the increased rates of unlawful assaults in the community, the state-sanctioned discrimination and political violence led to increased rates of exposure to trauma for South African's (Kaminer, Grimsrud, Myer, Stein & Williams, 2008). Consistent with this notion, the largest proportion of all lifetime traumatic events in South Africa are physical violence and witnessing trauma occurring to another individual (Atwoli et al., 2015).

According to the South African Stress and Health Study (SASH) a high a prevalence of trauma was demonstrated throughout the country. About three in four South African's reported experiencing at least one traumatic event and over half have experienced multiple events (50.6%). Therefore, due to the high incidences of trauma that South African citizens are exposed to, the investigation of protective factors that may aid in resilience is of great importance. These statistics

highlight that although the majority of South Africans have experienced at least one trauma, not all of them have developed PTSD, therefore investigating the various protective factors that have mitigated the symptom profile of trauma survivors is extremely salient in identifying how so many individuals and communities are able to be resilient despite adverse circumstances.

As previously mentioned, the consequences and repercussions of the apartheid era are far from over, thus amplifying the urgency and importance of resilience studies within the South African context that may direct and tailor interventions aimed at activating resources that may assist in triggering resilience amongst those experiencing the devastating effects of trauma.

### **3.4 What determines traumatic outcomes?**

Trauma outcomes may be influenced by a number of factors and the way in which trauma is perceived and treated is influenced by the discourse surrounding the concept. Although trauma may be problematized and viewed in the social and political context in which it takes place, the current study aims to address the outcomes of trauma by exploring the nature of the risk itself. Furthermore, the association between trauma and PTS will be explored in greater detail in order to highlight the particular risks associated with differences in exposure to trauma with specific attention given to the development of PTS symptoms in relation to differences in: 1) the severity of trauma; 2) the cumulative effects of trauma; 3) types of traumatic events; and 4) other factors influencing trauma.

#### **3.4.1 Severity of Trauma**

Studies pertaining to the relationship between the severity of the traumatic experience and the prevalence of developing PTSD are relatively scarce, however, it has been hypothesised that the more severe the traumatic event, the increased risk of developing PTS. In a study undertaken by Stein, Karam, Shahly & Hill et al., (2016) on the association between PTSD and life-threatening motor vehicle collisions, found the risk of developing PTSD to be increased by the severity (or life-threatening nature) of the traumatic event. There is growing literature investigating the relationship



between motor vehicle collisions (MVCs) and PTSD based on evidence that MVC survivors in emergency units in hospitals are recorded to have higher PTSD prevalence (Stein et al., 2016). Surveys have suggested the risk of developing PTSD to be considerably more common after traumatic experiences involving interpersonal violence. Given the enormous amount of MVCs that occur globally, this poses a significant impact on the prevalence of PTSD. Although many questions relating to this topic remain unanswered, presumably due to the vast majority of existing studies examining MVC-related PTSD conducted in high-income countries, therefore making it unclear whether similar findings will hold in other middle- to low-income countries. This is an important limitation in the research as 90% of traffic related deaths occur in low- and middle-income countries, with fatality rates more than twice as high in these regions in comparison to high-income countries (Stein et al., 2016). This is relevant to the South African context due to the high incidence of road traffic collisions in South Africa, which are reportedly related to the country's unique transport systems (De Vasconcelos & Brysiewicz, 2003). South Africa's poorly developed public transport systems (i.e., overloaded 18-wheeler trucks and taxis) place road users at increased risk of trauma. Despite the introduction of seatbelts and restraints in motor vehicles, fatal injuries have reportedly increased from 2.7% in 1982 to 35.8% in 1996, in the United States (De Vasconcelos & Brysiewicz, 2003). Furthermore, South Africa has the highest recorded rates of head injuries across the globe. This coupled with poor socio-economic resources, poor development in rural areas, limited access to health care facilities, and the 'brain drain' of experienced medical staff to first world countries, has extensive repercussions on the estimated 80 000 individuals who sustain head injuries every year in South Africa (Grieve, 1999; cited in De Vasconcelos & Brysiewicz, 2003). Individuals affected may not be able to work following the accident, are disabled and/or permanently disfigured leading to further financial, medical and mental health concerns.

Stein et al., (2016) reported that, as confirmed by clinical interviews, 86.1% of the respondents reported PTSD symptoms, thus suggesting that the vast majority of respondents had

experienced PTS and were likely to be judged as having PTSD by a trained clinician. A staggering 69.1% of respondents across the surveys reported lifetime exposure to at least one traumatic experience, while 24.6% reported only one occurrence and others reported a mean of 6.0 occurrences. 14.3% of these occurrences were reported to be MVCs that were perceived as life threatening, making them the fourth most common traumatic experience, exceeded only by unexpected death of a loved one, being mugged and witnessing a serious injury or death (Stein et al., 2016). Although the PTSD prevalence associated with a number of other traumatic experiences in the World Mental Health Surveys, most notably those involving interpersonal violence, were considerably higher than the prevalence estimate for PTSD after MVCs, further investigation into the physical and related mental health consequences following an MVC remain important in light of the high mortality rates found in low-income countries such as South Africa. As unexpected death of a loved one, has consistently been reported as a common traumatic experience, the relationship between this and MVC in the South Africa context may require further investigation.

The concept of complex trauma was developed to describe the symptom presentations of survivors of extensive and repeated trauma (Herman, 1992). Complex trauma has been defined as a traumatic event that is chronic, interpersonal, and begins in childhood (Cook et al., 2003). It includes child sexual, physical, and emotional abuse; neglect; witnessing domestic violence; and the experience of being in a refugee camp. These events are best conceptualized as a qualitatively more severe subset of traumatic events. The term complex trauma, confusingly, also refers to the impact that is presumed to follow a complex trauma event. Therefore, complex trauma is best conceptualized as an equation, that is, some specified qualitatively more severe traumatic events are presumed to result in profound and far-reaching outcomes. Specifically, complex trauma events are theorized to impair self-regulation, resulting in problems with regulation in affect, behavior, impulses, attention, and consciousness, as well as interpersonal and identity problems (Cook et al., 2003). Scholars have attempted to define complex trauma outcomes for both adult and child

populations, proposing two different constructs, disorders of extreme stress not otherwise specified (DESNOS) and developmental trauma disorder (DTD), which were proposed for inclusion in *DSM-IV* and *DSM-5*, respectively (Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997; van der Kolk, 2005).

In conclusion, the current literature regarding the severity of the trauma experienced and the development of PTSD is limited. However, based on the available research, it can be hypothesised that the more severe the trauma (i.e., death, or severe injury) may result in an increased rate of developing posttraumatic symptoms. The severity of trauma may be influenced by the type of trauma (i.e., war trauma, interpersonal violence) and remains an important consideration when addressing the outcomes of traumatic events. The development of the term complex trauma further reinforces this, as it was developed in order to encapsulate the effects of severe ongoing trauma. The development of this concept and the recent attention being given to this area of research represents the importance of exploring the severity of trauma and the consequences that may ensue.

### **3.4.2 The Cumulative Effects of Trauma**

Direct exposure to at least one traumatic event has been the focus of numerous PTSD research studies. Although traumatic events were previously considered “outside the range of usual human experience” (APA, 1987, p. 250), epidemiological research has indicated that trauma exposure is much more common than previously believed (Kessler, 2000). Individuals are more likely to have a history of exposure to multiple (several) traumatic events rather than a single trauma (Williams et al., 2007). Research on cumulative trauma has revealed that multiple traumas confer a greater PTSD risk than the exposure to a single trauma (May & Wisco, 2016). However, the definition of cumulative trauma is inconsistent in the literature making it difficult to draw comparisons across studies. This section further explores and discusses the cumulative effects of trauma.

The literature suggests that those with a history of prior trauma exposure are more likely to develop PTSD on exposure to subsequent trauma (Kessler, 2017). Similarly, previous World Mental Health (WMH) reports found that the vast majority of prior trauma types were significantly and positively associated with subsequent trauma exposure (Benjet et al., 2016; cited in Kessler, 2017). The strongest of these associations were found to be for one type of physical violence (e.g., physical abuse in childhood) predicting other types of subsequent physical violence (e.g., being mugged) and intimate partner sexual violence. In a study conducted by Stansfeld et al., (2017), within the South African context, multiple exposures to adversity were thought to increase the risk of mental illness. The study reported that the likelihood of having depressive symptoms, anxiety symptoms, and PTSD symptoms, were significantly higher in those exposed to the highest quartile of violence exposure and the probability for these disorders increased in direct proportion to the increase and degree of exposure to violence. The explanations for this was thought to be, firstly that young people with pre-existing mental illness, were thought to seek out violent situations either as witnesses or engaged as the perpetrator or victim (Stansfeld et al., 2017). They discovered that those with depression, who had experienced previous victimization themselves, may not avoid putting themselves in a dangerous situation in the future, therefore increasing their exposure to trauma and further compounding their mental illness. In the South African context, SES and socially classified racial groups were viewed as factors predicting both violence exposure and mental illness. This will be further discussed in section 4.5.2.

According to Stein et al., (2016) a history of MVCs was found to be a significant predictor of elevated PTSD risk. This is in line with the broader literature as it has been generally found that a history of traumatic experiences is associated with increased PTSD risk following subsequent re-traumatization. The finding regarding a lack of association between histories of exposure to traumatic experiences other than MVCs and MVC-related PTSD may indicate that the trauma ‘sensitization’ or ‘scarring’ associated with MVC is specific. In light of the high rates of MVCs in

low-income countries such as South Africa, this may be as a result of the continuous trauma and re-exposure citizens frequently face due to the unique, and poorly structured travel system in the country. Furthermore, it may mean that those involved in multiple MVCs may have other vulnerability factors that had not been accounted for such as gender; the majority of MVCs perceived to be life-threatening occurred to men (59.1%) and age; MVCs occurring to those during young adulthood (ages 18-29). Other factors that were considered included prior mental health disorders (i.e., anxiety disorders, ADHD and opposition-defiant disorder) (Stein et al., 2016).

In the study on the Australian bush-fire, victims reported comparatively high rates of PTSD symptoms of intrusion and hyperarousal related to the fire (Masten & Narayan, 2012). Of those exposed to the fire, those who reported another trauma event (usually subsequent to the fire) as their “worst” lifetime experience had higher rates of PTSD prevalence and severity, consistent with the possibility of cumulative effects from multiple trauma exposures and with models of “sensitization” or “kindling” that link prior and subsequent trauma exposures (Masten & Narayan, 2012). Early reviews of the literature on extreme stressors and childhood reached the following conclusions; trauma exposure may have lasting effects on children, though often the effects were discovered to be short-term in nature; loss and injury to loved ones had greater effects than material losses; and finally that parent availability, function and support played significant roles in the response of children.

According to Braga, Mello & Fiks, (2012) the effects of trauma have proven to be long lasting in that symptoms may endure long after the traumatic event is over. A recent study demonstrated that Holocaust survivors could still display symptoms of PTSD for almost 70 years after the trauma. The cumulative effects of exposure to multiple or extreme trauma may impact on future generations via the transmission of trauma from one generation to the next. Different modes of appropriation and historicization of experiences may enable the transmission of resilience patterns to the second generation. According to Atwoli et al., (2013) once PTSD occurs, the duration of the disorder varies considerably, depending on the PTEs implicated in the PTSD. Accidents and sudden

unexpected death reportedly had lower than average duration while the duration of PTSD related to witnessing events was higher than average. The relative burden, or anticipated duration of PTSD is determined by a combination of three factors; the prevalence of the PTE, the conditional risk of PTSD following the PTE, and the PTSD symptom duration (Atwoli, et al., 2013). For individual events, the highest relative burden is associated with unexpected death of a loved one (11.8%), witnessed death/dead body (19.8%) and saw atrocities (30.7%). This is in keeping with the multiple traumatic experiences related to the Holocaust as well as to the high levels of interpersonal violence characteristic of the years of suffering under the apartheid regime.

In terms of the role of previous exposures to extreme adversity and cumulative trauma, one of the ongoing debates is centralised around the question of “inoculation” versus “sensitizing” effects (Bonanno et al., 2010, Silverman & La Greca, 2002, Yehuda & Bierer, 2009). Prior experience with trauma has been linked to both adults and young people with better response to subsequent traumatic experiences (contingent with an inoculation model), and those with worse response, suggesting vulnerability-inducing effects (“kindling” or sensitization model). Rising levels of problems as risk levels rise is often described as dose-responses. For example, traumatic stress symptoms are expected to be higher as the frequency, number or intensity of exposure rises (Masten & Narayan, 2012). However, some individuals may be “off the gradient” in the sense that they are doing much better (implying protection or resilience) or worse (suggesting vulnerability) than one would expect. However, nonlinear effects are conceivable. It is possible that young people may only show signs of disturbance (PTS) when traumatic experiences pile up or accumulate. This may display the inherent limit in the capacity for adaptation: individuals may do fairly well until this capacity is exceeded, and only thereafter do symptoms emerge, a kind of depletion model (Masten & Narayan, 2012). On the other hand, it may also be argued that higher levels of adversity could have a mobilising effect. Adaptive behaviour may initially decline as adversity exposure rises and then at extreme levels begin to rise again, which is in keeping with this study’s definition of resilience as being dynamic.

According to Rutter, (2006) and Seery et al., (2001) it may be possible that moderate degrees of challenges that are met successfully may have beneficial effects, in that it may prepare an individual for future challenges better than would either no exposure or too much exposure. This is based on the presumption that organisms (individuals) gain future protective effects for adapting to mild to moderate exposure to trauma through processes involved in an adaptive response (Masten & Narayan, 2012). Conversely, exposure to an overwhelming amount of or capacity-depleting level of adversity and trauma may be unlikely to build immunity, instead expecting it to induce vulnerability to subsequent exposure. Research has generally indicated that higher cumulative trauma exposure is associated with greater PTSD risk (e.g., Breslau, Chilcoat, Kessler, & Davis, 1999; Williams et al., 2014; Wisco et al., 2014). For example, it was found that polyvictimization in the past year was more predictive of trauma symptoms than other known risk factors in a nationally representative sample of youth (Finkelhor, Ormrod, & Turner, 2007). In a comprehensive, cross-national, population-based survey, which compared to exposure to one of three traumatic events, exposure to four or more traumatic events was associated with higher probability of PTSD and greater symptoms severity, comorbidity, and functional impairment. Therefore offering strong support for cumulative effects of trauma (Karam et al., 2014). This is also evident in South African research, where findings support a cumulative effect of trauma exposure. That is, individuals with the most traumas (six or more) appear at five times greater risk of high distress (Williams et al., 2007).

Exposure to trauma may therefore be viewed as having either sensitizing or inoculation effects on children as well as adults. However, a variety of other factors such as timing, the amount of trauma (dose), and the length of exposure, genetic underpinnings, and availability of social support, likely also play a role in the biological responsiveness following disasters and trauma (Pratchett & Yehuda, 2011; cited in Masten & Narayan, 2012). Children at a younger age who are exposed to trauma may become more vulnerable to subsequent stress or may be particularly vulnerable to the effects of subsequent trauma. Therefore, highlighting that the experience of

continued trauma from a young age, may increase an individual's vulnerability to succeeding trauma. It may be hypothesized that experiencing continuous trauma in adulthood may have similar effects on an individual's mental wellbeing to that of experiencing multiple traumas in childhood. Although some degree of trauma may help mobilise resources and prepare individuals for other challenges they may face, excessive or continuous trauma may be overwhelming, thus inhibiting a promotive or positive response.

### **3.4.3 Types of Trauma exposure and posttraumatic stress**

The relationship between the type of traumatic exposure and PTSD has been a focal point in the trauma literature, with many studies focussing on the effects that various traumatic events may have on an individual's functioning and various outcomes (Atwoli et al., 2013; McGowan & Kagee, 2013). The following subsection addresses the various types of exposure to trauma as outlined by the DSM-5, as well as the impact of direct versus indirect exposure to trauma and the relationship to PTS. Furthermore, research regarding various types of trauma experiences ranging from natural disasters to interpersonal violence will be discussed in relation to the development of PTS.

The aforementioned types of traumatic events (e.g., physical assault) may be experienced in one of several ways. The DSM-5 stipulates that an individual may experience or be exposed to a traumatic event by one of the following ways, namely: 1) personally experiencing the traumatic event (e.g., being assaulted or being involved in a motor vehicle accident); 2) witnessing in person, the event as it occurred to another (e.g., observing someone being stabbed); 3) learning that the traumatic event occurred to a family member or a close friend (e.g., learning about a stabbing or violent death through secondary narrative); 4) experiencing repeated or extreme exposure to aversive details of the traumatic event that is work-related (e.g., social workers repeatedly exposed to details of interpartner violence or child abuse ; APA, 2013). Additionally the DSM-5 stipulates that these four levels of exposure to trauma may be separated into two distinct categories; direct and indirect exposure (APA, 2013), where direct exposure comprises of the first two levels of exposure and



indirect exposure is comprised of the latter two. Indirect exposure, is referred to as “secondary trauma” or “vicarious trauma” in that exposure occurs when individuals do not directly experience or witness a trauma, instead, these individuals are exposed to the trauma through the narratives of others (May & Wisco, 2016; Zimering, Gulliver, Knight, Munroe, & Keane, 2006). Whereas direct exposure occurs when an individual either experiences a trauma first-hand or witnesses a trauma as it occurs to others (May & Wisco, 2016). Both types of exposure to trauma are known to lead to PTSD (Lopes et al., 2015).

Due to the relatively small percentage of people in the population who have developed PTSD, even though the vast majority are exposed to trauma at some time in their lives, has raised the question about individual differences in psychological vulnerability to PTSD (Kessler, 2017), which is currently the subject of considerable research, one consideration being that PTSD risk varies significantly according to the type of trauma experienced. The highest risk of PTSD has been associated with traumas involving interpersonal violence (Caramanica et al., 2015; cited in Kessler, 2017). Further research suggests that a history of previous trauma is a risk factor for the development of subsequent PTSD, with prior traumas involving violence possibly being of significance. Therefore further supporting the previously prevented argument regarding the cumulative effects of trauma.

According to Masten & Narayan (2012), the past decade has revealed an alarming series of devastating and highly publicized conflicts and disasters across the globe, including terrorism, wars and political violence, natural disasters such as earthquakes and hurricanes, as well as industrial accidents and large fires. Therefore causing an increase in concern with regards to the impact of such extreme adversities on children and youth and what may be done in order to reduce or prevent exposure to and consequences of such events on young people (Masten & Narayan, 2012). Their research focuses on disasters such as war (i.e., “mass trauma” experiences) and not on traumatic experiences that may arise or occur to individual children and families, such as child abuse, assaults, car accidents, and other life-threatening exposures. However, parallels have been drawn between

mass trauma and individual or family trauma. One of the most consistent mediating (protecting) factors is the buffering effect of proximity to parents and other attachment figures for children in the midst of terrifying experiences (Masten & Narayan, 2012). This stands for “mass trauma” experiences as well as individual traumatic experiences.

Other than war, the best-documented observations of child responses to mass trauma or disaster are reports on the Buffalo Creek damn disaster and an Australian bushfire. The Buffalo Creek damn in West Virginia burst, killing 125 people and injuring many others. Short-term findings (Glesser et al, 1981; cited in, Masten & Narayan, 2012), indicated dose effects, in that greater exposure to death of family and friends related to more symptoms of PTS. It was discovered that older age at the time of exposure was related to an increase in overall symptoms, particularly symptoms relating to anxiety, depression and aggression. Adults were found to have more symptoms than young children, who exhibited more specific fear and age-specific problems such as enuresis and encopresis. These findings highlight the risk posed by an individual’s age in relation to the development of PTS in the event of exposure to mass trauma. However, the 17-year follow up indicated the dissipation of the dose effect and an inverse relationship between exposure and current functioning (Masten & Narayan, 2012). Therefore, even after a traumatic event of this scope and severity, resilience and recovery were normative over the long-term. An individual’s age and the amount of exposure to the traumatic event served as protective factors, mitigating the symptoms of PTS.

Due to the high prevalence of witnessing traumatic events among the South African population, Atwoli et al., (2014) undertook a study examining the association between witnessing traumatic events and psychopathology. The study reported that PTSD, mood and anxiety disorders varied significantly among those who witnessed a traumatic event, where witnessing was associated with exposure to a higher number of traumatic events when compared to others. Witnessing trauma is common in the South African population, and has been shown to increase risk of anxiety and

mood disorders (Atwoli et al., 2014). Witnessing trauma has been postulated to have differential effects on memory and feelings of helplessness that may be of importance in terms of the etiology of PTSD. By the same mechanisms, witnessing a traumatic event may trigger other psychological complications in vulnerable individuals (Atwoli et al., 2014). The investigation into the impact that the type of trauma may have on the psychological consequences thereafter are relevant in the South African context given that findings from the South African Stress and Health Study (SASH) demonstrated a high prevalence of trauma throughout South Africa. Therefore, indicating that witnessing traumatic events is one of the most commonly reported and experienced traumatic events among the South African population (Atwoli et al., 2014). Additionally, traumatic events involving witnessing were found to carry the highest conditional risk of PTSD as well as that of the most chronic symptoms.

In a study assessing direct and indirect exposure to violence among adolescents living in Cape Town (N=617), 40.1% had been directly assaulted or threatened in the community, and 58.6% had been directly victimized at home. 98.9% and 76.9% had witnessed community violence and domestic violence respectively (Kaminer et al., 2013). Barbarin et al.'s (2001) study on six-year-old children (N=625) focused on the direct (e.g., victimization) and indirect (e.g., community danger) trauma and its relationship with their psychosocial adjustment (i.e., behavioural, emotional, social, and academic).

According to Masten & Narayan (2012), adaptation to experiences of mass trauma are conceptualized as dynamic processes involving multiple interacting systems within the individual organism as well as the individuals' context, including relationships, and many interrelated systems of the natural and built environment. Individual adaptation was thought to have been influenced by the prior development of the individual as manifested in current functioning, adaptive capacity, strengths, and vulnerabilities as well as the current challenges impinging on them. Additionally, they studied the moderating effect of the coping resources (i.e., spirituality, family support, child

resilience, and maternal coping) available to the child. Findings from this study suggested that exposure to indirect violence produces effects parallel to those observed when the violence involves direct exposure (Barbarin et al., 2001). The effects of exposure to violence on psychological and academic functioning were found to be independent of gender and socioeconomic status (SES). Therefore, males and females as well as the economically advantaged and disadvantaged displayed similar difficulties in the face of violence. However, the study did not focus on the effect the aforementioned types of trauma and coping strategies had on the development of psychopathology.

May and Wisco (2016) made use of a systematic review in order to explore the differences between direct and indirect exposure to trauma and the risk of PTSD. The results from this study indicated that the chances of developing PTSD from indirect exposure were lower than that from direct exposure. However, there is a possibility of developing the disorder from both types of exposure. Similarly, another study undertaken on PTSD in disaster relief workers (N=109) following direct and indirect trauma exposure to the September 11<sup>th</sup> terrorist attacks indicated that rates of PTSD from direct and indirect exposure to traumatic stressors were 6.4% and 4.6% respectively (Zimering et al., 2006). A study conducted by Kulkarni, Graham-Bermann, Rauch and Seng (2010) on a sample of pregnant women, found that direct exposure (i.e., experienced childhood abuse), and combined direct and indirect exposure (i.e., witnessing intimate partner violence) to traumatic events significantly correlated to current and life-long PTSD diagnoses, whereas indirect exposure to traumatic events did not. Similar findings were identified in a study examining a sample of Korean children (Kim et al., 2009). According to the study, the prevalence of severe PTS symptoms was significantly higher in the direct-exposure group (36.6%) as opposed to the indirect-exposure group (12.7%).

Therefore, research has demonstrated a relationship between the type of exposure to trauma and PTSD. Although the nature of the trauma and the relative effects on mental health may be influenced by variables such as age and gender (e.g., Masten & Narayan, 2012), the direct exposure

to traumatic events consistently indicated an increased rate of PTS. In summary, the type of trauma is viewed as significantly influential in the susceptibility to PTS, with direct exposure to trauma resulting in an increased vulnerability to developing PTS (e.g., Zimering et al., 2006; Kim et al., 2009).

#### **3.4.4 Other Factors influencing the effects of trauma**

The impact of trauma is influenced by a number of factors, and evokes differing responses from various people depending on their context, the type of trauma, the severity of trauma as well as a range of other important factors such as their contextual and social environment, family structure and religious beliefs. Premorbid mental illness is a less investigated factor hypothesised to influence an individual's response to a traumatic event. According to Stein et al., (2016) the broad PTSD literature has found that many prior mental disorders are predictive of the development of PTSD following a traumatic experience. A systematic review of MVC-related PTSD indicated that anxiety disorders were especially important predictors. It has been suggested that anxious drivers engage in behaviours that are thought to increase the risk of MVCs, however, there is limited research in this area. One proposition relating to the relationship between anxious drivers and increased risk for MVCs is that the ubiquity of exposure to motor vehicles in the wake of a MVC makes avoidance especially difficult, with hyper-arousal in the face of re-exposure playing a prominent role in posttraumatic reactions to MVCs when compared to other traumatic experiences (Stein et al., 2016). This may possibly lead to prior anxiety disorders becoming especially important in promoting PTSD following MVCs.

In summary, there are multiple factors and processes that influence the relationship between exposure to traumatic events and the development of posttraumatic stress (PTS) symptoms, which may influence the development of posttraumatic stress disorder (PTSD). In terms of the role exposure to trauma plays toward the development of PTS, the literature review of this study focussed on three main groups of interactions namely, multiple exposure to trauma; types of traumatic events;

and direct versus indirect exposure. The latter group highlighted the greatest gap in the literature and research within this field. Although previous research on PTSD has examined the amount, or intensity of exposure an individual has experienced and how this relates to the development of PTS symptoms (Sprang, 1999; Weisaeth, 1989; Galea et al., 2007; Hughes & Shin, 2011), information on the type of exposure (i.e., direct or indirect) may be helpful in determining PTSD risk following the exposure to trauma. In light of the fact that South Africa has been identified as a high trauma exposure society (Williams et al., 2007) distinguishing between single versus multiple traumas may be of less importance. Rather, it may be helpful to identify the differences regarding the types of trauma and types of exposure, and the relative effect these may have in the contexts of continuous trauma.

In terms of the literature pertaining to trauma and PTS, the majority of trauma-related research has focussed on the different types of traumatic events (e.g., assaults, accidents, and sudden deaths), and the relative effects these traumas have on individual outcomes (Atwoli et al., 2013; McGowan & Kagee, 2013). However, although the research on individuals exposed to traumatic events has shed light on previously unexplored areas of focus, literature concerning the effect of indirect and direct exposure to trauma is relatively scarce, especially in the context of continuous trauma. Research has shown that exposure to trauma does not necessarily equate to the development of PTS. Instead, other factors may account for an individual being predisposed to developing and sustaining PTS symptoms. Therefore highlighting the need to explore these additional factors within a diverse context such as South Africa.

The differences in exposure to trauma as well as the difference in systemic and/or contextual factors that play a role in negative outcomes are worthy of further exploration. This is especially true for low-income countries and post-conflict contexts where access to resources and trained mental health professionals is typically low (Atwoli et al., 2015). Demographic factors that influence risk and protection with regards to exposure to trauma and subsequent PTS symptom development should

be considered in order to identify possible ‘at-risk’ groups and better understand the associated factors related to the development of resilience.

### **3.5 Protective Factors in the event of Traumatic Exposure**

As defined above, protective factors are central to defining resilience. Resilience is not an attribute that operates in isolation but rather is immersed in the influence of protective factors within the individual and his or her environment (Rutter, 1985). According to Hjemdal (2007) *Protective factors* are the positive qualities within the cognitive, emotional, environmental, social and spiritual experience of a person, which are associated with and cumulatively facilitate resilience. Protective factors empower and support the individual that they may avoid or successfully work through negative outcomes associated with violent experiences (Madsen & Abell, 2010). When protective factors are reduced, the risk of trauma becomes higher and the path to recovery becomes more treacherous. According to the literature, protective factors range from demographic characteristics (e.g., age, gender, SES, education), personal characteristics (e.g., flexibility, adaptability), to the management of environmental resources (i.e., social support systems, coping strategies, family support, religious support). Protective factors may be available at different levels such as the family, peer, school and community levels (Wessells, 2014). Certain factors come up consistently in the literature (i.e., relationships and social support), however less is known about whether they apply to the various types of traumatic experiences. The section below reviews certain protective factors that have emerged in the literature.

Factors including intelligence, self-regulation skills, hope and beliefs that life has meaning, self-efficacy, close and supportive relationships, religious beliefs and practices, and community supports, likely reflect powerful adaptive systems resulting from biological and cultural evolution and are viewed as protective factors mitigating PTS (Masten, 2001, 2012). According to early studies of individual resilience, a number of protective factors were consistently identified despite the

varying definitions, measures and situations that were studied. The common factors associated with resilience included individual, relational, family, and community attributes that presumably reflected powerful human adaptive processes (Masten, 2001, Wright, Masten & Narayan, 2013; cited in Masten, 2018). Individual attributes varied according to age, but often included problem-solving skills, self-regulation skills, hope or faith, mastery motivation, and a sense that life has meaning. Relational attributes included secure attachment relationships, initially with a reliable, responsive caregiver and later with extended family, friends, mentors, and romantic partners (Masten, 2018). Connections to effective schools and community supports for children and families were frequently noted. An enormous body of research has been published on psychosocial factors associated with resilience to stress and stress-induced mood and anxiety disorders (Luther & Cicchetti, 2000, Garnezy et al., 1984 & Masten et al., 1998). The ability to recover rapidly after negative (traumatic) events is characteristic of most resilient individuals (Southwick, Vythilingam & Charney, 2005). Conversely, failure to rapidly recover from adverse events can be an important risk factor for vulnerability to anxiety and mood disorders. This may be especially true when the failure to rapidly recover is accompanied by frequent or prolonged exposure to negative events, during which multiple neurobiological stress systems remain activated for extended periods of time (Southwick, Vythilingam & Charney, 2005).

Across diverse contexts, resilience may be comprised of many unique protective factors for individuals affected by trauma (Masten, 2014b), though there also appear to be universally identifiable global clusters of protective factors in resilience processes (Ungar, 2008). According to the International Resilience Project (IRP) seven 'global' clusters of factors and processes were found to serve a protective function for individuals experiencing diverse psychological, social and contextual diversities: 1) Access to material resources (i.e., availability of basic resources for development); 2) Relationships that are meaningful and supportive; 3) Identity (i.e., sense of purpose and individual and social strengths, weaknesses and values); 4) Power and control (i.e., ability to



make decisions and act for change); 5) Cultural adherence (i.e., engagement in local cultural practices); 6) Social justice (i.e., finding meaningful roles and experiences related to social equality); 7) Cohesion (i.e., feeling part of something bigger and a sense of social or spiritual responsibility) (Pessoa, Coimbra, Bottrell & Noltemeyer, 2017). The IRP research also found patterns of resilience that reflected the specific contexts, available resources and young people's agency in dealing with adversities.

Traditionally, studies of resilience have examined the concept solely in the context of chronic stressors (i.e., long-term, universal stressors such as poverty or discrimination; e.g., Werner, 2004). However, recent studies indicate that adversities facing adults are often considered to be acute stressors (e.g., exposure to a traumatic event, loss of a loved one; Bonanno & Diminich, 2012). This is relevant for the South African context where exposure to trauma is typically high (Cloitre et al., 2009). For the purpose of this study, acute stressors will be the focus of the literature review, specifically, exposure to a variety of potentially traumatic events (PTE). Exposure to trauma is considered as a potential risk factor and is directly related to a negative outcome, that is, the development of PTS symptoms. In the following subsections protective factors highlighted in the literature such as, internal characteristics/traits, demographic factors, support and interpersonal relationships, religion and spirituality, and community resilience factors will be explored in terms of the protective role they may play in mitigating the effects of trauma, therefore hindering the development of PTS.

Due to the growing interest in resilience and trauma exposure in the mental health care system, there is a greater need for a fundamental way to understand the complex, multifaceted interactions within a diverse context such as South Africa. This will allow researchers to predict adaptive coping mechanisms that may be activated when exposed to high levels of adversity, providing a deeper understanding of what helps buffer people against the development of PTS. Demographic and systematic differences have been identified as a crucial area in the research on

trauma, risk and resilience due to the varying levels of exposure and responses to trauma given the context (Mills et al., 2011). Risk factors are argued to be biological, psychological, social, environmental or spiritual in nature (Ungar, 2014).

The following subsections address certain factors believed to be protective in that they are thought to buffer against the development of PTS in the face of trauma and adversity. Internal characteristics, demographic factors, support and interpersonal relationships, religion and spirituality as well as family and community resilience factors will be discussed as either risk or protective factors in the development of PTS.

### **3.5.1 Internal Characteristics / Traits**

According to the literature, protective factors not only account for individual differences in reactivity to environmental or biological risks, but the presence of certain protective factors also determines the emergence of other protective mechanisms at a later point (Schonkoff & Meisels, 2000). For example, a child with a good self-esteem in preschool may develop into an adolescent and adult who is capable of forming good interpersonal relationships and will therefore have good social support. Psychological attributes and processes that have been identified as protective factors include; dispositional optimism, positive affect, internal locus of control and the utilization of meaning-focused and problem-focused coping strategies (Breitkreuz, Wunderli, Savage, & McConnell, 2014). Other factors that have been identified are; advanced self-help skills, average to above-average intelligence, impulse control, strong achievement motivation, special talents or hobbies, planning and foresight and strong religious orientation or faith (Schonkoff & Meisels, 2000). Optimism, which is the perceived cognitive-emotional energy towards positive expectations about life and future outcomes, has been found to show significant associations with doing well following violence (Madsen & Abell, 2010). Positive emotions (e.g., joy, interest, contentment, pride and love) are thought to replenish depleted resources, provide respite, and support coping efforts (Folkman & Moskowitz, 2000; cited in Southwick, Vythilingam & Charney, 2005). Positive

emotions also tend to decrease autonomic arousal and broaden one's focus of attention with reliance on creativity, exploration, and flexibility in thinking. The result being an expansion and improvement of stress-related coping mechanisms such as positive reappraisal, goal directed problem-focussed coping, and infusion of ordinary events with positive meaning (Southwick, Vythilingam & Charney, 2005). Over time, the broadening that accompanies positive emotions helps to build enduring psychical, psychological, intellectual and social resources (Fredrickson, 2011; cited in Southwick, Vythilingam & Charney, 2005). A positive future view, hopefulness and positive emotions have emerged as major themes that serve as protective factors in the event of trauma.

Problem solving abilities that aid an individual in being able to creatively find solutions to difficult situations has been identified as a theme in various studies and appears to be a useful internal protective factor. Runts and Schallow (1997) found that actively seeking change was a contributing factor to adult psychological adjustment. According to Suzuki (2005), interviewees who were exposed to intimate partner violence as young children expressed that their ability to learn from past experiences was a major theme in doing well as adults.

Humour has also been identified as one of the most mature defence mechanisms and as a coping strategy that may lessen the likelihood of developing stress-induced depression (Vaillant, 1977; cited in Southwick, Vythilingam & Charney, 2005). Therefore, the use of humour has been found to characterize many people who exhibit stress resilience. It has been suggested that humour may lessen depressive symptoms by reframing a situation as less threatening and thereby fostering a positive perspective on challenging circumstances by reducing tension and discomfort, as well as by attracting social support (Southwick, Vythilingam & Charney, 2005).

According to Rutter (1987), being female and having an easy temperament not only reduces the initial impact of some risk situations but also the likelihood that maladaptive patterns of interaction will become established. The protective function does not simply reside within the individual, but intrinsic qualities that may be relevant to constitutional vulnerability also influence

other people's reactions. To a substantial extent, the protective mechanism lies in the interaction rather than in the individual attribute as such (Rutter, 1987).

The importance of people's concepts and feelings about themselves, their social environment, their ability to deal with life's challenges and to control what happens to them, is evidenced to be significant in the literature (Rutter, 1987). The available evidence suggests that it is protective to have a well-established feeling of one's own worth as a person as well as a confidence and conviction that one can successfully cope with life's challenges. Two types of experiences have been identified as occurrences that are the most influential in the development and strengthening of these self-concepts. Namely; secure and harmonious love relationships and the successful accomplishment of tasks important to the individual (Rutter, 1987). Selective attachments to parents are considered the most important personal relationships. Literature suggests that the experience of secure early attachments increases the likelihood that children will grow up with feelings of high self-esteem and self-efficacy. Secure and harmonious parent-child relationships therefore provide a degree of protection against later risks that may be encountered (Rutter, 1987). Although, self-concepts are not set in early childhood, but rather develop throughout life and are modified by life experiences, it appears that good intimate relationships in both early and adult life, can be effective in reinforcing people's positive concepts about themselves as well as how worthy they believe themselves to be in the eyes of others (Rutter, 1987). The second type of experience that seems to lead to high self-esteem and self-efficacy is successful task accomplishment (Rutter, 1987). Identifying which aspect of the experience is considered the protective factor is uncertain as it may be viewed in various ways. It may be the learning of effective coping or social problem-solving skills, or the benefits derived from the knowledge of having coped successfully with a challenge in the past therefore implying future ability to cope. The protective factor may alternatively be derived from the feeling of one's own worth as an individual arising from positive appraisal from others.

Due to the uniqueness of individuals and their circumstances, there is a marked variation in the way people respond to stress and adversity in that some succumb to it, whilst others escape danger (Rutter, 1987). The phenomenon of resilience is due in part to vulnerability and protection processes by which there is a catalytic modification of a person's response to the risk situation (Rutter, 1987). Therefore, protection does not reside in the psychological chemistry of the moment but rather in the ways in which people deal with the changes in their lives and in what they do about their stressful or disadvantageous situations.

Certain life transitions such as the period between adolescence and adulthood may present individuals with various stressors resulting from a number of different factors such as; intrapersonal, academic, interpersonal, and environmental (Steinhardt & Dolbier, 2008). Exposure to such stressors in conjunction with underdeveloped coping abilities makes this population particularly vulnerable to psychological and physical health problems. According to Lazarus and Folkman (1984) stress is defined as the transaction between the person and their environment, whereby individuals appraise environmental demands as outweighing their abilities to meet those demands. Such stressful situations may be met with resilience. Maladaptive efforts such as emotion-oriented and avoidant coping strategies typically result in negative psychological and physical outcomes.

Protective factors that researchers believe to reduce the likelihood of negative outcomes include but are not limited to hardiness, self-esteem, social support, optimism and positive affect (Steinhardt & Dolbier, 2008). Approaches such as broad-minded coping strategies are believed to lead to greater positive affect. Therapy focussed on the social support modality that provides an empathic, safe environment in which individuals are encouraged to share their experiences, thoughts and feelings is believed to be effective in alleviate stress and the negative effects thereof. Social support is often referred to as a buffer against the negative effects of stress (Steinhardt & Dolbier, 2008).

Cognitive skills (general intelligence and cognitive flexibility) as well as self-regulation skills are widely implicated as protective factors for children exposed to trauma (Masten & Narayan, 2012). Cognitive skills are thought to be a mixed blessing as although more cognitively advanced children may be able to better comprehend the scope of disaster, they may however become acutely aware of stigma as well as loss of hope and future plans, which may render them more vulnerable. On the other hand, the more cognitively skilled child may be more receptive to learning strategies enabling them to cope better. The ability to cognitively reappraise, reframe, or find meaning in an adverse event is characteristic of many resilient individuals. Resilience has been associated with a tendency to perceive potentially stressful events in less-threatening terms and to remain optimistic about the ability to cope with stressors (Southwick, Vythilingam & Charney, 2005). Schaefer & Moos (1992, 1998; cited in Southwick, Vythilingam & Charney, 2005) concluded that redefining a crisis as a challenge and/or attributing meaning to it tends to result in a more positive outcome. Resilient individuals reportedly tend to find greater meaning within daily life stressors than nonresilient individuals. According to Park et al., (1996) positive reinterpretations of stressful events has been associated with stress-related growth in which individuals are able to learn something from their experience, and/or grow as a person as a result of the adverse experience. Posttraumatic growth has been described in numerous situations including; survivors of war, disasters, and medical conditions. Benefits of surviving and experiencing such traumatic events, have been reported to comprise of a greater sense of kinship with humanity, and an enhanced sense of community, greater compassion and acceptance of others, closer ties with family, renewed religious faith, improved self-esteem, newfound meaning and purpose as well as the development of effective coping skills. The ability to reappraise traumatic events may therefore be protective in that it not only allows the individual to create meaning about the trauma, but also fosters relationships and encourages a deepened search for meaning and purpose in life.

Personality differences have long thought to influence stress reactivity, with particular interest paid to negative emotionality (the tendency to respond with negative emotion and get upset easily). Although this remains a relative gap in the literature, recent studies continue to verify the importance of individual differences in negative emotionality (Masten & Narayan, 2012). In a study of adolescents exposed to hurricane Katrina, Weems et al., (2007) reported that negative emotionality predicted postdisaster symptoms of anxiety, depression, and PTSD.

A study of college students using the NEO Five-Factor Inventory (NEO-FFI) showed that resilience was positively related to extraversion and conscientiousness, and negatively associated with neuroticism (Campbell-Sill et al., 2006, cited in Yuan et al., 2011). The study found extraversion and conscientiousness to be associated with a more favourable trajectory of mental health. Conscientiousness is of particular interest as it has been conceptualized as an indirect measure of emotion regulation, which is believed to play an important role in moderating responses to traumatic stressors. Greater emotion regulation during traumatic exposure favours decreased fear conditioning and memory consolidation, factors related to PTSD risk (Yuan et al., 2011).

According to Ozer et al., (2003), Guay et al., (2006), and Alim et al., (2008) (cited in Yuan et al., 2011) the majority of findings on protective factors are based on retrospective cross-sectional studies, and are therefore unable to disentangle the temporal relationship between antecedents and consequences of trauma exposure. In order to determine the causal relationship between protective factors and the development of PTSD, prospective longitudinal studies are necessary. The prospective longitudinal study conducted by Yuan et al., (2011) reported that a more benevolent world view and better social adjustment prior to police service to be protective against the development of PTSD symptoms in police officers. Furthermore, a prospective study in fire fighters suggested that low levels of hostility and high levels of self-efficacy might be protective factors (Heinrichs et al., 2005, cited in Yuan et al., 2011). However, previous studies have indicated that traumatic events might change an individual's world assumptions. According to Magwaza's (1999)

study on South African adults, it was demonstrated that traumatized victims of the apartheid government had more negative basic assumptions about the meaning and benevolence of the world than non-traumatized controls. Assumptions of greater benevolence of the world during academy training was associated with less PTSD symptoms after two years of active police service (Yuan et al., 2011). A more positive worldview is believed to influence the stress appraisal process and be helpful in coping with traumatic events as well as favouring posttraumatic growth (Agaibi & Wilson, 2005; Engelkemeyer & Marwit, 2008; cited in Yuan et al., 2011).

To summarize, there are multiple interpersonal characteristics or traits that can be viewed as protective factors in the event of trauma. Due to the unique nature of individuals in terms of their personality, IQ, family environment and interpersonal relationships, there is no universal factor that may be prescribed as a resilience aid across cultures, age groups and families, however, the characteristics discussed above may be nurtured and encouraged in individuals in order to foster and activate resilience.

### **3.5.2 Demographic Factors**

Demographic factors are often presented in the literature as risk rather than protective factors. Age (Dekovic, 1999), race (Krivo & Peterson, 2000) and SES (Norris et al., 2008) for example are considered to increase risk for homicide. However, consistent with the proposed definition of resilience, some studies also report these as protective factors. Although demographic factors are not traditionally considered in the literature, they can have significant outcomes with regards to the development of resilience as they encompass an individual's age (Brown & Westaway, 2001); gender (Kessler, 2017); socioeconomic status (Otwombe et al., 2015); access to resources (i.e., housing support) (Masten, 2018), exposure to adversity (i.e., homelessness) as well as available protective processes (i.e., quality of parent-child relationships). These are important aspects to consider within the South African context, in light of the vast inequality and repercussions of the former apartheid regime.



For example, some authors report that Latinos as compared to Blacks have lower homicide rates and the speculated protective factor is the homogeneity and protection followed by culture (Cagney, Browning & Wallace, 2007). It can therefore be argued that demographic factors could serve as both risk and protective factors depending on the context, however this remains a gap in the resilience literature.

According to a study conducted by Brown & Westaway (2011), and according to the literature on environmental change, human agency is highlighted as a critical factor in determining how individuals, households, and communities can respond to different types of stressors in their environment. Psychosocial factors and the impact they can have on people's capacity to respond to environmental stressors are poorly understood and rarely accounted for in integrated analyses (Brown & Westaway, 2011). The majority of the analyses place emphasis on resources and infrastructure in order to support adaptation, however personal traits such as agency remains a gap in the literature. Child psychology, human development, wellbeing and development studies are well documented in the research, and may be synthesised with knowledge of resilience, adaptation and coping with risks and shocks in order to gain greater understanding and insight on social-ecological systems that may advance our understanding (Brown & Westaway, 2011). Therefore, the role of agency in responding to multiple stressors and its association with environmental change may be further explored. Trauma and crises ultimately create a chain reaction of change, whether it is long or short-term. Change is a dynamic construct that is multi- and cross-scale in nature. Crises hold the possibility for providing windows of opportunity that may either be capitalized upon or go unnoticed (Brown & Westaway, 2011). The literature is moving away from the view that capacity or capabilities of individuals or communities lies solely in their/it's assets, resources, infrastructure or outside interventions, therefore providing a contrasting stance about the relationships between poverty and adaptive capacity. Instead, literature reveals links between individual and community preparedness, responses, and recovery, as variables impacting on their wellbeing (Brown &

Westaway, 2011). The literature on environmental change and social-ecological systems defines adaptive capacity as a source of resilience (Gallopín, 2006; cited in Brown & Westaway, 2011). This view posits that people are not powerless victims of changes occurring around them, and that they are not passive in the face of environmental threats, whether these threats are community violence or natural disasters, but instead, have the capacity for agency in these circumstances. Bronfenbrenner's (1977) systems model perspective compliments this perspective in that he recognises the individual within their given context, placing emphasis on the reciprocal nature of the interactions in that individuals influence and are influenced by their multiple interacting systems. These interactions may either enhance or inhibit the development of resilience. Adaptive capacity is equated with resilience and social resilience by some authors. Gunderson (2000) (cited in; Brown & Westaway, 2011) views adaptive capacity as a component of resilience that reflects the learning aspect of a system of behaviour in response to disturbance. Therefore, individuals and the socioeconomic standing and fiscal resources in their community's are suggested to be secondary to the community's (system's) adaptive capacity, that is thought to equate to their ability to be resilient. Although low SES is typically viewed as a risk factor in relation to trauma, it may be relatively minor when compared to the systems adaptive capacity in such circumstances.

### **3.5.2.1 Socioeconomic Status (SES)**

Although violence occurs in all socioeconomic groups, it is found to be more prevalent in lower socioeconomic settings (Otwombe et al., 2015). This is supported by recent community studies showing that trauma exposure is higher in low-income countries compared with higher-income countries (Atwoli et al., 2015). According to the literature, elevated levels of distress have been observed among individuals in low SES groups (e.g., Laffaye, Kennedy, & Stein, 2003; Turner & Lloyd, 1995). Results of Laffaye et al's., (2003) study investigating the relationship between SES and education level with interpersonal violence exposure in women, indicated that SES and education level did not significantly predict the development of PTSD following exposure to

interpersonal violence. However, stress has been related to both poor physical and mental health and lower SES. It is argued that low SES individuals are more frequently exposed to negative, unpredictable and stressful life events (Brady & Matthews, 2002; Turner & Lloyd, 1995) and that particular types of negative events such as greater exposure to discrimination and violence is more likely to characterize the life experience of individual's from lower SES environments (Clark, Anderson, Clark & Williams, 1999; Selner-O' Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998). Furthermore, the prevalence rates of PTSD appear to be similar across countries. Social support is a complex construct as it includes actual versus perceived support, quality of support (positive, negative or neutral), size of support network, and type of support (material, emotional and advice) (Yuan et al., 2011). As a result the impact of social support on PTSD is also complex. Many studies have reported that lower levels of social support are associated with greater PTSD symptoms (Brewin et al., 2000; Guay et al., 2006; cited in Yuan et al., 2011).

Higher rates of PTSD are found in post-conflict contexts (Atwoli et al., 2015). In terms of variation in risk, trauma and PTSD risk factors are dispersed differently suggesting a need to identify and understand the various factors that are associated with high trauma exposure in post conflict and low income countries where access to resources and trained professionals is typically low (Atwoli et al., 2015). This is supported by Schwartz, Bradley, Sexton, Sherry and Ressler's (2005) study, which indicated higher rates of undiagnosed PTSD among low SES and African American groups. An incidence rate of 44% was found in which the majority of cases were undiagnosed. In line with this, it was suggested that race alone does not explain the elevated rates in this population (Alim, Charney, & Mellman, 2006). Therefore, more research is needed that focuses on the interaction of PTSD with lower SES groups as most previous studies of the relationship between race and PTSD have utilized African American low-income participants, thus making it difficult to determine if elevated rates were due to race or poverty. Very little is known about SES variations and chronic exposure to trauma, highlighting a gap in the literature.

Consequently, research allowing for the evaluation on the extent to which SES mediates the outcome (e.g., PTSD) of exposure to trauma is limited. This limitation has decisive implications in our understanding of SES differences in coping strategies or personal vulnerabilities as SES differences have been controlled, and are typically based on the magnitude of observable differences in psychological wellbeing when exposed to trauma and not empirical evidence.

A “*positive adaptation*” is considered to be one that is substantially better than what is expected given the exposure to the risk circumstances. According to Masten (2001), (cited in; Brown & Westaway, 2011), in the majority of cases, resilience results from ordinary adaptive processes rather than extraordinary ones, which she refers to as “*ordinary magic*”. In light of this, the more “*ordinary*” or commonplace processes have been overlooked, highlighting a gap in the literature that focuses on the more conventional routes to resilience. However, the adaptive capacity of individuals or households is shaped and constrained by social, political and economic processes at higher scales and whether or not adaptive capacity is drawn upon in order to bring about adaptation depends on further uncertainties (Brown & Westaway, 2011).

The majority of research has identified resource constraints as the most significant determinants of adaptation. Therefore one’s adaptivity or one’s ability to make one’s own free choices, is affected by the cognitive belief structure that has been formed through one’s experiences, the perceptions held by society and the individual, and the structures and circumstances of the environment. Restrictions to an individual’s or a community’s ability to cope with and adapt to stress may be impacted on by the larger political and social culture in which it exists. In the South African context, many communities and therefore individuals are oppressed and constrained by the current uncertain and tumultuous political environment, possibly impacting on their faculty for resilience.

### **3.5.2.2 Age**

Resilience research shows that children have different vulnerabilities and protective systems at different stages in their development (Brown & Westaway, 2011). The majority of the existing

literature focuses on children, particularly those who have endured childhood maltreatment (Danese & Baldwin, 2017), as this prevalent form of childhood trauma affects up to one in five children in high-income countries worldwide and has consistently been associated with heightened risk of mental and physical illness in later life (Gilbert et al., 2009; cited in, Danese & Baldwin, 2017). The literature focuses on the protective factors that assist the development of resilience in children, identifying the impact of the child's IQ (high) on their ability to process information and problem-solve that may enhance their resilience; flexible thinking and an attitude of openness to new experiences; feeling that they are in control of their circumstances; having a caregiver with whom they experience a secure attachment; and a high quality parent-child relationship to name a few, are identified as protective factors for children. However, protective factors that foster resilience in adults remains a gap in the literature, requiring further investigation. Although many studies focussing on children have on some level assumed that the characteristics of childhood will be carried over into adulthood, given the changing nature of relationships (differentiation) and environmental circumstances (leaving home), one's ability to be resilient may be drastically impacted.

Since resilience is never an "across-the-board" phenomenon, at-risk children (or adults) may display remarkable strengths in one domain yet at the same time show deficits in others (Brown & Westaway, 2011). According to the literature, future studies, making use of ecological transactional system approaches, will provide researchers with an opportunity to focus on transitions and turning points in individual's lives that can shape the nature and course of future adaptation, such as entering school, adolescence or early adulthood (Brown & Westaway, 2011). According to Masten & Narayan (2012), a resilience framework holds particular appeal for research on child effects of extreme adversities as it highlights the shared goals of many stakeholders (i.e., individuals, families, communities, and societies) to mitigate risk and support resilience among children facing grave dangers. This may further emphasise the rationale behind why there is significantly more research on

the impact of trauma on children as opposed to adults. Being younger in age is considered to be a protective factor in that the child has a number of interrelated systems and “stakeholders” on which to draw upon for protection. This further supports the rationale for the participants in this study as young adults (university students) are typically considered a more at risk population due to their age and consequent life-stage.

Animal studies and a growing body of human-based evidence strongly suggest that the developmental timing of trauma and stress has different consequences for adaptation and development at multiple levels (Masten & Narayan, 2012). For example; bad timing is thought to disrupt development, with long-lasting implications for adaptive capacity, health, and vulnerability to later trauma experiences. Understanding the role of age difference or developmental timing of exposure to trauma is complicated. From a developmental perspective, young children are expected to exhibit more acute symptomology of distress in response to separation from caregivers as well as disrupted routines (Masten & Narayan, 2012). However, young children have the benefit of being constantly monitored and protected by caregivers. There is also considerable plasticity in many aspects of early development, such as brain development. The younger child may lack awareness due to cognitive immaturity, which may be protective in some ways; however, it may be problematic in other ways; (i.e., when separated from their parents, a young child may not understand that the parent is returning). Cognitive maturity is also associated with greater awareness of betrayals, loss of hope for the future, stigma associated with certain types of trauma (i.e., rape), and the scope of devastations. However, it may also be linked to greater problem-solving skills, planning, help seeking and spiritual comfort (Masten & Narayan, 2012).

The WMH (World Mental Health) survey reported that age was one of the most interesting socio-demographic correlates of trauma (Kessler, 2017). Age-of-occurrence curves demonstrated that traumas associated with interpersonal violence had earliest medium age of occurrence (age 17), followed by intimate partner violence (age 18), war-related traumas (age 20), and traumas that

happened to other people (age 20). Accidents, unexpected death of loved ones and other traumas were found to have later medium age-of-occurrence (ages 24-31) (Kessler, 2017).

According to Danese & Baldwin, (2017) childhood maltreatment predicts both high incidence and poor longitudinal course of several psychiatric disorders, such as major depressive disorder. In addition to the elevated lifetime risk of depression, maltreated individuals are vulnerable to various other psychiatric disorders such as, bipolar mood disorder, psychotic symptoms, comorbid anxiety disorders and substance use disorders as well as increased risk for suicide. Furthermore, childhood maltreatment is associated with increased risk for incident posttraumatic stress disorder and is thought to be related to a more complex picture among patients with PTSD, with symptoms including emotional dysregulation, poor self-concept, and disturbed relationships (complex PTSD).

The literature therefore presents multiple, at times conflicting information regarding whether or not age is a protective factor against the development of PTS. However, there are more studies focussing on the impact of trauma on young children. It can be deduced from the literature that whether or not age is a risk/protective factor is relatively dependent on variables in the individuals larger social context such as; having a stable maternal figure.

In summary, age and development would be expected to moderate exposure, functional capacities, and adaptive responses in numerous ways, making the task of characterizing “age effects” of exposure to trauma rather complex. However, the evidence in the current literature is generally consistent with developmental expectations, in that the effects of exposure to trauma are mitigated by age and development as younger children are expected to exhibit more acute symptoms of distress or trauma. Therefore there is limited data on the long-term consequences of differential timing exposure by age for traumatic events.

### **3.5.2.3 Gender**

The following subsection will discuss the literature pertaining to the differences in exposure to trauma between men and women as well as the varying ways in which males versus females cope

with and adapt in the context of trauma. Furthermore, the likelihood of developing PTS and PTSD between the genders is discussed, followed by a brief discussion on the complexity of assessing individual's experience of trauma within the context of gender.

Gender is often studied as a correlate or moderator of risk and resilience in studies of disaster and war. However, it is difficult to interpret gender differences in adaptive outcomes due to gender-related differences in exposure, that is, how males and females self-report on experiences and symptoms, and the meaning of exposure or behaviour in a gender-cultural context (stigma or how the self and others interpret the same behaviour in males versus females) (APA, 2010, Bonanno et al., 2010, & Masten & Osofsky, 2010). Additionally it is difficult to determine the severity of problems reported by and about males (more externalising) and females (more internalising), making determining a difference between pre- and post-disaster functioning hard to determine. According to Furr et al., (2010) the most widely reported gender differences are greater distress and PTS symptoms observed in or reported by females. In a study conducted by Godeau et al., (2005) investigators found that following a major industrial accident in France, both younger adolescent girls (ages 11 to 13) and older adolescent girls (ages 15 to 17) were more likely to display posttraumatic symptoms than either age group of boys. Similar results have been found in studies conducted after Hurricane Katrina, with females reporting more symptoms of depression and PTS than males. Whilst certain literature has reported greater belligerence, hostility, or externalising symptoms among males, therefore making the evidence mixed.

According to the WMH survey, the survival analysis showed that women were much more likely than men to be exposed to intimate partner violence, and were roughly equal to men in terms of unexpected death of a loved one, and significantly less likely than men to experience any of the other specific trauma types (Kessler, 2017). The study concluded that women were significantly more likely to develop PTSD than men when exposed to the same traumas. Although the survey explored marital status, no significant predictors of PTSD were discovered. According to



Jayawickreme, Yasinski, Williams and Foa (2011) women were more likely to report that traumatic events such as sexual violence were the cause for their PTS symptoms. In one study, results demonstrated that women were 75% more likely to develop PTSD following a traumatic event (Jayawickreme et al., 2011). This is supported by other studies, which found that compared to men, women have a higher risk of developing PTSD (Grubaugh, Zinzow, Paul, Egede, & Frueh, 2011; Parto, Evans, & Zonderman, 2011) and major depressive disorder (Slopen et al., 2011) following exposure to a traumatic event. However, gender differences are thought to be traced to the occurrence of PTSD following the exposure itself, primarily when the traumatic event involves assaultive violence (Breslau & Anthony, 2007), therefore suggesting that women may be more susceptible than men to developing PTSD following a traumatic event.

In a South African study undertaken by Atwoli et al., (2013) it was demonstrated that witnessing trauma was more frequent among males as well as those with low-average education. The study accounts for this by referring to the widespread victimization against males both during the apartheid regime as well as after the 1994 democratic elections in South Africa.

More nuanced examinations of gender differences suggest an even more complex picture (Masten & Narayan 2012). For example, a study conducted by Laufer & Solomon (2009) after terrorist attacks in Israel, found that girls reported more symptoms of PTSD and fear, whereas boys' symptoms were far more severe. In a study on the aftermath of a wildfire disaster, (McDermott et al., 2005), girls reported more perceived threat than males but not higher rates of PTSD. Recent studies have indicated that stress responses indexed by cortisol shows different patterns by gender (Delahanty & Nugent, 2006; Vigil et al., 2010). In a south African study conducted by Stansfeld et al., (2017) it was discovered that exposure to violence was more likely in boys than girls, in those smoking or using alcohol and drugs, in those not living with their father or their father being unemployed, as well as in those living in poor housing and having financial difficulties. However, due to the stigma of sexual abuse, many girls or women who have been the victim of interpersonal

violence may not reveal so for fear of being ostracized, may potentially diminish the reliable data regarding the number of women who have been exposed to trauma.

In a Roman study conducted by Herta, Nemes, and Cozman, (2017) regarding the gender differences in posttraumatic cognitions in a sample of participants exposed to accidents, it was found that the type of trauma exposure was associated with similar patterns of negative posttraumatic cognitions in both male and female participants. However, women with PTSD symptoms reported less intense negative cognitions than their male counterparts. Furthermore, studies investigating gender and PTSD have supported the notion that sex differences related to types of traumatic exposure influence posttraumatic coping, however, traumatic events such as sexual abuse, domestic violence, and exposure to war or disasters, carry a specific quantitative and qualitative posttraumatic impact in that certain types of traumatic events carry different meanings in men versus women. Therefore, although there may be vast differences between the reported rates of PTSD in males versus females, the way in which an individual copes with and appraises the experience of trauma may be understood better in terms of the type of trauma experienced, as well as the consequences and enduring impact of the trauma, rather than the gender of the victim. Although reported intensity of PTSD symptoms was higher for women in the overall sample compared to male counterparts, the study found that women exposed to accidental trauma (i.e., ‘other’ trauma) experienced a similar pattern of negative cognitions with men and acknowledged symptoms of psychological distress more frequently than men (Herta, Nemes, & Cozman, 2017). These results challenge the current findings that, compared with men, women are more sensitive to threats and more often misconstrue trauma negatively. The study demonstrates that although women experience similar intensities of negative emotions as men, are often more willing to verbalize or acknowledge their emotions.

Gender based theories on resilience suggest that, irrespective of culture, females tend to demonstrate more resilience after exposure to a traumatic event (Sun & Stewart, 2007). This has been ascribed to the fact that men and women adopt different coping strategies with regards to

stressor appraisal in the context of traumatic events (Hoffmann, 2002). Additionally, men and women may manifest emotional pain in different ways. Therefore, gender differences in the development of mental health issues may be influenced by the varying reactions to trauma by men and women.

Trauma is a complex concept and an even more complex experience. It may be felt, experienced and dealt with in various ways, depending on multiple factors including gender. The gender of an individual may present as either a vulnerability (risk) or protective factor, depending on the context as well as the trauma itself. Studies addressing gender have attempted to do so by examining large-scale trauma that seemingly impacted on males and females equally. However, due to the discourses surrounding trauma, and how it is defined amongst different societies, cultures and even genders, may influence the way in which it is experienced.

In summary, gender likely plays a complex role in the context of extreme adversity and gaining clarity on these roles will require better methodology, including norm-referenced assessments, repeated measures, predisaster baseline data, and better comparison groups (Masten & Narayan 2012). According to the previously cited literature, although there may be no gender differences with regards to the likelihood of trauma exposure, women are significantly more likely to experience sexual violence than men, which frequently results in the development of PTS symptoms and PTSD. Therefore, they may be at increased risk for developing mental illness (i.e., PTSD) in the context of trauma. However, despite an increased vulnerability to certain types of trauma based on gender, women may be viewed as more resilient in the aftermath of exposure to trauma.

### **3.5.3 Support and Interpersonal Relationships**

The sociobehavioural domain of supportive relationships consists of the perceived ability to generate and maintain constructive reciprocal relationships (Madsen & Abell, 2010). Literature has found social support to be significantly associated with resilient functioning (Banyard & Williams, 2007). Studies conducted on university students who had experienced childhood sexual and/or

physical abuse as well as respondents who had suffered in-home exposure to intimate partner violence reported that perceived social support and/or social support from friends impacted on positive adult adjustment. Supportive relationships are often seen as a major protective theme in adults that are well adjusted. Interpersonal relationships such as those in the family unit play a key role in the recovery after a crisis. Walsh, (2003) refers to the family process that supports adaptation as the family resilience approach. This subsection will discuss the role of supportive and interpersonal relationships, and how they may serve as protective factors in the event of exposure to trauma.

The study conducted by Jonker and Greeff (2009) identifies two broad categories of resilience factors; internal resources – the emotional, physical and practical resources found within the home, and external resources – the resources available outside of the home. Social support from friends, community members, the religious community and members of the extended family were seen as protective factors that assisted individuals during stressful times. According to the study conducted by Pietrzak, (2009) on war Veterans of Operations Enduring Freedom and Iraqi Freedom, highlighted that factors such as resilience, unit support, and postdeployment social support served as psychosocial buffers against the development of PTSD and depressive symptoms as well as psychosocial difficulties at two year follow up after deployment. Resilience was found to fully mediate the relationship between unit support and PTSD and depressive symptoms (Pietrzak, 2009). Similarly, Bonanno et al., (2007) and Oliver et al., (1999), found social support to be associated with increased resilience as well as with lower risk of the development of PTSD in military samples. This finding suggests that high levels of perceived unit support in military groups were associated with increased resilience, which in turn was associated with decreased PTSD and depressive symptoms. Therefore, unit support may enhance resilience by promoting feelings of personal control and self-efficacy, fostering the development of active coping styles and an increased ability to reappraise stressful situations (Sumer et al., 2005; Benight and Harper, 2002; Southwick et al., 2005; Bartone,

2006). Resilience may be bolstered by unit support in that it promotes meaning making amongst the members in the face of stressful situations and experiences (Cole et al., 2006).

Resilience and social support are thought to operate synergistically in order to decrease the likelihood of developing PTSD and depression. A study conducted by King et al., (1998), of Vietnam war veterans found that both hardiness, as an aspect of resilience and post-war social support were negatively associated with symptoms of PTSD, and that social support accounted for a substantial amount of the indirect effect of hardiness on PTSD. Postdeployment social support was found to partially mediate the relationship between PTSD and depressive symptoms and psychosocial difficulties, suggesting that providing early social support may reduce the amount of PTSD symptoms and comorbid conditions for veterans. According to Holahan et al., (1995) social support may enhance functioning by fostering effective coping strategies, reducing the involvement in high-risk behaviours or avoidance coping (Muris et al., 2001), promoting self-efficacy (Hays et al., 2001), and reducing loneliness (Bisschop et al., 2004).

The literature views individual, family and community as protective factors that support or promote adaptive (resilient) development (Brown & Westaway, 2011). Individuals who are able to draw on many, or high levels of personal and social resources are more effective in coping with adversity than individuals with fewer (or low-level resources). According to Luthar (2006) (cited in; Brown & Westaway, 2011), resilience rests fundamentally on relationships. Therefore, if a child's resilience is dependent upon other people and other systems of influence, it is noteworthy that the same forces that can constrain a child's development of resilience (i.e., poverty, discrimination, inadequate medical care, or exposure to community violence), often impacts and constrains the entire family.

Children who have access to strong practical, emotional advice and esteem support from others in their social networks are more likely to be strengthened in their coping capacity (Cotterell, 1996; Cutrona, 2000; Pinkerton & Dolan, 2007; cited in Dolan, 2008). Such help represents a key

ingredient in a child's potential to be resilient. For a young person striving to overcome adversity, if there is at least one reliable adult responsive to that individual's needs in terms of advice and tangible support for dealing with problems, that the individual is more likely to be successful. Such a relationship is characterised by the adult believing in the young person, that they are able to achieve and is best housed in positive and strong connectedness (Cutrona, 2000; cited in Dolan, 2008). The power of positive informal relationships with another adult, whether it is a parent or friend, has the potential to offer much needed support. Therefore, social support from informal sources such as parents is a key role player in helping the child cope. The type of support that is offered and how it is provided by the relationship is of further importance. This is referred to as optimal matching, whereby the support offered equates to the support needed (Dolan, 2008).

In a Polish study by Bokszezanin (2008), it was discovered that high parental involvement was associated with higher risk for PTSD in adolescence. Adolescents reportedly may interpret high parental involvement as an indication that the parents have judged them to be incapable, therefore undermining their self-confidence or perceived efficacy and agency. Bonanno et al., (2010) noted that too much early intervention by outsiders might have the unintended effect of undermining adaptive processes in families and communities. Relationships and the support that comes with them are widely regarded as a protective factor aiding in the ability of an individual to be resilient. Although resilience has been viewed as an "*individual trait*", this carries with it potentially damaging consequences, primarily in relation to children as they are not in control of their context or environment and may face adversities that are contextually determined (Brown & Westaway, 2011). Therefore, if a child does not adapt successfully, they may in certain circumstances be viewed as personally to blame for not being able to cope with adversity. Children are then viewed as victims of their social circumstances, and a child's resilience is thought to be dependent upon other people and other systems of influence within their context of multiple systems of interactions. There is limited research explaining adult resilience in this way. Adults are therefore seen to possess more agency

and capacity to alter their external circumstances and various interacting systems in order to enact changes in their level of resilience. Although adults are viewed to have more agency and personal capacity to enact change, this is difficult to do in isolation and requires the support and strength of the collective. Resilience is not a quality or a ‘trait’ that can be developed in isolation, but instead relies on the relationships between the individual and their families, society and larger community. These aspects will be further discussed in 3.5.5 and 3.5.6.

### **3.5.4 Religion and Spirituality**

A growing body of research suggests that spirituality may serve a protective function to both men and women in the post-trauma period (Hipolito et al., 2014). Research regarding this field may be used to reinforce the need to develop trauma-informed practice protocols that incorporate spirituality. Psychologists have long been interested in the role that religion plays in the interpretation of and response to life events and how this manifests itself in everyday psychological adjustment (Hackney & Sanders, 2003). There are two opposing views as some psychologists (e.g., Ellis, 1965) claim religion to represent institutionalized irrationality and therefore be detrimental to psychological functioning; whereas other psychologists (e.g., Jung, 1933; Allport, 1950) view religion as a source of meaning and stability in an uncertain world and conducive to positive psychological health (Hackney & Sanders, 2003). As highlighted by this debate, much research has gone into the question of whether religion is beneficial, detrimental, or neutral in regard to psychological adjustment. For the purpose of this study, religion will be further explored and discussed as a potential protective (beneficial) factor aiding psychological adjustment in the event of trauma.

Spirituality is frequently thought of as an internal locus of control in terms of regulating negative emotional states (Counted, Possamai, & Meade, 2018). Spiritual activities are thought to be helpful means of attaining self-transcendence and coping with life stressors. According to Chaney and Southwick (2012) (cited in Counted et al., 2018) people overcome life’s challenges by searching

for connectedness and seeking comfort in spirituality based on what is transcendent. Counted et al., (2018) define spirituality as the personal character of spiritual transcendence in terms of a changing, developing constitutive trait and a dynamic attribute that one has from cradle to grave. However, 'religiosity/religiousness' is considered in terms of the institutionalised character of religious beliefs (Counted et al., 2018). Spirituality is thought of as an important platform for personal development, one that encourages people to forge meaning in life through spiritual transcendence, therefore fostering resilience in the event of exposure to trauma.

Studies on spirituality as a protective factor have shown a connection with resilience and wellbeing indicators. Although there are a number of definitions of spirituality, for the purpose of this study, *Spirituality* will be defined as deeply personal beliefs and practices that transcend the regular activities of this world (Madsen & Abell, 2010), and have been discussed in two categories 1) as a cognitive appraisal of existential issues and 2) as the experiential knowledge of the divine (Counted et al., 2018). The first category refers to the connection between the cognitive appraisals of stressors and the interpersonal struggles when the individual is in a relationship with a higher power (i.e., God), and is often referred to as 'head-knowledge of God'. The latter focuses more on the 'heart-knowledge of God' in its application of attachment theory and developmental psychology (Counted et al., 2018). When extrinsic spiritual practice, as opposed to religiosity, are the focus, studies show that spirituality is significantly associated with higher levels of wellbeing and resilience. According to Jonker and Greeff (2009) in the internal resource category, spirituality and religion were highlighted as coping mechanisms. This category included both mental processes and practical activities. Mental processes, such as prayer, faith, a relationship with God and a belief in a higher purpose were emphasized (Jonker & Greeff, 2009). Practical religious activities outside of the home such as going to church and reading the Bible reportedly helped families to cope during stressful or traumatic times.



According to a study undertaken by Dezutter et al., (2005) differences in religious attitudes and orientations were more important than differences in religious involvement. The study revealed that religious attitudes and orientations had a significant effect on psychological distress and/or psychological wellbeing whereas church attendance and belief salience showed no such effect. These findings were consistent with the argument of Francis et al., (2004) which posits that religious attitudes and orientations represent deeper rooted predispositions, which are less contaminated with contextual factors and which are more indicative of a person's general functioning than the surface aspects of religious involvement (Dezutter et al., 2005). These results are in keeping with the growing body of literature focussing on the intrinsic versus extrinsic view of religion in that peoples' involvement in religion has been found to be less central to their wellbeing than their underlying attitudes and orientations. Intrinsic involvement and/or religious motivation were found to be positively related with positive coping, therefore relating to higher levels of mental health, whereas extrinsic tends to relate to maladaptive appraisals of stress and less positive coping, accounting for the negative association with mental health (Dezutter et al., 2005). Therefore, the way in which people cope with and appraise stressful situation in their lives (i.e., trauma) might account for the links between the literal religious interpretations and mental health. For example; those inclined to be literal thinkers have been shown to score high on need for closure and low on measures of openness to experience and flexible identity management (Duriez, Soenens, & Beyers, 2004; cited in, Dezutter et al., 2005). Given these characteristics, literal thinkers are likely to appraise stress and change as threatening and to engage in rigid and maladaptive coping mechanisms, which in turn, create a vulnerability to negative wellbeing. This may be linked to the differences in individual traits and personal functioning and how this may influence the coping mechanisms on which they draw on in times of stress/trauma as well as how this may impact on their level of religiosity.

Research highlights that resilience is as much dependent on the structural conditions, relationships and access to social justice as it is on simply individual (child and adult) capacities in

isolation. Resilience is therefore not simply the sum of a set of characteristics, but rather a complex set of linkages and relationships across scales that have thresholds, cycles and nonlinear relationships (Brown & Westaway, 2011). There is a movement away from individually based conceptualizations of resilience towards a more contextually situated framework that has been welcomed by cross-cultural researchers. For various culture/ethnic groups there can be a sizable difference placed on individualism, collectivism and familism, dimensions that may mediate resilience in different ways for different groups. Likewise with diverse cultures groups, there may be differences in the way in which they attribute outcomes to fate, supernatural forces or human agency (Brown & Westaway, 2011).

Counted et al., (2018) reported that spirituality was an important component for negotiating day-to-day quality of life. Participants often used coping resources such as prayer as a spiritual outlet for assessing the sacred and an important aspect of spirituality. Overall, prayer was the most commonly used aspect of religious coping behaviour and was positively associated with cognitive, behavioural and psychological changes (Counted et al., 2018). However, religious coping may not be used for effective coping in every context. The effects of spirituality on quality of life are context driven, and may be different depending on the individual's religious background, or how spirituality is practiced. For example; Jewish participants' integration into the Synagogue community was a significant predictor of better physical health than their prayer life (Counted et al., 2018). Although this is related to physical health, the same may be assumed for mental health, however, further investigation is needed into the context and practice methods that may be protective factors when an individual experiences a traumatic event. In order to better understand the role of spirituality on physical or mental health outcomes, the ways in which culture influences religion's expression of the spiritual need to be considered (Counted et al., 2018), as this may differ significantly for Buddhists, Catholics, Protestants, Muslims and Christians, all of whom have their own practices and influences.

This may be achieved by integrating spirituality-based perspectives that include identifying aspects of faith and individual life that may be understood as a contextual ‘biopsychosocial spirituality’.

Religiosity is recognised as one of the many factors that may influence a person’s mental health (van der Jagt-Jelsma, de Vries-Schot, Scheepers, van Deurzen, Klip & Buitelaar, 2017). Religiosity can be conceptualized as a way of giving meaning to life and of coping with the environment. According to van der Jagt-Jelsma, (2017) healthy religious development entails the increase of internalized religious beliefs along with the development of an authentic personality, with the subsequent integration of religion in the person’s life and vice versa, in the transition period from pre-adolescence to young adulthood. Research on religiosity has been complicated by the various dimensions and denominations that make up religion, as well as the differing definitions of religiosity in that these may hold diverse meanings to different people. The majority of studies from the past few decades have found religiosity to be reasonably associated with better mental health and fewer mental disorders. Due to the fact that the majority of these studies were primarily Northern-American studies, research into the role of spirituality and religiosity in the South African context remains a gap in the resilience literature. Moreover, studies conducted in America, the United Kingdom, and the Netherlands, have reported positive associations between religiosity and mental health. These studies further suggest that the correlation between religiosity and mental health is affected by the way it is measured (i.e., proximal domains versus distal domains (van der Jagt-Jelsma, 2017). Proximal domains, measuring internalized religiosity (i.e., about meaning, support and coping) reflect a stronger correlation between religiosity and mental health. In comparison, the so-called distal domains, characterized by behavioural measurements (i.e., affiliation and frequency of attendance at services) reported a weaker correlation between religiosity and mental health. This highlights that exploration into the various religious denominations as well as the religious or spiritual ‘routine’ (or lack there of) engaged in by an individual, may be revealed to be either a risk or protective factor in the event of trauma.

The way in which stressors are processed is critical in determining whether or not trauma will be experienced. Studies suggest that patients with PTSD experience difficulty in synthesising the traumatic experience into a comprehensive narrative (Peres et al., 2007). Questions pertaining to personal understanding about life and meaning are central to religion and spirituality, providing individuals with a way in which to build narratives based on healthy perspectives that may facilitate the integration of trauma sensorial fragments in a new cognitive synthesis, therefore working to decrease post-traumatic symptoms (Peres et al., 2007). Religious frameworks and practices may have an important influence on how people interpret and cope with traumatic events in life. When people experience a traumatic event or become traumatized, they often look for a new sense of meaning and purpose in their life (Peres et al., 2007). In most cultures, spiritual and religious beliefs and practices form important components and serve as cornerstones in many communities, leading individuals on a personal quest to understand ultimate questions about life, meaning and relationships with the sacred or transcendent (Moreira-Almeida & Koenig, 2006). In religions we find prayers for the sick, healing rituals and institutions dedicated to take care of the sick (de Sánchez, 2003). Wholeness and holiness are at the core of religions, and indicate a close relation between healing and religion. Stories of healing play an important role in many religions, and are often accompanied by a conversion story and a new start in spiritual life. Trauma destroys the being, whole being, and shakes the individual's confidence in the good order of the world. Therefore, the healing of traumatized people can be viewed as a fundamental theme of religion, allowing the individual to once again create meaning in their life following a traumatic experience (de Sánchez, 2003).

Religious beliefs and practices are thought to reduce loss of control and hopelessness, providing a cognitive framework that can decrease suffering, and strengthen one's purpose and meaning in the event of trauma (Peres et al., 2007). Religion can also provide a worldview that helps give purpose and meaning to suffering, as well as foster hope and motivation. According to Peres et al., (2007) the concept of religious coping involves several cognitive aspects. Examples of positive

religious coping include benevolent reappraisal (seeking a lesson from God in the event); seeking spiritual support (searching for comfort and reassurance through God's love and care); active religious surrender (doing what one can and then putting the rest in God's hands); seeking spiritual connection (thinking about how life is part of a larger spiritual force), and seeking religious direction (prayer to find a new reason to live) (Pargament et al., 2004). Therefore, religious beliefs and practices may assist the individual in 'meaning making', allowing them to assign a purpose or role to their suffering rather than accepting it as arbitrary. Interpreting traumatic events using the lens of a religious or spiritual belief system may help to give these events meaning and coherence, therefore contributing to the psychological integration of traumatic experiences (Koenig, 2006).

In addition to the cognitive influence that religion or spirituality may exert over a trauma survivor, religiousness may also help an individual to cope more effectively through social support, providing role models for suffering, and supporting healthy behaviours, such as not turning to substances in order to cope in the aftermath of trauma, thereby fostering a sense of holding and supporting that may protect individuals exposed to traumatic events, in that it protects against the risk factors of hopelessness, heightened vulnerability and helplessness (Scher & Resick, 2005). Additionally, it may reduce the urge to seek involvement in various other high-risk situations, such as risky sexual behaviour and other numbing and avoidance strategies. In a study conducted by McCree et al., (2003), investigating the association between religiosity (defined by frequency of engaging in religious / spiritual activities) and African-American adolescent females' sexual behaviours, attitudes towards sex, and ability to negotiate after sex; indicated that adolescents who had higher religiosity scores were significantly more likely to have higher levels of self-efficacy.

Even though a plethora of research demonstrates the positive association between spirituality and mental wellbeing, there are few studies that have systematically examined the process through which spirituality, alongside other personal and social factors, influences the mental health outcomes of men and women even years after a traumatic experience (Hipolito et al., 2014). Previous research

examining the relationship between violence exposure, religious involvement and spirituality suggest that childhood abuse and inter-partner violence (IPV) have varying affects on spirituality (Walker, Reid, O'Neill & Brown, 2009; Kennedy & Drebing, 2002; cited in, Hipolito et al., 2014). The association between IPV and spirituality have been primarily studied among African-American women; and have demonstrated the protection provided by spirituality against the potentially negative consequences of violence (Kaslow et al., 2003; cited in, Hipolito et al., 2014). For example, in a study on children of low-income African-American women, involved in violent relationships, it was found that religious/spiritual wellbeing among the mothers related to fewer psychological symptoms in both the mothers as well as their children.

Overall, it appears that many people use religious activities, personal religiousness, and spiritual experiences to cope with illness and that these religious practices buffer against the likelihood of developing depressive symptoms. However, it is important to note that finding meaning in tragedy does not typically counteract all of the negative consequences of trauma (Southwick, Vythilingam, & Charney, 2005). Rather, the discovery of benefits of meaning may coexist with aversive outcomes as survivors attempt to reframe and reconstruct their world (Anderson & Anderson, 2003; cited in Southwick, Vythilingam, & Charney, 2005).

Faith and religion are thought to have greater significance for older children and adolescents than for younger children. The widely reported role of spirituality and religion after devastating disasters, trauma or war in older youth and adults may reflect the broad significance of belief systems that give coherence and meaning to life for resilience in devastating circumstances (Wright et al., 2012). In a study conducted by Klasen et al., (2010), among Ugandan former child soldiers, young people who showed posttraumatic resilience (i.e., better mental health), also reported more spiritual support.

According to Hackney and Sanders, (2003) an important aspect to consider when exploring the relationship between religiosity as a protective mechanisms, is race. Researchers such as

Jacobson, Heaton and Dennis (1990) focus on differences in the experiential aspects of religion as demonstrated in white and African-American Christian churches in America. The authors argued that African-American churches involve a greater degree of “other-worldliness”, emotional intensity and personal involvement in worship services. This was viewed as a means by which to explain the differences in black-white religiosity and the differential functioning of religion in the lives of white and African-American Christians (Hackney & Sanders, 2003). Despite the seemingly similar theologies, the actual religion experienced by people of different races (i.e., ‘Whites’ and ‘Blacks’) may differ. Such differences are considered to be connected to the experience of religion among slaves, who used their worship services to create tightly-knit communities and provide the emotional support necessary to endure the hardships of slavery (Hackney & Sanders, 2003). The relevance of racial differences with regards to religion requires further investigation whereby the same measures and definitions of religiosity and mental health are applied to various races, controlling for variables that are often confounded with races, such as nationality, SES, region of residence and physical health (Hackney & Sanders, 2003). Therefore, religiosity and the way in which it is experienced within and influenced by a community, family, region as well as within various racial groups differs across multiple elements. However, the internal motivation to engage in the practice of and/or belief in religion is widely viewed as a protective factor.

The growing literature on spirituality and its positive effect on mental health highlights the importance and need for changes to be made in order to re-include spirituality as an option in the management of mental health problems (Hipolito et al., 2014). It is important to begin considering spirituality as a resource for positive living and a fundamental dimension of health. The current literature has implications in many areas; particularly that of increasing spiritual care resources such as open, non-judgemental discussions on the topic as well as opportunities to fulfil spiritual needs (i.e., having a holy book available, offering connections to faith communities, or having a space to pray). The discourse regarding resilience may play a pivotal role in that including religious or

spiritual practices in the treatment for mental health would in most cases be made by people in power, rather than by those directly affected by mental illness, which may limit the spiritual/religious resources made available to those in need. In summary, research suggests that a belief in a higher reality not only empowers but also enhances people's mental health/wellbeing. Although this remains a relative gap in the literature, the current findings highlight the need to provide both trauma-informed and spirituality sensitive care. The spiritual diversity that may accompany the way in which people from different religious backgrounds and spiritual beliefs process and respond to trauma may consequently also differ and presents as an area for future research as not many studies have addressed specific religious backgrounds of participants or spirituality in any one context (Hipolito et al., 2014).

### **3.5.5 Family Resilience Factors**

Initially the focus of research was concerned with the negative consequences of adversity and conceptualized primarily in terms of risk for psychopathology, dysfunction, breakdown and other problematic outcomes (Masten, 2018). Similarly, the impact of adversity on individuals and families was recognised and often conceptualized in terms of vulnerabilities rather than resilience. While some individual's or families appear to be more vulnerable to adversity, there are others who appear to be better protected or to have recovered better than those exposed to a similar trauma or family crisis (Masten, 2018). The origins of family-centred resilience studies are grounded in research on stress, adversity, and/or crisis, focussing on the family as a unit rather than individuals. This subsection will focus on the protective factors that have been associated with resilience in the family unit.

Family protective and recovery factors have become central features of the resiliency literature. According to Seccombe (2002) family protective factors (FPF) are those that shape the family's ability to endure in the face of risk factors. Family recover factors (FRF) in combination with FPF assist families in bouncing back from a crisis (McCubbin et al., 1997, cited in Seccombe,



2002). Key characteristics of resilient families are thought to include; warmth, affection, cohesion, commitment, and emotional support for one another. Such families generally have reasonable and clear-cut expectations for their children, participate in family celebrations, share spiritual connections, have specific traditions, as well as predictable routines (Seccombe, 2002).

From a systems theory perspective, resilience of a system at one level is dependent on the resilience of connected systems. Therefore the various systems interact in a number of ways in that individuals are embedded in family systems and family systems are rooted in other systems (e.g., culture, community). Interactions of individuals, families and their larger contexts affect all other interacting systems, with specific systems having greater directional influence (e.g., parents have greater responsibility for the care of infants) (Masten, 2018). Individual resilience is therefore dependent on other systems interacting with the individual, specifically on systems that directly support that individual's resilience, such as a parent or extended family. The systems theory highlights the important role played by the interaction between the individual and their family system, making it a key factor to address in terms of individual and community resilience.

Family resilience draws on the processes of interactions within the family and processes involving interactions of the family with other systems in the community, culture or environment (Boss et al., 2017; Henry et al., 2015 & Walsh, 2016; cited in Masten, 2018). The capacity of a family to adapt to challenges may shift due to various processes, whilst concurrently positive adaptation of an individual parent or child can alter how well a family is maintaining communication, emotional support, routines, and various other family roles that reflect family resilience or stress. The ever-changing nature of the developing individual may alter the capacity of the family or individual to adapt to challenges at any given time. The developmental status of each interacting system has the potential to alter the effects of challenges and recovery or transformation. According to Masten (2018) factors such as; normative development, health, family structure, economic circumstances, and many other changes in the family or its members, can be expected to

alter the capabilities of family members as individuals or in relational roles to facilitate resilience. Due to the continuous development and changing nature of individuals over time, this becomes an influential factor determining the individual or family's capacity to adapt to challenges. Furthermore, a key finding in the Kauai Longitudinal Study (Werner, 1994, 1995; Werner & Smith, 1989, 1992) highlighted that resiliency can be developed at any point in the life course (cited in Seccombe, 2002). This study suggested that although many families experience poverty, many impoverished families were still able to beat the odds and established stable, loving relationships, which were viewed as protective factors for at-risk children who suffered a major trauma, and contributed to their resiliency.

Due to the multiple interactions involved in shaping the adaptive function and development of systems, diverse pathways arise in human or family life. Hawley and DeHaan (1996) described family resilience in terms of “the path a family follows as it adapts and prospers in the face of stress”. Research in posttraumatic stress and internalizing symptoms in trauma survivors support the expectation that people follow different patterns of adaptation over time, including positive-resistant paths (consistently good function or low symptoms), recovery paths (function improving, symptoms decreasing), and negative or worsening patterns (high or increasing symptoms) (Masten, 2018). Numerous studies have demonstrated that interventions aimed at improving parenting skills, ultimately impacts on the functioning of the child, enabling them to be more resilient (Patterson, Forgatch & DeGarmo, 2010; cited in Masten, 2018). Studies of resilience in individuals and in families suggest striking parallels in the factors associated with resilience, though framed at different levels of analysis. The overlap between the two is not surprising given that many processes connect individual with family function (Masten, 2018). Efforts to explicitly study processes linking family to individual resilience have only recently received attention and have up until now been a gap in the literature.

As outlined above, in times of disruption or disaster another major role of parents is to maintain or restore family rules and routines that afford a sense of coherence, stability and wellbeing in the midst of adversity. It may be necessary in the aftermath of major disruptions to reconstruct new rituals and routines. Parents also serve as external regulators or “co-regulators” of arousal, emotion, and behaviour for children until they have learnt how to regulate themselves. Parents soothe and stimulate their young children, set limits on their aggression, reinforce self-control, and help them verbalize frustration or express emotion in socially acceptable ways (Masten, 2018). Co-regulation by parents may be of particular importance for child rearing in risky or chaotic situations such as poverty or high cumulative adversity. Parents also transmit the transmission of many aspects of culture, in that they model and teach their children about the cultural beliefs and practices of their ethnic or religious heritage. This may include ways of celebrating, mourning, and child rearing as well as self-regulation practices such as meditation and prayer. In times of adversity, cultural beliefs and practices can provide a sense of continuity, connectedness, hope, positive identity and meaning in life. This may be linked to the role religions and spirituality play in mitigating the impact of the experience of trauma and the development of PTS. Primary caregivers play a vital role in the fostering of resilience in individuals within the family as well as the family as a unit as a whole. It has been argued that greater focus needs to be given to parental resilience (Gavidia-Payne, Denny, Davis, Francis, & Jackson, 2015; cited in Masten, 2018), with more thorough exploration into parental resilience. This may serve as an informative guide directing improvements in programs aimed at supporting resilience in children and families (Masten, 2018).

In summary, for decades, theory and research focussing on how children and families adapt to adversity, individually and together, have played leading roles in the emergence of human resilience science. Although research has benefitted from cross-fertilization of ideas, there were limited fully integrated models of resilience linking child- and family-level concepts. The current literature highlights the pivotal role played by the parental caregiver in fostering the development of

resilience within the individual child as well as within the family unit. Secure attachment, emotion regulation, cultural rituals and beliefs as well as routines and rituals initiated and transmitted by parents within the family systems have been found to be supportive of resilience and adaptive functioning. In addition to strong individual attributes, an involved family, and a supportive community, the development of sound economic policies designed to strengthen all families would go a long way in giving adults and youth the necessary tools to master resiliency. Policy decisions, particularly on a national level, have the potential to dramatically improve lives, as without sound policies, individual attributes, involved families and supportive communities will have limited effectiveness. It is argued that focussing on individual-level solutions may contribute to the family's ability to deal effectively with stress and crisis, however, alleviating the stress causing the crisis may be of greater importance. Rather than focusing exclusively on how individuals and families manage the adversity associated with poverty and various other socioeconomic vulnerabilities, there should be a greater attunement to what causes these vulnerabilities and how structural conditions and economic policies can affect the experience of the family.

### **3.5.6 Community Resilience Factors**

Over the past two decades, there has been a resurgence in attention to community as a critical arena for addressing a range of social problems and promoting a range of social benefits (Chaskin, 2008). It is implored to shape our understanding and inform our responses to issues such as poverty, crime, health and youth development. Resilience is conceived as promoted by enhancing or building the capacity for responding effectively to broad or specific challenges (Masten, 2018). Therefore, parents, communities, and societies all have a considerable stake in the development of resilience at multiple system levels as an investment in the future of their children, families, communities and societies. In light of families and communities being identified as key role players in the literature on resilience, the following subsection will further explore and discuss the salient features that aid communities in adaptive functioning and resilience.

According to Chaskin (2008) community resilience can be thought of in two ways; 1) community as context and, 2) community as an agent of change. Community as a context focuses on the aspects of community that promote or inhibit, enhance or diminish resilience and wellbeing within communities, that is, among the individuals, families, children and youth who form part of the community. Within this perspective, individuals are seen to live, families to function and children to grow and develop, which is embedded in and shaped by a set of systemic influences. Some of these influences are proximate and direct (e.g., family, peer group, school), whereas others are more distant and indirect (cultural norms, macro-level policy), however, all have a role to play (Chaskin, 2008). Factors on each of these levels such as conditions, actions and interactions, influence the wellbeing of individuals in some way and inform the trajectory of human development. The second perspective focuses on the extent to which communities exhibit resilience themselves and how they can be actors that respond to adversity. The way in which communities manage risk depends on both their capacity to do so as well as on the nature of the threat. Just as there are sources of risk and adversity for individuals, there are also sources of risk and adversity for communities, particularly those communities that were previously disadvantaged (Chaskin, 2008). Broad macro-level influences have significant implications for local communities, both in shaping their circumstances and in providing opportunities and constraints to action. Secondly, policies and social intervention practices can be sources of support or adversity. Decisions made by government and actions taken on the part of the private sector can either encourage development or disinvestment, promoting or protecting against gentrification may foster or inhibit job growth, facilitate access to opportunity or contribute to isolation, and can help shape safe and healthy environments or hasten their decline (Chaskin, 2008). Natural events, such as floods or other natural disasters may also have a significant impact on and implications for communities. Communities may be more or less well prepared to address and manage these adversities from the various forces outlined above, however, whether and how they are able to do so, depends in part on the magnitude of the influence and in part on their

capacity to respond. In this sense, 'community capacity' entails the interaction of human capital, organizational resources, and social capital within the given community that can be leveraged to solve collective problems and improve or maintain the wellbeing of the community (Chaskin, 2008). Community capacity operates through the actions and interactions of individuals, organization, and the relational networks among them, both informally as well as through targeted, organized action.

Community resilience is a process linking a network of adaptive capacities to adaptation after a disturbance or adversity (Norris, Stevens, Pfefferbaum, Wyche & Pfefferbaum, 2008). Community adaptation is manifested in population wellness, defined as having high and non-disparate levels of mental and behavioural health, functioning and quality of life. According to Norris et al., (2008) community resilience emerges from four primary sets of adaptive capacities namely; Economic Development, Social Capital, Information and Communication, and Community Competence. These factors can thus be viewed as protective factors as they promote behavioural and mental health as well as a higher quality of life. Wessells (2014) poses an approach to prevention that focuses primarily on strengthening the social environment in ways that support children's wellbeing and their capacities to adapt to, cope with, and navigate adverse environments. Ungar (2014) addresses not only the assessment of exposure to adversity, but also to the capacity of the child's social environment to provide resources that are promotive and protective factors that can prevent or mitigate the impact of risk exposure. Like risk factors, promotive and protective factors may be available at different levels such as the family, peer, school, and community levels. It is therefore of value to recognise that accessibility and strategic use of the promotive and protective factors is crucial, as are the family and community encouragement to use appropriate coping strategies (Wessells, 2014).

Adaptive capacities such as economic development, social capital, information and communication, and community competence are seen as the structures from which community resilience emerges (Norris et al, 2007). Building community resilience calls for communities to

reduce risk and resource inequalities, engage local people in mitigation, create organizational relations, boost and protect social supports, and plan for not having a plan, which requires flexibility, decision-making skills, and trusted sources of information that function despite being faced with unknowns (Norris et al., 20017).

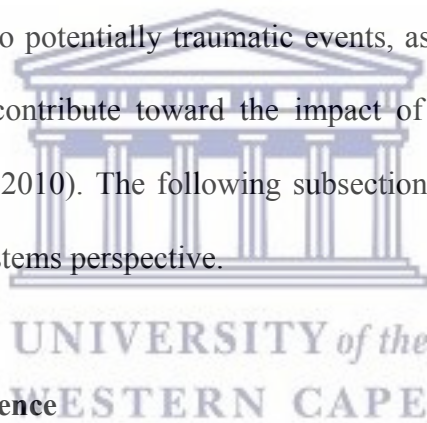
Many discussions of community resilience note that the “ whole is more than the sum of its parts,” in this case, meaning that a collection of resilient individuals does not guarantee a resilient community (Norris et al., 2007). As Brown and Kulig (1996/97) observed, “People in communities are resilient together, not merely in similar ways.” At the behavioural level of analysis in the literature, the core protective factors identified by Masten & Narayan, (2012) include; supportive and effective caregiving, problem-solving systems, self-regulation and social-regulation systems, motivation/reward systems underlying self-efficacy, and hope and belief systems that convey a sense of meaning. These systems appear to promote a sense of safety and connectedness, perceived control and agency, regulation of arousal and behaviour, as well as optimistic thinking required in diverse situations for adaptive responses to threats and disturbances in life. Although the transmission of many aspects of culture have been viewed as a contributing factor of resilience, through beliefs, values, routines, rituals, religion and other various traditions influenced by culture, it remains an area of research on individual and family resilience that had been previously neglected, however, has begun to gain momentum in the board scope of resilience research (Masten, 2018).

The emergence of community, social change, and agency in relation to community-level resiliency has received significant attention (Brennan, 2008). Community level resiliency is shaped by a variety of conditions ranging from social controls to the local adaptive capacities of organized residents. Central to the latter are dense social networks and channels of interaction spanning the diversity of our localities. However, there are a number of obstacles and vulnerabilities that can limit the process by which resiliency emerges. Social and socioeconomic vulnerabilities are frequently noted in the literature as they have the ability to hinder the emergence of social support functions,

interaction capabilities, as well as to achieve resiliency (Cutter, 2003; Flint & Luloff, 2005, cited in Brennan, 2008).

Community is one example highlighted in the literature, indicating that the broader social context can either promote or hinder the development of resilience amongst its citizens, consequently affecting the outcome of PTS within specific communities. Therefore, community can be viewed as neither explicitly a protective or risk factor, but instead the risks associated with the broader social context are likely related to, or better explained by, the context itself and the resources available within that community.

Although researchers have already begun to tackle some of these pertinent questions, there is still much to be researched and understood about how South Africans adapt to conditions of chronic adversity and multiple exposure to potentially traumatic events, as well as how ongoing conditions related to historical oppression contribute toward the impact of trauma exposure across diverse communities (Kaminer & Eagle, 2010). The following subsection will explore the aforementioned interaction using an ecological systems perspective.



### **3.6 Discourse surrounding resilience**

The discourses surrounding both trauma and resilience can be problematized and further discussed in light of the multiple factors that may influence the way in which we think about, perceive, discuss and enact the loaded meaning held by each concept. The influence of which is carried down from various levels in each individual's environment, impacting on how they make sense of their own and others' trauma experiences and what they perceive as resilience. In light of the current research aims, the discourse regarding that of resilience will be discussed and further problematized in the context of this study.

Discourses can be understood as 'organized systems of knowledge that make possible what can be spoken about, and how one can speak about it' (Adams, 1997; cited in VanderPlaat, 2016).



Discourses vary across different cultures, societies and groups, and create a means by which to understand and make sense of the individual and collective experience.

Discourses dictate what is accepted as true within a society as well as the procedures and persons deemed appropriate for establishing the ‘truth’. Therefore, discourse dictates how a social phenomenon should be understood, as well as who can contribute to the articulation of such knowledge. In this way, a script is provided that guides the understanding, articulation, and responses to individuals and the collective experiences within a society (VanderPlaat, 2016). Discourses provide an overarching socially constructed way of understanding others and ourselves therefore, impacting on the lived experience and how it is perceived. Not only do discourses or socially constructed dialogues influence personal capacity to attribute meaning to individual lives, but they also dictate how an individual’s relationships and interactions with others are understood and negotiated. In dictating what can be viewed as ‘normal’, discourses also define who and what are marginalized within society. This is evident in the South African context as the discourse of the apartheid regime created meaning centered on race, which dramatically impacted the way in which certain people were treated and perceived by the rest of society during that time. This evidences the power held by discourse and that if left unchallenged how it may contribute to the reproduction of inequality. According to VanderPlaat, (2016) resilience-focused research and practices are understood by a number of dominant or privileged discourses. It is argued that the concept of resilience is embedded in the individualistically orientated discipline of psychology, therefore limiting the conceptualization of resilience in the broader sociocultural domain. As a result, notions of adversity, risk, and resilience as social phenomena experienced by collectives has evoked and received little attention. The consequence of ‘privatisation of public issues’ (Herr & Aderson, 1993, p. 192) has ensured that inequalities resulting from social constructions continue to be viewed as individual risk factors (Wexler et al., 2009; cited in VanderPlaat, 2016), steering the gaze away from systemic liability, and locating the problem and the solution within the individual. Research calls for

the recognition that an individual's lived experience be viewed as existing at intersections of history, geography, and systemic structures and that social problems and their manifestations be understood as collective, public, and socially contracted (VanderPlaat, 2016).

This is of particular importance in the South African context, which is fraught with inequalities reverberating from the apartheid years. During the tumultuous years of the apartheid regime, privileged elites constructed what it meant to live in adverse conditions (the condition and impacts of poverty and discrimination are rarely defined by those for whom it is a lived experience). Similarly, appropriate ways of responding to adversity have been traditionally dictated by systemically imposed social norms, which act to maintain the position of those with privilege. Consequently, resilience is thought to be a label that only privilege can confer (VanderPlaat, 2016). Therefore, in order to discuss resilience and formulate interventions aimed at increasing resilience and strengthening the proposed protective factors, there needs to be a deconstruction of privileged discourse currently framing human suffering as an individual experience resulting from personal deficits. Rather, a collective consideration of the social and political circumstances in which children and youth find themselves is encouraged (VanderPlaat, 2016).

According to Schwartz (2018) the biomedical model in mental health contains problematic pre-assumptions, namely that mental health problems are located within the individual and are understood as being biological in nature or due to faulty cognitive or emotional processing. These faulty mechanisms are typically modelled in causal terms and described as universal principles regardless of their contexts (Bracken & Thomas, 2017, cited in; Schwartz, 2018). Since the 1990's there has been a gradual expansion in the perspective, which focuses on the diversity of human responses to extreme stress. Prior to that development, diversity was buried in trauma discourse, which, due to the introduction of the PTSD diagnosis, dominated the psychological research at the time (Schwartz, 2018). PTSD is not necessarily accompanied by dysfunction in that although people may experience distress; they are often able to remain committed to and absorbed in their general

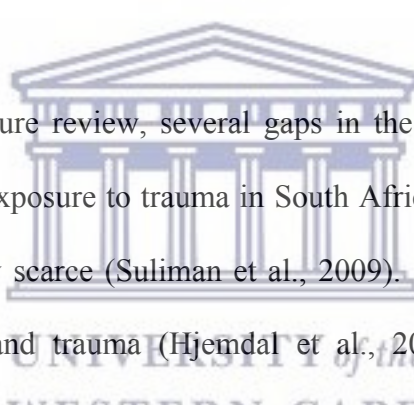
roles of being parents, partners, workers, and friends (Hobfoll, 2011; cited in, Schwartz, 2018). Humans encounter a wide variety of difficulties and challenges, however, severe manifestations of problems are only observed in a small percentage of exposed individuals (Bonanno et al., 2010). Mental wellbeing or resilience both seems to be closely connected to social and economic factors. Several international studies have concluded that the greater the inequality (in economic and social resources) in any society, the poorer the mental health or resilience of that society (Pickett, James, & Wilkinson, 2006; Pickett & Wilkinson, 2010; cited in, Schwartz, 2018). According to Ferraro and Shippee, (2009) groups with a low socioeconomic background, ethnic minorities, and young people are increasingly exposed to traumatic and stressful events with corresponding health trajectories. According to a life course perspective, cumulative inequality interacts with one's ability to mobilize social, economic, and psychological resources, together with human agency (i.e., the ability to change one's environment), in shaping the individual's mode and level of functioning throughout the course of life (cited in; Schwartz, 2018).

Applying a contextualised understanding of resilience, acknowledges that the access to and the control over health resources affects; habitus, lifestyles, as well as health behaviour throughout the lifespan (Schwartz, 2018). Therefore, resilience should be considered as a product of cultural, social, economic, political, and psychological factors, as well as its biological correlates, but above all, as a product of structurally embedded social inequalities along dimensions of gender, SES, and ethnicity. Resilience is associated with the opportunity for well-balanced living within one's own social surroundings as well as with the possibility for living in line with one's spiritual and worldly beliefs, without having to fear discrimination (Schwartz, 2018). Understandings of resilience should therefore be linked with human rights and political as well as socioeconomic dimensions of life. A contextualized understanding translates into the reconstruction of the development and maintenance of illness and resilience that is not confined to individual factors but rather focuses on the structural embeddedness of individuals within their contexts. Applying a broader understanding of resilience,

allows for a contextual and cultural sensitivity that includes historical dynamics of oppression and colonization as well as broader social dimensions while still allowing for biographical and thus unique differences (Schwartz, 2018).

In summary, the power of discourse is far reaching; impacting on the way resilience is constructed, viewed and passed on over time. Historically it has been transmitted as a concept focussing on the individual, highlighting resilience as a trait, however, there has been a shift in research, recognising that social environments play a key role in both the provision of risk and protection, focusing on resilience as a process rather than a personality trait.

#### **4. Rationale & Significance**



As indicated in the literature review, several gaps in the research can be identified. First, while there has been a focus on exposure to trauma in South Africa, the role protective factors play in negative outcomes is relatively scarce (Suliman et al., 2009). Second, while studies do show a relationship between resilience and trauma (Hjemdal et al., 2006) the extent to which this is applicable and relevant for the various types of traumas is less clear. Thirdly, the majority of studies are from the Euro-American context and are focussed primarily on single exposure to trauma or chronic stressors in high-income contexts. The study by Veenendaal (2006) and Mokoéna (2010) are exceptions in that they report on the South African context. Although their studies address the relationship between resilience, race and trauma, and explore the relationships between SES, gender and exposure to violence within the South African context, many gaps remain. Religion and spirituality has gained increased attention in the resilience literature, however, few studies have addresses specific religious backgrounds or spirituality in any one context (Hipolito et al., 2014). Growing literature on spirituality and its positive effect on mental health highlights the importance of this area of research and the need for the inclusion of spirituality as an option in the treatment of

mental illness such as PTSD. Furthermore, factors such as the severity and type of trauma and the impact these variables may have on PTS after the exposure to a traumatic event require more rigorous research (VanderPlaat, 2016). The discourse surrounding the topic of resilience cannot be ignored due to the impact and influence this holds over the way in which people perceive and process their experiences. In light of South Africa's history of racial segregation and oppression, resilience discourse is an important area of research that needs to be considered and held in mind by resilience researchers.

This study aims to extend on the existing literature by focusing on the associations between the types of trauma that one may have been exposed to and the development of PTS symptoms; to decipher the correlation between religious/spiritual factors and the impact a more meaningful, consistent practice may have on resilience, the influence of the discourse surrounding resilience as well as the influence of demographic factors such as age and gender in relation to the outcome of PTS.

The current study aims to address some of the gaps identified in the literature review as well as to build on the original study undertaken by Nortjie, (2017). This study investigates trauma and resilience in a low-income, high-risk context, with multiple exposures to various types of traumas and the extent to which resilience and protective factors may mediate negative outcomes in this context. The goal of this research is to identify unique characteristics that significantly affect resilience and PTSD. As a resilience study, it may help to guide and better inform future intervention efforts to further develop and activate protective factors that may serve to buffer individuals from developing PTSD when exposed to trauma in low-income contexts.

## 5. Theoretical Framework

With a growing interest in resilience in the mental healthcare system, there is a need for a fundamental way to understand the complex, multifaceted interactions within a diverse context that predict adaptive coping when exposed to high levels of adversity (Ungar, 2014; Visser, 2007). Originally a risk factor model, the *ecological-systems perspective* attempts to conceptualize the individual within their given context and explain the interaction between their unique systems (e.g., family relations, personal characteristics and environmental factors). It is through the integration and interaction of these systems that we develop (or inhibit the development of) resilience (Hjemdal et al., 2006). This study is located within an ecological systems framework, which recognises resilience as a multidimensional construct that develops over time from the integration (and combination) of particular, individual and societal protective factors.

Similarly, multiple factors and processes need to be considered and may influence the relationship between exposure to traumatic events and the development of PTS symptoms. An ecological systems theory is adopted in order to identify, understand and conceptualise numerous factors within an individual's context, which may contribute towards the development of resilience and, in turn, contribute toward the variation in the levels of PTS following a traumatic event.

Originally a risk factor model, the systems model developed by Bronfenbrenner (1977) attempts to conceptualise the individual within their given context and explain the interaction between their unique systems (e.g., family relations, personal characteristics and environmental factors). Social support has been thought to enhance resilience in trauma-exposed individuals (Sippel et al., 2015). The study undertaken by Sippel et al. (2015), argued that adaptation to adversity requires the functioning of multiple systems interacting within and around the individual. Therefore, although numerous factors have been correlated with resilience (e.g., demographics, biological,

psychosocial), a single factor only counts for a small portion of the variance (Southwick et al., as cited in Sippel et al., 2015).

Additionally they argue that there is a bidirectional relationship between systems-level resilience and individual resilience. This relationship forms the basis of an ecological and ecosystemic perspective where the individual-context link is transactional in nature (Harvey, 2007). It is based on the principal of reciprocity and feedback between these systems (Black & Krishnakumar, 1998), and is grounded in the understanding that individuals influence and are influenced by their multiple interacting systems, contributing towards (or inhibiting) the development of resilience. This is in line with and based on Bronfenbrenner's (1977) understanding. The foundation of his systems theory is that the development of an individual is affected by their social relationships and the world around them (context). The theory divides an individual's context into different systems, creating a model in which one can examine and understand the various possible environmental factors that may influence an individual. The individual is therefore in the centre of the model, with concentric circles surrounding them representing the various tiers of their social life. According to this model, the system closest to the individual (namely, the microsystem which includes family, friends, and caregivers) is viewed as the most influential due to the direct contact it has with the individual (Bronfenbrenner, 1977).

While this model is extremely useful, it must be qualified in terms of the issues emerging from the critical perspectives discussed above. According to Seccombe, (2002) this perspective still places the primary responsibility upon individual versus structural-level conditions. Poverty (and other risk factors) is not fully contextualised as a by-product of broader social forces. Although the ecosystemic perspective may acknowledge structural factors, it does not give centre stage to the role that national economic policy must play in strengthening families.

In summary, the ecological systems theory argues that the individuals who are perceived to develop within their social and environmental contexts are not passive recipients of contextual

changes, but rather active agents, capable of influencing and negotiating with contextual influences (Harvey, 2007). Therefore resilience results from the interactions between the individual and their social context. That is, resilience comprises of qualities that are shaped, nurtured and activated by a number of individual-environmental interactions and is therefore not only the result of biology or a predisposition to inherent traits and personal characteristics (Hjemdal et al., 2006), but rather may be influenced by changes in one's context. In light of this it may be argued that the introduction of supportive and protective factors into one's system (e.g., family relationships, personal qualities, social policies or education programmes) may contribute towards the development of resilience and the ability to withstand adversity. Thus, creating a ripple effect across the various systems, likely influencing and causing similar developments.



The aim of this study is to investigate the relationship between selected demographic variables (i.e., religious affiliation, age and gender) and resilience, and how these may be associated with the development of PTSD. Therefore as a study on resilience, the overall aim was to investigate the relationship between demographic variables, varying types of exposure to trauma, religious affiliation and resilience in relation to the development of PTS. Focusing on how identifying these variables may allow us to better understand possible risk and protective factors that may be associated with resilience in a South African context.



## 7. Research Questions

This study poses three research questions: 1) Does age and gender influence the development of PTS; 2) Does the type of trauma influence PTS and 3) Is a higher level of resilience associated with lower levels of PTSD?



## CHAPTER FOUR

### METHODOLOGY

The following chapter outlines the methodology and procedure used for this study in order to answer the aforementioned research questions delineated in chapter one. This chapter presents the research design as well as the context of the research, followed by a description of the sampling strategy used in the study. A detailed description of the data collection procedure, instruments used in the study, as well as the data analysis will be presented. Finally, the ethical considerations are noted.

#### 4.1 Research Framework / Design

The original study was quantitative in design as it relied on measurement to analyse numerous variables, correlational in order to gain a better understanding of the relationship between variables and is exploratory in nature (Bless, Higson-Smith & Sithole, 2006). A cross-sectional survey design was used as data were collected using questionnaires. An advantageous approach in that it allows for a picture of the occurrence at a particular point in time. However, the disadvantage being that it does not permit changes to be observed over time, as would be demonstrated in longitudinal research (Bless et al., 2006). The procedure for data collection, as documented by the original researcher, Nortjie, (2017) was a survey comprising of four self-administered questionnaires, which were administered in English, to a sample of students at the University of the Western Cape.

#### 4.2 Current Study

The current study constitutes a secondary analysis of survey data. It draws on data from the previously conducted survey, which is described below (Nortjie, 2017). The current study aimed to address the relationship between resilience, protective factors and posttraumatic stress disorder, by

exploring the influence exerted by variables such as age, gender and religious affiliation and type of trauma on the outcome of PTS. The current study aimed to build on the original research by identifying gaps in the literature, and using these as guidelines for future investigations.

The aims of the primary research were to investigate the relationship between the demographic and resilience factors associated with the development of PTSD when there are multiple exposures to trauma. Accordingly, there were two research questions posed in the primary study: 1) *Do demographic factors serve as protective factors with regards to the development of PTSD when there is multiple exposures to trauma? And 2) is a higher level of resilience associated with lower levels of PTSD when there are multiple exposures to trauma?*

The current study, drawing on this data, extends it in order to explore variables not previously investigated.

#### **4.3 Research Context**

According to the original study, the research was conducted at the University of the Western Cape (UWC), situated in Bellville, South Africa (Nortjie, 2017). At the time of the data collection, there were approximately 15226 students enrolled at UWC. The demographic data suggested that the majority of the students came from low-middle income families, and were racially classified as *Coloured* (46,5%), followed by *Black* (38,4%), *Indian* (7,5%), and *White* (4,3%), the remainder were unspecified (Govinder, Zondo & Makgoba, 2013).

#### **4.4 Sampling Strategy and Participants**

The target population in the original study was undergraduate psychology students from the University of the Western Cape (Nortjie, 2017). The participants in this study consisted of year one to year four Psychology students at the University of the Western cape. The original researcher chose to use non-probability convenience sampling techniques. This sampling method was used to collect data based on convenience and availability of the sample (Bless et al., 2006). Convenience sampling required gaining access to first, second, third and honours year Psychology lectures. The overall

sample of the study consisted of 158 students. Participation in the study was voluntary as those students who were available and interested, took part in the study and completed the survey.

#### **4.5 Procedure for Data Collection**

In order for the data to be collected in the original study, the following ethical clearance from the Ethics Committee of the University of the Western Cape was obtained and the coordinators of the year one to four Psychology programmes were approached in order to request access to the students in their classes. Data were collected in two separate academic years; during the first round in 2016, 84 surveys were completed. In 2017, a further 74 surveys were completed. This was done in order to increase the sample size as the original sample size was considered too small for analysis and data could not be collected until 2017 as the 2016 academic year had ended. Despite data collection taking place over two years, the same procedures were adhered to: permission was requested from the lecturers, questionnaires were handed out to students in class and collected after completion. The data were collected at the end of the lectures in order to avoid disruption of the lecture schedule. Prior to the distribution of the questionnaires, the original researcher was introduced by the lecturer who then provided information regarding the rationale and aims of the study, the types of questionnaires provided as well as the ethical considerations (with regards to individual anonymity and confidentiality of the information provided). Students were informed of the importance of signing the consent form attached to the front of the questionnaire and were notified that their participation in the study was entirely voluntary and they reserved the right to participate, not participate or withdraw from the study at any time. Based on the circumstances and class schedule. The following factors were taken into consideration; some students may have needed to attend a following class, participant attrition may have occurred or students may have rushed in order to finish the questionnaire as quickly as possible. Once the questionnaires were completed they were placed into boxes and stored in a locked drawer at the Department of Psychology in order to ensure anonymity and safekeeping. After completion and collection of the questionnaires the data

were entered into a secured computer-based system (i.e., Excel spreadsheet) prior to analysis (Nortjie, 2017).

#### **4.6 Instruments**

Nortjie (2017), the original researcher, selected the following instruments for the primary study. The instruments used in the primary study were; 1) a **Biographical Questionnaire** (Appendix D), 2) The **Life Events Checklist for DSM-5** (LEC-5; Appendix E), 3) the **Posttraumatic Stress Disorder Checklist for DSM-5** (PCL-5: Appendix F) and 4) the **Resilience Scale for Adults** (RSA; Appendix G).

Questionnaires are regarded as a typical and structured approach used to collect data from respondents (Bless et al., 2006), and was considered, by the primary researcher, to be the most appropriate approach for the current study as it endorsed for a larger data sample to be collected. The above-mentioned questionnaires, as selected by the primary researcher, will be further discussed in the subsections that follow, and were the same instruments used for the present study.

##### **4.6.1 A Biographical Questionnaire**

The biographical questionnaire was developed by the original researcher, Nortjie (2017). The questionnaire was used to measure the demographic characteristics of the sample as the questions were related to the individual's age, race, gender, religion, language and socioeconomic status. In line with the aims of this study, the participants' age, gender and religious affiliation were used as independent variables for the analysis.

**4.6.2 The Life Events Checklist for DSM-5 (LEC-5)** This subsection will expand on the psychometric properties of the tool, followed by its usage in the present study in order to create three independent variables related to the diverse "types" of exposure to trauma, followed by the rationale for using the LEC-5 as a means to measure "exposure to trauma". Thereafter a brief explanation of the tools reliability and validity statistics will be presented.

The original version of the LEC was developed at the National Centre for PTSD concurrently with the Clinician Administered PTSD scale (CAPS) to assess exposure to potentially traumatic events (PTEs) according to the DSM's classification and guidelines (Gray, Litz, Hsu & Lombardo, 2004). The LEC-5 is a self-report measure designed to screen for potentially traumatic events in an individual's lifetime (Gray, Litz, Hsu & Lombardo, 2004; Weathers et al., 2013). The LEC-5 assesses the exposure to 16 events that are known to potentially result in the development of PTSD. An additional item assessing any other traumatic event not captured in the first 16 items is included. The original version of the tool was developed at the National Center for PTSD alongside with the Clinician Administered PTSD Scale (CAPS), used to assess exposure to potentially traumatic events (PTE's). This is in accordance with the DSM's classification and guidelines for Posttraumatic Stress Disorder (PTSD) (Gray, Litz, Hsu & Lombardo, 2004).

The LEC-5 has been updated based on and including the recent changes made in the DSM-5 to the checklist for PTSD (i.e., Item 15 "Sudden, unexpected death of someone close to you" was altered to "Sudden accidental death" and the addition of the category "Part of my job" was added). The LEC-5 may be presented in three formats: 1) Standard self-report: to establish if an event occurred; and 2) Extended self-report: to establish the worst event if multiple events occurred; as well as 3) Interview: to establish if Criterion A from the DSM-5 was adequately met. The original study employed the second format, namely the self-report measure. The LEC-5 is an extended version using a two-part, self-report measure. Part 1 is designed to screen for PTE's in an individual's lifetime, whereas part 2 evaluates the event subjectively considered by the participant to be the worst (Weathers et al., 2013). Part 1 assesses four types of exposure on a 6-point nominal scale (i.e., happened to me, witnessed it, learned about it, part of my job, not sure, doesn't apply) to 16 events that are known to conceivably result in the symptom profile and development of PTSD. An extra item is included in order to account for and assess "any other" PTE's that may not have been captured in the first 16 items. Part 2 of the LEC-5 is designed to assess and identify the "worst

event” experienced out of the reported events in Part 1. This section enquires about the specifics of the event (e.g., “how long ago did it happen?” “How did you experience it?” “Was someone’s life in danger?”), therefore eliciting the participants subjective account.

The PLC-5 is typically used as a qualitative screening measure and may be used by both researchers as well as clinicians (Weathers et al., 2013). The scoring protocol is not formalized, it simply identifies whether a person has experienced one or more of the traumatic events listed. The participants indicate the varying levels of exposure to each type of PTE and may then endorse multiple levels of exposure to the same trauma type.

According to Weathers et al., (2013) and apart from the Polish adaptation of the tool, the psychometric properties of the LEC-5 are not currently available, (Rzeszutek, Lis-Turlejska, Palich & Szumial, 2017). The Polish study consisted of 172 students at the University of Finance and Management in Warsaw. The study showed high Kappa coefficients and therefore, good temporal stability. Rzeszutek et al., (2017) found that the magnitude of interclass correlation coefficients for all LEC-5 scales and high values of Cohen’s Kappa coefficients proved a high reliability of this tool. Furthermore, significant correlations between all LEC-5 scales and PDS-5 and IES scales were also obtained, indicating satisfactory validity for the LEC-5 tool.

In a United States (US) study on psychology undergraduate university students (N=108) undertaken by Gray et al., (2004), the reliability indices for the LEC were computed for dichotomized items (“happened to me” versus the other response categories), as well as for the non-dichotomized responses (i.e., full-scale responses). In terms of its reliability as a measure of direct exposure to trauma, 12 of the 17 items produced Kappa coefficients of .40 or higher ( $p < .001$ ). Due to the multiple indirect exposure response options, Kappas were lower when the non-dichotomized responses were factored in. However, the mean coefficient across items ( $r = .47$ ,  $p < .001$ ) was comparable to that produced by other PTE measures, such as the Trauma Life Events Questionnaire (TLEQ). Within the aforementioned study the LEC measure demonstrated good convergence

validity with the TLEQ ( $r_s = .70$ ). Results for the LEC were significantly correlated (in the predicted directions) with PTSD symptoms in the clinical sample (Gray et al., 2004). Therefore with regards to test-retest reliability ( $r = .88$ ,  $p < .001$ ), the LEC appears to be reasonably stable (i.e., the temporal stability of the measure indicated a direct-exposure Kappa ranging between .52 and .84; Gray et al., 2004). In terms of the Polish version (Rzeszutek, et al., 2017), for all scales the Cohen's Kappa exceeded .60. Therefore supporting the cross-cultural generalizability of traumatic experience and the usage of the LEC as well as the LEC-5 within various contexts, including South Africa (Bae et al., 2008; Gray et al., 2004).

Temporal stability is used to determine the reliability of the instrument (Bae et al., 2008; Gray et al., 2004). The LEC was found to have good temporal stability (retest  $r = .88$ , 1-week interval,  $N = 104$ ), in an earlier study (e.g., Bae et al., 2008). Furthermore, this is supported by a Polish adaptation of the LEC-5 which indicated a test-retest coefficient that amounted to  $r = .82$  ( $p < 0.01$ ). The statistics reported above support the cross-cultural generalizability of the traumatic experience and the measure within various contexts, including South Africa (Bae et al., 2008; Gray et al., 2004; Rzeszutek et al., 2017).

For research purposes, the LEC-5 is often used in conjunction with the **Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5)**, which is further discussed.

**4.6.3 The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5).** The following subsection will explore the PCL-5 as a measure of the dependent variable “level of PTS symptoms” experienced by the participant. Firstly a discussion of the psychometric properties of the measure and how it was used in the original study will be presented, followed by a discussion pertaining to the rationale for using the PCL-5 as a measure of PTS. The subsection will end off with an explanation of its reliability and validity statistics.

The PCL-5 is a 20-item self-report measure in a 5 Likert scale format used to measure for presence of PTS symptoms related to the DSM-5 PTSD classification and guidelines (Blevins,



Weather, Davis, Witte & Domino, 2015). It consists of four sub-scales namely 1) intrusion (5 items); 2) avoidance (2 items); 3) cognition and mood (7 items); and 4) arousal and reactivity (6 items). Participants are asked whether they have been bothered by PTS symptoms in the last month (e.g., Item 18: feeling jumpy or easily startled). The scale responses include: “not at all”, “a little bit”, “moderately”, “quite a bit”, and “extremely”, and are scored 0 to 4 respectively. Therefore, participants may achieve a final PTS score (i.e., total severity score) ranging from 0 to 80. The PCL-5 can be interpreted in several ways: 1) total severity score; 2) cluster severity score; 3) provisional PTSD diagnosis; and 4) cut-point suggestions (Blevins et al., 2015). In terms of the use of the PCL-5 in the original study, the participants’ final score (i.e., total severity score) was dichotomized in order to record how high and low PTS scores were using the cut-point suggestion. According to Blevins et al., (2015) various cut scores for the original PCL have been used depending on the population (e.g., combat vs. civilian trauma), setting (e.g., primary care vs. tertiary institutions) and assessment goal (e.g., screening vs. differential diagnosis). It has been suggested that a higher cut-point score should be considered when attempting to make a provisional diagnosis whereas a lower cut-point score should be considered when used for screening purposes or when it is needed to detect possible cases (Weathers et al., 2013). Different PCL-5 cut scores have not yet been determined but the preliminary validation work suggests a cut-point score of 33 (Weathers et al., 2013). That is, participants with a score of 33 or higher may be categorised as having a high presence of PTS (i.e., are at high risk of developing PTSD), and any score lower as having low levels of PTS (i.e., low risk of developing PTSD).

The PCL-5 is a scale used to measure for presenting PTS symptomology related to the DSM-5 classification and guidelines for the disorder. The PCL-5 is one of the most widely used self-report measures of PTS symptomology (Weather et al., 2013). However, in most surveys, respondents usually report a large number of traumatic events, making it difficult to carry out a separate PTSD assessment for each traumatic event experienced by each respondent. This problem is addressed by

using their worst PTE as the focus of the PTSD assessment (e.g., Atwoli et al., 2013; Norris et al., 2003). Therefore, the original researcher used this measure in conjunction with the LEC-5 (see paragraph 4.6.2) by asking participants to record a series of PTS-related symptoms associated with their nominated worst event.

In terms of reliability and validity of the measure, the psychometric properties of the PCL-5 were examined in North American studies involving trauma-exposed university students (N = 278; Blevins et al., 2015), treatment-seeking military service members (N = 912; Wortmann et al., 2016), as well as an abbreviated version on a community sample of adults (Price, Szafranski, van Stolck-Cooke, & Gros, 2016). The PCL-5 scores demonstrated strong test-retest reliability ( $r = .82$ ), internal consistency (Cronbach's  $\alpha = .94$ ), and discriminant ( $r = .31$  to  $.60$ ) and convergent ( $r = .74$  to  $.85$ ) validity (Belvins et al., 2015). These results were supported by Wortmann et al., (2016) and reported that the PCL-5 is useful for identifying provisional PTSD diagnostic status and quantifying PTSD symptom severity.

The original PCL measure (civilian version) was developed according to the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV) criteria for PTSD (Blanchard, Jones-Alexander, Buckley, & Forneries, 1996) and has been used in South African studies (e.g., Alber et al., 2014; Myer et al., 2008) proving to be a reliable and valid assessment measure to use within the South African context. Additionally, recent transcultural adaptations of the PCL-5 have been used internationally, in high-income contexts (or first-world countries) such as Sweden (Sveen, Bondjers, & Willebrand, 2016), Germany (Krüger-Gottschalk et al., 2017) and in low-income contexts (or third-world countries) such as Brazil (Osório et al., 2017). These studies indicated the PCL-5 to be a reliable and valid assessment tool within a variety of contexts, which may include South Africa as a low-to-middle-income, third-world country.

The PCL is a popular PTSD symptoms instrument and is one of the most widely used in research on traumatic stress (Elhai, Gray, Kashdan, & Franklin, 2005). According to Gray et al.,

(2007), the PTSD checklist (PCL) was used by several factor-analytic studies, primarily with confirmatory factor analysis. The psychometric properties of the PCL have been extensively examined, finding support for four-factor as well as three-factor PTSD models using the PCL.

**4.6.4 The Resilience Scale for Adults (RSA)** this subsection will discuss the RSA as a measure of the independent variable “resilience”. Firstly, a discussion of the psychometric properties of the measure will be presented, followed by the rationale for using the RSA in the original study and a description of its use in the original study (Nortjie, 2017). Lastly, a brief explanation of its reliability and validity statistics is presented.

The RSA is a 33-item, self-report measure in a seven-point semantic differential scale format, which measures personal resilience. Each item has a negative and a positive attribute at the end of the scale continuum. In order to reduce acquiescence-biases, half of the items are reversely scored. The RSA aims to determine an individual’s resilience through assessing six protective factors at various levels (i.e., the first four factors assess protective factors at a personal level, and the latter two assess protective factors at a social and family level). The six protective factors include: 1) *Social Competence* (Cronbach alpha  $\alpha = .83$ ); 2) *Planned future* ( $\alpha = .73$ ); 3) *Perception of Self* ( $\alpha = .74$ ); 4) *Structured style* ( $\alpha = .80$ ); 5) *Social resources* ( $\alpha = .74$ ); and 6) *Family cohesion* ( $\alpha = .80$ ; Hjemdal et al., 2006). While the first four factors assess protective factors at a personal (internal locus of control) level, the latter two assess protective factors at a social (external locus of control) level (Hjemdal et al., 2006; Hjemdal, Roazzi, Dias, & Friborg, 2015).

The RSA was selected by the original researcher due to its evaluation of social and family protective factors of resilience. These factors serve as interpersonal resources constructed from relationships that are perceived to be meaningful in terms of support when facing adversities and stress (Morote, Hjemdal, Martinez, Uribe, & Corveleyn, 2017). Therefore, the RSA presents a model that transcends trait characteristics and individual self-appraisal to recognise the relevance of resources within an individual’s environment. This is supported by an ecological systems

perspective, which conceptualizes resilience as the combination of, and interaction between, various factors as stemming from the interplay between personal and social resources (Waller, 2001). The model may therefore be especially relevant for evaluating protective mechanisms in multicultural contexts such as South Africa, where social support networks play a vital role in adaptation, recovery and general wellbeing. It is argued that the tendency of quantitative studies to utilize questionnaires or sub-scales of questionnaires indicates that the focus is typically on traits or resources correlated with resilience, rather than on resilience itself (Theron & Theron, 2010).

Higher scores indicate higher levels of protective resilience factors. A study undertaken on the cross-validation of the RSA (Friborg, Barlaug, Martinussen, Rosevinger, & Hjemdal, 2005; N=482) showed good convergent and discriminatory validity of the scale, as well as good test-retest correlations and internal consistency coefficients ranging from .76 to .86. Friborg et al., (2005) thus concluded that individuals scoring high on the RSA are psychologically healthier and better adjusted and therefore more resilient. In another study, the development of psychiatric symptoms following stressful life events was moderated by the RSA (Hjemdal et al., 2006), consequently validating a protecting effect. Cross-cultural validation studies such as the comparative study between (Norway (N=314) and Brazil (N=222); Hjemdal, Roazzi, Dias & Friborg, 2015), a study conducted on 373 Iran university graduate students (Jowkar, Friborg & Hjemdal, 2010), showed the RSA to be a valid and reliable scale for the assessment of resilience protective resources in at least those three populations. To-date, no cross-cultural comparisons have been conducted on a South African population, however it has been used in recent studies conducted by Mokoèna, (2010) and Veenendaal, (2006) showing good internal reliability coefficients ranging from .97 to .99.

#### **4.7 Data Analysis**

In the original study a total of 164 questionnaires were collected, however, after checking and cleaning the data in order to validate the collected questionnaires, six questionnaires were excluded

as they were found to be incomplete (i.e., respondents had withdrawn from the study) (Nortjie, 2017). Therefore, only 158 questionnaires were used for the analysis. Each questionnaire was given an identification number and the data was then captured and encoded in Excel prior to analysis. The data were then exported from Excel and analysed by the use of the Statistical Package for the Social Sciences (SPSS). This study used the data set consisting of 158 participants.

A logistic regression analysis was conducted in order to examine the relationship and specific predictions regarding PTS and the three groups variables namely; demographic variables, type of exposure to traumatic events, and resilience. The three group variables were computed as six independent (predictor) variables namely' age, religious affiliation (Islam, Christian, other), gender, and type of exposure to trauma (war trauma, interpersonal violence, other) and resilience. PTS was computed as a single dependent (criterion) variable.

Firstly, the internal consistencies of the measuring scale were calculated using Cronbach's alpha ( $\alpha$ ) as the reliability coefficient. Next, descriptive statistics were generated for all the variables. These were used to report on the demographic characteristics of the sample as well as the type of exposure to trauma, level of resilience and the occurrence of PTS. A logistic regression analysis was then undertaken in a stepwise manner according to the three main research questions of the study: statistical modelling was done sequentially and corresponded with the three research questions. For the purpose of the original study, total PTS scores were dichotomized using the suggested cut-point score of 33. High PTS ( $\geq 33$ ) were coded "0" and low PTS ( $< 33$ ) were coded "1".

**4.7.1 Motivation for the data analysis.** Logistic regression was chosen by the primary researcher as the appropriate statistical method for analysing the data collected as firstly, there are multiple independent (predictor) variables that determine the dependent (outcome) variable. Secondly, the outcome is measured as a dichotomous variable (Field, 2009). Data were entered into the model in the order specified by the primary researcher (i.e., stepwise regression), and in accordance with the questions posed by the research. Therefore, with PTS entered as the outcome

variable, the demographic variables (i.e., age, gender and religious affiliation) were entered into the first model. The second model included the type of trauma experienced. Finally, the resilience variable was included in the last model. Statistical modelling was utilised to assess the individual and combined contribution of the predictor variables to the dependent variable. According to Field (2009) sample sizes for regression analysis can vary, provided there is sufficient data for each independent variable, regression analysis can be run. The sample size was large enough for the current analysis.

Stepwise regression is frequently used in the exploratory phase of research as the goal is to discover connections between the variables and there were no a-priori assumptions regarding the relationships between the variables (Field, 2009). Logistic regression is a predictive analysis and was chosen in order to describe data and to explain the connections (relationships) between one dependent variable and one or more independent variables.

The six independent variables were; age, gender, religious affiliation and three types of trauma (i.e., non-interpersonal violence (other), interpersonal violence and war trauma). In the original study, the first three variables were obtained from the biological questionnaire; the following three 'trauma' variables were measured by the LEC-5, and the last single 'resilience' variable by the RSA. Gender was coded as 0 = female and 1 = male. Resilience was measured as a continuous variable with higher scores indicating a higher level of resilience. The dependent variable was PTS, measured by the PCL-5. The PCL-5 produces a total PTS score ranging from 0 to 80. A dichotomized variable was needed for the logistic regression analysis. The PCL-5 manual indicates a general cut-point score of 33 (Blanchard et al., 1996). Therefore, those who scored 33 and above were coded 0 and labelled "high PTS" (High risk of developing PTSD) and those with scores of less than 33 were coded 1 and labelled "low PTS" (low risk of developing PTSD) (Nortjie, 2017).

#### 4.8 Ethical Considerations

In terms of the ethical clearance for the original study, ethical clearance was obtained by the primary researcher from the Senate of Higher Degrees Committee and was approved by the registrar of the University of the Western Cape. Thereafter, the primary researcher obtained permission from the lecturers and tutorial leaders for the use of their classes in order to distribute the questionnaires. Permission was obtained from the participants who were asked to complete an informed consent form (see Appendix B). Participants were informed of their right to terminate participation at any point in time and were assured of the anonymity of their responses, as the questionnaires didn't require the names of the respondents. Additionally, the primary researcher provided an information sheet (attached to the consent form and questionnaires), outlining the nature of the study, benefits and potential risks involved in being a participant (Appendix A). It was ensured that this was also conveyed to the participants verbally by the primary researcher prior to the completion of the survey. The study therefore depended on informed and voluntary participation. This was considered a low-risk study meaning that no known risks were involved in participation in the study. In the event that the participants felt psychologically distressed after completion of the questionnaires, cautionary measures were undertaken and participants were provided with the contact number and the location of the Centre for Student Support Services at the University of the Western Cape. The researcher did not have any personal relationship with any of the participants involved in the study. Completed consent forms and questionnaires were stored in a locked drawer and electronic research working papers were stored on a password-protected personal computer.

The procedure for ethical clearance pertaining to the present study adhered to the following; firstly, a proposal of the study was presented to the Senate of Higher Degrees Committee of the University of the Western Cape and was approved by the registrar, secondly, due to the nature of the secondary data used in the present study, permission to use the data collected by the primary

researcher was obtained (see appendix C), finally, ethical approval was obtained from the Universities ethics committee.

There were no new ethical implications in this study due to the use of secondary survey data. All ethical guidelines pertaining to the primary study were adhered to. The researcher received the anonymous final data set from Ms C. Nortjie. The data received will be stored on a password-encrypted computer and erased after the analysis is completed.

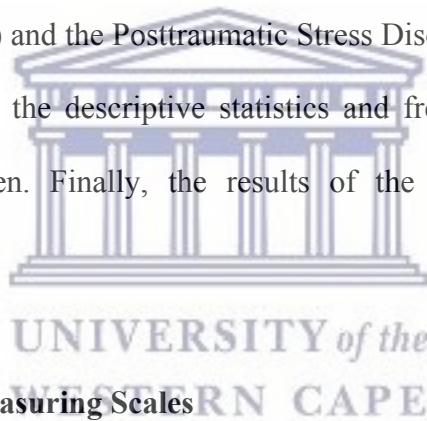




## CHAPTER FIVE

### RESULTS

The aim of this study was to investigate the relationship between the demographic characteristics, trauma related variables and resilience factors associated with the development of posttraumatic stress (PTS), and the extent to which the selected demographic factors and type of trauma also mediate this relationship, when there is exposure to trauma. The results are reported according to the aims of the study. This chapter provides the results, which originate from the research methods described in the previous chapters. Firstly, the internal consistencies for the Resilience Scale for Adults (RSA) and the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) are presented. Following this, the descriptive statistics and frequencies for the dependent and independent variable(s) are given. Finally, the results of the logistic regression analysis are presented.



#### 5.1 Internal Consistencies of Measuring Scales

This section reports on the results of the internal consistency of the two measuring scales (the RSA; and the PCL-5), using Cronbach's alpha ( $\alpha$ ). A reliability coefficient of .7 to .8 was used as a measure for a satisfactory value for Cronbach alpha (Field, 2009). The results are displayed in Table 5.1.1 and Table 5.1.2.

**5.1.1 Resilience.** The internal consistency for the reliability coefficient for the RSA is reported in Table 5.1.1 below.

Table 5.1.1

*Cronbach's Alpha Coefficients of the Resilience Scale for Adults (RSA)*

Scale	Items (N)	Cronbach's $\alpha$
RSA	33	.893

*Note:* RSA = The Resilience Scale for Adults

As evidenced in Table 5.1.1 the internal consistency for the reliability coefficient for the RSA yielded a Cronbach alpha coefficient (.893), indicating the RSA to be a reliable measure of resilience. This is supported in previous studies (e.g., Friberg et al., 2005), which highlighted a reliability coefficient of .88, as well as in a South African study (Veneendal, 2006), which revealed a reliability coefficient of .89.

**5.1.2 Posttraumatic stress symptoms.** The internal consistency for the reliability coefficient for the PCL-5 in the original study was determined for the four subscales as well as the full scale and can be seen in Table 5.1.2 below.



Table 5.1.2

*Cronbach's Alpha Coefficient of the Posttraumatic Stress Disorder Checklist for DSM-5*

Scale (Subscale)	Items (N)	Cronbach's $\alpha$
<b>PCL-5</b>	<b>20</b>	<b>.939</b>
Intrusion	5	.867
Avoidance	2	.867
Cognition and mood	7	.883
Arousal and reactivity	6	.845

Note: PCL-5 = The Posttraumatic Stress Disorder Checklist for DSM-5

Both the intrusion subscale (5 items) and the avoidance subscale yielded a Cronbach Alpha coefficient of .867, whereas the cognition and mood subscale (7 items) as well as the arousal and reactivity subscale (6 items) yielded a Cronbach alpha coefficient of .883 and .845, respectively. The reliability coefficient for the PCL-5 full scale is .939, indicating that the PCL-5 is a reliable measure of PTS symptoms in accordance with the DSM-5 classification guidelines, which is supported by previous studies showing a similar Cronbach's alpha of .94 (Blevins, et al., 2015).

## 5.2 Descriptive Statistics

The following section identifies the descriptive statistics for the dependent variables across the levels of independent variables. The sample characteristics were calculated and are presented in Table 5.2. The frequency statistics are presented in Table 5.3.1, Table 5.3.2 and Table 5.3.3. The means and standard deviations (SD) are displayed in Table 5.4.

**5.2.1 Sample Characteristics.** The demographic characteristics of participants are displayed in Table 5.2 below.

Table 5.2

*Demographic Characteristics of Participants at the University of the Western Cape (N = 158)*

Characteristic	N	%
<b>Age</b>		
18-21	99	62.7%
22 plus	59	37.3%

<b>Total</b>	158	100.0%
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**Gender**

Female	117	74.1%
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Male	41	25.9%
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<b>Total</b>	158	100.0%
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**Year of Study**

1 <sup>st</sup> year	22	13.9%
----------------------	----	-------

2 <sup>nd</sup> year	65	41.1%
----------------------	----	-------

3 <sup>rd</sup> year	39	24.7%
----------------------	----	-------

4 <sup>th</sup> year	8	5.1%
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Unspecified	23	14.6%
-------------	----	-------

<i>Missing data</i>	1	0.6%
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**Religious Affiliation**

Islam	131	87.3%
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Christian	13	8.7%
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Other	6	4.0%
-------	---	------

Total	150	88.2%
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<i>Missing system</i>	19	11.8
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**'Race'**

'White'	5	3.2%
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'Black'	45	28.8%
---------	----	-------

'Coloured'	102	65.4%
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'Indian'	2	1.3%
----------	---	------

Other	2	1.3%
-------	---	------

<i>Missing data</i>	2	1.3%
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## Language

English	71	44.9%
Afrikaans	46	29.1%
Xhosa	28	17.7%
Other	13	8.2%

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Table 5.2 indicates that the majority of the participants were female (74.1%), as opposed to males who comprised of 25.9% of the sample. With regards to the age of the participants, the majority were between the ages of 18 and 21 years old (62.7%), with 37.3% of the sample being above the age of 22. The sample consisted primarily of ‘Coloured’ individuals (64.6%), followed by ‘Black’ (28.5%), ‘White’ (3.2%), and ‘Indian’ (1.3%) individuals. The last 1.3% classified themselves as Other (“human”) and 1.3% were missing. In terms of religious affiliation, Islam faith was the most prevalent (87.3%) religion within the original sample, followed by Christian (8.7%). The ‘other’ (e.g., Atheist, Jewish, Agnostic) made up the remaining 4.0%. Of all the demographic variables, this item had the largest percentage of missing data (11.8%). The participants were predominantly English (44.9%), Afrikaans (29.1%) and Xhosa (17.7%) speaking, with Sotho, Zulu, Sepedi and SiSwati comprising the remaining 8.2% of the sample. 13.9% of the respondents were in their first year of studying, 41.1% in their second year, 24.7% in their third and 5.1% in their fourth. 14.6% were unspecified as they answered ‘2016’ or ‘2017’ as their year of study and 0.6% were missing.

**5.2.2 Frequency distribution.** This subsection identified the range of exposure to trauma, level of PTS as well as the level of resilience. The frequency distribution of the different variables is displayed in Table 5.3.1, 5.3.2 and 5.3.3, respectively.

Table 5.3.1

*Frequency Distribution of Exposure to Trauma (N = 158)*

<b>The LEC-5</b>	<b>N</b>	<b>%</b>
<b>Overall Exposure to Trauma</b>		
None	1	0.6
Single	0	0
Multiple	157	99.4
<b>Type of Exposure</b>		
<b>Direct</b>		
None	2	1.3
Single	6	3.8
Multiple	150	94.9
<b>Indirect</b>		
None	16	10.1
Single	8	5.1
Multiple	134	84.8
<b>Level of Exposure</b>		
<b>Personally experienced</b>		
None	19	12
Single	40	25.3
Multiple	99	62.7
<b>Witnessed it</b>		
None	15	9.5



Single	26	16.5
Multiple	117	74.1
<b>Learned about it</b>		
None	16	10.1
Single	9	5.7
Multiple	133	84.2
<b>Part of my job</b>		
None	150	94.9
Single	5	3.2
Multiple	3	1.9

---

*Note:* LEC-5 = The Life Events Checklist for DSM-5

Table 5.3.1 confirms that of the 158 participants, the vast majority (99.4%) reported multiple exposures to PTEs (2 or more) none reported having experienced only a single event and one participant had never experienced a potentially traumatic event (0.6%). Of those who reported experiencing multiple traumas, 98.7% reported directly experiencing at least one PTE and 89.9% reported indirectly experiencing at least one PTE. 88% had personally experienced a PTE whereas 90.5% of the sample had witnessed a PTE. Regarding indirect exposure, 89.9% of the sample had learned about a PTE and only 5.1% reported being exposed to aversive work-related details. Overall, apart from the ‘part of my job’ section, the vast majority of respondents had experienced multiple exposures to trauma across the levels of exposure.

Furthermore, with regards to the type of trauma experienced, the models consistently indicated that the majority (62.5%) of participants had experienced ‘other’ trauma, followed by ‘interpersonal trauma’ (19.6%) and thereafter ‘war trauma’ (3.2%). Despite the non-significance of

these variables in the study, the distribution of the type of trauma across the participant group may still be a relevant point of discussion, which will be further explored in the discussion.

Table 5.3.2

*Frequency Distribution of Type of Trauma (N = 158)*

<b>The PLC-5</b>	<b>%</b>
<b>Type of Trauma</b>	
<b>Other</b>	62.5%
<b>Interpersonal Trauma</b>	19.6%
<b>War Trauma</b>	3.2%

Table 5.3.2 illustrates that of the 158 participants, 62.5% experienced ‘Other’ types of trauma, and whereas 19.6 % of the participants reported having experienced ‘Interpersonal trauma’ and 3.2% had experienced ‘War trauma’.

Table 5.3.3

*Frequency Distribution of Posttraumatic Stress Symptoms (N = 158)*

<b>The PLC-5</b>	<b>N</b>	<b>%</b>
<b>Level of Posttraumatic Stress</b>		
Low	99	62.7
High	59	37.3



Note: PCL-5 = The posttraumatic Stress Disorder Checklist for DSM-5

Table 5.3.3 illustrates that of the 158 participants, 62.7% experienced low levels of PTS symptoms whereas 37.3% of the participants reported a high presence of PTS symptoms.

Table 5.3.4

*Frequency Distribution of Resilience Scores (N = 158)*

The RSA	N	%
<b>Level of Resilience</b>		
Low	1	0.6
High	157	99.4

Note: RSA = The Resilience Scale for Adults

The total RSA score was dichotomized into a low- and a high-resilience categories using the median (99) as a split point, using Friborg (2006) for descriptive purposes. Examination of Table 5.3.4 shows that the majority of participants (99.4%) had high resilience (a score equal to or above 99).

**5.2.3 Means and standard deviations.** This subsection identifies means and standard deviations for PTS, resilience and types of exposure to trauma, respectively. The statistics are presented in Table 5.4.

Table 5.4

*Means and Standard Deviations of Posttraumatic Stress Symptoms, Resilience and Traumatic Life Events (N = 158)*

<b>Measures</b>	<b>Mean</b>	<b>SD</b>
<b>PCL-5</b>		
Posttraumatic Stress Symptoms	27.9	18.66
<b>RSA</b>		
Resilience	167.27	27.88
<b>LEC-5</b>		
<b>Direct Exposure</b>	6	3.39
Experienced it	3	1.98
Witnessed it	3	2.51
<b>Indirect Exposure</b>	5	3.59
Learned about it	5	3.54
Part of my job	0	0.74

*Note:* PCL-5 = The Posttraumatic Stress Disorder Checklist for DSM-5; RSA = The Resilience Scale for Adults; LEC-5 = The Life Events Checklist for DSM-5

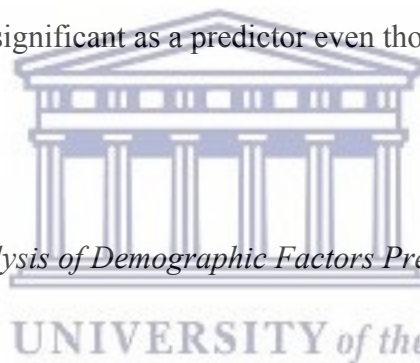
Table 5.4 indicates that participants in the original study had on average, a mean PTS symptoms score of 27.9 (SD = 18.66). The average resilience score for the sample was 167.27 (SD = 27.88). With regards to exposure to potentially traumatic events (PTEs), participants were on average, directly exposed to 6 PTEs. Of those 6 PTEs, 3 were personally experienced and 3 were witnessed. Furthermore, participants were indirectly exposed to 5 PTEs, of that, 5 were learned about events whereas none were reportedly experienced through work-related details.

### 5.3 Logistic Regression Analysis

Age was used as a categorical 18-21 and 22+ was used as the reference category. The religious affiliation categories were, Christian and Catholic (category 1), Islam (category 2) and Other (category 3), and the reference category was Christian and Islam. The results of the logistic regression for the three groups of independent variables predicting PTS were entered in a stepwise manner and are displayed in Table 5.6.1, Table 5.6.2 and Table 5.6.3, respectively.

**5.3.1 Model I: Demographic predictors.** Model I includes gender, age and religious affiliation as the independent variables, and PTS as the dependent variable (Table 5.6.1). The full demographic model was not significant ( $p = .500$ , chi-square .877 with  $df = 4$ ) and explained only 3.7% of the variance (Nagelkerke's  $R^2 = 0.037$ ). However, age was found to be a significant variable ( $p=.054$ ), indicating that age was significant as a predictor even though the overall model was not.

Table 5.6.1



*Model I: Logistic Regression Analysis of Demographic Factors Predicting Posttraumatic Stress*

Independent Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for Exp(B)	
							LL	UL
Age (18-21)	-.708	.368	3.699	1	.054	.492	.239	1.014
Religious Affiliation			.063	2	.969			
Religious Affiliation (1)	-.176	.901	.038	1	.845	.839	.143	4.906
Religious Affiliation (2)	-.265	1.057	.063	1	.802	.767	.097	6.084

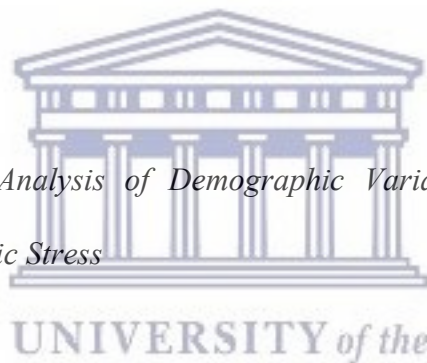
<b>Gender</b>	-2.207	.400	.266	1	.606	.813	.371	1.282
<b>Constant</b>	1.290	.940	1.886	1	.170	3.634		

Note: Exp(B) = OR = odds ratio; CI = confidence interval; LL = lower limit; UL = upper limit; df = degree of freedom; Model chi-square = .877; Nagelkerke's  $R^2 = .037$ ; df = 4

**5.3.2 Model II: Demographic variables and exposure to trauma predictors.** In addition to age, religious affiliation and gender, Model II included the type of exposure to trauma (i.e., LEC – war trauma, interpersonal violence, other) (Table 5.6.2). Similarly to Model I, this model was not significant ( $p = .515$ , chi-square 5.999 with  $df = 8$ ) and explained only 5.7% of the variance (Nagelkerke's  $R^2 = 0.057$ ). Age as a predictor was not significant in this model.

Table 5.6.2

*Model II: Logistic Regression Analysis of Demographic Variables and Exposure to Trauma Variables Predicting Posttraumatic Stress*



Independent Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for Exp(B)	
							LL	UL
<b>Age (18-21)</b>	-0.812	.385	4.452	1	.035	.444	.209	.944
<b>Religious Affiliation</b>			.063	2	.969			
<b>Religious Affiliation (1)</b>	-0.230	.923	.062	1	.803	.794	.130	4.846
<b>Religious Affiliation (2)</b>	-0.233	1.081	.046	1	.830	.792	.095	6.598

<b>Gender</b>	-.247	.408	.368	1	.544	.781	.351	1.737
<b>LEC other</b>	-.066	.084	.625	1	.429	.936	.795	1.103
<b>LEC</b>	-.044	.099	.196	1	.658	.957	.788	1.162
<b>interpersonal violence</b>								
<b>LEC war trauma</b>	-.043	.238	.032	1	.858	.958	.601	1.529
<b>Constant</b>	2.056	1.101	3.486	1	.062	7.814		

Note: Exp(B) = OR = odds ratio; CI = confidence interval; LL = lower limit; UL = upper limit; df = degree of freedom; Model chi-squared = 5.999; Nagelkerke's  $R^2 = .057$ ; df = 8

### 5.3.3 Model III: Demographic factors, exposure to trauma and resilience predictors.

The full model (Table 5.6.3), which included demographic variables (religious affiliation, gender, age), types of exposure to trauma (interpersonal trauma, war trauma, other), and resilience, was significant ( $p = 0.033$ , chi-square 16.773 with  $df = 8$ ) indicating that the predictors as a set reliably distinguished between high and low PTS symptoms with a substantial increase in the variance explained. The combined predictors explained 16.4% of the variance (Nagelkerke's  $R^2 = 0.144$ ). Therefore, adding the 'resilience' variable allowed for an explanation of an additional 10.8% of variance in PTS outcomes. Overall, prediction success was 70.1% (44.8% for high PTS and 85.4% for low PTS). Therefore indicating an increase from the constant only model with a prediction success of 62.3% (0% for high PTS and 100% for low PTS).

Table 5.6.3

*Model III: Logistic Regression Analysis of Demographic Factors, Exposure to Trauma and Resilience Predicting Posttraumatic Stress*

Independent Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI for Exp(B)	
							LL	UL
Age (18-21)	-.453	.414	1.196	1	.274	.636	.283	1.431
Religious Affiliation			.278	2	.870			
Religious Affiliation (1)	-.300	.950	.099	1	.753	.741	.115	4.770
Religious Affiliation (2)	-.015	1.113	.000	1	.989	.985	.111	8.731
Gender	-.200	.421	.225	1	.635	.819	.359	1.868
LEC other	-.072	.086	.699	1	.403	.930	.785	1.102
LEC interpersonal violence	-.046	.102	.201	1	.654	.955	.782	1.167
LEC war trauma	-.087	.247	.124	1	.725	.917	.565	1.487
Resilience	.022	.007	9.530	1	.002	1.023	1.008	1.037
Total								
Constant	-1.798	1.655	1.181	1	.277	.166		

Note: Exp(B)=OR=odds ratio; CI=confidence interval; LL=lower limit; UL=upper limit; df=degree of freedom; Model chi-square =16.773; Nagelkerke's  $R^2 = 0.144$ ; df = 8

Table 5.6.3 demonstrates that within Model III, one significant relationship was discovered. Resilience was significant in this model as the Wald criterion demonstrated that resilience made a significant contribution to prediction ( $p = .002$ ). The slope was positive (0.022) indicating that as

resilience increased, the risk for PTS decreased. That is, the  $\text{Exp}(B)$  value indicates that when resilience is increased by one unit, the odds ratio (OR) is 1.023 times as large (OR (95% CI) 1.023 (1.008 – 1.037),  $p = .002$ ). Therefore, resilient students are 1.023 times more likely to have a low PTS score.



## CHAPTER SIX

### DISCUSSION

This chapter discusses the results of the analysis reported on in Chapter five. The results of the internal consistency will be briefly discussed followed by an overview of the descriptive statistics. Thereafter the results of the logistic regression analysis will be discussed in accordance with the aims outlined in this study. This is followed by the summary and conclusion and finally, the limitations and recommendations for future research.

#### 6.1 Internal Consistencies

The internal consistency as a measure of reliability was computed for the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) and the Resilience Scale for Adults (RSA). The PCL-5 measured posttraumatic stress (PTS) and the RSA measured individual resilience. The Cronbach alpha ( $\alpha$ ) coefficient exhibited acceptable levels in terms of the internal consistency for both the PCL-5 and RSA. This demonstrates that the various items included in the PCL-5 (a scale proposing to measure PTS) and the RSA (a scale proposing to measure resilience), are therefore considered to be reliable measures for the analysis that followed. As reported earlier, the LEC-5 was found to have good temporal stability (i.e., test-retest reliability) in other studies (e.g., Bae et al., 2008; Rzeszutek et al., 2017). As a result, all of the above mentioned measures were included in the further analysis.

#### 6.2 Overview of the Descriptive Statistics

**6.2.1 Sample Characteristics.** From the total sample, (74.1%) the majority were female. The racial classification of 'Coloured' (64.6%) represented the bulk of the participants, followed by 'Black' (28.5%), 'White' (3.2%), and 'Indian' (1.3%). Racial classification has been strongly



objected and contested within the South African context, as outlined in chapter one, in light of the history of oppression and segregation under the Apartheid regime, therefore making it necessary to problematize race. This may account for the two individuals who classified themselves as ‘human’, not wanting to assign themselves to any ‘race’ in particular. The ‘racial’ profile in the sample represents a similar ‘racial’ profile of the university. In terms of age, the reported age of students ranged from 18 to 21 years, and 22 years and above, with the majority being between the ages of 18 and 21 (62.7%). This is considered to be the typical age range of individual’s in undergraduate and honours programmes. 44.9% of the participants were English speaking, reflecting the predominant language of instruction at UWC. 87.3% were of Islamic faith, 8.7% identified as Christians and 4.0% identified as ‘other’. Therefore, majority of the participants in the sample identified to be of the Islamic faith.

The demographic characteristics are representative of the university from which this sample was drawn. Due to the historically disadvantaged background of UWC the sample used in the original study was perhaps more typical of the general population than other universities in that it catered for the racially segregated communities during the apartheid regime. Criticisms regarding the use of university samples in research are common in that they are not thought to accurately represent the broader population. However, as demonstrated by the racial demographics and even distribution in SES, this sample may be more inclusive and therefore representative than other university samples.

**6.2.2 The type of exposure to trauma, posttraumatic stress, and resilience.** The overall PTE amongst the participants in the study is high, with the vast majority of participants (all except for one) reported an incidence of exposure to multiple traumas. The results denote that 88% and 90.5% of the sample had personally experienced and witnessed a posttraumatic event (PTE), respectively, and 89.9% reported learning about a PTE. Therefore, clearly showing that the participants had experienced equally high numbers of exposures between the various exposure types,

making direct and indirect exposure comparable within this sample. Similarly high incidences of witnessing a traumatic event was found to be common in the South African population (Atwoli et al., 2013), which is consistent with other studies, reflecting similarly high rates of exposure to trauma (Kaminer et al., 2013). Participants in this study were directly exposed to 6 PTEs and indirectly exposed to 5 PTEs on average. In comparison, Atwoli et al., (2013) reported that 27.6% of respondents reported witnessing trauma, where men reported witnessing traumatic events more frequently than women (33.4 vs 22.87,  $p < 0.0001$ ). Furthermore, the study reported an average of 4.3 lifetime PTEs among participants. (Atwoli et al., 2013). Reference was made to the statistics showing that about three in four South Africans reported experiencing at least one traumatic event and over half (55.6%) have experienced multiple events. Similar results have been found in international studies, indicating that roughly 68% of Americans have been exposed to trauma in childhood (Hunt, Martens, & Belcher, 2011). This reflects similar rates found in the present study, further highlighting the increased risk of exposure to multiple forms and varying types of trauma across levels of exposure in the South African population.

The present study was in keeping with the study undertaken by Atwoli et al., (2013) in that more participants reported witnessing multiple traumatic events (74.1%), when compared to personally experiencing multiple traumatic events (62.7%). However, both direct exposure and witnessing of a traumatic event were found to be high. Furthermore, this is in line with the findings that witnessing a traumatic event are common in the South African population. Indicating the impact that is had on not only those considered to be directly affected, but also on bystanders and observers (Atwoli et al., 2013).

Given the demographics of the participants in the study (i.e., university students) high exposure to PTEs were expected in that the participants were considered more at risk due to their age and life stage (i.e., increased independence). The results of the current study were in line with this, indicating fairly high levels of exposure to trauma amongst university students used in the sample.

This is supported by a study undertaken by Elhai et al., (2012) of college students in Ohio, in which results of the estimate of trauma exposure of the participants was found to be 67% and 59% when measuring the diagnosis based on the DSM-IV and DSM-V respectively. Therefore, indicating high rates of exposure to trauma among college students.

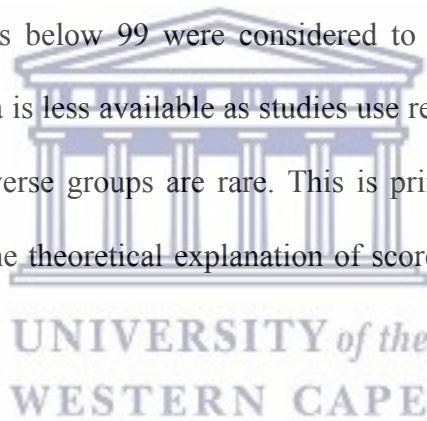
The high rates of exposure to trauma may be accounted for by a number of factors. Firstly, although students may be considered sheltered whilst on campus, returning home to their various communities may result in exposure to community violence. According to Hunt, Martens, and Belcher, (2011) higher rates of exposure to interpersonal violence were found amongst African Americans living in urban environments.

Secondly, students are also considered to be more independent, resulting in them staying out at night, engaging in alcohol or substance use and thus placing themselves at increased risk. The above examples illustrate that although a sample may be considered to be less at-risk due to demographic factors such as age and university enrolment, the type of trauma experienced by the individual may be contingent on various other contextual factors (i.e., context and lifestyle).

The average PTS score of the sample displayed a relatively low score of PTS symptoms as a whole, and therefore are considered at low-risk of developing PTSD. 62.7% of participants reported low levels of PTS symptoms, therefore indicating that they were at a low-risk of developing symptoms warranting a diagnosis of PTSD, whereas the 37.3% of participants that reported high levels of PTS symptoms, and are considered to be at higher-risk for developing PTSD following exposure to trauma. Although these scores are not directly comparable to the results found in other studies (Atwoli et al., 2013), they are in keeping with the trend of increased vulnerability due to multiple traumas. According to Ameringen, Mancini, Patterson, and Boyle (2008) in a Canadian sample, of the total population, 75.9% reported lifetime exposure to one or more traumatic events (73.4% in women and 78.5% in men). The majority of these individuals reported exposure to multiple events with a mean of 2.31 (SD=2.33). Men reportedly a significantly higher mean number

of traumatic exposures (2.48 events; SD=2.43), compared to women (2.15 events; SD=2.23) ( $p<0.001$ ,  $t=3.87$ ). Therefore, indicating on a global level the effect of multiple exposures to trauma and the increased vulnerability to PTS. According to Atwoli et al., (2013) similarly high rates are reported in the South African context, with 73.8% reporting at least one lifetime exposure, while the average person was found to be exposed to any lifetime PTE reported an average of 4.3 occurrences. Multiple exposures to trauma are therefore considered risk factors to developing PTS both globally as well as locally, highlighting it as a salient area of further intervention.

The total resilience scores using the RSA, was dichotomized into a low- and a high resilience categories using the median (99) as a split point. The results indicated that the majority (99.4%) of participants had high resilience. The average resilience within the sample was considered to be 'high' (mean = 167.27) as scores below 99 were considered to be indicative of 'low' resilience (Friborg, 2006). Comparative data is less available as studies use resilience in the analysis; however, resilience comparisons across diverse groups are rare. This is primarily due to the fact that many resilience studies are reliant on the theoretical explanation of scores rather than on direct statistical comparisons (Friborg, 2006).



### **6.3 The relationship Between Resilience, Demographic Factors, Types of Exposure to Trauma and Posttraumatic Stress**

This study was undertaken in order to understand and better explain the relationship between resilience and certain demographic factors (i.e., age, religious affiliation and gender) and types of exposure to trauma (i.e., war trauma, interpersonal violence and other) in relation to the development of PTS. Gaining more information and clarity on the aforementioned relationships was hypothesised to identify and better explain possible risk and protective factors associated with resilience when one is exposed to traumatic event(s). The primary aim was to explore the extent to which resilience was able to mediate negative outcomes with regards to PTS. The secondary aim being to investigate how

demographic variables and differences in terms of the type of exposure to trauma may also serve as mediating factors of negative outcomes in the event of exposure to trauma.

The discussion aims to explore resilience in terms of the definition used for the purpose of this study, that is; resilience as a dynamic, fluid construct, one that develops from the combination of numerous risk and protective factors within various systems as well as the reciprocal, interchangeable relationship between these systems. In light of this, the ecological-systems theory proposed by Bronfenbrenner (1977) is used as the theory from which to understand and interpret the results of this study. This discussion therefore aims to explore resilience as a construct that develops and is influenced by the combination of numerous risk and protective factors within various interacting systems as well as the reciprocal, interchangeable relationship between these systems.

Demographic differences have been identified as a crucial area in trauma research as it is seen to influence the level of exposure and responses to trauma within given contexts (Mills et al., 2011). Only age was significant in Model I, as discussed below, while the other selected demographic variables do not appear to mediate PTS outcomes.

The non-significance of demographic variables in model I may be considered in light of the South African context as well as factors not measured in this study. According to Atwoli et al. (2015) when compared to European and Asian countries, demographic factors showed little association with PTSD risk in South Africa due to its historical underpinnings in terms of exposure to violence, continuous trauma and continued systematic discrimination. Therefore, it is argued that within the tertiary institutional environment and relative to the broader South African context, demographic variables (i.e., gender, age) do not interact sufficiently to significantly influence the variations in PTS outcomes. Rather, the variations may be better accounted for by other factors.

The significant result for age in Model I, but not in Model II and III indicate that age is better accounted for by type of trauma and resilience. There may be two possible reasons for this. Firstly,

age as a variable may have less of an impact for young adults (as in the present study) and may therefore be better explained by trauma exposure and resilience.

Secondly, the capacity to be resilient may be influenced and shaped by the nature of aging in that as one gets older and enters different life stages (i.e., attending university), this may signify a turning point in an individual's life and consequently a change in their ability to be resilient. However, as demonstrated in the study conducted by Jonker and Greeff (2009) young adults may access social support from friends, community members, their religious community as well as members of their extended family, all of which are viewed as protective factors during times of stress. It can be hypothesized that university students may have access to increased social support despite individuating from their family of origin in that they are surrounded by peers as well as other significant role-players. Individuals who are able to draw on high levels of personal and social support/resources are considered to be more effective in coping with adversity (Brown & Westaway, 2011).

The movement away from individually based conceptualizations is in line with this as it postulates that an individual is more capable of resilience based on the quality of their interpersonal relationships, rather than on their own individual characteristics. Therefore, age may not have been identified as a significant protective factor due to various other influencing variables such as the quality of support and interpersonal relationships amongst university students.

In terms of gender, a frequently replicated finding in the epidemiology of PTSD is the prevalence of female cases (Breslau & Anthony, 2007). The majority of studies have indicated that women are at high 'risk' in that they are 75% more likely than men to develop PTSD (Jayawickreme et al., 2011) and report more severe PTS symptoms than males (McGowan & Kagee, 2013). However, female sex was significantly associated with elevated PTSD risk in all the countries apart from South Africa (Atwoli et al., 2013). This finding is likely attributed toward two main findings highlighted in the international and South African literature.

Firstly, although there is a reported increased risk of PTSD associated with females, research has demonstrated that females tend to demonstrate more resilience after exposure to a traumatic event (Sun & Stewart, 2007). This is likely attributed to the fact that men and women respond differently to exposure to trauma with regards to their chosen coping strategies and stressor appraisal (Nolen-Hoeksema & Aldao, 2011; Padmanabhunanni et al., 2007). Additionally, females are also found to receive a greater level of social support following a traumatic event, and are more likely to seek help or rely on other protective resources when exposed to trauma (McGowan & Kagee, 2013).

This is in line with the larger social discourse and gender roles as assigned by society in that men are typically viewed as less emotional and ‘stronger’, whilst women are viewed as more emotional and open to discussing their experiences. This highlights the gender stereotypes that may exist within various social contexts and how they influence an individual’s willingness to engage in help-seeking behaviour following a stressful or traumatic event. Therefore, within a given context, additional factors (e.g., access to protective resources) may offset the influence gender (i.e., being female) has on negative outcomes (e.g., PTS). In terms of this study, the instrument used to measure resilience (i.e., the RSA) included a ‘social resources’ subscale. As previously mentioned, research demonstrates that females tend to receive a greater level of social support following a traumatic event, which would in turn, increase the ‘social resources’ subscale. Therefore, it may be argued that females likely had access to and demonstrated a greater reliance on protective resources associated with resilience. That is, females within this study may have had access to various social support systems as well as protective individual characteristics, which likely offset the influence exposure to trauma had in terms of gender differences and the development of PTS.

This can however only be speculated as the current study did not measure the RSA’s individual subscales in relation to gender differences with regards to trauma and PTS outcomes. It does indicate that it may be important to study resilience in terms of gender differences when there is exposure to trauma, especially within the South African context. However, according to Atwoli et

al., (2015) most epidemiological studies on trauma and PTS do not take resilience into consideration in that, together with resilience-related factors, demographic characteristics may have contributed differently toward the development of PTS (i.e., played a greater protective or risk role) when exposed to multiple traumas, as highlighted by the results in this study.

The results may also point to a possible sensitization process that takes place, especially within a South African context where exposure to trauma is high irrespective of gender. The above is speculated and it cannot be inferred that the non-significant result is solely due to either resilience or trauma differences, as this study did not focus on gender differences in exposure to trauma and the recovery thereof.

The current study is in line with the study conducted by Lewis et al., (1997) in that no significant relationship was found. A growing body of literature suggests that spirituality may serve a protective function to both men and women in the post-trauma period, but the results have been mixed. Many studies have been performed examining the topic of religion and how it manifests itself in everyday psychological adjustment and the results have been varied. Some studies (e.g., Koenig & Larson, 2001; Gartner, Larson, & Allen, 1991) found religion to be positively correlated with adjustment, whilst other studies found it to be negatively correlated (e.g., Dreger, 1952; Schaefer, 1997), and furthermore, other studies found no significant relationship at all (e.g., Lewis et al., 1997). According to Hackney and Sanders, (2003) the contradictory findings obtained by researchers in this field are due to their operationalization of religiosity and of mental health. Religion is a multifaceted construct and it is possible that different aspects of religiosity are differently related to mental health. Further analyses are required in order to examine the impact of various definitions of mental health. The possibility that religiosity and mental health definitions interact, producing a pattern in which different aspects of religiosity demonstrate different relationships with different definitions of psychological adjustment requires further exploration (Hackney & Sanders, 2003).



Another possibility is the differing foci in the studies, with some being general in nature, whilst others have focused on one specific type of religiosity. In a meta-analysis undertaken by Bergin (1983), the overall mean correlation (0.09) between religiosity and “better mental health” indicated moderate (and ambiguous) evidence for a positive relationship between religiosity and psychological functioning. According to Bergin, (1991) (cited in; Hackney & Sanders, 2003) his earlier review of the literature on the relationship between religiosity and mental health showed evidence that average effects were generally positive, although not dramatic. This review indicated a number of correlations between religious affiliation and positive psychological functioning. Whereas a study conducted by (Donahue, 1985) discovered a positive mean correlation between extrinsic orientation (e.g., religion as a means to an end, such as social interaction) and two negative characteristics (“prejudice” and “fear of death”), and a lack of a relationship between intrinsic orientation (e.g., religion as an end in itself) and the same characteristics. Payne et al., (1991) reported a positive relation between religiosity and a number of measures of psychological wellbeing, however, no overall evidence was found regarding the relationship between religiosity and the prevention of major clinical disorders.

The operationalization of religion in the present study as denominational may also account for the non-significant results. This finding may be due to the lack of distinction between the various religious denominations and the different conceptualizations thereof. The literature suggests that there is no clear discrepancy between frequent daily practice (i.e., church attendance, prayer) and infrequent daily religious practice (Francis et al., 2004). Studies suggest that differences in religious attitudes and orientations are more important than differences in religious involvement (Dezutter et al., 2005). Religious orientations and attitudes represent deeper-rooted predispositions, which are considered to be more indicative of a person’s general functioning than the surface aspects of religious involvement. Whether or not one engages in religious practices, religion may still be viewed as a protective factor in that it holds intrinsic value and significance to individuals, allowing

for the recreation of meaning-making following a traumatic event (Peres et al., 2007). Religion and spirituality provide narratives based on healthy perspectives, which may facilitate in the integration of trauma sensorial fragments into a new cognitive synthesis, therefore working to decrease post-trauma symptoms.

Qualitative research would also be potentially useful in assessing religion/spirituality as a protective mechanism in the event of trauma. This would entail a sample containing religious versus non-religious (i.e., atheist) individuals, in that it would provide a more direct comparison between their ability to be resilient and create meaning during stressful times. The current data is limited in terms of those who frequently engage in religious practices versus those who hold more of a personal belief and relationship with a higher power. The role of religious affiliation as a protective factor may be better explored in terms of clearly comparing two sets of participants, namely those who identify as 'religious' and those who identify as 'non-religious' as this would allow for a more direct comparison.

Trauma specific factors were also considered in this study in terms of type of trauma experienced (i.e., interpersonal violence, war trauma and non-interpersonal violence. According to Caramanica et al., (2015) the highest risks of PTSD have been associated with traumas involving interpersonal violence. However type of trauma was not significant, which may be accounted for by a number of reasons. Firstly, due to the high incidence of exposure to trauma in the South African context, continuous exposure to trauma may be more important than the type of exposure to trauma in predicting PTS outcomes. Studies have suggested that individuals are more likely to have a history of exposure to multiple traumatic events rather than a single trauma (Williams et al., 2007). Furthermore, research has revealed that multiple traumas confer a greater PTSD risk than the exposure to a single trauma (May & Wisco, 2016). Therefore, in the South African context in which continuous trauma is frequently reported, this may override the influence of the type of trauma, making the continuous nature of exposure to trauma more significant.

Secondly, findings from Lopes et al.'s (2015) longitudinal study indicated a strong association between both 'subtypes' of direct exposure and the occurrence of psychological distress. However, the relationship between exposure to witnessing violence and the persistence of psychological distress was stronger than exposure to personally experiencing an incidence of violence. It was therefore argued, that although both 'subtypes' independently affect mental health; it may be the experience of witnessing violence that plays a greater role in maintaining such difficulties. Given that the most commonly reported traumatic events experienced within the general and student population in the South African context are witnessing a violent event and the unexpected death of a loved one (Atwoli et al., 2013; McGowan & Kagee, 2013) this remains an important point to consider. Therefore witnessing or directly experiencing a traumatic event may be more significant than the type of exposure to trauma within the South African context.

Lastly, in addition to the cumulative effects of trauma and the 'subtypes' of exposure to trauma, an important consideration within the South African context remains the structural violence (e.g., apartheid system) and the repercussions thereof for the population. The discourse regarding trauma may have had a significant influence regarding the way in which people have learnt how to process and conceptualize trauma both for themselves and others, which may have led them to disregard the trauma that they have in fact suffered (i.e., structural violence). Therefore, in light of the country's trauma history and high incidence of trauma, the non-significant results may potentially have been accounted for by the normalisation of trauma within the population.

In terms of the extent to which resilience mediates negative outcomes with regards to PTS, a significant relationship was found between resilience and PTS. The logistic regression model showed that with an increase in resilience, individuals are more likely to have low PTS symptom severity scores and are thus at a lower-risk of developing PTSD following exposure to a traumatic event. It may therefore be argued that resilience acts as a mediator between exposure to trauma and PTS symptom development. Resilience is therefore considered to be protective in nature in that it

reduces or mediates the risk of an individual developing PTSD when there is exposure to trauma or adversity. This is supported by the majority of resilience-trauma research, which identifies the protective role specific resilience-related characteristics play in negative outcomes associated with trauma (e.g., Atwoli et al., 2013; Bensimon, 2012; Hjemdal et al., 2006).

Resilience within this study was viewed as a multidimensional construct, which included both personal traits as well as social coping and support mechanisms. Furthermore, from an ecological perspective, it was argued that aspects of an individual's environment may promote and protect against the negative impact of exposure to traumatic events thus contributing toward the development of resilience (Ungar, 2014; Visser, 2007). Therefore, it may be argued that the high level of resilience within the sample (mean = 167.27), and the significant outcome within the logistic regression model, may be related to the context from which this sample was drawn. For example, the instrument used to measure resilience (i.e., the RSA) included items such as 'My family's understanding of what is important in life is', 'I can discuss my personal issues with', 'My family is characterised by' and 'I get support from', all of which to some extent measure the participants availability of social support whether it be from family, peers or other significant role-players in their community (i.e., religious leader).

Looking at the sample (i.e., university students) and the context (i.e., a tertiary institution), it may be argued that firstly, in being surrounded by peers, students feel socially supported in that they are around others who are experiencing similar life transitions as them. Peers have been reported as resilience promoting primarily because they afford opportunities for social acceptance and the development of positive identity and values (Pillay & Nesengani, 2006). This, in turn, may have increased their 'I can discuss personal issues with' subscale score, increasing their overall resilience score. Additionally, the participants may feel supported by their families, in that those who reported 'healthy coherence' on the 'My family is characterized by' subscale may have increased their overall resilience score. This is supported by the literature in that key characteristics of resilient families are

thought to include; warmth, affection, cohesion, commitment, and emotional support for one another. Secondly, due to the context in which university students find themselves, they may also have access to resilience-enhancing resources which the general population may not have access to. For example, university students have access to social resources such as counselling services, peers and lecturing staff.

Lastly, depending on the amount of risk exposure, the impact that any single factor has on resilience differs between individuals (Ungar, 2013). That is, there is cultural variation in terms of protective mechanisms related to recovery from trauma, thus highlighting the potential contribution contextual factors have toward the development of individual resilience. In turn, this interaction is considered to be protective against the negative impact of exposure to traumatic events and may be even extended to include other adversities such as poverty. This viewpoint is supported by the work of Ungar (2013) in that he argues that resilience is related more to the quality of the environment and it's potential to facilitate growth within the individual rather than as an inherent or fixed individual characteristic. This allows for the growth and development of resiliency in individuals and communities.

In summary, within a tertiary context, university students may be considered as a typically resilient group with regards to trauma exposure due to the interaction between individual characteristics and contextual factors. However, this can only be speculated, as the current study did not measure the RSA's individual subscales in relation to trauma and other risk or protective factors. Therefore, from these results, it is not clear whether a specific dimension of resilience mediated the negative effects of exposure to trauma, or whether it was a combination of other related factors (i.e., internal characteristics or contextual factors). However, it can be speculated, based on the various subscales and the existing literature, those items such as 'My family is characterised by', 'I get support from' and 'When needed I have' may increase the overall resiliency score if indicated as 'healthy coherence', 'friends/family members' and 'always someone who can help me'. Given that

the sample used in this study had relatively high exposure to trauma when compared to other samples, contextual factors such as those previously identified can be considered as having a significant influence over their ability to be resilient.

While resilience emerges as an important factor on trauma one has to continually remain cognizant of the discourse regarding trauma and resilience in South Africa. This issue presents on a larger scale as the conundrum facing global health interventions lies in the context of limited time, resources, and political will (Panter-Brick, 2014). The level at which to pitch the intervention is vital and poses the question of whether one should work upstream to change the political and economic structures that are immoral for health, or work midstream and downstream to change behaviours that create proximate risks to health. For example, campaigns that aim to improve hand-washing behaviours, but make no changes to environmental sanitation, can have only limited impact. Likewise, addressing the way in which people cope with and manage trauma, but fail to address the political structure that allows for continuous trauma and violence within communities, may have a limited impact on addressing mental health, specifically PTSD. The intersection of cultural narratives of risk with structural violence are significant in that they powerfully demonstrate that beliefs as expressed through risk narratives in that health beliefs do not necessarily shape health-seeking behaviours, but health-seeking behaviours are often constrained by political and economic contexts (Panter-Brick, 2014).

According to Krieger, (1994) health risks do not simply appear in a web of interrelated statistical factors, but instead are produced and reproduced by social agents and hegemonic structures. Her critique focuses on identifying the ‘spiders’ responsible for webs of causation, namely, the agents responsible for weaving the risk factors that trap humans into harm’s way. Therefore, a statistical analysis of risk or resilience without critical explanation of how health risks and resilience are spun has very limited appeal. What is required is an analysis of the social determinants of health equity over and above an analysis of the social determinants of health,

understanding for example, how racism may structure unfair access to health care, over and above understanding how poverty will determine poor health outcomes (Jones et al., 2009; cited in, Panter-Brick, 2014). This also involves attending to how structural constraints will limit personal agency; many health interventions have demonstrable impact but insufficient reach in benefitting the ultra poor. Individual notions of risk are shaped by macro level context and contingencies of everyday experience.

An important dimension of resilience is transformation, beyond what one might describe as endurance, recovery, stasis or return to a steady state. Resilience involves processes that enable systems, not just individuals to, to move away from poor outcomes and espouse change (Panter-Brick, 2014). Future resilience research could focus on examining structural resilience, namely, the transformation in legal, economic, social and political systems that help to reduce the structural drivers of health inequity and promote the capacities of people to enhance their own wellbeing. The emphasis on transformation is pertinent to posttraumatic growth. As the term implies, it involves meaningful growth from trauma, more than merely a return to baseline. The research on resilience poses many questions regarding whether or not resilience can be equated with the absence of psychopathology, if it can be differentiated from resistance or gradual recovery as well as if it can be distanced from the political views and misperceptions of resilience as relative invulnerability (Panter-Brick, 2014). Although the field has received a great deal of interest and attention over the past two decades, future research is required to answer the emerging and related questions. The key emphasis being to identify which critical changes need to be made in social, educational, and material environments in order to encourage and promote health trajectories towards more favourable outcomes (Panter-Brick, 2014). In focusing attention on both resources and resourcefulness, this allows researchers to incorporate ecology and agency into their understanding of human pathways to health.

In conclusion, in identifying that individuals are resilient, this does not negate the need to continue to investigate and pay attention to trauma. In light of the various discourses surrounding trauma and resilience, we cannot allow it to continue to be viewed as an individual problem that only the individual can solve, instead it needs to be viewed within the individuals larger social context including, the time in history, systemic structures and the economic climate of the time. The various interacting systems need to be harnessed to work together and compliment each other in their striving for increased adaptability and resilience. Therefore, bringing together the macro and micro-levels influencing the way in which trauma and resilience are conceptualised, experienced and processed.

#### **6.4 Limitations**

The results must be located within the limitations of the study; firstly, convenience sampling is a non-probability sampling method, which may result in either an under- or over-representation of particular groups within a sample, which makes generalisation risky (Bless et al., 2006). That is, the implications of this type of sampling method include lack of generalizability to the larger population; rather, these findings should be used solely to understand the sample at hand. Therefore, results of the study are indicative of the recruited sample and caution should be made when attempting to infer results to the larger population of undergraduate and honours students (Nortjie, 2017).

As the current study made use of secondary data analysis, there are several consequential limitations. The primary limitation being that the data set was not explicitly designed to answer the question of the secondary study, although the current investigation had been based on the gaps identified in the primary study. Secondly, the researcher of the secondary analysis had no influence over the type of participants included in the original study, which variables were captured, how the variables were collected and recorded, as well as the integrity of the data (Schlomer & Coppt, 2013). Another limitation is that longitudinal follow-up is unavailable, and therefore, long-term outcomes cannot be studied.



Despite the racial demographic characteristics of the sample reflecting the demographics of the university (Govinder et al., 2013), those who participated in the study at the university may not be generalized to other South African community samples, in that the participants had at least a Grade 12 education and majority were between the ages of 18-21. Additionally, the majority of the participants were female which may lead to possible implications in terms of generalizability for males due to lack of gender-specific variation within the sample.

In terms of religious affiliation, the sample was limited in that it did not clearly specific between those who viewed themselves as ‘religious’ versus those who identified as ‘non-religious’. Previous research investigating the role of religion and spirituality have noted the complications presented by the various dimensions and denominations that make up religion, as well as the differing definition of religiosity (van der Jagt-Jelsma, 2017).

## 6.5 Summary and Conclusion

Results from this study support and reiterate the importance of resilience in relation to the development of PTS, with specific reference to the student population. Therefore, from these results, two main things may be inferred. Firstly, resilience acts as a mediator between exposure to trauma and PTS symptom development. Secondly, the non-significance of demographic variables (as possible risk or protective factors), even in relation to trauma and resilience, may possibly be attributed to other factors. Additionally, it is argued that although individual resilience can be enhanced through personal development, it can also be improved through increasing the individual’s positive interactions with family, organizations (i.e., religious/church groups), and community (Sippel et al., 2015) as well as broader structural change. Therefore, identifying specific contextual differences will better inform intervention efforts and the relative role resilience plays in mediating the effects of PTS within differing, multi-contextual environments.

## 6.6 Recommendations

It is recommended that the findings of the present study regarding PTS and resilience among students from the University of the Western Cape be used as the basis for a national study (in full or only partially) with more participants, at other universities, focusing on type of exposure to trauma, resilience and related PTS symptoms. More specifically, it is recommended that future research focus on the exploration of 'religious' versus 'non-religious' individuals in order to make a more direct comparison between whether or not religion serves as a protective factors in the context of trauma. Additionally, due to the disparity in gender-trauma-resilience research, an in-depth exploration of the various dimensions of resilience in relation to gender differences is recommended. This may contribute toward a better understanding of the differences in outcomes found within this study, and contribute toward a better understanding of the role played by specific resilience and related protective factors and their interaction within differing contexts. Results from future studies regarding trauma and resilience could aid in the development of interventions to address negative outcomes such as PTS by identifying context specific risk and protective factors associated with resilience. Furthermore, as seen by the high incidences of exposure to trauma, the long-term solution would be to aim intervention efforts at reducing risk for exposure as well as to address the discourse regarding resilience and trauma within the broader social context and how this may lead to the expansion of available resources and interventions aimed at resilience development. However, in light of this study's results, which indicate that resilience mediates negative outcomes when there is exposure to trauma, a short-term solution may be to increase intervention efforts specifically aimed at building resilience within the context of the trauma. This finding clearly indicates the importance of resilience, which has further implications for research interventions. Individuals are able to be resilient in the midst of continuous trauma, as well as within a context that often negates to acknowledge and address the role played by the structure of the society. Future research may extend

on this and explore the role played by factors such as structural violence and varying discourses and these may influence the outcome of PTS and resilience.

Resilience is an important area of research and highlights the ways in which individuals are able to draw on various resources in order to overcome a wide variety of difficulties and traumatic experiences. Therefore indicating the importance of unpacking the various contributing factors (i.e., family structure, community resources) that may enhance individuals' ability to be resilient in the event of trauma.



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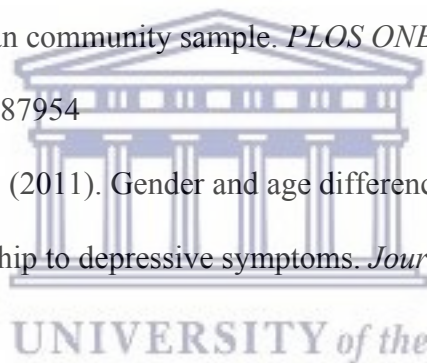
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## Appendices

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- Appendix A:** Information Sheet
- Appendix B:** Letter of Consent
- Appendix C:** Letter of Consent from the primary researcher
- Appendix D:** Biographical Questionnaire
- Appendix E:** Life Events Checklist for DSM-5 (LEC-5)
- Appendix F:** The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5)
- Appendix G:** The Resilience Scale for Adults (RSA)

## Appendix A



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**University of the Western Cape**

**DEPARTMENT OF PSYCHOLOGY**

Private Bag X 17, Bellville 7535, South Africa, Telephone: (021) 959-2283/2453

Fax: (021) 959-3515 Telex: 52 6661

UNIVERSITY of the  
WESTERN CAPE  
INFORMATION SHEET

**Project Title:** An investigation into the relationship between exposure to violence, resilience and PTSD in a sample of psychology students at the University of the Western Cape

### **What is this study about?**

This is a research project being conducted by Carla Anne Nortje at the University of the Western Cape. We are inviting you to participate in this research project because you are an undergraduate psychology student at the University of the Western Cape. The purpose of this research project is to better understand the relationship between exposure to trauma, PTSD and resilience, and aims to understand resiliency in terms of exposure to distressing life experiences and peoples response to them.

### **What will I be asked to do if I agree to participate?**

If you agree to participate, you will be asked to complete four self-report questionnaires namely, 1) a biographical questionnaire (e.g., what is your age?); 2) a life events checklist questionnaire (e.g., have you experienced a natural disaster?); 3) a trauma-symptoms (PTS) questionnaire (e.g., in the past month, how much were you bothered by repeated, disturbing dreams of the stressful event?); and 4) a resilience questionnaire (e.g., I feel that my future looks: *very promising* or *uncertain*). The study will be conducted during class time, and will take approximately 10-15 minutes to complete altogether. However, **participation in the research is not a course requirement and you may discontinue any time.**

### **Would my participation in this study be kept confidential?**

The researchers aim to protect your identity and the nature of your contribution. To ensure your anonymity, the surveys are anonymous and will not contain information that may personally identify you. To ensure your confidentiality, completed consent forms and questionnaires will be stored in a locked drawer and electronic research working papers will be stored on a password-protected personal computer. All records will be destroyed after completion of the research.

If we write a report or article about this research project, your identity will be protected.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning child abuse or neglect or potential harm to you or others. In this event, we will inform you that we have to break confidentiality to fulfil our legal responsibility to report to the designated authorities.

### **What are the risks of this research?**

There may be some risks from participating in this research study (e.g., feeling uncomfortable with particular questions). All human interactions and talking about self or others carry some amount of risk. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention. Additionally, you will be provided with the contact number the student counselling centre at the University of the Western Cape in the event that you feel psychologically distressed after completion of the questionnaires. Lastly, you may discontinue with the study at any time.

### **What are the benefits of this research?**

There are no direct benefits of this research as it is not designed to help you personally, but the results may help the investigator learn more about resiliency in terms of exposure to distressing life experiences and peoples response to them. We hope that, in the future, other people might benefit from this study through improved understanding of exposure to trauma, PTSD and resilience. As a resilience study, this study can help



better inform intervention efforts to develop protective factors in response to multiple exposures to trauma in low income contexts.

**Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

**What if I have questions?**

This research is being conducted by Carla Anne Nortje, a psychology Master's student from the Department of Psychology at the University of the Western Cape. If you have any questions about the research study itself, please contact Carla, e-mail: [3601257@uwc.ac.za](mailto:3601257@uwc.ac.za).

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department: Psychology  
Dr Michelle Andipatin  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
[mandipatin@uwc.ac.za](mailto:mandipatin@uwc.ac.za)



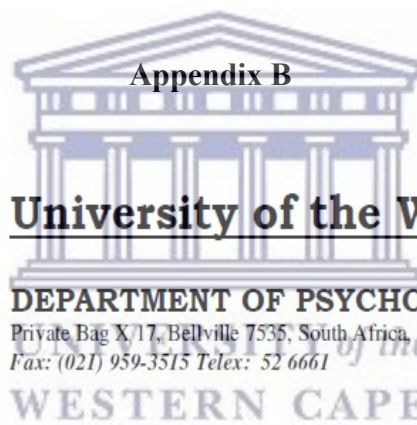
Research Supervisor: Department of Psychology  
Mr Rashid Ahmed  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
[rasahmed@uwc.ac.za](mailto:rasahmed@uwc.ac.za)

This research has been approved by the University of the Western Cape's Senate research Committee and Ethics Committee.

## Appendix B



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**University of the Western Cape**

**DEPARTMENT OF PSYCHOLOGY**

Private Bag X/17, Bellville 7535, South Africa, Telephone: (021) 959-2283/2453  
Fax: (021) 959-3515 Telex: 52 6661

WESTERN CAPE

### LETTER OF CONSENT

Dear student,

I, Carla Anne Nortje, a Clinical Psychology Masters student at the University of the Western Cape, am conducting a research project entitled: *An investigation into the relationship between exposure to violence, resilience and PTSD in a sample of psychology students at the University of the Western Cape*. This research project aims to understand resiliency in terms of exposure to distressing life experiences and people's response to them.

The items within these questionnaires assess your personal exposure to life events and your response to them. There are no right or wrong answers as they relate to your personal experience. Should any emotional distress arise from completing the questionnaire, psychological counselling can be obtained from the Institute of Counselling, University of the Western Cape: 959-2299.

All information provided in these questionnaires will remain **confidential**. You are also urged to answer truthfully and accurately as possible. For us to obtain valid and reliable data, it would also be extremely helpful if all questionnaires are timeously completed. In addition to this, please be informed that you have the right to withdraw at any stage of the research process as well as access any information regarding the research process and results obtained.

I fully understand the research aims, my rights and my role as a participant in the study, as well as the issues related to confidentiality, as explained by the researcher as outlined above.

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Signature

---

Date

*Thank you for your cooperation and wish you all the best for your studies. You are welcome to email me regarding any queries: [3601257@uwc.ac.za](mailto:3601257@uwc.ac.za)*



## Appendix C



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## University of the Western Cape

### DEPARTMENT OF PSYCHOLOGY

Private Bag X 17, Bellville 7535, South Africa, Telephone: (021) 959-2283/2453  
Fax: (021) 959-3515 Telex: 52 6661

To whom it may concern

I, Carla Anne Nortje (3601257), give Roxanne Neubert permission to use the primary data collected for my study; “*An investigation into the relationship between exposure to violence, resilience and PTSD in a sample of psychology students at the University of the Western Cape*”.

I declare that it is my own work, has not been submitted before for any degree or examination in any other university, and has received ethical clearance.

For any queries, please feel free to contact me on my email address at [carlanortje93@gmail.com](mailto:carlanortje93@gmail.com).

***Carla Nortje***

---

***2 MILITARY HOSPITAL  
Clinical Psychology Intern  
PSIN 0143880***

*MA Psych 2016/2017  
University of the Western Cape*

**Appendix D**  
**Biographical Questionnaire**

*Please read through the following questions carefully and mark the appropriate boxes with an 'X' where necessary:*

**Year of study:** \_\_\_\_\_

**Age:** \_\_\_\_\_

**Religion:** \_\_\_\_\_

**Gender:** Male  Female

**\*Race:** White  Black  Coloured

Indian  Other

If "other", please specify \_\_\_\_\_

**First Language:** \_\_\_\_\_

**Your estimate household income (per month) is:**

Less than R3000  Between R3000 – R10000

More than R10000



**Relationship Status:**

Single  Boyfriend/Girlfriend  Married

Separated  Divorced

**Employment:** None  Part-time  Full-time

**Occupation:** \_\_\_\_\_

**Dependents:** Yes  No

**If yes, how many:** \_\_\_\_\_

*\*We do not support categorization along these lines, but considered it to be potentially helpful for this study in order to obtain this data. We acknowledge that Apartheid created different experiences of oppression.*

## Appendix E

The Life Events Checklist for *DSM-5*

*Please see next page*



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## LEC-5

Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to the right to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sure if it fits; or (f) it doesn't apply to you.

Be sure to consider your entire life (growing up as well as adulthood) as you go through the list of events.

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not Sure	Doesn't Apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)						
9. Other unwanted or uncomfortable sexual experience						
10. Combat or exposure to a war-zone (in the military or as a civilian)						
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)						
12. Life-threatening illness or injury						
13. Severe human suffering						
14. Sudden violent death (for example, homicide, suicide)						
15. Sudden accidental death						
16. Serious injury, harm, or death you caused to someone else						
17. Any other very stressful event or experience						

PLEASE COMPLETE PART 2 ON THE FOLLOWING PAGE

**PART 2:**

**A. If you checked anything for #17 in PART 1, briefly identify the event you were thinking of:**

---

**B. If you have experienced more than one of the events in PART 1, think about the event you consider the *worst event*, which for this questionnaire means the event that currently bothers you the most. If you have experienced only one of the events in PART 1, use that one as the worst event. Please answer the following questions about the worst event (*check all options that apply*):**

**1. Briefly describe the worst event (*for example, what happened, who was involved, etc.*).**

---

---

**2. How long ago did it happen? \_\_\_\_\_ (*please estimate if you are not sure*)**

**3. How did you experience it?**

*It happened to me directly*

*I witnessed it*

*I learned about it happening to a close family member or close friend*

*I was repeatedly exposed to details about it as part of my job (*for example, paramedic, police, military, or other first responder*)*

*Other, please describe:*

**4. Was someone's life in danger?**

*Yes, my life*

*Yes, someone else's life*

*No*

**5. Was someone seriously injured or killed?**

*Yes, I was seriously injured*

*Yes, someone else was seriously injured or killed*

*No*

**6. Did it involve sexual violence?  Yes  No**

**7. If the event involved the death of a close family member or close friend, was it due to some kind of accident or violence, or was it due to natural causes?**

*Accident or violence*

*Natural causes*

*Not applicable (*The event did not involve the death of a close family member or close friend*)*

**8. How many times altogether have you experienced a similar event as stressful or nearly as stressful as the worst event?**

*Just once*

*More than once (*please specify or estimate the total # of times you have had this experience* \_\_\_\_\_)*

**PLEASE COMPLETE PART 3 ON THE FOLLOWING PAGE**



## Appendix F

The Posttraumatic Stress Disorder Checklist for DSM-5

*Please see next page*



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Part 3: Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your worst event in mind, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

<i>In the past month, how much were you bothered by:</i>	<i>Not at all</i>	<i>A little bit</i>	<i>Moderately</i>	<i>Quite a bit</i>	<i>Extremely</i>
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again ( <i>as if you were actually back there reliving it</i> )?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience ( <i>for example, heart pounding, trouble breathing, sweating</i> )?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience ( <i>for example, people, places, conversations, activities, objects, or situations</i> )?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world ( <i>for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous</i> )?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings ( <i>for example, being unable to feel happiness or have loving feelings for people close to you</i> )?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

LEC-5 (10/27/2013) Weathers, Blake, Schnurr, Kaloupek, Marx, & Keane -- National Center for PTSD

PCL-5 (8/14/2013) Weathers, Litz, Keane, Palmieri, Marx, & Schnurr -- National Center for PTSD

## Appendix G

The Resilience Scale for Adults

*Please see next page*



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### Resilience Scale for Adults

Please think of how you usually are, or how you have been the last month, how you think and feel about yourself, and about important people surrounding you. Please check the option box that is closest to the end statement that describes you best.

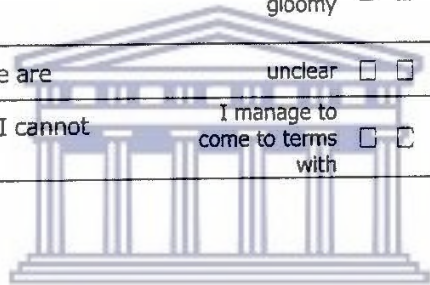
(Developed by Odin Hjemdal & Oddgeir Friborg)

██████ N/A \_\_\_\_\_ Today's date: \_\_\_\_\_

Age: \_\_\_\_\_ Gender: \_\_\_\_\_ female/male

1. My plans for the future are	difficult to accomplish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	possible to accomplish
2. When something unforeseen happens	I always find a solution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I often feel bewildered
3. My family's understanding of what is important in life is	quite different than mine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	very similar to mine
4. I feel that my future looks	very promising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	uncertain
5. My future goals	I know how to accomplish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I am unsure how to accomplish
6. I can discuss personal issues with	no one	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	friends/family-members
7. I feel	very happy with my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	very unhappy with my family
8. I enjoy being	together with other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	by myself
9. Those who are good at encouraging me are	some close friends/family members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	nowhere
10. The bonds among my friends is	weak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	strong
11. My personal problems	are unsolvable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I know how to solve
12. When a family member experiences a crisis/emergency	I am informed right away	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	it takes quite a while before I am told
13. My family is characterized by	disconnection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	healthy coherence
14. To be flexible in social settings	is not important to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	is really important to me
15. I get support from	friends/ family members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No one
16. In difficult periods my family	keeps a positive outlook on the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Views the future as gloomy
17. My abilities	I strongly believe in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I am uncertain about
18. My judgements and decisions	I often doubt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I trust completely
19. New friendships are something	I make easily	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I have difficulty making
20. When needed, I have	no one who can help me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	always someone who can help me

21. I am at my best when I	have a clear goal to strive for	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	can take one day at a time
22. Meeting new people is	difficult for me	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	something I am good at
23. When I am with others	I easily laugh	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	I seldom laugh
24. When I start on new things/projects	I rarely plan ahead, just get on with it	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	I prefer to have a thorough plan
25. Facing other people, our family acts	unsupportive of one another	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	loyal towards one another
26. For me, thinking of good topics for conversation is	difficult	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	easy
27. My close friends/ family members	appreciate my qualities	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	dislike my qualities
28. I am good at	organizing my time	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	wasting my time
29. In my family we like to	do things on our own	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	do things together
30. Rules and regular routines	are absent in my everyday life	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	simplify my everyday life
31. In difficult periods I have a tendency to	view everything gloomy	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	find something good that help me thrive/prosper
32. My goals for the future are	unclear	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	well thought through
33. Events in my life that I cannot influence	I manage to come to terms with	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	are a constant source of worry/concern



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