THE ROLE OF FORTITUDE IN PSYCHOLOGICAL OUTCOME IN RELATION TO TRAUMATIC EVENTS EXPERIENCED BY YOUNG ADULTS

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KEYWORDS

Appraisal

Exposure

Fortitude

Trauma

Traumatic events

Protective factors

PTSD

Psychological outcome

Violence

Young adults

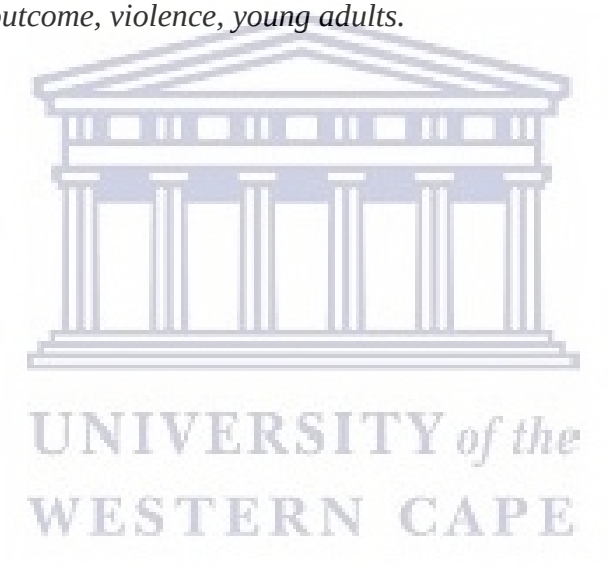
The role of fortitude in psychological outcome in relation to traumatic events experienced by young adults

ABSTRACT

Objective: It is commonly known that South African society is characterised by high rates of exposure to violence and traumatic events. However, there is a convincing body of knowledge that indicates that a significant proportion of young adults exposed to traumatic events do not develop negative, trauma-related symptoms, but rather adapt in a positive manner. This has led subsequent research to shift in a more optimistic direction, identifying elements that promote coping. The current study focused on the role of fortitude in relation to traumatic events experienced by young adults who attend the University of the Western Cape (UWC) in Cape Town, South Africa. Fortitude emanates from the strengths perspective and is defined as the strength gained from positive cognitive appraisals of one's self, one's family and external social support one receives. Method: Young adults (n=218) completed The Life Events Checklist-5 (LEC-5), The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5), and the Fortitude Questionnaire (FORQ). Results: Interestingly, results indicated that this cohort of university students were notably vulnerable as opposed to previous literature findings, which suggests that university/college students are particularly resilient. Another significant finding of the study included gender differences with regards to exposure and reporting of traumatic events. Furthermore, moderated regression analysis demonstrated that fortitude plays a health-sustaining and stress-buffering role. Young adults (university students) who displayed high levels of fortitude had lower levels of trauma symptoms concerning exposure to traumatic events (stress-buffering) and were able to

maintain their degrees of wellbeing irrespective of the nature and extent of such exposure (health-sustaining). Conclusion: The study provides evidence for fortitude as a protective factor and highlights the role of specific cognitive appraisals (associated with fortitude) in facilitating adaptation in relation to exposure to traumatic events. Overall, the study emphasizes the significance of using clinical interventions that aim to strengthen coping mechanisms and combat problematic cognitive appraisals.

Keywords: appraisal, exposure, fortitude, trauma, traumatic events, protective factors, PTSD, psychological outcome, violence, young adults.



DECLARATION

I declare that *The role of fortitude in psychological outcome in relation to traumatic events among young adults* is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Cayli Wiid September 2019

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1. General introduction

It is no secret that South African society is characterised by high rates of exposure to traumatic events. Statistics outlining various violent crimes in the country are excessive and increase from year to year (Williams et al., 2007). Young adults are amongst those at highest risk of exposure to violent and traumatic events (Scarpa, 2003). Numerous studies propose that a large proportion of young adults are exposed to at least one adverse event within their lifetime (Benjet et al., 2016; Kessler et al., 2017). Rape, murder, assault, and other such violent crimes are widespread within the South African context, and these are merely only some of the issues South Africans have to deal with on a daily basis (Williams et al., 2007). To emphasize the adverse effects of such violence and trauma exposure, Bendall et al. (2018) note that "individuals with six or more adverse childhood experiences have been found to have a 20-year reduction in their lifespan" (p. 7).

Exposure to violence and trauma is usually linked to negative psychological outcomes. One of the most common consequences of exposure to violence is the development of posttraumatic stress disorder (PTSD). As a result, researchers have invested much time and effort in investigating and developing interventions to treat trauma related symptoms (Shields, Nadasan, & Pierce, 2008; Suliman et al., 2009). Although there are many individuals exposed to trauma and, as a result, develop

persistent difficulties, there is a significant percentage of people who are able to adapt effectively in spite of such exposure. This ability to adapt in the face of adverse events suggests that certain protective factors play a role in determining the psychological outcome of exposure to traumatic events. Family stability and social support, self-efficacy, aptitude, and problem-solving skills are some of the factors considered to be protective (Copeland-Linder, Lambert, & Ialongo, 2010; Henrich, Brookmeyer, & Shahar, 2005; Jain, Buka, Subramanian, & Molnar, 2012; Shields et al., 2008; Youngstrom, Weist, & Albus, 2003).

The current study investigates the role of fortitude as a potential protective factor in psychological outcome in relation to exposure to traumatic events. Fortitude is defined as the strength to cope with stress and remain well, and arises from positive cognitive appraisals of the self, the family, and additional sources of support (Pretorius, 1998). Furthermore, Pretorius (1998) proposed that the construct of fortitude could assist in clarifying how people preserve positive psychological well-being. As South African citizens suffer immensely from the repercussions of violence and trauma, it is essential that such a study is conducted. It is imperative to be well-educated regarding the various traumas experienced and to investigate the most effective and viable coping strategies employed by young people today. Positive coping strategies and interventions can be promoted by recognizing factors which cushion and reduce the negative effects of violence and trauma. This will aid positive adjustment and assist individuals and societies in adapting successfully when faced with adverse events. Overall, promoting and supporting positive mental health essentially forms the rationale behind this study.

1.2. The aim and objectives of the study

The aim of this study is to investigate the role of fortitude in psychological outcome for young adults in relation to exposure to traumatic events. The objectives of this study include:

- Identifying the types of traumatic events experienced by young people
- Determining the psychological outcome of exposure
- Investigating the role of fortitude in psychological outcome

1.3. The value of the study

Helen Keller (1904) noted that "although the world is full of suffering, it is full also of the overcoming of it" (p. 7). This study aims to build the knowledge base from a strength perspective. This perspective is implemented as it is aligned with the philosophy of health promotion. According to the World Health Organization (WHO), health promotion is "the process of enabling people to increase control over, and to improve, their health… [it] is a positive concept emphasizing social and personal resources, as well as physical capacities" (WHO, 1986). Rather than exclusively concentrating on illness and pathology, health promotion incorporates a focus on positives, thus utilising internal strengths and resources (WHO, 1986). Determining reliable mechanisms will assist in building on these positives; thereby assisting not only university students, but young adults in general when coping with trauma and adverse events. Furthermore, it is hoped that the findings of this study will provide an improved understanding of the strengths of university students and young adults on a global scale, and in turn contribute to developing pertinent support structures which will foster fortitude.

1.4. Research question

What is the role of fortitude in psychological outcome for young adults exposed to traumatic events?

1.5. Overview of the manuscript

This manuscript comprises of five chapters, which further constitute two sections, namely the literature review, followed by the empirical investigation.

Chapter 2 presents a literature review of topics relevant to the study. It investigates the background and rationale for the study, and outlines violence and trauma in the South African context. The central focus in Chapter 2 is on the construct of fortitude. Thus, psychofortology will be discussed, as well as the role of fortitude in psychological outcome.

Chapter 3 outlines and examines fortigenesis, which forms the theoretical framework of the study.

Chapter 4 focuses on the method of conducting the research. This chapter details the specific aim and objectives of the study, sample characteristics, measuring instruments, data collection, analysis procedures, as well as ethical considerations.

Chapter 5 presents the results of the study, following the analysis outlined in Chapter 4. Descriptive statistics and reliabilities of the various scales used in the study

are presented. The inter-correlation analyses between variables are then presented, followed by the presentation of the results of the moderated regression analyses conducted.

Chapter 6 summarizes and discusses the salient results presented in Chapter 5, making specific reference to literature reviewed in Chapter 2, considering relevance and relatedness. Further attention is paid to limitations of the study, and recommendations for further studies are put forward.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

In this chapter, the literature pertinent to this research study is reviewed. The background and rationale for this study will be outlined, followed by a consideration of violence and trauma, and the prevalence of exposure to traumatic events in the South African context. The psychological impact of exposure to violence and trauma will also be discussed, as well as the theoretical framework of the study. Most significantly, this chapter focusses on fortitude, which forms part of the frame of reference that focuses on the strength perspective. Other pertinent aspects relevant to the construct of fortitude will be outlined and discussed.

2.2. Background and Rationale

South Africa, a country burdened by the legacy of apartheid, is characterised by high rates of exposure to traumatic events. The Council for Scientific and Industrial Research (CSIR) (2016) stress that crime and violence affects the quality of life of every South African. Several data sources indicate that young South Africans grow up in a predominantly violent context (Kaminer, du Plessis, Hardy, & Benjamin, 2013) and are exposed to multiple forms of violence (Kaminer, Grimsrud, Myer, Stein, & Williams, 2008). Burton (2006) noted that a national prevalence study indicated 30% of youth, living in major cities, had been victims of violent crime. Young adults (aged between 18 and 35) are amongst those at highest risk of exposure to violent and traumatic events

(Scarpa, 2003). Numerous studies (e.g. Amstadter, Aggen, Knudsen, Reichborn-Kjennerud & Kendler, 2013; Benjet et al., 2016; Bernat, Ronfeldt, Calhoun, & Arias, 1998; Breslau, Davis, Andreski, & Peterson, 1991; Breslau et al., 1998; Hepp et al., 2006; Kessler et al., 2017; Lloyd & Turner, 2003; Norris, 1992; Roberts et al., 2011; Ogle et al., 2014; Salazar, Keller, Gowen & Courtney, 2013; Storr et al. 2009) suggest that a large proportion of young adults are exposed to at least one adverse event within their lifetime. In a study by Elhai et al. (2012), results indicated that 67% of their total sample of college students had experienced at least one traumatic event within their lifetime. An earlier study by Breslau et al. (1991) noted an exposure rate of 39% was found in a community sample of adults aged between 21–30 years, emphasising the increased exposure rate from older to more recent studies. Trauma exposure research amongst Johannesburg-based students at the University of the Witwatersrand (Wits) was conducted over several years, and confirmed high rates of overall trauma exposure, as well as high levels of multiple trauma exposure (Engelbrecht, 2009; Scott, 2012; McClurg, 2014). European and Japanese studies reported lifetime traumatic event prevalence rates of 54% and 64% respectively, which is notably lower than those reported regarding the South African population (73.8%) (Atwoli et al., 2015). Physical abuse, sexual violence (i.e. rape), murder, miscellaneous criminal assaults (i.e. armed robbery), and witnessing an individual getting severely harmed are some of the most common forms of trauma (Atwoli et al., 2013). Such violent crimes are rife within the South African context, and South African citizens must deal with these issues on a daily basis (Eagle, 2015; Williams et al., 2007).

Exposure to traumatic events has been linked to negative psychological outcomes. One of the most common consequences of exposure to violence is the development of posttraumatic stress disorder (PTSD). As a result, researchers have invested much time and effort in investigating and developing interventions to treat trauma-related symptoms (Shields, Nadasan, & Pierce, 2008; Suliman et al., 2009). Although there are many individuals exposed to trauma and, as a result, develop persistent difficulties, there is a significant percentage of people who are able to adapt effectively despite such exposure. This ability to adapt in the face of adverse events suggests that certain protective factors play a role in determining the psychological outcome of exposure to traumatic events. Family stability and social support, self-efficacy, aptitude, and problem-solving skills are some of the factors considered to be protective (Copeland-Linder et al., 2010; Henrich et al., 2005; Jain et al., 2012; Shields et al., 2008; Youngstrom et al., 2003).

The overarching aim of the current study is to investigate the role of fortitude as a potential protective factor in psychological outcome in relation to exposure to traumatic events. Fortitude is defined as the strength to cope with stress and remain well, and arises from positive cognitive appraisals of the self, the family, and additional sources of support (Pretorius, 1998). Furthermore, Pretorius (1998) proposed that the construct of fortitude could assist researchers in further understanding how people preserve positive psychological well-being in the context of adversity.

Positive coping strategies and interventions can be promoted by recognizing factors which cushion and reduce the negative effects of violence and trauma. This can aid positive adjustment and assist individuals and societies in adapting successfully when faced with adverse events. Overall, promoting and supporting positive mental health essentially forms the rationale behind this study.

It is assumed that there are two pathways, i.e. a direct (health-sustaining) and a buffering pathway (stress-reducing), through which a third variable (fortitude) can influence the relationship between a dependent (psychological outcome) and an independent variable (exposure to trauma events) (Pretorius, Padmanabhanunni, & Campbell, 2016). Shumaker and Brownell (1984) note the direct effect hypothesis postulates that high levels of fortitude will result in an increase in psychological well-being (i.e. positive psychological outcomes), regardless of the stress level (i.e. exposure to traumatic events). Shumaker and Brownell (1984) also note that the buffering hypothesis suggests that at low levels of fortitude, the relationship between stress and psychological well-being should be strong and direct. This implies that high stress levels are associated with low levels of psychological well-being (i.e. negative psychological outcomes). Furthermore, as fortitude increases, the relationship should then weaken (Pretorius, et al., 2016).

2.3. Prevalence of exposure to traumatic events in South Africa

South Africa has a very unique history, due to the implementation of apartheid policies. Apartheid, which ended in 1994, represented an era of constitutional racial

segregation, exploitation, extensive political violence and state-sanctioned oppression. During the apartheid era, state-perpetrated human rights abuses such as imprisonment without trial, torture, and politically-motivated assaults were prevalent (Truth and Reconciliation Commission, 1998). The years leading up to apartheid's end (1990 to 1994) manifested unprecedented inter- and intra-community violence (Hamber, 1998). South Africa's negotiated transition from apartheid to democracy has been widely heralded as a miracle. This perception has largely been rooted in the earlier belief that apartheid South Africa was heading for a violent end. However, despite apartheid coming to an end, there has been an escalating rather than declining level of social violence, although levels of political violence, by large, have dropped (Hamber, 1998).

Following apartheid, high levels of criminal interpersonal violence frequently persisted, which were "fuelled by rapid urbanization and ongoing socioeconomic disparities" (Atwoli et al., 2013, p. 1). As a result, it is suggested that there is a high level of trauma exposure within the general population (Atwoli, et al., 2013). This is supported by studies that have indicated levels of trauma exposure to be over 80% in some cases (Norman, Matzopoulos, Groenewald, & Bradshaw, 2007; Carey, Stein, Zungu-Dirwayi, & Seedat, 2003; Jewkes & Abrahams, 2002; Kaminer, Stein, Mbanga, & Zungu-Dirwayi, 2001; Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004; Ward, Flisher, Zissis, Muller, & Lombard, 2001). Furthermore, literature indicates that post-apartheid South Africa has extremely elevated rates of violent crime, sexual violence, and domestic abuse (Kaminer et al., 2008). To elaborate, some studies have indicated that South Africa has among the highest incidences of murder and armed robbery (Shaw,

2002), intimate partner violence (Abrahams, Jewkes, Laubscher & Hoffman, 2006), and rape (Bollen, Artz, Vetten & Louw, 1999). This omnipresent violence may be accounted for by South Africa's legacy of apartheid (i.e. socio-political history and violent repression), as well as ongoing socioeconomic inequality and deprivation (Fajnzylber, Lederman & Loayza, 2002; Shaw, 2002).

Trauma, or a traumatic event, is classified as an occurrence that "threatens injury, death, or the physical integrity of self or others (APA Presidential Task Force on PTSD and Trauma in Children and Adolescents, 2008, p. 2). Atwoli et al. (2013) have found that some of the most common traumatic events within the South African context include: the unexpected death of a loved one, accidents, physical violence, and witnessing a death/dead body/someone get hurt or seeing other atrocities. Moreover, some of the highest rates of exposure to traumatic events are among young adults. Eitle and Turner (2002) state that "young adults fall within a high-risk group for exhibiting criminal behaviour" (p. 215) and thus put themselves and others at risk to exposure of traumatic and violent events. Unfortunately, violent crime and trauma are presently normative features within South African society. South Africa is often referred to as having a "culture of violence"; a society accepting and approving of violence as a suitable means whereby problems can be resolved, and goals can be achieved (Stavrou, 1993; Vogelman & Simpson, 1990). McKendrick and Hoffmann (1990) also suggest that the incidences of visible violence on a daily basis have possibly desensitized South Africans, and made them more tolerant of violence as a "normal and legitimate solution to conflict" (p.5). Williams et al. (2007) also support this view, as they too have noted

that “violence is viewed as a first line of defense for dealing with problems” (p. 846). It is possible that this perceived “solution” has furthermore contributed to an escalation of interpersonal violence, and to descriptions of South Africa as being trapped in a “cycle of violence” (McKendrick & Hoffmann, 1990, p. 5).

Statistics appear to support the view that South Africa is a country characterized by high levels of violence and crime. The South African Police Service (SAPS) reported a total of 617,210 contact crimes (i.e. crimes against the person, which include: murder, attempted murder, sexual offences, common assault, assault with the intent to inflict grievous bodily harm, common robbery, and robbery with aggravating circumstances) from 1 April 2018 to 31 March 2019. A total of 41,583 rape cases, as well as a total of 21,022 murder cases were reported during the same timeframe.

The most recent statistics (2017/2018 and 2018/2019), also reported by SAPS, are tabulated below:

Crime Category	**2017/2018**	**2018/2019**
Contact Crimes	601 366	617 210
Contact-related Crimes	115 361	117 172
Property-related crimes	507 975	495 161
Other Serious Crimes	438 113	444 447
Crime detected as result of police action	433 966	339 281

Crime Type	**2017/2018**	**2018/2019**
Carjacking	16 325	16 026

Drug-related crime	323 547	232 657
Robbery with aggravating circumstances	138 364	140 032
Sexual offences discovered as result of police action	6 701	7 976
Murder	20 336	21 022
Attempted murder	18 233	18 980
Burglary at residential premises	228 094	220 865
Common assault	156 243	162 012
Sexual Offences	50 108	52 420
Assault with the intent to inflict grievous bodily harm	167 352	170 979

The high prevalence of rape, murder, and other contact crimes in South Africa play a significant role towards traumatic exposure experienced by South African citizens. This has been exacerbated of late, as the country has experienced a rise in xenophobic hate-crimes and gender-based violence (in 2019). However, the harsh reality is that it is highly unlikely that these statistics are a true reflection of the actual incidence of violence. They merely reflect reporting patterns, rather than the actual incidence of crime (Hamber & Lewis, 1997), which many people don't report, perhaps out of fear or feelings of self-blame, shame and guilt (Kaminer & Eagle, 2010).

2.4. Factors underlying the prevalence of violence in South Africa

Violent experiences usually occur at random but presently in South Africa, those most affected are from lower socio-economic communities (Butchart, Phinney, Check, & Villaveces, 2004; Hamber & Lewis, 1997). Terre Blanche (2004) noted that even though South Africa is classified as a middle-income country, most South Africans are poor.

This is mainly due to the extreme inequality in the country. Tomlinson et al. (2004) emphasize this, stating that South Africa is undeniably one of the most "unequal" countries in the world (p.411). South Africa, like other "unequal" countries, has "a high rate of social instability and upheaval, criminal violence and family discord" (Tomlinson et al., 2004, p.411). Bloom and Reichert (1998) note that public health surveys in the United States of America (USA) indicated that "residential segregation of poverty and the extent of income inequality are primary factors explaining rates of crime and violence" (p.38). As these are also common factors in the South African context, this could serve as an explanation as to why violent crime is so high in this country.

Simpson (1993) proposes another explanation which entails the emasculation experienced by men due to poverty, racism, unemployment, and failure to protect their families from trauma). Consequently, women and children are left to feel increased amounts of vulnerability and fall victim to violence because some men symbolically reassert their power by inflicting it on those who are physically weaker (Simpson, 1993).

Drugs, substance abuse, and gang violence are also prevalent in poor communities, and thus contribute to the amount of violence that occurs. Kaminer et al. (2013) argue that "living in contexts of multiple and continuous trauma exposure creates a substantial mental health burden for young people" (p. 320). Crime statistics verify that levels of violence and substance abuse are at their highest in low-income communities in the Western Cape, and in the rest of South Africa (CIAS & SAPS, 2005). Seedat, Kaminer, Lockhat, and Stein (2000) have also noted that there is a relationship between

children's exposure to single violent incidents and internalising behaviours (i.e. anxiety, depression, and somatization disorder); and between chronic community violence and externalising behaviours (i.e. alcohol abuse and drug use, carrying weapons such as knives and guns, and fighting).

2.5. Psychological Impact of Exposure

Janoff-Bulman (1985) proposed that three basic assumptions about the self, other people and the world are shattered when an individual is exposed to trauma and violence. These assumptions are: the belief in personal invulnerability (i.e. incapable of being injured or harmed); the view of the self as a positive entity; and the belief that the world is meaningful and comprehensible – that events therefore take place for a sound cause (Hamber & Lewis, 1997). A fourth belief – the trust that other human beings are inherently compassionate and good – is also shattered when another human being imposes trauma or violence. These four assumptions, when not violated, allow individuals to function successfully in the world as well as relate to others. Once exposed to violence and trauma, the individual is left to feel helpless and vulnerable in an unpredictable world (Hamber & Lewis, 1997).

Friedrich Nietzsche (1997/1889) once said *"that which does not kill us makes us stronger".* Contrary to Nietzsche's famous quote, Kessler, Sonnega, Bromet, Hughes, and Nelson (1995) emphasize that formidable experiences may result in psychiatric conditions, such as PTSD. Calitz, de Jongh, Horn, Nel, and Joubert (2014) emphasize on this as they note that the main causal factor in the development of PTSD is the exposure

to traumatic events. Furthermore, Brewin, Andrews, and Valentine (2000) highlight that greater exposure (to such events) is frequently associated with more severe symptoms. PTSD is one of the most common psychological consequences of exposure to violence. It is characterised by intrusive symptoms, persistent effortful avoidance of trauma-related stimuli, negative cognitions or mood, which continue for more than one month and are associated with significant distress and/or functional impairment (American Psychiatric Association, 2013).

PTSD has been and continues to be a significant public health concern in South Africa (Swain, Pillay, and Kliewer, 2017; Atwoli et al., 2013; Edwards, 2005a; Edwards, 2005b), which affects individuals from all parts of society, and is an equal concern with respect to both adults and children (Edwards, 2005a). Several South African studies have confirmed the prevalence of PTSD, as well as noted high rates of traumatisation and PTSD among youth (i.e. Suliman et al., 2005; Seedat et al., 2004; Seedat et al., 2000; Peltzer, 1999; Ensink et al., 1997). Atwoli et al. (2013) found lifetime prevalence rates of PTSD to be 2.3% and 12-month prevalence rates of PTSD to be 0.7% (Atwoli et al., 2013).

A number of South African studies have focused on adolescents and young adults. Ward et al. (2001) conducted a study investigating exposure to violence and trauma-related symptoms. Their study comprised of 104 adolescent learners, across four high schools in Cape Town. Their findings indicated that most of these students had been exposed to at least one type of violence. Furthermore, 17% demonstrated a high number

of PTSD symptoms, and almost 6% of the sample, in all probability, would suffer from full-blown PTSD (Ward et al., 2001).

In a nationwide probability sample made up of 3 870 respondents aged 16-64, Hirschowitz and Orkin (1997) found that 23% of respondents had been exposed to one or more violent event. Moreover, 78% of respondents experienced one or more symptoms of PTSD. This seems to be in line with present trends (e.g., Kessler et al., 2017; Benjet et al., 2016), and is anticipated to increase in years to come.

Gender differences, with regards to prevalence of PTSD, have been observed in various studies. Most studies on PTSD in the general population (across socio-economic status, various countries, and cultures) have found higher rates of PTSD in women than in men (e.g., Breslau et al., 1997; Frans, Rimmö, Aberg, & Fredrikson, 2005; Olff & de Vries, 2004; Stein, Walker, & Forde, 2000; Kessler et al., 1995; Dyregrov & Yule, 2006; Kehle et al., 2011; Nooner et al., 2012; Kline et al., 2013; Alisic et al., 2014; Silove et al., 2017). Furthermore, research literature on the epidemiology of PTSD is highly consistent in indicating that females experience approximately two times greater risk of PTSD compared to males (Breslau et al., 1999; Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999; Kessler et al., 1995; Tolin & Foa, 2008; Snow, 2010; Breslau, 2009; Breslau, 2001; Brewin, Andrews, & Valentine, 2000; Himle et al., 2009; Nemeroff et al., 2006; Seedat, Stein & Carey, 2005; Tang & Freyd, 2012; Chapman et al., 2012; Silove et al., 2017). Cauffman et al.'s (1998) study further illustrates this. They found that, of 96 incarcerated adolescents who had been exposed to violence, females were 50% more

likely to experience PTSD than their male counterparts (Cauffman et al., 1998). In addition, males were more likely to report witnessing a violent event, while females were more likely to report being victims of violence (Cauffman et al., 1998). Norris et al. (2002) noted that women are more likely to experience sexual assault; and Kessler et al. (1995) and Neria, Bromet, Sievers, Lavelle and Fochtmann (2002) found that rape was most highly related to PTSD for women. Among all traumas, sexual trauma has one of the highest rates of PTSD (Tang & Freyd, 2012). On the other hand, combat exposure was the greatest predictor for men (Kessler et al. (1995); Neria et al., 2002). Furthermore, Kessler et al. (1995) stress that the duration of PTSD is significantly longer among women. Perkonigg, Kessler, Storz, and Wittchen (2000) note that the difference in prevalence rates start to emerge around early adolescence when the prevalence of PTSD among females rises more rapidly, until it reaches a rate about twice that of males in adulthood.

2.6. Psychofortology: The science of psychological strengths

Psychofortology or "the science of psychological strengths" is a concept which, over the past decade, has acquired momentum within the field of psychology (Wissing & van Eeden, 1998, p.379). This is evident by the notable growth of concepts which aim to explain well-being and resistance to stress (Lightsey, 1996). A central question in psychofortology is "*Where does the strength come from?"* (Pretorius, 1998, p. 23). In attempting to respond to this question, Pretorius (1998) proposes the construct of fortitude as the source of this strength. Fortitude (Pretorius, 1998) rests within the broad area of psychofortology, and more specifically, falls within the theoretical framework

known as fortigenesis (see *Theoretical Framework*). Fortitude is the strength an individual obtains by positively appraising him/herself and the world he/she lives in. To be more precise, fortitude is defined as the strength gained from appraising oneself, one's family, and one's social support structure in a positive manner. It is this fortitude (strength) which enables an individual to cope with stress faced in life, while maintaining a healthy state of wellbeing (Pretorius, 1998). Therefore, fortitude is comprised of three appraisal domains: individual, family, and social support. Each of these domains have been studied within other related constructs, but when analyzed independently, they do not represent fortitude (Pretorius, 1998). When focus is placed on merely one domain, the complexity of a human being is not captured in its entirety. Fortitude is comprised of all three appraisal domains and does not view any of these domains in isolation. Therefore, the three domains together offer an integrated, holistic perspective, with regards to an individual and their strengths system (Pretorius, 1998).

Although the body of research on fortitude is constantly growing, it is relatively small compared to the larger bodies of research which exist on the various constructs central to fortitude (Gibson, 2001; Julius, 1999). These constructs include: *resilience* (Cowen & Work, 1998; Dyer & McGuinness, 1996; Rak & Patterson, 1996; Saleebey, 1996; Garmezy, 1993; Luthar & Zigler, 1991; Garmezy & Masten, 1986; Rutter, 1981, 1985), *hardiness* (Funk, 1992, Allred & Smith, 1989; Funk & Houston, 1987), *potency* (Ben-Sira, 1985), and *social support* (Pretorius & Diedericks, 1994).

This construct of fortitude is similar to that of resilience, as both aid coping, in the face of adversity. It may then be asked "*why fortitude and not resilience?*" Not only has resilience been widely investigated, but there is a prominent distinction between these two concepts; fortitude is based solely on the theory of appraisal (Pretorius, 1998), and these two constructs fall within different paradigms. In South Africa, various studies have investigated the role of fortitude but relatively few have examined fortitude in relation to trauma exposure.

Rahim (2007), for example, investigated the relationship between fortitude and academic achievement among students from historically disadvantaged backgrounds. Higher fortitude was associated with higher academic achievement. However, he also expressed that the strength of the correlation he obtained was not strong, which indicates that, "whilst fortitude is correlated with academic achievement, there are other variables which influence academic achievement, and that fortitude is not necessarily the most important factor" (Rahim, 2007, p. 57). Rahim (2007) also noted that most research that investigates the relationship between fortitude or fortitude-related constructs and academic achievement has concentrated on adolescents and young children (Capella & Weinstein, 2001; Overstreet & Braun, 1999; Rumbaut, 2000; Wang, Haertel, & Walberg, 1998), whereas reasonably little research has been conducted involving adult populations (Cutrona, Cole & Colangelo, 1994; Gigliotti & Gigliotti, 1998).

Pretorius, Walker and Heyns (2009) investigated fortitude among men caring for spouses suffering from dementia. Positive appraisals of the self, the family environment,

and recognition of support from others contributed towards fortitude and participants experiencing caregiving as meaningful. Potgieter and Heyns (2006) investigated the experiences of female spouses caring for their partners with Alzheimer's disease. The study results indicated that participants had low levels of fortitude, which, amid other factors, were associated with negative appraisals concerning their ability to cope. Potgieter and Heyns (2006) noted that this was not unexpected, as the very nature of Alzheimer's disease frequently results in the caregiver feeling isolated and lacking a social support network.

Hasan and Power (2004), for example, found that cognitive appraisal has become increasingly known for playing a significant role in children's reactions to specific events. Research among a college population has indicated that "problem-solving appraisal and negative life events have been found to be significant predictors of suicide ideation and hopelessness" (Dixon, Heppner & Anderson, 1991; Pretorius & Diedericks, 1994; as cited in Veenendaal, 2008, p. 11). Priester and Clum's (1993) findings from their study among college students support the significance of the problem-solving appraisal as a moderator of stress-depression and stress-helplessness relationships.

Julius (1999) used a non-probability sample of 70 participants to investigate the influence of gender and fortitude with regards to problems students presented with, at the Institute for Counselling at the University of the Western Cape (UWC). The results indicated significant negative correlations between total functioning (as indicated by the 'Checklist of Problems and Concerns' used at the Institute for Counselling) and the

FORQ overall scale (fortitude), as well as the three FORQ subscales (self-appraisal, family-appraisal and support-appraisal). The results suggest that individuals scoring higher on fortitude "presented with fewer problems, thereby supporting the hypothesis that fortitude is associated with lower levels of stress and fewer presenting problems" (Julius, 1999; as cited in Veenendaal, 2008, p. 12).

Muller (1999) investigated differences in academic achievement in children of divorced parents. Muller (1999) used a sample consisting of 110 participants, in grades 5, 6, and 7. The results indicated a negative relationship between depression (which was measured by the Children's Depression Inventory) and stress-resistance (which was measured by the FORQ).

Heyns, Venter, Esterhuyse, Bam and Odendaal (2003) focused on the relationship between psychofortigenic factors and psychological burnout in their study. They used a sample of 226 nurses from 21 institutions, caring for Alzheimer's patients. Their results indicated significant negative correlations between burnout and psychofortigenic factors (Fortitude and Sense of Coherence), i.e. lower levels of fortitude were associated with an increased risk of burnout.

Roothman, Kirsten and Wissing (2003) investigated gender differences pertaining to aspects of psychological well-being. They used a multicultural availability sample, which consisted of 378 participants. The results indicated that men scored notably higher than females on fortitude and other psychological well-being constructs

(such as physical self-concept, positive automatic thoughts, constructive thinking, cognitive flexibility and total self-concept). Barends (2004) highlighted that "these results suggest gender–related differences in perceptions of psychological well-being" (p. 22).

Barends (2004) conducted a study among university students and found that specific demographic factors, specifically race, had a bearing on fortitude. African students scored higher on fortitude than Coloured and Indian students. Additionally, Barends (2004) noted that fortitude is a significant predictor of academic adjustment amongst females. Overall, fortitude was notably linked with academic adjustment and was one of the factors that served as an important predictor of social adjustment among African students (Barends, 2004).

Hamid and Singaram (2016) explored the relationship between demographic factors, performance, and fortitude among medical students. They found that the majority of participants had high levels of fortitude in all three constructs (self, family, and social); therefore, implying that the specific group of medical students they investigated had positive perceptions/appraisals of themselves, their families and their social support systems. Overall, the results from Hamid and Singaram's (2016) study indicated a significant positive correlation between fortitude and academic performance (i.e. high fortitude is associated with high academic performance).

In one of the few studies that explored fortitude in relation to trauma exposure, Pretorius et al. (2016) investigated the role of fortitude in the relationship between violence and trauma-related symptoms among South African adolescents living in two low-income communities. Their results confirmed that fortitude played a health-sustaining and stress-buffering role. Furthermore, they found that "adolescents who displayed high levels of fortitude had lower levels of trauma symptoms in relation to exposure to violence (stress-buffering) and were able to maintain their levels of wellbeing irrespective of the nature and extent of such exposure (health-sustaining)" (Pretorius et al., 2016, p. 2). Overall, their study found fortitude to be a protective factor, as it stressed the importance of "the role of specific cognitive appraisals related to fortitude in facilitating adaption in relation to trauma" and the study also "underscores the relevance of using clinical interventions that target problematic cognitive appraisals and strengthen perceptions of coping" (Pretorius et al., 2016, p. 2). Padmanabhanunni, Campbell, and Pretorius (2017) conducted further research involving South African adolescents living in low-socioeconomic locations. The researchers specifically explored gender differences in the role of appraisals of safety in the relationship between violence exposure and trauma-related symptoms. Their results reflected a notable positive relationship between all violence subscales and trauma-related symptoms, as well as a significant negative relationship between sense of safety and trauma-related symptoms (Padmanabhannuni et al., 2017). Furthermore, results identified prominent gender differences in the role of safety appraisals, with additional effects noted for females (Padmanabhannuni et al., 2017). The obtained results demonstrated a health-sustaining

role for men, and a health-sustaining role, and indirect effect, and a stress-reducing role for women (Padmanabhannuni et al., 2017).

2.7. The role of fortitude in psychological outcome

Every individual faces both traumatic and stressful life events throughout their lifetime. Stavrou (1993) explains that stressful life events are associated with trauma, as they are events which occasionally jeopardize our lives and our health. Stavrou (1993) also notes that these events involve the feeling that the demands of particular circumstances exceed one's ability to cope. It is important to define stress, in order to understand the concept of a stressful life event. Stress is the measure of an event which is external to the individual (Woolfe, 1992), and is furthermore defined as "an unpleasant state of emotion usually accompanied by physiological symptoms that individuals experience in situations that they perceive as threatening or challenging" (Rahim, 2007, p. 8). Stress becomes noticeable within an individual in various ways (Folkman et al, 1986; Folkman, 1997), that is, physiologically, psychologically, emotionally, and behaviorally (Zimbardo, 1992).

Much attention has been placed on both input and output in exploring how individuals react and/or adjust to external stressors; this is identified as a stimulus-response model (Woolfe, 1992). Particular attention is paid to the interaction between environmental stressors, and an individual's responses to such stressors; emphasizing stress and coping as a subjective experience opposed to an objective experience (Woolfe, 1992). It is important to note that stress not only produces negative effects (i.e. the

manifestation of physical illness, such as a heart attack, high blood pressure, etc), but positive effects too. The positive effects of stress include a display of heightened creativity, as well as the potential motivation to improve one's performance under challenging circumstances (Zimbardo, 1992).

When there is incongruence between an individual's characteristics and the environment the individual finds themselves in, stress often occurs. As a result, coping, which Folkman and Lazarus (1988) define as "a person-environment relationship in an adaptational encounter" (p. 311), can be seen "as the process in which one works towards a state of congruence or fit between the two" (Folkman & Lazarus, 1988, cited in Veenendaal, 2008, p. 23). Fortitude assists with such coping. The role of cognitive appraisals is fundamental to this process of coping. Individuals engage in cognitive processes by appraising the potential impact of an event, and in turn evaluate what coping resources are at their disposal (Lazarus & Folkman, 1984; Tedeschi & Calhoun, 2004). Yeung, Lu, Wong, and Huynh (2015) explain that the outcomes of these cognitive processes then determine the individual's adjustment. Furthermore, Woolfe (1992) notes that humans play an active role in creating and coping with their own experiences.

In a study of 93 female African students, Malefo (2000) found that participants who experienced fewer stressful life events demonstrated problem-focused coping behaviours. Malefo (2002) also noted that those particular participants had the inclination to seek help in dealing with stressful life events. On the other hand, participants with higher negative life change scores displayed maladaptive, emotion-

focused coping behaviours. Malefo's (2000) results suggest that "coping strategies that emphasize problem-focused behaviour serve as a mediator of the influence of stressful life events" (Veenendaal, 2008, p. 24).

Trauma may be defined as an event that overwhelms an individual's coping resources, as traumatic situations present substantial amounts of danger and fear, resulting in an individual feeling powerless (Hamber & Lewis, 1997). Hamber and Lewis (1997) also note that traumatic experiences are considered to be unusual and are not necessarily daily occurrences. The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association (APA), 2013) defines trauma as "exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways: directly experiencing the traumatic event(s); witnessing, in person, the traumatic event(s) as it occurred to others; learning that the traumatic event(s) occurred to a close family member or close friend (in case of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental); or experiencing repeated or extreme exposure to aversive details of the traumatic event(s)" (p. 271).

The key distinction between life stressors and traumatic events is that traumatic events involve a threat or a perceived threat to life. Van der Kolk, McFarlane, and Weisaeth (1996) maintain that trauma is, at times, a "horrendous experience" (p. xviii), which can debilitate a person, and furthermore fragment them beyond repair (Ulman & Brothers, 1988). Furthermore, Armsworth and Holaday (1993) state that victims of

trauma may develop pessimistic views of the future, and/or may struggle with preparations for the future, due to a sense of hopelessness, which may occur after a traumatic event.

Literature also reports a range of other negative outcomes associated with trauma, such as *depression* (Armsworth & Holaday, 1993; Mazza & Reynolds, 1999; Ward, Martin, Theron & Distiller, 2007), *suicidal ideation* (Mazza & Reynolds, 1999), *distress* (Armsworth & Holaday, 1993; Kuther, 1999), *anxiety* (Kuther, 1999; Ward, et. al., 2007), *conduct issues* (Armsworth & Holaday, 1993; Ward, et al., 2007) and *hostility* (Barbarin, Richter & de Wet, 2001; Kuther, 1999). Literature, on both a local (Seedat et al., 2004; Ward et al., 2001; Hamber & Lewis, 1997; Stavrou, 1993) and international scale (Kuther, 1999; Mazza & Reynolds, 1999; Foy & Goguen, 1998; Guterman & Cameron, 1997) indicate that trauma has widely been associated with PTSD.

Unfortunately, trauma in South Africa is often linked to violence. Violence has been identified as a form of psycho-social trauma (Hamber and Lewis, 1997). Olivier (1991) postulates that violence is a social construction and considering what is regarded as violence is mainly influenced by the culture(s) within a given context. Violence can be defined as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug, Dahlberg, Mercy, Zwi, & Lozano quoted in Higson-Smith, 2004, p.303). Hamber and Lewis (1997) noted that violence in South Africa is deeply rooted in

social inequality and deprivation caused by the apartheid regime (i.e. white domination). Under the apartheid system, physical and psychological control was imposed over activists, torture methods were used to undermine them as individuals (including their families and communities), thus political control could more easily be maintained (Kagee, 2003). The legacy of violence remains salient in modern-day South Africa; however, the pattern of violence has changed. Eagle (1998) stresses that "exposure to violent crime is more commonplace than in many other countries and in this respect South African society offers a distressing natural laboratory setting in which to study the impact of trauma" (p.6). Crime statistics from the last decade demonstrate this violent context, and Schönteich (2002) noted that every third crime documented in South Africa is said to be of a violent nature.

An individual's response to traumatic events constantly comprise of a significant subjective factor. Hamber and Lewis (1997) explain that this is most evident "in disasters where although a broad cross-section of the population is exposed to objectively the same traumatic experience, individual psychological reactions are markedly different" (p. 8). The differences in an individual's reaction in times of vulnerability may "stem from pre-existing social, cultural and psychological factors" (Hamber & Lewis, 1997). Hamber and Lewis (1997) elaborate on this in saying that an individual's reaction "is as much about the actual traumatic incident as it is about their pre-traumatic personality structure" (p. 8) as well as resources, coping methods and social support structures accessible to them. Furthermore, Ramsay, Gorst-unsworth and Turner (1993) state that

cognitive appraisal is of utmost importance in determining psychological outcome, prior and subsequent to traumatic experiences.

It must be said that, although there are many individuals exposed to trauma and thus develop persistent difficulties, there is a significant percentage that display relatively positive adjustments and are able to adapt effectively despite their negative experiences. Bonanno (2004) highlighted that psychopathology only occurs among a minority of those exposed to distressing events, suggesting the prospect of other outcomes, including beneficial ones. Taking a similar stance, Almedom (2005) argues that "a number of different pathways are possible in the course of the "psychosocial transition" from crisis to either a positive or negative aftermath, recognizing that the possibility to "remain unscathed" also exists" (p. 254). Outcomes may be determined by the type, timing, and level of social support accessible and/or obtainable to the individuals and groups affected (Almedom, 2004; Almedom, 2005).

Tedeschi and Calhoun (1995) coined the term *posttraumatic growth* (PTG), which refers to "positive psychological change experienced as a result of the struggle with highly challenging life circumstances" (i.e. traumatic events) (Calhoun & Tedeschi, 1999, 2001; as cited in Malhotra & Chebiyan, 2016, p. 110). It is suggested that PTG leads to improved relationships with others, openness to new possibilities, greater appreciation for life, increased personal strength, and spiritual development (Tedeschi & Calhoun, 1996). Other theorists who also believed in positive outcomes despite negative experiences include Viktor Frankl (1959) and Abraham Maslow (1955). Frankl (1959)

wrote about the will to meaning following his experiences during the Holocaust. In his renowned book, '*Man's Search for Meaning*' Frankl illustrates "how an existential understanding of suffering, control, and helplessness can be used to cope with trauma" (Malhotra & Chebiyan, 2016, p. 109). Similarly, Maslow (1955) noted that confrontations with tragedy are frequent precursors to self-actualization. Furthermore, when investigating the life stories of highly generative individuals and less generative individuals, McAdams, Diamond, de St. Aubin, and Mansfield (1997) found that highly generative individuals were able to take unfavourable life events and rework them, yielding constructive outcomes.

CHAPTER THREE

THEORETICAL FRAMEWORK

3.1. Theoretical Framework: Fortigenesis

The theoretical framework for this study is that of fortigenesis. As previously mentioned, Pretorius (1998) describes fortitude as the strength one has to deal with stress and remain well. This strength stems from the positive appraisal of oneself, one's family and the support others afford us with. Fortitude is similar to resilience (as both aid in combating stress and have health-sustaining qualities), however, each of these constructs fall within different paradigms. Fortitude falls within the paradigm of fortigenesis, whereas resilience falls within the salutogenic paradigm. Veenendaal (2008) states that pathogenisis and salutogenesis fall along a continuum, "with health on the one end of the spectrum (salutogenesis) and disease on the other (pathogenesis)" (p. 11). However, Veenendaal (2008) argues that "this assertion implies that one is either completely well or completely ill, that is, health and wellness are seen as existing completely exclusively from each other" (p. 11). Therefore, the process of producing strength on the continuum as a whole (from health to illness, not only at the point of health) is known as fortigenesis (Strümpfer, 1995).

Pretorius (1998) noted the difference between fortitude and other constructs within the salutogenic and fortigenic paradigms. Pretorius (1998) explains that these concepts are "a mixture of both self-assessment and objective factors" (p. 28), whereas fortitude is based solely on a theory of appraisal by means of self-assessment.

Veenendaal (2008) makes a fair point in stating that “it is not so much the objective factors themselves which are considered… but rather how these factors are interpreted” (p. 11).

The construct of fortitude has not been investigated excessively, on both a local and international scale. Nevertheless, fortitude holds great promise in providing insight into the study of strengths, especially from an appraisals perspective. Overall, fortitude provides us with a construct that can better assist in the maintenance of psychological well-being in the context of trauma and stress.

CHAPTER FOUR

RESEARCH METHODOLOGY

This chapter provides information regarding the research methodology of the study.

4.1. Research Design

This study is quantitative in nature and employs a correlational design. Gay and Airasian (2000) explain that "correlational studies involve two or more variables and one group" (p. 364). Rahim (2007) notes that correlational studies are frequently criticised for being limited; they do not allow for the manipulation of the independent variable, they simply explore a link or relationship between two variables, and do not consider the cause-and-effect relationship.

The topic of causation discredits the use of correlation; however, it is important to note that causality is not typically inferred in correlational studies. A central issue regarding correlational studies is that they are open to multiple interpretations. While a relationship between two variables may exist, the interpretation of that relationship is not explicit (Vadum & Rankin, 1998). Although correlational studies are known for their inherent weaknesses, a beneficial aspect is that they have offered many valuable insights and have repeatedly been the starting point for more comprehensive research (Vadum & Rankin, 1998). Since this study is in a field where there is not an extensive body of existing research, it is hoped that, through the use of a correlational design, this study

will provide a good starting point for more in-depth research in the future, regarding the role of fortitude in psychological outcome in relation to exposure to trauma.

4.2. Research Setting

This study was conducted at the University of the Western Cape (UWC), in the Bellville suburb of Cape Town, South Africa. UWC was established in 1960 by the South African government, as a university for Coloured[1] people only (UWC History, n.d.). This establishment was the outcome of a law which was passed in 1959, in order to achieve the segregation of higher education in South Africa (UWC History, n.d.). Other universities near and surrounding Cape Town, such as the University of Cape Town (UCT) and Stellenbosch University, previously only catered to specific racial groups (i.e. UCT was originally for English-speaking White[2] people only, and Stellenbosch University was originally for Afrikaans-speaking White people).

UWC is well-known as a historically disadvantaged university, which fought against oppression and discrimination for those who were historically marginalized. Amid academic institutions, UWC has been at the forefront of South Africa's historic change and has played a key role in building a vibrant, unbiased nation. UWC has been an integrated and multicultural academic institution since before Apartheid ended in 1994 (UWC History, n.d.). Today, a vast majority of UWC students still come from

[1] The term Coloured is used in reference to racial categories

[2] The term White is used in reference to racial categories

historically disadvantaged backgrounds (Clowes, Shefer & Ngabaza, 2017), where they are at greater risk of exposure to traumatic events (and which could potentially hinder their development and/or their ability to remain well).

4.3. Population and Sample

A purposive non-probability sample was used, and participation was voluntary. Participants were undergraduate students (n=218), at UWC. The majority of participants were female (77.7%). The mean age was 21 years (SD = 4.936), with the majority of participants being first year students (56.4%). The majority of participants were Black[3] (which include African and Coloured students) (90.9%).

4.4. Instruments

Four self-report instruments were used in this study, namely the Fortitude Questionnaire (FORQ) (Pretorius, 1998), the Life Events Checklist for DSM-5 (LEC-5) (Weathers, Blake, Schnurr, Kaloupek, Marx, & Keane, 2013), the Posttraumatic Stress Disorder Checklist (PCL-5) for the current version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (Weathers, Litz, Keane, Palmieri, Marx, & Schnurr, 2013), and a demographic survey. These are described below.

The Fortitude Questionnaire (FORQ) (Appendix A) was developed by Pretorius (1998). The FORQ is a 20-item questionnaire which measures fortitude. Fortitude is

[3] The term Black is used in reference to racial categories

defined as "the strength to manage stress and stay well and this strength derives from a positive appraisal of the self, the family and support from others" (Pretorius, 1998, p. 23). Three domains have been identified and form the basis of fortitude, namely, self-appraisals, family-appraisals and support-appraisals. The twenty items measure across these domains with seven items representing self-appraisals, seven items representing family-appraisals, and six items representing support-appraisals. A four-point Likert scale ranging from 1 = "does not apply" to 4 = "applies very strongly" is employed to rate each item. Pretorius (1998) evaluated the psychometric properties of the FORQ and reported coefficient alphas of between α=.74 and α=.82 for the subscales (i.e. α=.74 for self-appraisals, α=.82 for family-appraisals, and α=.76 for support-appraisal). The full scale yielded a coefficient of α=.85, which is considered highly satisfactory in terms of reliability. The FORQ has proven to be a popular measure and has been utilized in a considerable number of South African studies (e.g. Barends, 2004; Heyns, Venter, Esterhuyse, Bam, & Odendal, 2003; Julius, 1999; Muller, 1999; Roothman et al., 2003). Not only have these studies reported reliability coefficients between α=.77 and α=.88, but the findings also suggest that fortitude is linked with positive coping styles and psychological health (Heyns et al., 2003; Julius, 1999; Muller, 1999; Roothman et al., 2003).

The Life Events Checklist for DSM-5 (LEC-5) (Appendix B) is a 17-item self-report questionnaire widely used in screening for potentially traumatic events (PTE's) in a respondent's lifetime. Participants indicate varying levels of exposure to PTE's on a 5-point nominal scale (*1 = "Happened to me", 2 = "Witnessed it", 3 = "Learned about*

it", 4 = "Part of my job", 5 = "Not sure", or 6 = "Doesn't apply"). Examples of the types of PTE's in the scale include: natural disasters, transportation accident, physical assault, sexual assault, other unwanted or uncomfortable sexual experience, life-threatening illness or injury and sudden violent death.

The PCL-5 (Appendix C) is a 20-item self-report measure reflecting DSM-V symptoms of PTSD. Items are rated on a scale ranging from 0 = "not at all" to 4 = "extremely" in relation to how much the respondent has been bothered by each PTSD symptom (in the past month). A total symptom severity score can be obtained (range 0-80) by summing the scores for each of the 20 items. Scores of 38 or higher indicate the presence of PTSD symptoms. The PCL-5 is an updated measure of the PTSD Checklist for DSM-IV, which has been empirically validated in a number of clinical and nonclinical samples (Conybeare, Behar, Solomon, Newman, & Borkovec, 2012). Internal consistency has ranged between α=.94 (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) and α=.97 (Weathers, Litz, Herman, Huska, & Keane, 1993).

A demographic questionnaire (Appendix D) developed by the researcher of this study included items pertaining to age, gender, race, and year level.

4.5. Procedure

Once all relevant ethical permission had been granted by the university, the researcher went about recruiting participants. The researcher entered specific lecture rooms (with prior consent from the lecturers and registrar) and explained the various

details pertaining to the study to the students present. Students were well informed regarding all aspects of the study, and they were given an information sheet outlining the nature and aims of the study and were invited to participate. Students who decided to participate then completed a consent form. The researcher distributed the four measures to the participants, and they were advised on how to complete the various measures correctly. With permission from the relevant lecturers, students completed the questionnaires during part of the lecture period. All instruments were printed and administered in English because UWC is an English medium university. Once completed, the researcher collected the measures from the participants. All of the data collected was stored in a secure cabinet. Questionnaires were administered over a period of three weeks.

4.6. Data Analysis

The Statistical Package for the Social Sciences (SPSS 25; Nie, Hull, Jenkins, Steinbrenner & Brent, 1975) was used to carry out the statistical analysis of the data collected for this study.

To examine the direct, indirect, mediating and moderating effects of fortitude, step-wise linear regression analyses (Cohen & Cohen, 1975) was performed. Firstly, to examine the direct effects of life events and fortitude, these two variables were separately entered as Step 1 in two different regression analyses. The potential mediating and indirect effects of fortitude was then examined by entering these two variables together in Step 2 of the regression analysis. Finally, an interaction term (the product of

fortitude and life events) was entered in Step 3. To avoid the problem of multicollinearity, the deviation scores (score minus mean) of the adverse condition and the presumed moderating variable are used in the calculation of the product term (Good & Hardin, 2012).

- A significant effect for fortitude in Step 1 indicates a direct effect for fortitude (i.e. a health-sustaining effect).
- The second step of the regression analyses indicates whether the third variable has a mediating or indirect effect. If in Step 1 the adverse condition (life events) is found to predict the outcome (trauma symptoms), but in Step 2 is reduced to an insignificant level, this would indicate that fortitude operates as a mediator variable. If, however, it is fortitude that is reduced to an insignificant level in Step 2, the adverse condition (life events) is said to be the mediated pathway, i.e. fortitude has an indirect effect on the outcome variable.
- A significant effect for the product term in Step 3 indicates that fortitude has a moderating effect.

4.7. Reliability and validity

Reliability and validity are two important aspects of research, and the integrity of the researcher as well as the testability of the study depend immensely on these two facets. By ensuring that each procedure was followed correctly during each phase of the research, the researcher guaranteed the reliability and validity of this study. There were various procedures set in place and it was imperative that these procedures were followed correctly. This also implies that participants were recruited and participated

only once they had given their consent to do so. The researcher made use of three instruments, as previously stated. The results of each of these measures were verified according to stipulated methods, which have proven to be reliable and valid. Furthermore, reliability is guaranteed through the standardization of these questionnaires and information sheets; thus, all participants received equal information and opportunity to participate in this study. By determining the sample size strength using the statistical analysis of G*Power (Faul, Erdfelder, Buchner & Lang, 2009), the generalizability of the sample was ensured. Overall, the use of quantitative methods afforded the researcher with greater accuracy and validity of scores.

4.8. Ethical Considerations

Ethical clearance for the study was obtained from the Humanities and Social Sciences Research Ethics Committee (HSSREC) of UWC. Permission to recruit students was also obtained from the Registrar. All participants completed informed consent forms. Participants were informed that the study was completely voluntary and there were no incentives for completing the various measures. Participants were also made aware that they have the right to withdraw from the study at any point, without consequence. Informed consent forms (Appendix E) were issued to the participants, bearing clear and concise details which ensured confidentiality and anonymity. Participant anonymity was ensured as participants did not need to enter their name on any of the questionnaires. An information sheet (Appendix F) outlining all the necessary details pertaining to the study were issued to each prospective participant. Due to the focus of the study on traumatic events, participants were provided with information

pertaining to counselling services (Therapeutic Services on UWC's campus) in the event that they experienced psychological and/or emotional distress as a result of completing the various questionnaires incorporated in this study. Finally, the researcher ensured that all documentation collected from the sample was safely and securely stored, as this information is of a sensitive and confidential nature.

CHAPTER FIVE

RESEARCH RESULTS

The means, standard deviations, and reliability coefficients (Cronbach's Alpha) for the scales (and FORQ subscales) are reported in Table 1 below. A reliability of .70 was used as an indicator for acceptable reliability, as .70 has been found to be an acceptable reliability coefficient according to Nunnaly (1978).

Table 1: Descriptive Statistics and Reliabilities for PCL-5 and FORQ

	Descriptive Statistics		
	Mean	Std. Deviation	Cronbach's Alpha
PCL-5 TOTAL	1.4793	.95208	.933
FORQ TOTAL	2.7557	.52269	.875
FORQ SELF	2.8408	.54274	.746
FORQ FAMILY	2.5885	.79207	.875
FORQ SUPPORT	2.8517	.69038	.808

The reliabilities of the scales are within acceptable range and consistent with those reported in prior studies (Pretorius, 1998; Julius, 1999; Muller, 1999; Heyns et al., 2003; Roothman et al., 2003; Barends, 2004; Rahim, 2007). The frequencies for the LEC-5 are reported in Table 2 below.

Table 2: Exposure to potentially traumatic events (PTE's)

Item (Type of traumatic event)	N	Percentage (%)
Natural disaster	28	12.7
Fire or explosion	110	50
Transportation accident	153	69.5
Serious accident at work or home	100	45.5
Exposure to toxic substance	22	10
Physical assault	164	74.5
Assault with a weapon	107	48.6
Sexual assault	37	16.8
Unwanted sexual experience	68	30.9
Combat or exposure to war zone	10	4.5
Captivity	17	7.7
Life threatening illness/ injury	115	52.3
Severe human suffering	78	35.5
Sudden violent death	51	23.2
Sudden accidental death	77	35
Serious injury/harm/death – you caused	27	12.3
* Any other stressful event	127	57.7

Table 2 indicates that the most frequently experienced traumatic events among the sample were physical assault (74.5%), life threatening illness or injury (52.3%), and transportation accident (69.5%).

More than half of the participants in the sample (57.7%) reported having been exposed to other stressful events. Some examples of these "other stressful events" include: financial issues, parents' divorce, academic struggles, exam stress, verbal and emotional abuse, stressful decision-making, infertility treatment, burnt (by boiling water,

by paraffin), growing up in the system (as an orphan), being stalked, anxiety and panic attacks, drowning, and so on.

Table 3 illustrates the frequency of exposure to traumatic events by gender.

Table 3: Exposure to potentially traumatic events (PTE's) by gender

Potentially Traumatic Event (PTE)	Women		Men	
	N	Percentage (%)	N	Percentage (%)
Natural disaster	22	12.9	6	12.8
Fire or explosion	85	49.7	25	53.2
Transportation accident	121	71.2	32	68.1
Serious accident at work or home	77	45	23	48.9
Exposure to toxic substance	17	9.9	5	10.9
Physical assault	128	75.3	36	76.6
Assault with a weapon	83	48.5	24	51.1
Sexual assault	34	19.9	3	6.4
Unwanted sexual experience	59	34.5	9	19.1
Combat or exposure to war zone	7	4.1	3	6.4
Captivity	15	8.8	2	4.3
Life threatening illness/ injury	89	52	26	55.3
Severe human suffering	65	38	13	27.7
Sudden violent death	47	27.5	4	8.5
Sudden accidental death	65	38.2	12	25.5
Serious injury/harm/death – you caused	22	12.9	5	10.6
Any other stressful event	96	56.5	31	70.5

According to Table 3, both men and women had relatively similar rates of exposure to certain types of traumatic events. These traumatic events include: fire or explosion (49.7% for women and 53.2% for men), transportation accidents (71.2% for women and 68.1%), physical assault (75.3% for women and 76.6% for men), assault

with a weapon (48.5% for women and 51.1% for men), and life-threatening illness or injury (52% for women and 55.3% for men).

Certain types of traumatic events were reported at a higher rate by women, compared to men. This included sexual assault (19.9% for women and 6.4% for men), unwanted sexual experience (34.5% for women and 19.1% for men), and sudden violent death (27.5% for women and 8.5% for men). Also, the item labeled as “any other stressful event” was experienced at a higher rate by men (70.5%) compared to women (56.5%).

The inter-correlations between the various scales are reported in Table 4.

Table 4: Intercorrelations for LEC-5, PCL-5 and FORQ

		LEC-5	PCL-5 TOTAL	PCL-5 CLUSTER B	PCL-5 CLUSTER C	PCL-5 CLUSTER D	PCL-5 CLUSTER E	FORQ TOTAL	FORQ SELF	FORQ FAMILY	FORQ SUPPORT
PCL-5 TOTAL	Pearson Correlation	.214**	1								
PCL-5 CLUSTER B (Intrusion symptoms)	Pearson Correlation	.235**	.840**	1							
PCL-5 CLUSTER C (Avoidance)	Pearson Correlation	.168*	.747**	.628**	1						
PCL-5 CLUSTER D (Negative alterations in cognitions & mood)	Pearson Correlation	.190**	.901**	.611**	.569**	1					
PCL-5 CLUSTER E (Alterations in arousal & reactivity)	Pearson Correlation	.147*	.890**	.662**	.572**	.734**	1				
FORQ TOTAL	Pearson Correlation	-.055	-.271**	-.161*	-.140*	-.303**	-.250**	1			
FORQ SELF	Pearson Correlation	-.030	-.259**	-.107	-.078	-.318**	-.266**	.666**	1		
FORQ FAMILY	Pearson Correlation	-.032	-.201**	-.122	-.134*	-.201**	-.196**	.851**	.339**	1	
FORQ SUPPORT	Pearson Correlation	-.069	-.178**	-.148*	-.101	-.206**	-.126	.773**	.310**	.498**	1

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

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

Table 4 indicates a significant relationship between the LEC-5 and the PCL-5, including all of the PCL-5 subscales. This is also a positive relationship, which means that high scores on the one scale are associated with high scores on the other. There was no significant relationship between the LEC-5 and the FORQ Total, nor was the LEC-5 related to any of the FORQ subscales.

Furthermore, the following are all negative relationships; implying that low scores on the FORQ are associated with high scores on the PCL-5: The PCL-5 Total is related to all of the FORQ scales (FORQ Total, FORQ Self-appraisals subscale, FORQ Family-appraisals subscale, and FORQ Support-appraisals subscale). PCL-5 Cluster B (Intrusion symptoms) is related to the FORQ Total, as well as the FORQ Support-appraisals subscale. PCL-5 Cluster C (Avoidance) is related to the FORQ Total, and the FORQ Family-appraisals subscale. PCL-5 Cluster D (Negative alterations in cognitions and mood) is related to the FORQ Total, and all of the FORQ subscales. PCL-5 Cluster E (Alterations in arousal and reactivity) is related to the FORQ Total, the FORQ Self-appraisals subscale, the FORQ Family-appraisals subscale, but not the FORQ Support-appraisals subscale.

The results of the moderated regression analysis are presented below.

Table 5.1: FORQ TOTAL and Total trauma symptoms

Coefficients[a]

Model		Standardized Coefficients Beta	T	Sig.
1	(Constant)		7.593	.000
	LEC-5	.214	3.116	.002
2	(Constant)		6.767	.000
	LEC-5	.194	2.927	.004
	FORQ TOTAL	-.273	-4.120	.000
3	(Constant)		6.744	.000
	LEC-5	.194	2.918	.004
	FORQ TOTAL	-.273	-4.099	.000
	LEC-5 x FORQ	.007	.099	.921

a. Dependent Variable: PCL-5 TOTAL

Coefficients[a]

Model		Standardized Coefficients Beta	T	Sig.
1	(Constant)		8.502	.000
	FORQ TOTAL	-.288	-4.266	.000
2	(Constant)		6.767	.000
	FORQ TOTAL	-.273	-4.120	.000
	LEC-5	.194	2.927	.004
3	(Constant)		6.744	.000
	FORQ TOTAL	-.273	-4.099	.000
	LEC-5	.194	2.918	.004
	LEC-5 x FORQ	.007	.099	.921

a. Dependent Variable: PCL-5 TOTAL

The moderated regression analysis in Table 5.1 indicates a significant **direct** effect for fortitude (FORQ TOTAL) on the total trauma symptoms, when considered together with the

PCL-5 Total. This would imply a health-sustaining role for fortitude, in respect of trauma-related symptoms. There are, however, no moderating or mediating effects.

Table 5.2: FORQ SELF-appraisals and Total trauma symptoms

Coefficients[a]

Model		Standardized Coefficients Beta	T	Sig.
1	(Constant)		7.593	.000
	LEC-5	.214	3.116	.002
2	(Constant)		6.734	.000
	LEC-5	.206	3.107	.002
	FORQ SELF	-.268	-4.047	.000
3	(Constant)		6.799	.000
	LEC-5	.204	3.074	.002
	FORQ SELF	-.274	-4.119	.000
	LEC-5 x SELF	-.073	-1.095	.275

a. Dependent Variable: PCL-5 TOTAL

Coefficients[a]

Model		Standardized Coefficients Beta	T	Sig.
1	(Constant)		8.287	.000
	FORQ SELF	-.275	-4.058	.000
2	(Constant)		6.734	.000
	FORQ SELF	-.268	-4.047	.000
	LEC-5	.206	3.107	.002
3	(Constant)		6.799	.000
	FORQ SELF	-.274	-4.119	.000
	LEC-5	.204	3.074	.002
	LEC-5 x SELF	-.073	-1.095	.275

a. Dependent Variable: PCL-5 TOTAL

The moderated regression analysis in Table 5.2 indicates a significant **direct** effect only for the LEC-5 and the FORQ SELF-appraisals subscale, on the total trauma symptoms. This

would imply a health-sustaining role for the FORQ SELF-appraisals subscale, in respect of trauma-related symptoms. There are, however, no moderating or mediating effects.

Table 5.3: FORQ Family-appraisals and Total trauma symptoms

Coefficients[a]

Model		Standardized Coefficients Beta	T	Sig.
1	(Constant)		7.593	.000
	LEC-5	.214	3.116	.002
2	(Constant)		6.542	.000
	LEC-5	.202	2.982	.003
	FORQ FAMILY	-.194	-2.866	.005
3	(Constant)		6.587	.000
	LEC-5	.194	2.862	.005
	FORQ FAMILY	-.192	-2.841	.005
	LEC-5 x FAMILY	.076	1.121	.264

a. Dependent Variable: PCL-5 TOTAL

Coefficients[a]

Model		Standardized Coefficients Beta	t	Sig.
1	(Constant)		9.376	.000
	FORQ FAMILY	-.207	-3.004	.003
2	(Constant)		6.542	.000
	FORQ FAMILY	-.194	-2.866	.005
	LEC-5	.202	2.982	.003
3	(Constant)		6.587	.000
	FORQ FAMILY	-.192	-2.841	.005
	LEC-5	.194	2.862	.005
	LEC-5 x FAMILY	.076	1.121	.264

a. Dependent Variable: PCL-5 TOTAL

The moderated regression analysis in Table 5.3 indicates a significant **direct** effect for the FORQ FAMILY-appraisals subscale on the total trauma symptoms. This therefore implies a

health-sustaining role for the FORQ FAMILY-appraisals subscale, in respect of trauma-related symptoms. There are, however, no moderating or mediating effects.

Table 5.4: FORQ Support-appraisals and total trauma symptoms

Coefficients[a]

Model		Standardized Coefficients Beta	t	Sig.
1	(Constant)		7.593	.000
	LEC-5	.214	3.116	.002
2	(Constant)		5.988	.000
	LEC-5	.201	2.963	.003
	FORQ SUPPORT	-.185	-2.734	.007
3	(Constant)		5.978	.000
	LEC-5	.200	2.940	.004
	FORQ SUPPORT	-.186	-2.732	.007
	LEC-5 x SUPPORT	-.016	-.237	.813

a. Dependent Variable: PCL-5 TOTAL

Coefficients[a]

Model		Standardized Coefficients Beta	t	Sig.
1	(Constant)		8.238	.000
	FORQ SUPPORT	-.200	-2.897	.004
2	(Constant)		5.988	.000
	FORQ SUPPORT	-.185	-2.734	.007
	LEC-5	.201	2.963	.003
3	(Constant)		5.978	.000
	FORQ SUPPORT	-.186	-2.732	.007
	LEC-5	.200	2.940	.004
	LEC-5 x SUPPORT	-.016	-.237	.813

a. Dependent Variable: PCL-5 TOTAL

The moderated regression analysis in Table 5.4 indicates a significant **direct** effect for the FORQ SUPPORT-appraisals subscale on the total trauma symptoms. Therefore, this implies

a health-sustaining role for the FORQ SUPPORT-appraisals subscale, in respect of trauma-related symptoms. There are, however, no moderating or mediating effects.

CHAPTER SIX

DISCUSSION

The goals of this study were threefold, namely, to investigate (i) the types of potentially traumatic events experienced by university students and its association with demographic variables, (ii) the psychological outcome of exposure to potentially traumatic events and (iii) the role of fortitude in psychological outcome. In this chapter, the aims of the study are discussed and contextualized in terms of the existing literature.

This study investigated the role of fortitude in psychological outcome in relation to exposure to traumatic events experienced among young adults. In particular, the relationship between fortitude and traumatic events (i.e. exposure to trauma, indicated by the LEC-5) was investigated, in order to determine the role which fortitude plays in psychological outcome (i.e. the development of PTSD, indicated by the PCL-5). The effects of various variables (i.e. trauma symptoms) were analysed for their influence on the relationship between fortitude in psychological outcome (i.e. the development of PTSD). A demographic variable (i.e. gender), was also highlighted when investigating the frequencies of traumatic events.

6.1.1. Exposure to potentially traumatic events (PTE's) among university students

Various studies have suggested that a large proportion of young adults are exposed to at least one adverse event within their lifetime (Lloyd & Turner, 2003; Benjet et al., 2016; Kessler et al., 2017). With specific reference to tertiary level students, Borsari et al. (2008) found that college students are more likely to have recently experienced a trauma than older adults. In line

with this, one of the significant findings of the current study is that university students are exposed to a range of potentially traumatic events, and all participants in the study indicated some sort of exposure to such unfavourable events

The results illustrated in Table 2 specified that the most frequently experienced traumatic events among the sample were physical assault (74.5%), life threatening illness or injury (52.3%), and transportation accident (69.5%). A significant percentage of participants (57.7%) also indicated that they were exposed to "other stressful events". The reviewed literature suggested that interpersonal violence was a central issue among South Africans (Atwoli et al., 2013), which is in line with the findings of this study. Atwoli et al. (2013) also noted that some of the most common traumatic events within the South African context include accidents, physical violence, and witnessing a death, or someone get hurt, or seeing other atrocities. The findings of this study therefore reflect Atwoli et al.'s (2013) findings.

On an international scale, literature suggests that the types of traumatic events university students typically experience include violence, natural disasters (tornadoes, hurricanes, earthquakes, floods, etc.), assault with weapons (e.g. shootings), and terrorist attacks (Lambert, Lambert, & Lambert, 2014). Additional research also noted witnessing or experiencing community violence (Scarpa, 2001; Scarpa et al., 2002), and witnessing unexpected or sudden deaths (Bernat, Ronfeldt, Calhoun, & Arias, 1998; Goodman, Corcoran, Turner, Yuan, & Green, 1998; Green et al., 2000; Kirk & Dollar, 2002; Owens & Chard, 2006). Morgan (2016) also notes that students battle with adverse events such as financial difficulties, physical ailments, the

death of loved ones, dissatisfaction over their academic results, and romantic breakups (Beasley, Thompson, & Davidson, 2003; Burris, Brechting, Salsman, & Carlson, 2009).

Three South African studies have provided great insight regarding trauma exposure amongst university students (i.e. Peltzer, 1998; Hoffman, 2002; McGowan & Kagee, 2013), and the findings of the current study are significantly in line with the findings of these studies.

Peltzer (1998) conducted research on trauma exposure and post-traumatic psychological symptoms, which incorporated students from the University of the North in South Africa. From the sample, 56% of students reported exposure to a traumatic event during their lifetime (Peltzer, 1998). Furthermore, 12% of the student sample met the criteria for PTSD (Peltzer, 1998). Peltzer (1998) also found that females were more likely to experience the loss of a significant other, while males were more likely to be involved in motor vehicle accidents.

Hoffman (2002) investigated the incidence of traumatic events and trauma-associated symptoms/experiences amongst Technikon Pretoria students. Hoffman (2002) found that 70.6% of students reported exposure to one or more traumatic events. The most frequently reported traumatic event was the death of a loved one (Hoffman, 2002). Motor vehicle accidents and natural disasters were less frequently reported by the student sample (Hoffman, 2002). Hoffman (2002) also noted that female students reported a significantly higher occurrence of unwanted sexual violence, which included traumas such as rape and sexual assault. PTSD symptoms were also prevalent amongst the sample, with female students reporting more intrusive thoughts and avoidant behaviour than their male counterparts (Hoffman, 2002).

McGowan and Kagee (2013) investigated the lifetime prevalence of trauma exposure, as well as PTSD, depression and anxiety symptoms of a sample of South African university students. They found that the vast majority (roughly 90%) of their student sample reported exposure to a traumatic event, "which included a life-threatening illness and motor vehicle accidents" (McGowan & Kagee, 2013, p. 334). The most frequently reported traumatic events was exposure to suicide/homicide, with 43% of respondents stating they were exposed to either a suicide or homicide of a family member or close friend (McGowan & Kagee, 2013). From the student sample, 27% "reported being threatened with a weapon, most commonly a knife or firearm, but also screwdrivers, golf clubs, bricks, bottles, metal pipes, panga's (machete), and a police dog" (McGowan & Kagee, 2013, p. 332). Furthermore, 20% of the sample reported that their exposure to a traumatic event occurred while they were registered as a university student (McGowan & Kagee, 2013). Students who reported exposure to one or more traumatic events also reported higher levels of anxiety, depression, and PTSD, with females reporting more severe PTSD symptoms than males (McGowan & Kagee, 2013). McGowan and Kagee (2013) thus noted a significant positive relationship between the number of traumatic events experienced and the severity of PTSD symptoms among the participants, as they expected. The relationship between symptoms of PTSD, depression, and anxiety among the university student sample was found to be strong and positive (McGowan & Kagee, 2013). These findings correlate with the findings of the current study.

Furthermore, McGowan and Kagee (2013) found a relationship between gender, age, race, year of study, place of residence, and the severity of PTSD symptoms. The significant predictors of the severity of PTSD symptoms were "gender, Black race, Coloured race, and year of

study" (p. 336). Furthermore, "with regard to the relationship between gender, age, race, year of study, place of residence, and the frequency of traumatic events, the only significant variables were gender, age, Black race, Coloured race, and private residence" (McGowan & Kagee, 2013, p. 336). McGowan and Kagee (2013) noted that their findings were consistent with William et al.'s (2007) study on South African trauma exposure, which also indicated higher levels of trauma exposure and psychological distress among Black and Coloured South Africans. These findings are significantly linked to those of this study, as the majority of respondents were also of Black and Coloured race, and reported similar outcomes. McGowan and Kagee (2013) further note that "having low socio-economic status, residing in areas with elevated levels of violent crime, and using public transport are possible reasons for Black and Coloured South Africans reporting more frequent exposure to traumatic events than other racial groups" (p. 336).

It is generally assumed that university students are a more resilient group (Chow et al., 2018). Bulathwatta et al. (2017) note that "resilience is a key factor of health in general, but it can also be a key factor for coping with loss, a traumatic situation, etc. It can be defined as an emotional elasticity for coping" (p. 14). However, not everyone copes with these potentially traumatic events in the same way. The current study has found that this cohort of university students are vulnerable to exposure to trauma and adversity. When conducting research on college freshmen, Lipka (2013) found that they had "the lowest rating of physical and emotional health since 1985" (p. 24). Interestingly, local research among university students in South Africa echoes this, as it indicates high levels of psychosocial vulnerability (Van Breda, 2017; McGowan & Kagee, 2013; Wade, 2009). This relates to the findings of the current research study, which indicates that the participants involved seem to be less resilient than previously

presumed. Perhaps it is not that university students lack resilience, but rather lack support. This thus urges researchers to investigate further and provide insight into more elaborate support structures which will enhance the fortitude of university students, and young adults on a larger scale.

6.1.2. Exposure to PTE's by gender

A salient finding of the study was that gender was significantly related to exposure to traumatic events. According to the findings illustrated in Table 3, there are a few traumatic events which both women and men had relatively similar rates of exposure to. These traumatic events include: fire or explosion (49.7% for women and 53.2% for men), transportation accidents (71.2% for women and 68.1%), physical assault (75.3% for women and 76.6% for men), assault with a weapon (48.5% for women and 51.1% for men), and life-threatening illness or injury (52% for women and 55.3% for men).

Certain types of traumatic events were reported at a higher rate by women, compared to men. This included sexual assault (19.9% for women and 6.4% for men), and unwanted sexual experience (34.5% for women and 19.1% for men). These results reflect the literature, as it is suggested that women are more likely to experience sexual assault and rape (Norris et al., 2002; Kessler et al., 1995; Neria et al., 2002). Silove et al. (2017) found that women reported their levels of exposure to gender-based violence (GBV) to be three times higher than men, and "were seven times more likely to nominate GBV as the index trauma" (p. 1). Subsequent to experiencing trauma, women have twice the probability of developing PTSD, compared to their male counterparts (despite men experiencing greater lifetime exposure to traumatic events)

(Breaslau, 2001; Chapman et al., 2012; Kilpatrick et al., 2013; Pineles et al., 2017; Silove et al., 2017). Ditlevsen and Elklit (2012) echo this, noting that gender differences in PTSD prevalence vary across various types of trauma, and women show a greater PTSD prevalence in all trauma types. Furthermore, women are more likely than men to develop PTSD independent of the type of precipitating trauma, signifying an overall female susceptibility to more severe psychological responses when provoked by traumatic occurrences (Tolin & Foa, 2006). Evidence also suggests that girls are more likely than boys to develop PTSD subsequent to trauma exposure (Dyregrov & Yule, 2006; Nooner et al., 2012), emphasising this is already prevalent from childhood.

Even though the findings illustrated that women reported higher rates with regards to sexual assault and rape, and generally display a greater prevalence for developing PTSD, what is most interesting to note is that there were several male respondents who have not only been exposed to sexual assault and unwanted sexual experiences (in some way or another), but that actually reported this in the questionnaires for this study. Related to this finding was a salient finding from Peltzer's (1998) study, where more males reported unwanted sexual activity (including rape), compared to their female counterparts. In the World Report on Violence and Health, WHO (2002) noted that it is believed that official statistics greatly under-represent the number of male rape victims. Furthermore, available evidence suggests the likelihood of males being less likely to report an assault to the authorities than female victims (WHO, 2002). A range of reasons (including shame, guilt and fear) exist for why male rape is underreported. Moreover, there are many myths and strong prejudices surrounding male sexuality which also prevent men from coming forward (WHO, 2002).

In McGowan & Kagee's (2013) study, they noted that similar rates of trauma exposure were experienced by both males and females, although there were differences in the types of traumas experienced. While men were more likely to report that they "have experienced physical force, witnessed an attack, had their life threatened, or have a weapon used against them", women reported "a greater proportion of sexual traumatic events such as sexual coercion and sexual assault than men" (McGowan & Kagee, 2013, p. 335). While the current study found significantly different exposure rates between males and females, a similar finding would be that males and females also displayed differences in the types of traumas experienced, with females also experiencing a greater proportion of sexual traumatic events in the current study.

According to the findings of this study, women also reported higher rates of exposure to sudden violent death (27.5% for women and 8.5% for men), but the item labelled as "any other stressful event" was experienced at a higher rate by men (70.5%) compared to women (56.5%). It is interesting to note that women reported higher rates of exposure to sudden violent death, than men, as Seedat et al. (2004) noted that males were significantly more likely (than females) to have witnessed community violence. Seedat et al. (2004) also found that males have a higher mean number of trauma exposures than females, which is in line with the findings of this study (i.e. men reported experiencing "any other stressful event" at a higher rate than females). Ditlevsen and Elklit (2012) have also noted that compared to women, men are at higher risk of exposure to traumatic events during their lifetime, with Silove et al.'s (2017) study also finding that men have reported more traumatic events overall.

6.1.3. The link between trauma exposure and adverse psychological outcomes

Another significant finding of the study was that exposure to traumatic events was associated with adverse psychological outcomes, specifically post-traumatic stress related symptoms. Bulathwatta, Witruk and Reschke (2017) note that the majority of trauma victims demonstrate various emotional disturbances and damage which consequentially result in radical life changes. “Among the most prevalent symptoms of traumatic events are behavioural and mood changes, sleeplessness, loss of appetite and emptiness of facial expressions” (Bulathwatta et al., 2017, p. 13). Several researchers have identified a significant relationship between violence and trauma-related symptoms which result in negative psychological effects (Jones 2007; Suliman et al., 2005, 2009; Pretorius et al., 2016). More significantly, and consistent with the findings of this study, various studies have acknowledged a noteworthy relationship between trauma exposure and PTSD development (i.e. Calitz et al., 2014; Brewin et al., 2000; Kessler et al., 1995). Alisic, Zalta, Van Wesel, and Larsen’s (2014) study noted that the most prominent moderator of PTSD rates was the type of trauma experienced, which is consistent with adult literature (e.g. Olff et al., 2007; Santiago, et al. 2013). Furthermore, Alisic et al. (2014) emphasize that interpersonal trauma “may lead to higher rates of PTSD because it is more often chronic, erodes social support (in cases where the perpetrator is a family member)” (p. 338). This thus leads to more self-blame or additional maladaptive cognitions (Tolin & Foa, 2006), mistrust (Freyd, 1996), and/or alters one’s perceptions of the world, in ways that interrupt daily functioning (Janoff-Bulman, 1992).

Furthermore, the intercorrelations of this study identified that the various scales all indicated negative relationships (implying that low scores on the FORQ are associated with high

scores on the PCL-5). This therefore indicates that lower levels of overall fortitude were associated with higher levels of PTSD. This seems to be in line with Pretorius' (1998) study; he found that undergraduate students with high levels of stress and high levels of well-being reported high levels of fortitude opposed to participants with high levels of stress and low levels of fortitude. To emphasise this, existing studies have demonstrated that lower resilience is associated with increased vulnerability to PTSD. Southwick, Vythilingam, and Charney (2005) have noted that vulnerable individuals are characterized by largely negative affective states. In a study by Eakman, Schelly, and Henry (2016), lower protective factors and elevated vulnerability factors were believed to increase one's risks. On the other hand, it is widely believed that individuals displaying higher levels of resilience have positive beliefs regarding their abilities to succeed in any goal they set out to achieve (Bandura, 1977; Brewer & Yucedag-Ozcn, 2013; Dweck, 2014). Students' may face challenges, experience trauma, and their lives may not unfold as they had anticipated. However, if they are aware of the protective factors and positive coping strategies that support resilience, students will be better equipped to recuperate after experiencing adverse events (Elliot & Dweck, 2005; Ong et al., 2010; Dweck, Walton, & Cohen 2011). The components that strengthen resilience among young adults can vary from individual to individual (Hines, Merdinger, & Wyatt, 2005; Wolniak & Gebhardt, 2012). However, resilient individuals appear to take responsibility for their emotional and psychological well-being and may learn and grow from traumatic experiences (Anderson & Anderson, 2003; Southwick & Charney, 2012). This seems to especially correspond with Pretorius, Padmanabhanunni and Campbell's (2016) study, as they found that "adolescents who displayed high levels of fortitude had lower levels of trauma symptoms in relation to exposure to violence… and were able to

maintain their levels of wellbeing irrespective of the nature and extent of such exposure" (p. 153).

6.2.1. FORQ SELF-appraisals and Total trauma symptoms (Table 5.2)

The findings of this study have indicated that increased perceptions of the self as competent and capable are associated with lower trauma symptoms. For example, many studies on self-efficacy have demonstrated that this is a protective factor when it comes to psychological outcome (e.g. Bandura, 1994; Bandura et al., 2003; Benight & Bandura, 2004; Karademas, 2007; Sandín et al., 2015; Schönfeld, Brailovskaia, Bieda, Zhang & Margraf, 2016). Eakman, et al. (2016) recognise self-understanding as another important component of resilience. Benight and Bandura (2004) postulated that coping self-efficacy refers to the perceived ability to cope with and manage stressful situations. Furthermore, Bandura (1997) noted that self-understanding refers to an individual's beliefs that their skills and abilities are adequate for attaining esteemed personal goals. The results of Samuelson, Bartel, Valadez, and Jordan's (2017) study indicate that posttraumatic appraisals and coping self-efficacy are of great importance due to the roles they play in perception of cognitive problems following trauma. Research indicates that high levels of self-efficacy correlate with high levels of subjective well-being, positive viewpoints, and life satisfaction (Bandura, 1992; Luszczynska et al., 2005; Azizli et al., 2015). On the other hand, low levels of self-efficacy are associated with greater negative symptoms, such as anxiety, distress and depression (Kashdan & Roberts, 2004; Kwasky & Groh, 2014).

6.2.2. FORQ Family-appraisals and total trauma (Table 5.3)

The findings of this study indicate that increased perceptions of one's family as supporting, caring, motivating, and accessible are associated with lower trauma symptoms. There is a significant literature base on the role of social support, specifically the family, in influencing outcome following trauma. Wise and Delahanty (2017) explain that support provided by family members has been found to be a predominant protective factor against the development of trauma symptoms and PTSD, following traumatic event exposure (Stallard et al., 2001; Meiser-Stedman et al., 2006). Van Breda (2018) notes the contribution of the family to student resilience and claims that supportive family relations play a significant role. These include relationships with both parents and siblings (Dass-Brailsford, 2005; Firfirey & Carolissen, 2010). Resilient students' families have high expectations for their children to succeed and they make relevant sacrifices to ensure that this is possible (Van Breda, 2018). Williamson et al. (2017) conducted a recent meta-analysis of 14 studies which included 4010 participants. They examined the impact of positive and negative parenting on child PTSD in child trauma survivors aged between 9–16 years (Williamson et al., 2017). They discovered that negative parenting behaviours (such as hostility and overprotection) following child injury accounted for 5.3% of the variance in child PTSD development, while positive parenting behaviours (such as warmth and support) accounted for 2% of the variance in child PTSS development (Williamson et al., 2017). This indicates that both positive and negative parenting have small but consistent impacts on a child's development of post-traumatic stress symptoms.

Kiser, Nurse, Lucksted and Collins (2008) note that "some families faced with difficult environments and multiple stressors show resiliency, adaptation, and positive outcomes that may

serve as a counterweight to the negative outcomes" (p. 2). Calhoun and Tedeschi (1998) expand on this, noting that certain families may even experience posttraumatic growth and cope in more productive ways subsequent to traumatic events.

However, it is not uncommon for many families to react to trauma (such as chronic stress, poverty, and violence) in a disorganized, chaotic and unstable manner (Brody & Flor, 1997; Clark, Barrett, & Kolvin, 2000; Hill & Herman-Stahl, 2002). Kiser, et al. (2008, p. 2) note that when families, and specifically caregivers "cannot carry out their roles or cannot provide protection and control over environments and events that affect family members, relationships may become inconsistent, unstable, and mistrustful" (Ackerman et al., 1999). Parents and family members may also end up being as affected as the individual who experienced the trauma, and just as much at risk at developing trauma symptoms and/or PTSD (Wise & Delahanty, 2017). Therefore, the levels of support these family members can actually offer trauma victims (in their family) will vary from case to case.

6.2.3. FORQ Support-appraisals and total trauma symptoms (Table 5.4)

The findings of this study indicate that increased perceptions of external sources of support (which stem from friends and peers, as being caring, supportive, and motivating entities) is associated with lower trauma symptoms. Liu, Zhang, Jiang, and Wu (2017) note that having a prominent and reliable social support system can prevent you from developing PTSD symptoms. Social support also promotes mental adjustment in conditions where individuals experience high levels of chronic stress (Liu et al., 2017). Individuals with higher levels of social support may adapt to disasters more effortlessly (Pinar, Okdem, Buyukgonenc & Ayhan, 2012). In contrast,

those with lower levels of social support may have struggle to recuperate from trauma (Liu et al., 2017).

Eakman, Schelly and Henry (2016) note that a powerful feature which is capable of fostering resilience and protecting individuals from undesirable life outcomes is a sense of belonging, which can be found in the convenience of close and supportive personal relationships (Bonanno, 2004; Masten, 2001). The positive effects of various social support systems on resilience are likely to function through the founding of practical assistance, support for personal motivation and competent behaviour, as well as sources of positive self-understanding (Eakman, et al., 2016).

Van Breda (2018) distinguished other external sources of support. It was noted that many students refer to role models (which could include educators at the institution one attends) who inspire and motivate them (Dass-Brailsford 2005). One's school has also been considered as a source of support and encouragement (Van Breda, 2018). Dass-Brailsford (2005) explains that one's home community can also be considered a source of support at times. It is no secret that university environments are diverse and at can be isolating at times, thus resilient students form friendships with like-minded individuals (Maringe & Sing 2014), who offer comfort and support through conversation (Mudhovozi 2011).

However, it is important to note that some trauma victims may struggle with social relationships that afford them with social and emotional support, as this has been found to be negatively associated with PTSD (Pietrzak et al., 2010). Elliott, Gonzalez, and Larsen (2011)

have noted that veterans with PTSD may struggle with maintaining supportive social relationships. Therefore, despite support systems playing such an important role, trauma victims may struggle to accept the support offered to them. Furthermore, lower levels of social supports have been linked with lower self-efficacy beliefs (Eakman, et al., 2016).

It must be expressed that self-, family- and support-appraisals need to be considered with utmost importance and sensitivity. These appraisals can play a pivotal role in the development and maintenance of maladaptive behaviour; thus, it is important that the study explored these appraisals and their connections to fortitude. Meiser-Stedman, Dalgleish, Glucksman, Yule and Smith (2009) note that a range of maladaptive appraisals about the trauma experienced can be experienced, and the effect of these maladaptive appraisals facilitates the relationship between preliminary reactions to a traumatic event and subsequently posttraumatic stress. Therefore, appraisal processes play a fundamental role in the maintenance and exacerbation of initial stress responses, which can lead to the onset of trauma-related psychopathology (Meiser-Stedman et al., 2009). In emphasising the repercussions of negative appraisals, Robinaugh and McNally (2011) note that those "who appraise a traumatic event as a turning point in their life story, a central part of their identity, and a reference point for generating expectations about the future exhibit greater distress…[and] may be especially at risk for PTSD" (p. 7). Cromer and Smyth (2010), as well as DePrince et al. (2011) also emphasise that negative trauma appraisals are strongly associated with PTSD indicators. Such negative appraisals (i.e. self-blame or shame) can intensify and maintain PTSD symptoms (e.g., Uji, Shikai, Shono, & Kitamura, 2007). This is to such a great extent that Andrews, Brewin, Rose, and Kirk (2000) note negative trauma appraisals predict symptoms of PTSD and depression above and beyond the extent of trauma

exposure that individuals initially experience. DePrince, Zurbriggen, Chu and Smart (2010) have found that appraisals about trauma both at the time of trauma and later in life are related to an array of symptoms, ranging from general distress to depression and PTSD. Trauma victims are encouraged to change their trauma appraisals, in turn decreasing the related PTSD symptoms they may experience (Price, MacDonald, Adair, Koerner, & Monson, 2016).

6.3. Summary and conclusion of findings

This study aimed to investigate the role of fortitude in psychological outcome in relation to exposure to traumatic events among young adults. The objectives of this study included: identifying the types of traumatic events experienced by young adults, determining the psychological outcome of exposure, and investigating the role of fortitude in psychological outcome. This study attempted to answer the main research question, which was "*What is the role of fortitude in psychological outcome for young adults exposed to traumatic events?*"

In exploring the results obtained by the various measures, it was evident that the findings support literature claims that exposure to trauma (i.e. PTE's) is highly prevalent within the South African context, as well as amongst the young adult population. This study's sample of young adults was no different. The findings illustrated that PTE's were commonly experienced by the entire sample, with many PTE's being experienced equally amongst females and males, while other PTE's were experienced more by females, and less by males, and vice versa. Types of traumatic events where identified through the LEC-5 measure, which included events such as natural disasters, transportation accidents, physical assault, sexual assault, life-threatening illness or injury, and so forth.

When considering the intercorrelations between the measures, a significant positive relationship was identified between the LEC-5 and the PCL-5 (including all of the PCL-5 subscales). This suggests that a higher LEC-5 score will result in a higher PCL-5 score. This furthermore implies that exposure to trauma (i.e. PTE's in a respondent's lifetime – identified by the LEC-5) is associated with a respondent's negative psychological outcomes (such as the development of PTSD).

However, no significant relationship between the LEC-5 and the FORQ Total was found, nor was the LEC-5 found to be related to any of the FORQ subscales. This implies that no significant relationship exists between fortitude and a respondent's exposure to trauma (PTE's). This could imply that fortitude does not influence the way in which an individual experiences certain PTE's.

The intercorrelations for the FORQ scale (and its subscales) and the PCL-5 (and its subscales) indicated negative relationships (implying that low scores on the FORQ are associated with high scores on the PCL-5). These findings therefore suggest that low levels of fortitude may be associated with negative psychological outcomes (i.e. a greater likelihood of developing PTSD), whereas high levels of fortitude would therefore result in more positive psychological outcomes (i.e. less likelihood of developing PTSD).

Through these findings, it is evident that fortitude plays a significant health-sustaining, protective role. As Pretorius et al. (2016) have noted *"Positive appraisals of the self (e.g. as competent and capable), the family (e.g. as an accessible source of emotional support) and other*

supports within the environment (e.g. friends as a reliable source of support) facilitate adjustment in relation to potentially traumatic events and buffers against the negative effects of further exposure" (p. 13). On the other hand, problematic appraisals in these three domains (i.e. self, family, and social support) can often result in an increase in trauma-related (PCL-5) symptoms. Overall, the findings of this study also support existing studies which stress the importance of cognitive appraisals in psychological outcome following traumatic events (Halligan, Michael, Clark, & Ehlers, 2003; Dunmore, Clark, & Ehlers, 2001).

For many young South Africans, exposure to violence and traumatic events is a frequent occurrence with significant negative psychological consequences (such as PTSD). It is thus essential that continuous research efforts are made to identify the factors that contribute to differential psychological weaknesses. This study represents one of the few studies to examine fortitude among young adults. The findings suggest that cognitive appraisals related to the self, family and broader supports have significant implications for coping with exposure to traumatic events. The findings of the current study also suggest that psychological intervention efforts need to be adapted, in order to enhance appraisals associated with coping. Although Cognitive Behavioural Therapy (CBT) treatment models for trauma and PTSD (Ehlers & Clark, 2000) have a strong focus on identifying and addressing problematic appraisals of traumatic events and the consequences of such events, Edwards (2010) notes that these treatment approaches are not used sufficiently in local contexts. This study therefore urges and supports the use of psychological interventions efforts which incorporate a focus on appraisals associated with coping, especially within a local context, as this can be highly beneficially for young adults, and the entire South African population.

6.4. Limitations and shortcomings of the study

No research study can claim to be completely unlimited and unconstrained in its scope. In identifying the limitations of a study, its results can be appropriately contextualised, more effectively understood, and ultimately employed in the future.

In this study, a purposive non-probability sampling technique was used, and, combined with the limited sample size (due to time and access constraints), results in a sample that was not truly representative. Thus, the results may be sample-specific, and generalisations may not be made from these results.

To elaborate on this, the study was conducted using a purposive non-probability sample of 218 participants, from a population of undergraduate psychology students. Due to the relatively small sample size (n = 218) and the consequent questionable generalisability, this study should be considered merely a preliminary investigation into the relationships between the variables that were explored.

As noted in the Methodology section (Chapter Four) of this thesis, correlational studies do not explore causation (i.e. cause-and-effect relationships). Therefore, causal relationships and the direction thereof cannot be conclusively established by the correlational findings of this study. Furthermore, the findings only infer that there are associations where reported, but they cannot offer any conclusions regarding the direction, in terms of which variable caused the effect in the other, nor the nature of the relationship.

6.5. Recommendations for future research

Considering the results obtained and the various limitations and shortcomings of the study, the following recommendations are made for future research:

1. Given the questionable generalisability of the findings of this study, for future research with the aim of exploring similar research for specific generalization to a designated university population, it is recommended that a sample more representative be used. This includes incorporating a range of courses (not just psychology courses), faculties and year levels, among a diverse population (i.e. participants from various ethnic/racial groups – not just majority Black participants, as was the result of this study). Perhaps randomized sampling techniques, with the use of a larger sample for sufficient generalization is better suited, and thus recommended. Also, for future research which aims to cover similar grounds, and further aims at generalising the findings to the greater population of students/young adults in South Africa, randomized sampling techniques, in combination with utilising various samples from a range of universities (representative of the student population in South Africa) is recommended.

2. Furthermore, it is also recommended that another PSTD screening measure (e.g. PTSD Diagnostic Scale for DSM-5 (PDS-5) (Foa et al., 2015), which is used to estimate the severity of a respondent's PTSD symptoms, be included in further investigations. This will provide further valuable insights into the harshness and frequencies of trauma exposure, and its impact on psychological outcome.

3. Future research could further explore the relationship between fortitude, psychological outcome, and trauma (traumatic events), as there is very little research that has considered these three factors collectively. A wider range of demographic variables may also be explored, such as participants' socio-economic status and their area of residence, as these may be relevant factors with regards to trauma exposure. Future studies could therefore conduct research with groups varying in demographics and compare results within and between these groups.

4. Similar studies could be conducted in other universities across South Africa (such as UCT, Stellenbosch University, the University of Johannesburg (UJ), etc.) and those findings may be compared with the ones yielded in this study. It is furthermore recommended that future research includes a larger sample size, as well as a more diverse sample (i.e. participants spanning across various courses – not just undergraduate psychology courses) in order to avoid a possible negative impact on certain statistical analyses and furthermore, possibly present as limitations to the study.

5. This study highlights socio-economic background as a key variable which needs to be added to future studies on this topic. Literature has suggested that violence (resulting in trauma exposure) is more prevalent in poorer communities (Butchart et al., 2004; Hamber & Lewis, 1997). It would therefore be interesting and beneficial to include this aspect into future studies, in order to evaluate if this truly reflects and supports (or challenges) prior findings.

6. With regards to the sensitive nature of the topic in investigation, therapeutic measures/interventions should continuously be stressed (as was the case with this study). Participants who were, in any way, negatively affected as a result of completing the

questionnaires (i.e. as a result of sharing personal information pertaining to traumatic events they have experienced), were urged to make contact with the researcher, and furthermore visit therapeutic services (i.e. counselling) on the UWC campus.

7. A final recommendation would be combining quantitative and qualitative research methods. Introducing a qualitative component, involving open-ended questions, could offer insights into participants' perceptions of variables typifying and impacting on the role of fortitude in psychological outcome in relation to traumatic events. Overall, this may yield interesting results and potentially offer insight regarding causal (cause-and-effect) relationships between the relevant variables. This thus combats the limitations of a correlational design.

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The Fortitude Questionnaire (FORQ) (Pretorius, 1998)

Please indicate the extent to which the following statements apply to you and/or your situation.

Use the following scale 1 = does not apply

2 = applies slightly

3 = applies a lot

4 = applies very strongly

Mark your responses to the left of the statement

EXAMPLE _1_ I like apricots: The 1 indicates that the statement does not apply to you.

_____1.I always feel pretty sure of myself

_____2.I take a positive attitude towards myself

_____3.I have no trouble making up my mind

_____4.I trust my ability to solve new and difficult problems.

_____5.On the whole I am satisfied with myself

_____6.In general, there are more than 5 people that I could really count on to be dependable when I need help.

_____7.I am very satisfied with the comfort and support that I get from others.

_____8.Learning about new and different things is very important in our family.

_____9.When making a decision, I weigh the consequences of each alternative and compare them against each other.

____10.I am very satisfied with the help and support that I get from those that I count on.

____11.I know that someone will always be around if I need assistance.

____12.There is plenty of time and attention for everyone in our family.

____13.My friends give me the moral support I need.

____14.I rely on my family for emotional support.

____15.I have a deep sharing relationship with a number of members of my family.

____16.Members of my family are good at helping me solve problems.

____17.In my family we tell each other about our personal problems.

____18.Activities in our family are pretty carefully planned.

____19.Friends often have good advice to give.

____20.At times I think I am no good at all.

LEC-5

Part 1

Instructions: 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 _____)

PCL-5

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.

In the past month, how much were you bothered by:	*Not at all*	*A little bit*	*Moderately*	*Quite a bit*	*Extremely*
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 *(as if you were actually back there reliving it)*?	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 *(for example, heart pounding, trouble breathing, sweating)*?	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 *(for example, people, places, conversations, activities, objects, or situations)*?	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 *(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)*?	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 *(for example, being unable to feel happiness or have loving feelings for people close to you)*?	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 (10/11/2013) Weathers, Blake, Schnurr, Kaloupek, Marx, & Keane -- National Center for PTSD

PCL-5 (10/3/2013) Weathers, Litz, Keane, Palmieri, Marx, & Schnurr -- National Center for PTSD

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DEMOGRAPHIC QUESTIONNAIRE

Title of Research Project: *The role of fortitude in psychological outcome in relation to exposure to traumatic events experienced by young adults.*

Age: _____

Name of degree towards which you are studying: _____

Faculty: _____ Year Level: _____

Gender:

Male ☐ Female ☐

Race:

Black ☐ Coloured ☐ Asian ☐

White ☐ Indian ☐ Other (please specify) ☐

Is the head of your household employed?

Yes ☐ No ☐

Please note:
All of the abovementioned information will remain private and confidential. No identifying information will be disclosed if/when a report is written up regarding this study.

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CONSENT FORM

Title of Research Project: ***The role of fortitude in psychological outcome in relation to exposure to traumatic events among young adults.***

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name……..

Participant's signature……..

Date……

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Revised: September 2014

INFORMATION SHEET

Project Title: The role of fortitude in psychological outcome in relation to exposure to traumatic events among young adults.

What is this study about?
This is a research project being conducted by Cayli Wiid, under the supervision of Dr. Anita Padmanabhanunni, at the University of the Western Cape. We are inviting you to participate in this research project because, as a young adult, it is possible that you are a suitable participant for this study. This research project aims to investigate the role of fortitude as a potential protective factor in psychological outcome in relation to exposure to traumatic events among young adults. The purpose of exploring this topic is due to the fact that our country, South Africa, is riddled with violence and trauma. Young adults are amongst those at highest risk of exposure to violence and trauma. Some individuals suffer immensely as a result of trauma exposure, and, as a consequence, develop Posttraumatic Stress Disorder (PTSD). However, there are many individuals who are able to cope effectively, despite being exposed to adverse events. This is what is known as fortitude – the strength to cope with stress and remain well. Fortitude arises from positive cognitive appraisals of the self, the family, and other sources of support. It is proposed that the construct of fortitude could assist in clarifying how people preserve positive psychological well-being.

What will I be asked to do if I agree to participate?
If you agree to participate in this study, you will be requested to complete three self-report questionnaires, namely: The Fortitude Questionnaire (FORQ) which measures fortitude; The Life Events Checklist for DSM-5 (LEC-5) which screens for potentially traumatic events in a respondent's lifetime; and the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) which assesses the degree to which an individual has been bothered by DSM-5 PTSD symptoms in the past month. To complete these measures, you will need to answer a range of questions. The FORQ requires you to answer on a 4-point scale (1 = "does not apply" to 4 = "applies very strongly"). The LEC-5 requires you to answer various questions by checking one of the following responses: "Happened to me", "Witnessed it", "Learned about it", "Part of my job", or "Not sure", as well as a possible short written response for one of the items. The PCL-5 will require you to rate items on a scale ranging from 0 = "not at all" to 4 = "extremely". You will also be asked to complete a short Demographic Survey. Completion of these measures will take place in the lecture halls, prior to your lecture. It will take approximately 30 minutes to complete all four measures.

Would my participation in this study be kept confidential?
The researcher of this study undertakes to protect your identity and the nature of your contribution to the best of her ability. To ensure your anonymity, the self-report questionnaires are anonymous and will not contain information that may personally identify you. To ensure your confidentiality, all of the information gathered will be stored in a safe and secure holding. Only the researcher and the supervisor of this study will have access to this information. If a report or article about this research project is written, you are ensured that your identity will be fully protected.

What are the risks of this research?
There may be some risks by participating in this research study. All human interactions and communicating information about self or others carry some amount of risks, especially when the topic

relates to violence and trauma (as this study does). The researcher of this study 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.

What are the benefits of this research?
This research is not necessarily designed to help you personally, but the results may help the researcher learn more about the role of fortitude in psychological outcome in relation to traumatic events among young adults. On a larger scale, your participation in this study will help advance the knowledge base in this specific area of research. We hope that, in the future, other people might benefit from this study through improved understanding of fortitude in psychological outcome in relation to exposure to traumatic events among young adults.

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.

Is there assistance available if I am negatively affected by participating in this study?
In the unlikely event that you experience any psychological and/or emotional distress as a result of taking part in this study, you may visit/make contact with Therapeutic Services available at UWC's Centre for Student Support Services (CSSS). Therapeutic Services is located in the Community and Health Science Building, 2nd Floor, CSSS / contact them on: 021-959-3586. Participants who experience such distress may also contact the researcher directly, who will assist in making contact with Therapeutic Services.

What if I have questions?
This research is being conducted by Cayli Wiid from the Psychology Department at the University of the Western Cape. If you have any questions about the research study itself, please contact the researcher at: 072 338 0071 or cayliwiid@gmail.com

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:

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