

**University of the Western Cape**

**Faculty of Community and Health Sciences**

**Clinical Psychology**

Mini Thesis

**TRAUMA AND FORTITUDE AMONGST UNDERGRADUATE STUDENTS WITH  
DISABILITIES**

**Student:** Sameera Saban

**Student number:** 4056699

**Degree:** MA Clinical Psychology

**Supervisor:** Prof. Anita Padmanabhanunni

**Date:** 17 July 2021

## Declaration

I declare that this mini thesis, entitled “Trauma and fortitude amongst undergraduate students with disabilities”, is my own work. It has not been submitted for any degree or examination at any other university. All the sources I have used or quoted have been indicated and acknowledged by complete references.



**Signature:** \_\_\_\_\_

**Date: 10 August 2021**



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## Acknowledgements

My acknowledgement and gratitude begin with God Almighty, always.

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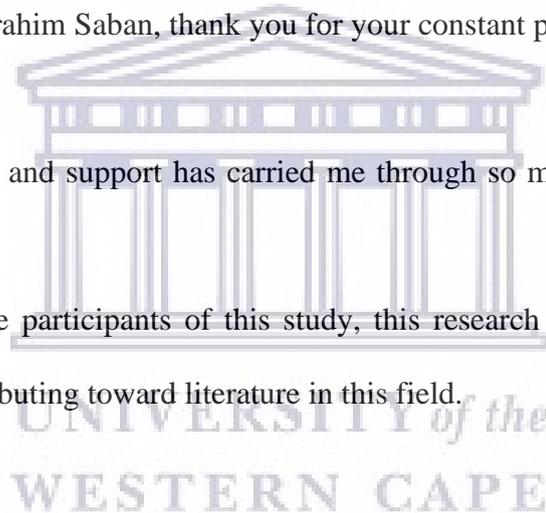
My beloved children, Muhammad Ameen Hardien, Fatima Zahra Hardien and Nafeesa Hardien, thank you for your patience, understanding, support, loyalty and most of all your unconditional love for me.

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Most importantly, without the participants of this study, this research study could not have been possible. Thank you for contributing toward literature in this field.



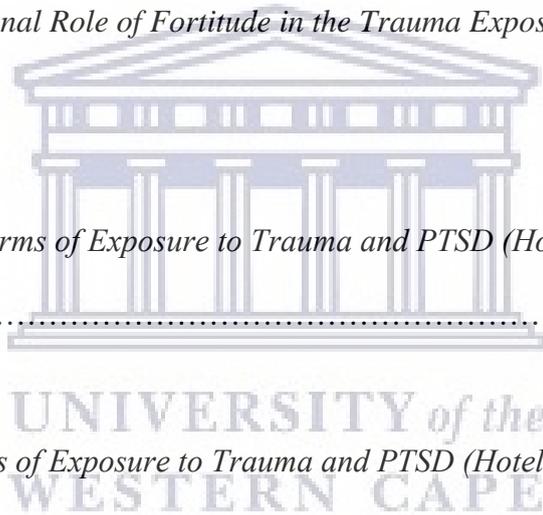
## Abstract

Despite the increase in South African trauma studies over the years, few studies focus on distinct groups, such as the group represented by students with disabilities (SWD) - 1% of the total student population at universities. Recent studies established widespread exposure to trauma amongst the general student population. This study investigated exposure to trauma amongst SWD and the role of fortitude in psychological outcomes. Fortitude is defined as the ability to manage stress well and to remain emotionally steady. The objectives of this study included: i) assessing the prevalence of exposure to trauma amongst SWD; ii) investigating the association between such exposure and posttraumatic stress disorder (PTSD); iii) investigating the role of fortitude in this association; and iv) identifying demographic correlation concerning exposure to trauma and PTSD. The study used a cross-sectional research design, employing total population sampling from SWD at the University of the Western Cape (UWC). Measuring instruments comprised the Life Events Checklist 5 (LEC-5), the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5), the Fortitude Questionnaire (FORQ) and a demographic questionnaire. The Statistical Package for the Social Sciences (SPSS) software was employed in data analysis, applying correlational and mediation analysis to achieve the objectives of the study. Informed consent was obtained from participants. No personal identification was required and data was electronically stored with digital password protection. A significant moderate relationship was found between exposure to trauma and PTSD. There was no mediating effect of fortitude in trauma exposure and PTSD. The results showed a significant negative relationship between fortitude and PTSD and self-appraisals and PTSD, and a significant positive association between those with mental health disabilities and PTSD.

Keywords: disability, students, university, trauma, fortitude, psychological outcome, PTSD, South Africa.

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## List of Acronyms

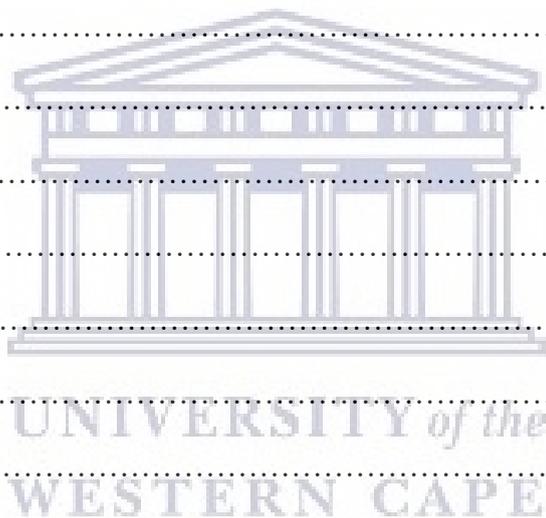
|          |   |
|----------|---|
| CRPD     | Convention on the Rights of Persons with Disabilities |
| DHET     | Department of Higher Education and Training           |
| DOE      | Department of Education                               |
| LEC      | Life Events Checklist                                 |
| RSA      | Republic of South Africa                              |
| Stats SA | Statistics South Africa                               |
| SWD      | Students with disabilities                            |
| UCT      | University of Cape Town                               |
| UWC      | University of the Western Cape                        |
| WHO      | World Health Organization                             |



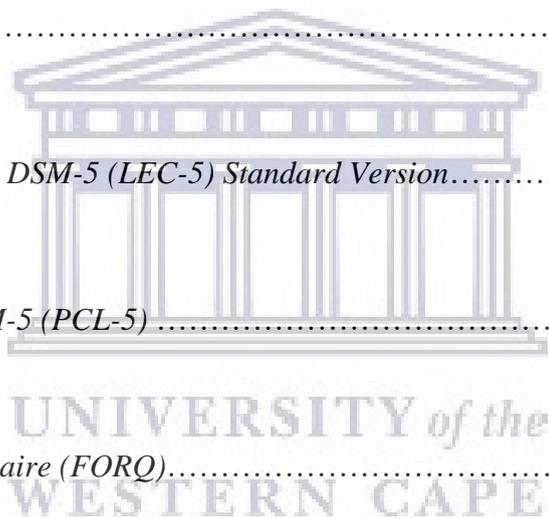
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## Chapter One: Introduction

### Background

Fifteen percent of the world's population (more than a billion people) are estimated to live with some form of disability (World Health Organization [WHO] & World Bank, 2011). In the past, people with disabilities were marginalised and faced rampant discrimination. Over the years, however, advocacy for the rights and equality of people with disabilities led to the inclusion and integration of people with disabilities in society and the economic sector (Mutanga, 2017). The Convention on the Rights of Persons with Disabilities (CRPD) aims to “promote, protect, and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity” (WHO & World Bank, 2011, p. 7). South Africa signed a treaty with the CRPD in 2007, agreeing to protect the rights and dignity of people living with disabilities (Mutanga, 2017).

There is no single universal definition of the term “disability”, as the concept has fluctuated over time. Disability can be classified as “an umbrella term for impairments, activity limitations, and participation restrictions” (WHO & World Bank, 2011, p. 7). According to the International Classification of Functioning, Disability and Health (ICIDH-2), impairments are “problems in body function or structure such as a significant deviation or loss”, activity limitations are “difficulties an individual may have executing activities” and participation restrictions are “problems an individual may experience in involvement in life situations” (WHO & World Bank, 2011, p. 8).

Students with disabilities (SWD) face distinctive challenges in the higher education sector. Dermody and Majekodunmi (2011: 149) defined disability as “a physical or mental condition that prohibits an individual from the use of his or her body (partially, completely and with ease) to perform daily tasks” cite in Phukubje and Ngoepe (2017, p. 182). According to Statistics South Africa (Stats SA, 2014), disability is defined as “the loss or elimination of opportunities to take part in the life of

the community equitably due to physical, sensory, psychological, developmental, learning, neurological or other impairments”. The Department of Higher Education and Training (DHET, 2018), defines disability as:

the loss or elimination of opportunities to take part in the life of the community, equitably with others, encountered by persons having physical, sensory, psychological, developmental, learning, neurological or other impairments, which may be permanent, temporary or episodic in nature, thereby causing activity limitations and participation restriction within mainstream society. These barriers may be due to economic, physical/ structural, social, attitudinal and / or cultural factors.

The diverse definition of “disabilities” supports the conclusion that disabilities comprise more than the generally assumed physical incapacities. SWD experience unique challenges owing to the nature of their disability/disabilities. It was found that a number of students with psychiatric disabilities achieved lower academic completion rates than their counterparts (Hunt et al., 2010 as cited in Shepler & Woosley, 2012), that SWD experience negative side effects from medication and a consequent decline in academic performance (Bordoff, 2017), they experience difficulties in managing time constraints, a lack of technological resources, less social interaction (Sachs & Schreuer, 2011) and difficulty with everyday learning activities and assessments (MacCullagh et al., 2016). Furthermore, SWD face stigmatisation and, additionally, lack self-awareness, self-advocacy skills and self-identity, that could complicate their integration into university life (Hong, 2015).

SWD in South Africa confront even more challenges, such as daily exposure to multiple traumatic events owing to political-, criminal- or gender-based violence, abuse, and injuries resulting from road traffic accidents and burn mishaps (Kaminer & Eagle, 2010).

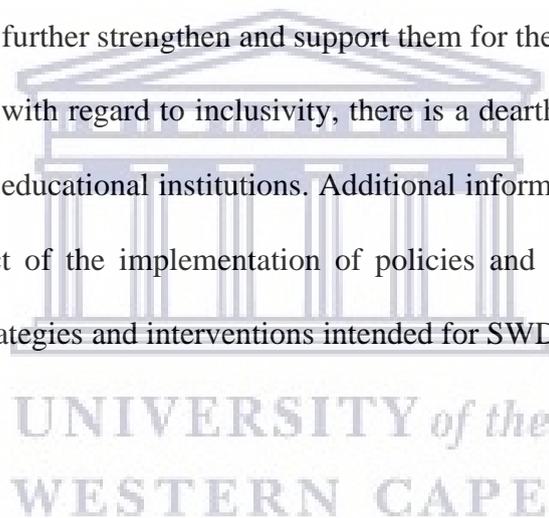
Approximately 90% of South African university students have experienced a traumatic event (McGowan & Kagee, 2013) - evidencing high rates of trauma exposure amongst university students. However, there is a gap in research literature reporting on the trauma exposure of SWD.

## **Research Problem Statement**

SWD represent a small percentage of university students in South Africa and inclusivity of SWD often does not equate to the provision of specific resources and support needed to succeed at university. Their range of disabilities require support in various ways. The perseverance and resilience displayed by SWD indicate that they hold inner resources, providing the ability to attempt and complete tertiary studies and transitioning to career fields, despite the challenges they face. When disabled people develop independence and contribute to society in meaningful ways, not only will disability funding decrease, but the quality of life will be improved of those previously marginalised and stigmatised owing to their disability. It is important to know which supportive components SWD possess and what they need to further strengthen and support them for the duration of their university journey. Despite the progress with regard to inclusivity, there is a dearth of information to enhance the quality of life for SWD at educational institutions. Additional information is required in order to assess development in respect of the implementation of policies and supportive frameworks, by implementing preventative strategies and interventions intended for SWD who require psychological support.

## **Rationale for the Study**

The South African Stress and Health (SASH) study revealed that 73.8% of respondents experienced at least one traumatic event in their lifetime (Atwoli et al., 2013). SWD are not excluded from trauma exposure on a daily basis. As with their many other challenges, there is not sufficient support available to disabled students, despite such support supposedly being accessible in theory (Mutanga, 2017). The high rate of trauma faced by South Africans (Atwoli et al., 2013) and university students in particular (McGowan & Kagee, 2013) are suggestive of the type of challenges confronting students, such as poverty, violence, crime and natural disasters (Kaminer & Eagle, 2010), during a time in their lives when they are required to devote a significant amount of time and resources to



achieving successful academic outcomes. Disabilities include various types of physical difficulties as well as psychological/mental difficulties (DHET, 2018; Mutanga, 2017; Phukubje & Ngoepe, 2017 Stats SA, 2014; WHO & World Bank, 2011). Upon consideration of the various factors such as the nature of student disabilities, socioeconomic challenges, the academic pressure of university life and the lack of resources available, the need for further research amongst this population becomes apparent, as relevant literature remains limited. Furthermore, research on positive factors, such as fortitude amongst SWD, would provide insight as to the coping mechanisms employed by SWD, as well as the outcomes of trauma exposure or challenges experienced.

### **Aims and Objectives**

The aims of this research study were to investigate trauma exposure, PTSD and fortitude, amongst undergraduate students with disabilities. The objectives were to assess the prevalence of exposure to trauma amongst this population group; investigate the association between exposure to trauma and PTSD; investigate the role of fortitude in the association of trauma and PTSD; and identify demographic correlates of exposure to trauma and PTSD amongst this group.

### **Delineation of Chapters**

Chapter One provides an overview of how the concept of “disability” is understood, both locally and internationally. The background of disability is briefly discussed - how it was perceived in the past and the existing understanding, as well as inclusivity of SWD. The concept of “trauma”, particularly in the South African climate, is briefly discussed. Chapter Two puts forward a literature review based on the rationale, aims and objectives of the study. This includes the challenges faced by SWD, trauma exposure, as well as fortitude. Chapter Three focuses on the methodology of the research, that includes the design, sampling, participants, measuring instruments employed in data analysis, as well as the ethical procedures and considerations involved. Chapter Four provides descriptive statistics of the data, as well as the results of the data analysis. Finally, Chapter Five

presents a discussion of the findings of the data analysis, the conclusion, the limitations of the study, as well as the recommendations.



## Chapter Two: Literature Review

South Africa's history of political violence, as well as high rates of violent crime, sexual and domestic violence, and road accidents, are but a few of the concerns afflicting its residents to this day. South African society is therefore marked by high levels of various and manifold exposure to trauma (Kaminer & Eagle, 2010). The politically violent history has resulted in ongoing trauma owing to its impact on the daily lives of South Africans, such as crime, violence, unsafe living conditions and the unfavourable circumstances of disadvantaged communities. Other traumatic events, such as natural disasters, add to trauma exposure (Kaminer & Eagle, 2010).

Apartheid-era policies of racial segregation have significantly affected higher educational institutions in South Africa, decreeing that different racial groups attend separate higher educational institutions, specific to their race. Universities for those classified as "black" were under-resourced and located close to rural areas (Badat, 2010 and Bozalek & Boughey, 2012, as cited in Padmanabhanunni & Wiid, 2021). Furthermore, a large proportion of people with disabilities in South Africa stem from less affluent socio-economic areas. A community survey of 2016 found that approximately 36% of people with disabilities within South Africa were of low socio-economic status. Populations of white, Indians/Asian belonged to households that were in the upper wealth quintile and black African persons with disabilities were in the lower wealth quintiles (Department of Women, Youth and Persons with Disabilities, n.d). The present-day student population at historically black universities hails mainly from lower class and historically marginalised communities (Badat & Sayed, 2014, as cited in Padmanabhanunni & Wiid, 2021) where poverty, gang violence and substance use are rife (Padmanabhanunni & Wiid, 2021).

One group who has been marginalised is people with disabilities. They have come a long way in advocating for their equal rights as citizens of South Africa, and the government's commitment and

agreement to the CRPD has aided in the transformation of inclusivity of people with disabilities in the employment and economic sectors as well as educational institutions (Ndlovu and Walton, 2016).

Previously, the nature of disabilities was considered to be mainly physical and intellectual (Mutanga, 2017). This understanding limited the ways in which people with disabilities were integrated into society, excluding them from various functions in society (Mutanga, 2017). However, since a social model was adopted, the understanding of disability changed to a holistic insight of what disability entails (Stats SA, 2014). Owing to the shift in perceptions of disability, people with disabilities have been included in many areas of society and inclusivity of people with disabilities were introduced to legal frameworks.

Earlier views of disability appear to have been related to disabled people having limited involvement with society, and disability issues focused primarily on deficits in the ability to function rather than on strengths and resilience. Nevertheless, over time, owing to increased opportunities and modern awareness of the disabled's resilience, people with disabilities are being recognised for their contribution to the economy as well as to society in general.

In South Africa, more than 2.9 million residents - approximately 7.5% of the population, are disabled, and less than 1% of these people attend institutions of higher education (Mutanga, 2017). People with disabilities were previously excluded from economic and educational participation. According to the Department of Education, at least 80% of people with disabilities did not attend school (Mutanga, 2017). South Africa's new constitution prohibits any form of discrimination and aims to provide equal opportunities and access to all (Stats SA, 2014). Disability frameworks in South Africa include policy mandates that redress and empower SWD, such as the Promotion of Equality and Prevention of Unfair Discrimination Act (Act 39 of 1996); the Skills Development Act (Act 97 of 1998); South Africa's commitment to the United Nations' CRPD and the Constitution of South Africa (Act 106 of 1996) (Stats SA, 2014). The White Paper on the Integrated National Disability Strategy (1997) declares that a social model perspective - as opposed to the medical model - addresses

the societal limitations, such as the lack of structures and the resources needed to improve efforts concerning the inclusion of persons with disabilities (Republic of South Africa [RSA], 1997). The key principles of the various policies uphold the right to self-presentation, accessibility, support systems, self-respect and self-sufficiency, access to appropriate services, social integration, cooperation between sectors, equitable resource allocation and inclusion, and the principles of Batho Pele or “people first” (Department of Social Development, n.d). The Strategic Policy Framework on Disability for the Post-School Education and Training System (2018) intends to direct tertiary institutions to create an enabling environment and provide the DHET with an instrument to monitor and evaluate the adherence to disability compliance (Department of Higher Education and Training [DHET], 2018).

### **Students with Disabilities in South Africa**

During Apartheid, more than 80% of people with disabilities were excluded from the mainstream education system and could therefore not access higher education (Department of Education [DOE], 2001). Although progress has been achieved concerning the inclusion of SWD at higher educational institutions (HEI), literature on the experiences of SWD is insufficient. Despite SWD lately receiving support with regard to tertiary education, numerous challenges, including those of race and gender issues, remain the predominant focus (Howell 2006). The outcomes of success regarding the inclusion and disability compliance of HEI are ambiguous, despite the various policy frameworks (Mutanga, 2017). Most universities have introduced Disability Units to manage and support SWD. However, not all HEI possess such units, resulting in a number of SWD expressing perceptions of exclusion owing to a lack of support and inclusion (Mutanga, 2017).

Studies by Matshediso (2010), Roux and Burnett (2010) and Magogwa (2008), as cited in Mutanga (2017), indicated that educational achievement by SWD was attributed to the support of friends, family and staff, thus demonstrating environmental and social influences to be significant

factors in the lives of SWD. Mutanga (2020) suggested that SWD need support from various structures, both at the university and in their environment. To ensure progress in inclusivity and integration, HEI need to be monitored and evaluated in respect of the adjustments required. The environments of all students must be considered, such as the living conditions and access to transport (Mutanga, 2020).

Several SWD may grapple with self-esteem issues owing to prior stigma and societal attitude that impacted the way in which they perceive themselves. A lack of self-esteem could lead to a reluctance to advocate for themselves (Mutanga & Walker, 2015). Environmental support and structure can influence successful outcomes of SWD, however, the activism by students themselves can essentially be a powerful tool for change. Advocacy by SWD themselves have led to adjustments of the structures of certain universities. During Apartheid, a blind student received a written test without the braille translation. The student's expression of frustration at the lack of consideration and absence of accommodation to assist him in his academic learning at university, contributed to the development and improvement of a Disability Unit at the university (Box, 2019). Increased support and advocacy by SWD in conjunction with the university's efforts, resulted in various improvements that continues to present day (Box, 2019).

The literature study suggests that the experiences of South African SWD are varied, as the implementation of supportive policies differ amongst tertiary institutions. This could be indicative of the promotion of their rights being a relatively new, gradually developing phenomenon, in comparison to activism in respect of equality concerning race and gender. Inasmuch as several SWD may experience difficulties with issues of self-esteem, a number of SWD appear assured - as observed by the active advocacy for their rights at university.

### **Common Disabilities amongst Students in South Africa**

According to the report by the Foundation of Tertiary Institutions of the Northern Metropolis [FOTIM], (2011) students' disabilities include visual-, hearing-, and physical impairments, dyslexia, learning difficulties, chronic illness, psychiatric illness, emotional impairments and multiple impairments. According to Stats SA (2014), the predominant types of disabilities amongst people aged five years and older are visual difficulties (11%), cognitive difficulties (4.2%), auditory- and communication difficulties (3.6%), and self-care- and walking difficulties (2%). Student disabilities at the University of the Western Cape include hearing- and visual impairments, chronic medical conditions, as well as learning impairments such as ADHD (Box, 2019). However, this data is based on students who are registered with the OSwD. There are numerous SWD who are not registered with the OSwD and statistical information therefore do not represent an account of the disability-categories of all SWD.

Mental health disorders such as depression and anxiety were found to be most prevalent amongst South African first year university students (Bantjes et al., 2019). Common mental disorders were found to have debilitating effects where a high prevalence of depressive-, anxiety- and bipolar disorders were found amongst students with disabilities (Bantjes et al., 2019). Even though a mental disorder by itself is considered to be a disability, students with existing (other) disabilities were found to be at higher risk of developing mental health disorders (Bantjes et al., 2019).

Mutanga and Walker (2017) contended that lecturers are often unaware of learning disabilities amongst students, claiming that educators are frequently unable to assist and accommodate students with learning issues, such as written language, conceptualisation and working speed. They argued that it is difficult to detect students with learning disabilities, as they are not clearly distinguished from those without learning disabilities - who simply grapple with studies owing to the past Apartheid education system where they experienced unfair educational services and are the products of less advantageous academic backgrounds (Mutanga & Walker, 2017).

According to international studies by Bordoff (2017), university students with ADHD are often accorded special accommodation such as additional exam writing time, private exam waiting rooms, deadline extensions, special note-taking equipment, computers and bursaries, however, this may be an incentive for students to feign the disorder.

Pingry O'Neill and Markward (2012) categorised disabilities as cognitive disabilities, mental disorders and physical disabilities. Cognitive disabilities include specific learning disability, ADHD and traumatic brain injury. Mental disorders include depression and anxiety disorders, bipolar disorder and schizophrenia. Physical disabilities include hearing- and visual impairments, as well as mobility-, systemic- or disease-related disabilities such as a spinal cord injury, amputations, cerebral palsy, arthritis, diabetes, heart/lung disease, kidney diseases and cancer.

There is a literature gap relating to the different disabilities of South African SWD. This may be the result of the adjustments to the definition of disability. Moreover, not all students report their disabilities to the university, thus limiting the accuracy of statistics available from university disability offices.

### **Experiences and Challenges amongst SWD at HEI**

Some of the challenges experienced by SWD include issues concerning accessible accommodation, class- and timetable arrangements, access to student spaces, teaching- and learning support, assessments, staff attitudes, and finances (Mutanga, 2017). Accessibility concerns include access to resources, such as adjustment to learning in the form of braille or to guide dogs, for the visually impaired (Mutanga, 2018); auditory support for those with auditory impairment; and closer access to lecture halls and ease of movement around the university, for those with physical impairment (Mutanga & Walker, 2015). With regard to visually impaired students, accommodating resources such as braille material may pose a challenge, as these students may be exposed to such for the first time (Mutanga, 2018).

Students using wheelchairs face challenges related to the lack of infrastructure at university buildings where wheelchair facilities are either inaccessible or may be difficult to locate, and experience negative attitudes by a number of staff members and peers, owing to an apparent lack of awareness regarding disabilities (Mutanga, 2017). Similarly, Ndlovu and Walton (2016) declared that, even though accommodations have been affected, the location of and distance to wheelchair access - especially in respect of lecture halls - are problematic. Examples of this is inadequate space to allow wheelchair access to the podium during lectures, the visually impaired not being able to see the podium or visual boards from where they are placed, and those with hearing impairment being unable to hear the lecturers from their position. Students with visual- and hearing impairments conveyed that their academic progress is impeded by a lack of assistive technological resources (Mutanga, 2017). The physical and environmental structures limit the accessibility of theoretical knowledge that is crucial to academic and professional development (Ndlovu & Walton, 2016). Students also stated that access to audio-braille library materials that were transcribed into accessible formats, was limited, and insufficient staff members were available to assist (Phukubje & Ngoepe, 2017).

The challenges to teaching and learning include staff attitudes, assessments and the education system providing limited support to lecturers and staff via training and education in respect of disability (Mutanga & Walker, 2017). By creating awareness and educating the educators, the needs of SWD may be understood and educators may engage with matters of inequality and how it is maintained (Mutanga & Walker, 2017). It may therefore be argued that faculty and staff members may not always advocate for SWD, owing to a lack of understanding concerning their experiences and struggles. This argument is supported by Mayat and Amosun (2011), who claimed that staff were ignorant of students' disabilities and interacted less with them, thus limiting learning support.

FOTIM assessed the role and functionality of the Disability Units at South African universities

(Foundation of Tertiary Institutions of the Northern Metropolis [FOTIM], 2011) and their findings were similar to that of Mutanga (2015) and Mutanga and Walker (2017). The findings related to matters such as the definition of disability, the approach of management, the national framework, legislation, representation of SWD, staff, funding, services, learning- and teaching methodologies, and empowerment (Pretorius et al., 2011). Disability is often perceived by management to be a cost rather than a benefit. However, when SWD become part of the working sector after completing their studies, they would contribute to society which lessens dependency on government (Pretorius et al., 2011). They asserted that a national framework could be employed as a guide to universities, measuring progress and the implementation of objectives to improve conditions for SWD. As for legislation, a number of HEI do not impose support for rights that portray SWD as equal contributors, rather than persons in need of assistance. They claimed that funding is almost always limited - a lack of funding affects learning and teaching methodologies, such as a shortage of specialised staff and assistive devices (Pretorius et al., 2011).

Transformation, inclusivity, and support for SWD by Disability- Units or Offices, have improved over the years, thus rendering it more attainable for SWD to acquire professional degrees (Ndlovu & Walton, 2016). Special bursaries for SWD by the National Student Financial Aid Scheme (NSFAS) support SWD studying toward professional degrees with allowances that include transport money for fieldwork, however, such bursaries in respect of expensive professional degrees are not easily obtained, owing to the high cost of the courses (Ndlovu & Walton, 2016). In line with Pretorius et al. (2011), Ndlovu and Walton (2016) agreed that SWD face obstacles at both university and the workplace, from environmental- and physical accessibility to limited learning- and caring support. Negative assumptions regarding the nature of disabilities may exist and so SWD may be regarded as incapable of studying toward and attaining professional degrees. Moreover, SWD may choose not to disclose their disabilities, owing to the academic demands of the professional degree and stigmatization - such non-disclosure limiting support and impacting academic performance, thus

resulting in difficulties with regard to securing professional employment (Ndlovu & Walton, 2016; Pretorius et al., 2011.).

Mutanga (2017) asserted that a social model perspective of disability perceives the challenges experienced by people with disabilities as emanating from the social environment. According to Mutanga (2017), challenges arise owing to various factors, in addition to social environments, such as economic-, environmental-, political- and cultural barriers. Therefore, a holistic approach is needed to understand the needs of SWD. SWD expressed that in order to feel included at university, they need to be treated with respect, be allowed to participate in groups, be able to choose their own identity rather than having it imposed by others, have access to easy and safe mobility, be empowered to use their individual and collective voice to participate effectively, be able to gain knowledge in their specific field of study, have freedom of culture and religion, and receive the recognition that they can persevere despite their challenges (Mutanga, 2018). Mutanga (2018) declared that “inclusivity” should not be understood as the presence of SWD at university - it should include ensuring equitability for SWD by providing for their needs in such a manner that allows them access to opportunities to succeed in their education. Similarly, to Pretorius, et al. (2011), Mutanga (2018) claimed that even though equal access has been improved at South African universities, the matter of equity has not been addressed holistically.

Other challenges include that of ADHD, a debilitating condition that occasionally requires pharmacological treatment that is effective in reducing the peril of anxiety and depression and increases academic performance, although there is risks such as abuse of the medication that may result in adverse health- and fatal consequences (Bordoff, 2017).

According to MacCullagh et al. (2016), students with dyslexia struggle with academic content such as reading, writing and mathematical concepts, therefore experiencing difficulties to comprehend complicated content. As a result, they suffer from anxiety toward specific subjects, and experience stigmatisation of their mental condition as well as difficulties in adjustment, as the

university may not always accommodate their condition by, for example, allowing time concessions during tests (MacCullagh et al., 2016). When having the opportunity to disclose their disability, a lot of SWD resist seeking support, owing to confidentiality issues, or enduring emotions of shame or fear, and judgement by others (Pretorius et al., 2011).

There is a lack of research in the area of SWD in South Africa, particularly with regard to psychiatric and psychological disabilities. An international exploratory study conducted by Pingry O'Neill & Markward (2012) found that the characteristics of SWD and their type of disability, such as cognitive/specific learning disability, mental disorders, and physical disabilities, show different academic outcomes. The study was conducted on a sample of American students. Results of the study revealed that students with physical disabilities were more likely to graduate, than those with mental disabilities. Students who qualified for distraction-reduced testing and those who had assistance in learning strategies and study skill training, were more likely to graduate. Furthermore, students who qualified for services of assistive technology, classroom assistants, and note taking services, were least likely to graduate (Pingry O'Neill & Markward, 2012). They argued that SWD who qualify for assistance and additional resources may receive these resources inadequately and are therefore least likely to graduate. In addition, they asserted that those who qualify for further technological accommodations may presumably be affected by additional challenges, that reduce their success at college. Students with physical disabilities were more likely to graduate compared to those with cognitive or mental disabilities, owing to difficulties with attention, memory, decoding and the effects of medication experienced with psychological disabilities. The lack of assistance and resources also contribute to SWD not graduating (Pingry O'Neill & Markward, 2012). Other international studies by Bordoff (2017) and MacCullagh et al. (2016) provide information in respect of psychiatric-, psychological- and learning disabilities. Bordoff (2017) affirmed that adult-ADHD that occurs in university students with limited background history and no prior childhood diagnosis, is a complex issue to investigate. Assessment of ADHD in adulthood relies mostly on self-report. The studies

revealed that there are incentives for university students to be diagnosed with ADHD, such as medication, academic accommodations, and legislative benefits. Students who are misdiagnosed or feign the disorder may acquire an unfair advantage with regard to special concessions. Therefore, psychological disabilities are not as straightforward as physical disabilities and should involve thorough assessments by professional clinicians. Bordoff (2017) also found that the medication may negatively impact functioning and should thus be managed ethically, as students may be inclined to use medication recreationally.

MacCullagh et al. (2016) suggested that the challenges confronted by students with dyslexia include difficulty with taking lecture notes and following lecture slides, auditory and visual distractions where the preferred sufficiently quiet spaces are unavailable, trouble with written assessments especially in situations where outside distractions are present, rigid assessment methods, lack of support, and difficulty resolving grievances. It was asserted that these students are supported by engagement taking the form of speaking in class, flexible lecture formats, and self-directed learning strategies. The study further revealed that students with dyslexia use deep learning strategies that are appreciated in the workplace and that these students are resilient and creative in their management of their specific learning disability (MacCullagh et al., 2016).

Review of the literature reveals that, despite policies promoting inclusivity and equality, there are a number of discrepancies and obstacles preventing SWD from thriving and acknowledgement of their capabilities rather than their disabilities (Bordoff, 2017; MacCullagh et al., 2016; Mutanga, 2017; Mutanga, 2018; Mutanga & Walker, 2017; Ndlovu & Walton, 2016; Phukubje & Ngoepe, 2017; Pretorius et al., 2011). Nevertheless, a measure of progress has been achieved and advocacy by the students themselves have contributed to the improvement of support for SWD. Several South African universities hold supportive systems to address the challenges experienced by SWD. The challenges confronted by SWD vary and impact their academic outcomes, therefore support by universities must comprise of general assistance as well as measures that are distinct to the needs of these students.

## University Support for SWD

Universities holding Disability Offices are better positioned to assist SWD. In addition to such offices, libraries play an important role in the support of SWD. A recent study by Phukubje and Ngoepe (2017) highlight that, even though universities render information available to SWD, the ways in which the information can be comprehended is relevant, requiring various forms of services and resources to render the information readable and accessible. Examples of readability and accessibility are transcribing information into braille format, larger print, and audio provisions, in support of those students with visual and auditory impairments. Moreover, the study found that the limited number of books transcribed into the relevant formats; the unavailability of the translation of information into sign language, to aid students with hearing impairments; physical barriers in respect of library access; the time required to produce books in a relevant format; and a lack of training of and assistance by librarians; are presenting challenges. A number of South African universities hold Disability Units or specialised support structures that provide services to SWD that include the provision of study materials in formats that are accessible to SWD, such as braille or large print; additional time during assessments or examinations; and interpreters (Mutanga, 2017). Improvements at these universities incorporate Disability Units who liaise with academic departments in order to improve services to SWD, provide opportunities for counselling, and support related to time extension during examinations and audio tape facilities for lectures (Mayat & Amosun, 2011).

The challenges encountered by SWD are not limited to academic challenges. The majority SWD from disadvantaged backgrounds may be likely to experience traumatic and stressful life events owing to poverty, violence and crime. Therefore, support by universities should incorporate academic support as well as psychosocial support.

One university, that implemented policies and structures to support SWD, is the UWC, a historically disadvantaged institution rooted in advocating against and targeting the inequalities of the past, and invested in creating opportunities for previously disadvantaged people to pursue tertiary

studies. Their OSwD developed a funding partnership with the DHET to improve the services to SWD (Box, 2019). The Disability Unit accommodates students with disabilities, offering services that include the availability of braille, specialised computer software, and psychosocial counselling (Box, 2019). Similarly, the University of Cape Town (UCT) implemented a disability policy in support of SWD in 2011 and established a Disability Unit to provide services to SWD (UCT, 2011). Stellenbosch University holds a disability access policy that aims to promote universal access to all people with disabilities through the services of their Disability Unit (Stellenbosch University, 2018). These universities and numerous other South African universities have included psychosocial counselling services in addition to academic support in the services offered by their Disability Units.

International studies report that the needs of SWD are managed from a service model perspective, however, the needs of SWD such as Asperger's syndrome (AS), motor disabilities (MD) and hearing impairments (HI), are distinct and cannot be supported in the same way (Fleischer et al., 2013). Even though all SWD may generally experience restrictions of some sort, the kind of support needed by students with AS, MD and HI, require deliberations by the university and other organisations in respect of ways to improve their success at university (Fleischer et al., 2013). The service model is based on a holistic view that SWD require assistance in their daily lives as well as university support. In the United States of America, SWD in secondary school systems are supported by the Disabilities Education Improvement Act (Hadley, 2011). SWD are supported by multidisciplinary teams to aid the transition to college. Once at university, SWD are expected to take responsibility and advocate for themselves in terms of their needs and expression of appreciation of their disability (Hadley, 2011). The aim of self-advocacy is to encourage SWD to assume an active role in their university experience and requirements, as opposed to passive and dependent behavior (Hadley, 2011). Hence, support by universities as well as advocacy by the students themselves, will provide opportunities to improve the academic experience of SWD at university. However, ongoing research is required in this area with regard to the continuous improvements and interventions needed.

Universities should not only focus on the academic needs of students, but also consider the experiences of students outside of university, as personal challenges affect students. Thus, the wellness- and counselling services provided by universities play an important role in assisting students who grapple with personal challenges that further impact academic performance.

### **Trauma Exposure amongst SWD and its Psychological Impact**

“Trauma” may be defined as exposure to actual or threatened death, serious injury, or sexual violence (American Psychiatric Association, 2013). More than 70% of the South African population has been exposed to at least one potentially traumatic event. The 2013-established lifetime prevalence rate of PTSD in South Africa is 2.3% and the rate of trauma exposure amongst university students is significantly elevated, as 90% of students experienced at least one traumatic event (McGowan & Kagee, 2013).

Earlier studies on trauma exposure amongst South African university students were conducted by Peltzer (1998) and Hoffmann (2002). The study by Peltzer (1998) was conducted at the University of the North with a sample of first year African students comprising 262 participants, 31% male and 69% female, with a mean age of 20.7 years. It was reported that 56% of the participants to the study had been exposed to trauma and 12% of those exhibited symptoms of PTSD. With regard to the nature of the traumatic event, the female participants were typically exposed to the death of a loved one, whilst the males mostly experienced motor vehicle accidents (Peltzer, 1998).

Hoffmann (2002) conducted research at the then Technikon Pretoria with a sample including 245 participants comprising 61 males and 183 females, and reported that 70% of the student-participants had been exposed to trauma. The most frequent traumatic events experienced were the death of a loved one, negative changes in life circumstances, and witness to injury and death. The least frequent events identified were natural disasters and motor vehicle accidents (Hoffmann, 2002). The main causes of traumatic death witnessed by participants - in order of frequency - were that of motor vehicle accidents, suicide, cancer, murder, heart attack, stroke, poisoning, family murder,

complications following an abortion, AIDS, malnutrition, epilepsy, torture and car hijacking. The psychological outcomes of the traumatic exposure were symptomatic of PTSD (Hoffmann, 2002).

Another study, by McGowan and Kagee (2013), was conducted at Stellenbosch University. The sample included 1337 students comprised of 857 females and 480 males. Nearly 90% of research participants had been exposed to a traumatic event. Males and females were virtually equally exposed to trauma. The most frequently reported traumatic event was the death of a loved one. Witnessing an attack on another person was the second most prevalent traumatic event. This study established a significant positive relationship between the number of traumatic events experienced and the severity of PTSD-symptoms amongst participants. Furthermore, multiple exposure to traumatic events were positively associated with higher levels of distress (McGowan & Kagee, 2013).

A more recent study by Padmanabhanunni (2020a) reported that 97.6% of a sample consisting of 914 students at the UWC, recounted trauma exposure. The most frequent traumatic events were physical assault (69.3%) and transportation accidents (64.7%) - different from the findings by McGowan and Kagee (2013). Males mostly reported being exposed to physical assault and being assaulted with a weapon, and women mostly reported unwanted sexual experiences and sexual assault (Padmanabhanunni, 2020a). This is in contrast to the study by Hoffmann (2002), that found sexual assault to be the least frequent traumatic event. Padmanabhanunni (2020a) established that more than a quarter of the sample (29.5%) reported a sexual traumatic experience, which is similar to the findings by McGowan and Kagee (2013). According to McGowan and Kagee (2013), nearly 90% of the participants had experienced a traumatic event in their lifetime and 20% experienced a traumatic event while they were students. Correspondingly, the study by Padmanabhanunni (2020a) reported that participants had been exposed to trauma prior to attending university. South Africa's elevated rates of gender-based violence and violent crime (McGowan & Kagee, 2013), explain the findings of previous studies by Peltzer (1998) and Hoffmann (2002), and the more recently study by Padmanabhanunni

(2020a), all suggesting extraordinary levels of trauma exposure amongst South African university students.

Worldwide, people with disabilities are considered to be at increased risk of physical-, sexual- or intimate partner violence, particularly those with mental health issues and including people with intellectual impairments (Hughes et al., 2012).

Studies by Peltzer (1998) and McGowan and Kagee (2013) indicate that students exposed to traumatic events, experienced psychological outcomes of PTSD. It was also found that anxiety and depression often shared comorbidity with PTSD (McGowan & Kagee, 2013).

Most of the students at this study's setting reside in neighbourhoods and communities characterised by high levels of violence and crime. Therefore, these students encounter traumatic events on a daily basis, that may affect their academic performance. A recent study found that exposure to various forms of violence, trauma and an elevated crime rate, are associated with lower academic grades (Kallsen et al., 2020).

In addition to PTSD, psychological outcomes such as anxiety and depression have been associated with trauma exposure (Cusack et al., 2019; McGowan & Kagee, 2013; Peltzer, 1998), whereas eating disorders are associated with interpersonal trauma exposure (Edman et al., 2016). Psychological conditions can be debilitating for students and are most likely to negatively impact academic achievement. An international study found that African American students, who are most likely to have been exposed to elevated levels of trauma prior to entering college, were females with PTSD symptoms and an increased likelihood of college dropout (Boyras et al., 2013). In another study, students with PTSD symptomology were more likely to experience poor academic performance; and lower levels of effort regulation associated with executive functioning, such as attention, planning, setting goals, and executing plans effectively, resulting in diminished academic achievement (Boyras et al., 2016). Academic course failure has been related to students who have experienced physical abuse or the death of a loved one (Van Breda, 2017). Students with traumatic

exposure often encounter further complications concerning seeking medical assistance, court appearances, finding places of safety, and limited financial resources, that, in addition to poor mental health, affect their learning and academic success (Edman et al., 2016). According to Bantjes et al. (2016), university students with suicide ideation are vulnerable to suicide and, in most cases, these cases are associated with a psychological disorder. Moreover, students who exhibit symptoms of PTSD and depression are at higher risk of suicidal ideation, and South African university students are susceptible to suicide and trauma.

It has also been reported that sleep disturbance and difficulty in emotion regulation (not merely as an extension of PTSD) following exposure to trauma, increase negative consequences and the maintenance of PTSD (Pickett et al., 2016).

The literature reviewed thus portrays negative outcomes following trauma exposure, i.e., diminished academic outcomes; and psychological outcomes such as PTSD, depression, anxiety, eating disorders, sleep disturbances, changes in cognitive functioning, suicidal ideation, as well as difficulties in emotional regulation, thereby suggesting a negative impact on psychological and emotional wellbeing.

### **Differential Vulnerability in Psychological Outcomes Associated with Trauma Exposure**

People with disabilities are more vulnerable and at increased risk of experiencing trauma, such as exposure to violence, than those without disabilities. Furthermore, those with mental health issues have been found to be particularly vulnerable (Hughes et al., 2012). People with disabilities in South Africa, particularly those hailing from rural areas, could be considered to be the most vulnerable, owing to dependency on others, socio-economic status, and lack of formal education (Neille & Penn, 2015). Notwithstanding policies and intervention strategies aimed at supporting people with disabilities, stigma and discrimination have always perpetuated their marginalisation. Circumstantial factors such as the environment and sociocultural context, where those from disadvantaged communities have not enjoyed the benefit of supportive policies and practices, greatly impact SWD

(Neille & Penn, 2015). People with disabilities living in less advantaged contexts and environments are the least likely to access civil-, cultural-, economic-, political- and social rights. Therefore, the most vulnerable of people with disabilities are the ones who live in areas where mortality rates are high, where they experience prolonged exposure to various forms of violence and corruption, and have less access to specialised services (Neille & Penn, 2015).

Most literature relating to trauma presents negative psychological outcomes, such as PTSD. However, there is a gap in literature relating to positive outcomes of trauma exposure (Aslam, 2015). There are many factors, such as cognition and appraisal, that play a significant role in developing post-traumatic growth (PTG) as opposed to PTSD. The difference between the two outcomes is derived from the appraisals of the event. Whereas most research focused on the development of psychopathology as a result of exposure to trauma, such as PTSD, anxiety and depression, other research has, conversely, focused on health factors that may influence recovery from distress and psychopathology (Aslam, 2015).

Aslam (2015) affirmed that it is inevitable for an individual to experience some form of stress or psychopathology following trauma exposure. However, following the passing of time, it is only the individual themselves who can make meaning of and contemplate the traumatic event. In some instances, where it is assumed that interventions should be introduced to prevent the development of psychopathology, it may impede the development of personal strengths that human beings possess in order to cope with adversity (Aslam, 2015).

Although a number of individuals who are exposed to trauma develop adverse psychological reactions such as PTSD, not everyone develops adverse symptoms. This reveals the presence of protective factors that can mitigate the development of negative symptoms.

Protective factors include individual characteristics such as self-esteem, cognitive flexibility (Padmanabhanunni, 2020b), a personal moral compass, and environmental factors such as social support (Schetter & Dolbier, 2011, as cited by Padmanabhanunni, 2020b). Numerous protective

factors, comprising of cognitive-, behavioural- and existential elements, contribute to “bouncing back” following stressful life events or trauma (Lacoviello & Charney, 2014). Protective factors could be cultivated prior to trauma exposure or stressful life events, or it may be the focus of interventions to aid recovery from stress or trauma (Lacoviello & Charney, 2014). Protective factors such as self-esteem, cognitive flexibility, humour, and social support, contribute to resilience (Padmanabhanunni, 2020b).

Positive self-esteem is often associated with physical health, social wellbeing, mental wellbeing, happiness, success, academic achievements and life satisfaction (Mann et al., 2004). Physical impairments and restriction of daily activities may cause people with disabilities to feel isolated from society (Singh & Wani, 2020), however, self-esteem enables people with disability to adapt to society and bolsters the perceived ability to cope (Hayter & Dorstyn, 2014; Singh & Wani, 2020). Conversely, poor self-esteem is associated with diminished mental health and social difficulties (Mann et al., 2004). Those with physical disabilities, with a low perception of independent control, are weaker in self-esteem owing to this perception (Diaz & Garcia, 2018). Social support has been associated with mental wellbeing and social communication with family and friends develops a feeling of security (Harandi et al., 2017). It is considered to be an invaluable supportive factor (Harandi et al., 2017). Factors such as optimism, cognitive flexibility and a personal moral compass, are associated with mental and psychosocial wellbeing following posttraumatic exposure and stressful life events (Lacoviello & Charney, 2014; Lacoviello & Charney, 2020).

This study focuses on the role of fortitude as a potential protective factor in differential vulnerability to PTSD following trauma exposure amongst SWD. Fortitude has been positively correlated with wellbeing (Pretorius & Heyns, 1998). The theory of fortitude was derived from studies of stress-resistant resources, such as self-esteem and social support (Pretorius & Heyns, 1998). It includes the appraisal of self, such as efficacy in problem solving as well as mastery or competency. Furthermore, fortitude stems from an awareness of self as well as an awareness of the support of

family and others (Pretorius & Heyns, 1998). Therefore, a person who possesses fortitude, possesses other positive traits as coping resources when faced with adversity.

### **Fortitude as a Protective Factor**

“Fortitude” is defined as the strength to manage stress and to remain in good health (Pretorius & Heyns, 1998). This strength stems from positive cognitive appraisal of the self, family and support from others (Pretorius & Heyns, 1998). Fortitude is derived from a theoretical construct, “fortigenesis”. Fortigenesis stems from the theory of “salutogenesis” that regards a person’s sense of coherence to be the main construct for coping with stress (Pretorius & Heyns, 1998, p. 2). Fortigenesis expands on this construct of the sense of coherence by adding that general resistance resources along with a sense of coherence enable one to cope effectively with stressful life events (Heyns et al., 2003). Fortitude is mainly derived from fortigenic appraisals of the self, the family and others, that are important resources to overcome adversity (Pretorius & Heyns, 1998, as cited in Padmanabhanunni & Wiid, 2021). The positive cognitive appraisals of these resources of self and significant others are potential protective and coping factors that may influence the way in which individuals appraise traumatic events (Padmanabhanunni & Wiid, 2021). Fortitude is a personality factor, that, along with other factors such as resilience, connotation, perseverance, and growth, have been shown to be strongly associated with positive outcomes following adversity. However, these factors have been largely underestimated and undervalued with regard to its role in recovering following trauma exposure (Quarentelli, 1985, as cited in Aslam, 2015).

Various studies have also shown that fortitude plays a significant role and is an indicator of maintaining and achieving wellbeing, that lead to various interventions focused on strengths rather than deficiencies, such as appraisal restructuring as a coping strategy during distress (Pretorius & Padmanabhanunni, 2020). Padmanabhanunni and Wiid (2021) reported that increased appraisal of support from friends are associated with less intrusive reliving of trauma following trauma exposure, and also found an association between increased positive appraisal and reduced symptom avoidance.

Furthermore, they found an association between fewer alterations in arousal and reactivity and positive appraisal of self and family. Pretorius et al. (2016) asserted that South African adolescents who displayed high levels of fortitude were able to stay well, irrespective of the elevated rate of violence they were exposed to. The study revealed that the role of fortitude is a significant factor in overcoming adversity and maintaining psychological wellness irrespective of negative external conditions, particularly amongst the younger population from disadvantaged backgrounds. Padmanabhanunni (2020b) found that lay trauma counsellors in South Africa who experienced high levels of personal trauma and lower support appraisals, predicted higher levels of compassion-satisfaction with their work. The role of fortitude was a protective factor that promoted coping amongst lay trauma counsellors, where the nature of the job often results in psychological problems and burnout (Padmanabhanunni, 2020b). According to Padmanabhanunni and Pretorius (2020), the recent Covid-19 pandemic caused unprecedented levels of distress, including depression, worry and a sense of hopelessness, amongst university students. The study revealed that fortitude played a role in remaining psychologically well, despite the complexity of and higher levels of stress related to Covid-19. Even though elevated levels of stress were experienced by those who displayed fortitude, the role of fortitude remained a positive coping mechanism (Padmanabhanunni & Pretorius, 2020).

Pretorius et al. (2016) asserted that fortitude stems from positive cognitive appraisals of the self, family and other external sources of support. The study further suggested that a positive outcome following trauma exposure may be owing to protective factors, such as healthy coping - where positive cognition and appraisal regarding internal strength, support, and assistance from family and the environment, are viewed by the individual as resources to overcome the traumatic experience. Therefore, some individuals find meaning and growth following the experience by accessing all the supportive systems available to them in order to successfully overcome the traumatic event. Interventions need to focus on identifying and enhancing appraisals, in order to assist people to

manage psychological health following a traumatic event (Padmanabhanunni, 2020a; Pretorius et al., 2016; Pretorius & Padmanabhanunni, 2020).

According to Strumpfer (1995), as cited in Heyns et al. (2003), the term “fortigenesis” relates to a person’s sense of coherence and general resistance resources that enable an individual to cope positively with adverse situations. In South Africa, people encounter numerous adverse conditions on a daily basis, that include the unique challenges faced by SWD (Mayat & Amosun, 2011; Mutanga, 2018; Mutanga & Walker, 2017; Ndlovu & Walton, 2016; Phukubje & Ngoepe, 2017; Pretorius et al., 2011). However, insufficient psychological services are provided by the public sector, despite the daily traumatic exposure of those without and with disabilities. It is noteworthy that notwithstanding the increase in psychosocial stressors in South Africa and the lack of public psychological services, numerous people recover and develop positive outcomes without the intervention of psychological experts. This may be due to differential vulnerability and a number of people relying on their inner resources, such as fortitude, as they access support from family, friends or communities (Pretorius & Heyns, 1998). As for SWD, the motivation to pursue tertiary studies may be an indication of the level of fortitude held by SWD. Fortitude differs from resilience in that the two concepts are derived from different theoretical models. Resilience stems from the construct of “salutogenesis”, where psychological strength arises from a health aspect by focusing on positive health, having a sense of coherence to take care of one’s health (Strümpfer, 1995), and maintaining stable levels of psychological and physical functioning following an adverse event (Bonanno & Mancini, 2012, as cited in Padmanabhanunni, 2020b). Fortitude springs from the construct of “fortigenesis” that refers to psychological strength in general (Strümpfer, 1995) incorporating various factors that contribute to holistic wellbeing and overcoming adversity (Heyns et al., 2003). Fortitude is, therefore, the factor that refers to positive cognitive appraisals of the available resources (Padmanabhanunni, 2020b).

Despite a history of being marginalised and of stigmatisation, the adoption of the social model relating to people with disabilities and a number of improvements by educational institutions, may

have played a role in the improvement of the lives of SWD. Personal aspirations concerning continuous studies, support from family and friends (Mutanga, 2017), and policies and frameworks by government and HEI, could be considered supportive factors, playing essential roles in the experiences of SWD at universities. However, the appraisals of these factors would determine the level of fortitude amongst SWD. Furthermore, despite the development of PTSD and psychological disorders being a common result of traumatic exposure, positive outcomes - such as growth - should not be ignored. There is currently a gap in literature relating to SWD and their exposure to trauma. Available literature focuses on the negative impact of trauma on university students. However, psychological impact could be either debilitating or meaningful - through growth and emotional strength – requiring further exploration.



## Chapter Three: Methodology

### Research Design

The design of the study is cross-sectional and correlational. A cross-sectional design aims to study a sample or population at one point in time (Babbie, 2016). The correlational study demonstrates whether the relationship between two or more variables exists (Gravetter & Wallnau, 2017). Additionally, mediation analysis was applied to investigate further associations based on the aims of this study.

### Participants

Total population sampling was employed, as comparatively fewer students with disabilities are enrolled at the university, hence, this method was deemed more appropriate. For the purpose of this study, the participant criteria were the age of 18 years and above, undergraduate status and possessing a disability. From 105 survey responses received, 86 respondents met participant inclusion criteria and were included in the sample. Demographics of this sample included age, gender, disability type and whether the participant was registered with the OSwD.

The mean age of the participants was 22.50 (SD=5.42), ranging from 17 to 53 years. Of the sample, 30 (34.9%) participants identified as male, 50 (58.1%) participants identified as female and 6 (7.0%) participants identified as other. Disability types were categorised as a mental health disability and a physical disability. Fifty participants (58.1%) were affected by a mental health disability and 31 (36.0%) by a physical disability. Regarding registration with the OSwD, 25 (29.1%) participants were registered whilst 61 (70.9%) participants were not registered.

### Instruments

Four questionnaires (annexures 1 to 4) were employed for purposes of data collection, namely: Life Events Checklist ([LEC], Weathers et al., 2013), the Posttraumatic Stress Disorder Checklist

([PCL-5], Weathers et al., 1993), the Fortitude Questionnaire ([FORQ], Pretorius & Padmanabhanunni, 2021), and the Demographic Survey (annexure 4) in order to obtain demographic data. The instruments are described below:

### ***The Life Events Checklist (LEC)***

The LEC-5 is a 17-item self-report measure of exposure to potentially traumatic events (PTE). Sixteen events which may cause significant distress or PTSD are listed, in order to assess levels of trauma exposure. Participants are required to respond to each item by selecting "happened to me", "witnessed it", "learned about it", "part of my job", or "not sure". For the purposes of this research, responses were categorised as "exposed" and "not exposed". The LEC-5 has been shown to be a reliable and valid measurement, with an internal consistency of between .94 (Blanchard et al., 1996) and .97 (Weathers et al., 1993).

### ***The Posttraumatic Checklist (PCL)***

The PCL-5 assesses DSM-5 symptoms for PTSD. The questionnaire consists of 20 self-report items that measure the level at which a participant experienced symptoms of PTSD during the past month, that is related to a current distressing event that the participant experienced and identified in the questionnaire (Weathers et al., 2013). Items are rated from 0 = "not at all" to 4 = "extremely". Internal consistency of the PCL-5 measures between .94 (Blanchard et al., 1996) and .97 (Weathers et al., 1993).

### ***The Fortitude Questionnaire (FORQ)***

The FORQ consists of 20 items that measure the theoretical construct of fortitude. It includes three subscales that reference the domains of appraisals of self, family and support (Pretorius & Padmanabhanunni, 2021). The sum of these three domains renders an indication of the level of fortitude (Padmanabhanunni & Wiid, 2021). A four-point Likert scale rate each item from 1 = "does not apply" to 4 = "applies very strongly." Coefficient alphas of between .74 and .82 have been reported for the subscales, where the reliabilities were .74 for self-appraisals, .82 for family appraisals

and .76 for support appraisals (Pretorius & Heyns, 1998). The full scale has showed a considerably high satisfactory reliability of .85. The FORQ has been applied in numerous South African studies (Barends, 2004; Heyns et al., 2003; Julius, 1999; Roothman, Kirsten & Wissing, 2003).

### ***The Demographic Questionnaire***

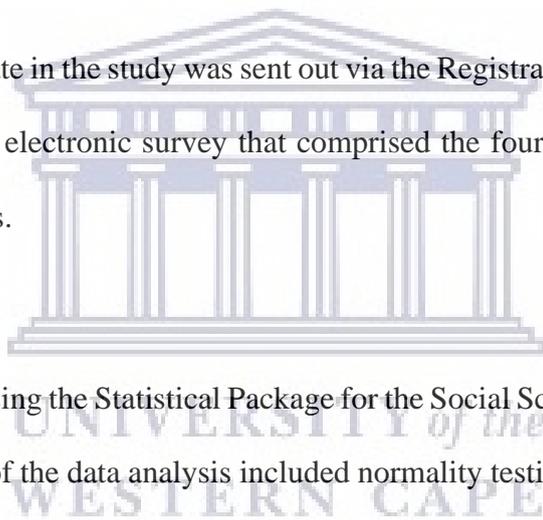
A demographic questionnaire was compiled by the researcher, designed to gather information concerning each participant's age, gender and type of disability, and whether the participant was registered with the OSwD. The findings of the demographic questionnaire were employed as study variables to be correlated with trauma and PTSD.

### **Procedure**

An invitation to participate in the study was sent out via the Registrar's office and via the OSwD, along with a cyber link to an electronic survey that comprised the four questionnaires. The survey was created via Google Forms.

### **Data Analysis**

The data was analysed using the Statistical Package for the Social Sciences (SPSS26: IBM Corp, Armonk). Initial preparation of the data analysis included normality testing that examined deviations from normality and variance distribution, and assessed for any outliers. Normality of the data was found and descriptive statistics, reliabilities and frequencies were obtained. Mediation analysis was employed to determine whether the relationship between the independent variable (exposure to trauma) and dependent variable (PTSD) changes owing to the mediating variable (fortitude). The direct and indirect effects of exposure to trauma on PTSD was examined in the mediation analysis, with fortitude being the mediating variable. These indirect effects represent a measure of mediation. A correlational analysis was utilised to investigate the association between age and PTSD, as well as exposure to trauma. Multivariate analysis of variance (Hotellings  $T^2$ ) was applied to examine the relationship between gender, registration with the OSwD, as well as the type of disability on the one



hand and exposure to the trauma and PTSD on the other hand. A frequency table was employed to assess the prevalence of trauma exposure.

### **Reliability and Validity**

The instruments demonstrated thorough internal consistency reliability (table 1). Reliability and validity are considered to be crucial aspects of research, as it ensures meticulous procedures and that the instruments utilised will provide the most effective results (Babbie, 2016). This research sought to achieve its results based on reliable and valid methods. The procedures were executed in a step-by-step manner, accompanied by careful consideration of the methodology, in order to obtain the most valid and reliable results, and ensure adherence to ethical procedures. The instruments employed in the study have been shown to be reliable and valid measures, as previously discussed in the instrument section of the study. Furthermore, the analysis of the data was performed via a reliable program (SPSS) in accordance with the procedures of the relevant technique, as discussed in the data analysis section. Inferences of the results were made by the researcher based on the integrity and objectivity of the scientific results.

### **Ethical Procedures and Considerations**

The study was conducted in an ethical manner, as required by the UWC. Ethical clearance was obtained from the Humanities and Social Sciences Research Ethics Committee. Upon receipt of authorisation, permission for the recruitment of student participants was requested from the UWC's Registrar's office. Participants were informed of the nature of the research, that participation would be completely voluntary, that they were entitled to withdraw from the study at any time without consequences, and that there were no harmful risks involved. Counselling services were offered for debriefing. The researcher's details were provided, in order to address any concerns or provide any assistance needed. Participants were ensured of confidentiality and their anonymity via an informed consent document, required to be signed prior to participation in the study. No personal details, such

as name or personal identification, were requested. The data collected was stored in a safe space, protected by computer password and only accessed by the researcher and supervisor. Data will be discarded after 5 years via electronic deletion of files.



## Chapter Four: Results

### Data Analysis

The aims of the study were to assess the prevalence of exposure to trauma, investigate whether an association exists between exposure to trauma and PTSD, the role of fortitude in the association between trauma and PTSD, and to identify demographic correlates of exposure to trauma and PTSD. Analysis of the data included descriptive statistics, reliabilities of the measuring instruments employed, intercorrelations, frequencies, and mediation analysis to address the aims of this research study.

### Descriptive Statistics

The means, standard deviations and coefficient alphas for the LEC, PCL and FORQ are presented in table 1 below.

**Table 1**

*Descriptive Statistics, Reliabilities of the PCL, LEC and FORQ, and Intercorrelations*

|               | 1      | 2     | 3 | 4 | 5 | 6 |
|---------------|--------|-------|---|---|---|---|
| 1. PCL Total  | 1      |       |   |   |   |   |
| 2. FORQ Total | -.34** | —     |   |   |   |   |
| 3. FORQ Self  | -.48** | .75** | — |   |   |   |

|                 |       |       |       |       |      |      |
|-----------------|-------|-------|-------|-------|------|------|
| 4. FORQ Support | -.23* | .89** | .51** | —     |      |      |
| 5. FORQ Family  | -.18  | .87** | .43** | .70** | —    |      |
| 6. LEC Total    | .45** | -.16  | -.07  | -.11  | -.21 | —    |
| Mean            | 47.7  | 45.4  | 17.1  | 13.9  | 14.3 | 16.4 |
| SD              | 22.1  | 12.1  | 4.4   | 4.9   | 5.1  | 8.2  |
| Alpha           | .96   | .92   | .80   | .90   | .88  | .87  |

\*  $p < .05$  \*\*  $p < .01$

[Source: own compilation]

### **Reliabilities**

Table 1 indicates that the internal consistency of the measuring instruments was measured by the Cronbach's alpha coefficient. Results for the PCL, FORQ and LEC were in the acceptable range. An Alpha coefficient of .96 for the PCL and .92 for the FORQ indicated satisfactory internal consistency. The alpha coefficient of .87 indicated good internal consistency for the LEC.

### **Correlations**

Table 1 presents the correlation between LEC, PCL and FORQ scales. The correlation relevant to the aims of this study was assessed, i.e., the correlation of LEC and PCL. A significant positive moderate correlation ( $.45 p < .01$ ) was found, thereby indicating a positive relationship between the two variables. As trauma exposure increased, so did PTSD.

### **Frequencies**

The level of exposure experienced by the sample is presented by table 2, below.

**Table 2**

*Level of Exposure to Trauma and Nature of Trauma*

| Event   | Direct Exposure |      | Indirect Exposure |      |
|---|-----------------|------|-------------------|------|
|   | N               | %    | N                 | %    |
| Natural Disaster                                  | 14              | 16.3 | 28                | 32.6 |
| Fire or Explosion                                 | 33              | 38.4 | 22                | 25.6 |
| Transport Accident                                | 53              | 61.6 | 14                | 16.3 |
| Serious Accident                                  | 48              | 55.8 | 8                 | 9.3  |
| Exposure to toxic substance                       | 9               | 10.5 | 23                | 26.7 |
| Physical Assault                                  | 62              | 72.1 | 7                 | 8.1  |
| Assault with weapon                               | 45              | 52.3 | 13                | 15.1 |
| Sexual Assault                                    | 32              | 37.2 | 21                | 24.4 |
| Unwanted sexual experience                        | 46              | 53.5 | 11                | 12.8 |
| Combat/ war -zone exposure                        | 4               | 4.7  | 23                | 26.7 |
| Captivity   | 8               | 9.3  | 20                | 23.3 |
| Life-threatening illness/injury                   | 44              | 51.2 | 11                | 12.8 |
| Severe human suffering                            | 33              | 38.4 | 14                | 16.3 |
| Sudden violent death                              | 32              | 37.2 | 22                | 25.6 |
| Sudden accidental death                           | 39              | 45.3 | 15                | 17.4 |
| Serious injury, harm/death caused to someone else | 14              | 16.3 | 13                | 15.1 |
| Other stressful event/experience                  | 55              | 64.0 | 7                 | 8.1  |
| Mean  | 33.6            | 39.1 | 16                | 18.6 |

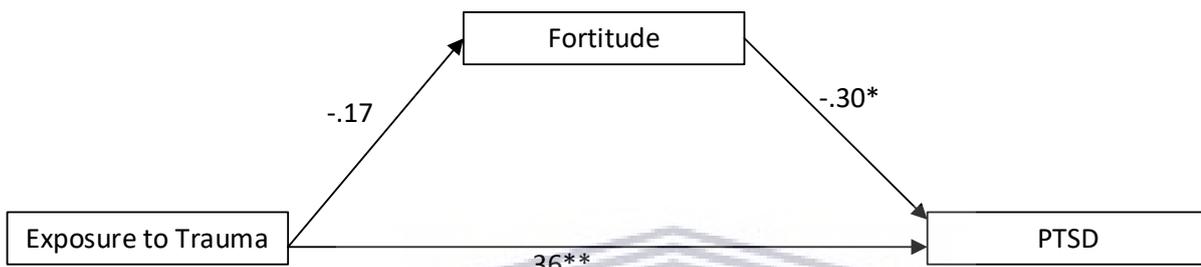
[Source: own compilation]

Table 2 indicates the prevalence of trauma experienced by the participants. Responses to the 17 questions of the LEC indicate the level of exposure experienced. The mean for direct exposure was 33.6 (39.1%) and the mean for indirect exposure was 16 (18.6%). For direct exposure, 62 (72.1%) participants had been exposed to physical assault, 55 (64%) to other stressful events not listed in the LEC and 53 (61.6%) to transport accidents. Forty-eight (55.8%) of participants were exposed to a serious accident, 46 (53.5%) to an unwanted sexual experience, 45 (52.3%) to assault with a weapon and 44 (51.2%) to a life-threatening illness or injury. With regard to indirect exposure, 28 (32.6%) participants' exposure was related to natural disaster, 23 (26.7%) participants were exposed to both toxic substance and combat/war, 22 (25.6%) to fire/explosion, and 21 (24.4%) to sexual assault.

Figure 1 presents the theoretical model that was tested, where exposure to trauma was the independent variable, PTSD was the dependent variable and fortitude was the presumed mediator. In figure 2, the fortitude subscales are presumed to be the mediators.

**Figure 1**

*Mediational Model of Fortitude in the Exposure to Trauma-PTSD Relationship*

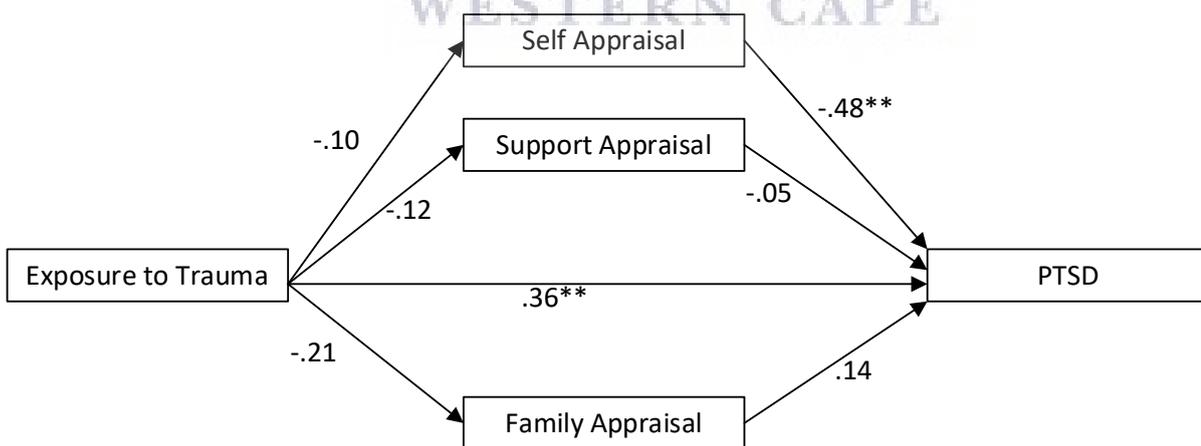


\*  $p < .05$ , \*\*  $p < .01$

[Source: own compilation]

**Figure 2**

*Mediational Model of Subscales of Fortitude in the Exposure to Trauma-PTSD Relationship*



\*\*  $p < .01$

The direct and indirect effects presented in the models by figures 1 and 2 are presented in table 3.

**Table 3**

*The Direct and Mediational Role of Fortitude in the Trauma Exposure - PTSD Relationship*

| Variable                | Beta   | SE  | 95% CI          | $\beta$ | <i>p</i> |
|-------------------------|--------|-----|-----------------|---------|----------|
| <u>Direct effects</u>   |        |     |                 |         |          |
| LEC → PTSD              | .946   | .26 | [.174, .559]    | .360    | .002*    |
| LEC → Total FORQ        | -.253  | .17 | [-.363, .079]   | -.171   | .157     |
| Total FORQ → PTSD       | -.532  | .20 | [-.498, -.081]  | -.299   | .019*    |
| LEC → Self              | -.052  | .06 | [-.269, .062]   | -.097   | .294     |
| Self → PTSD             | -2.37  | .56 | [-.634, -.293]  | -.479   | .001**   |
| LEC → Family            | -.128  | .08 | [-.378, -.009]  | -.205   | .087     |
| Family → PTSD           | .584   | .54 | [-.075, .330]   | .136    | .302     |
| LEC → Support           | -.072  | .07 | [-.290, .069]   | -.120   | .280     |
| Support → PTSD          | -.227  | .54 | [-.264, .121]   | -.051   | .641     |
| <u>Indirect effects</u> |        |     |                 |         |          |
| LEC → Total FORQ → PTSD | .134   | .11 | [-.363, .079]   | .051    | .089     |
| LEC → Self → PTSD       | 0.124  | .14 | [-0.071, 0.369] | 0.046   | 0.263    |
| LEC → Support → PTSD    | 0.016  | .06 | [-0.027, 0.191] | 0.006   | 0.413    |
| LEC → Family → PTSD     | -0.075 | .10 | [-0.325, 0.013] | -0.028  | 0.194    |

\*  $p < .05$  \*\*  $p < .01$

[Source: own compilation]

Table 3 indicates a significant association between exposure to trauma and PTSD ( $\beta = .360$ ,  $p=.002$ ). Increased exposure to trauma was associated with higher levels of PTSD symptoms. A significant negative association between fortitude and PTSD ( $\beta = -.299$ ,  $p =.019$ ) was found. A significant negative association between self-appraisals and PTSD ( $\beta = -.479$ ,  $p =.001$ ) was found. None of the indirect effects were significant.

### Demographic Correlates to Trauma Exposure and PTSD

The results of the investigation of demographic correlates to trauma exposure and PTSD, are presented by tables 4, 5 and 6, below.

**Table 4**

*Gender Differences in terms of Exposure to Trauma and PTSD (Hotelling's  $T^2 = .027$ )*

| Variable           | Male    |      | Female |       | F value | Sign.    |
|--------------------|---------|------|--------|-------|---------|----------|
|                    | Mean    | SD   | Mean   | SD    |         |          |
| PTSD               | 42.48   | 23.2 | 48.89  | 21.50 | 1.533   | $p=.219$ |
| Exposure to trauma | 14.6207 | 8.15 | 17.02  | 8.20  | 1.579   | $p=.213$ |

[Source: own compilation]

**Table 5**

*Disability Status in terms of Exposure to Trauma and PTSD (Hotelling's  $T^2 = .062$ )*

| Variable           | Mental Disability |       | Health Physical Disability |       | F value | Sign.      |
|--------------------|-------------------|-------|----------------------------|-------|---------|------------|
|                    | Mean              | SD    | Mean                       | SD    |         |            |
| PTSD               | 51.71             | 20.99 | 41.81                      | 22.05 | 4.07    | $p=.047^*$ |
| Exposure to trauma | 17.34             | 7.54  | 14.42                      | 8.43  | 2.61    | $p=.110$   |

\*  $p < .05$  \*\*  $p < .01$

[Source: own compilation]

**Table 6****Registration with OSWD and Exposure to Trauma as well as PTSD (Hotelling's  $T^2 = .001$ )**

| Variable           | Not registered |       | Registered |       | F value | Sign.  |
|--------------------|----------------|-------|------------|-------|---------|--------|
|                    | Mean           | SD    | Mean       | SD    |         |        |
| PTSD               | 47.77          | 23.74 | 47.04      | 18.27 | .018    | p=.893 |
| Exposure to trauma | 16.33          | 8.63  | 16.58      | 6.96  | .017    | p=.897 |

[Source: own compilation]

No significant association was found between age and trauma exposure, nor for age and PTSD. A significant difference was found in terms of type of disability and PTSD. Those with mental health disabilities reported higher incidence of PTSD ( $F = 4.07, p < .05$ ) than those with physical disabilities.

### Summary

A positive relationship was found between trauma exposure and PTSD, indicating that increased exposure to trauma was associated with an increase of PTSD symptoms. Higher prevalence was indicated in respect of direct exposure as opposed to indirect exposure, as revealed by the total mean score. The most prevalent direct exposure was physical assault, and the most prevalent indirect exposure was that of natural disaster. Figures 1 and 2 suggest that fortitude plays a mediating role in the exposure to trauma-PTSD relationship. In order to test the mediating role of fortitude, the indirect effects were analysed and interpreted. None of the indirect effects were significant. The p value of the indirect effect was not less than .05, thereby indicating no mediating effects for fortitude or any of its subscales. However, the direct effects of the association between trauma exposure and PTSD ( $p = .002$ ) were significant, as previously mentioned. The negative association between fortitude and PTSD ( $p = .019$ ) is significant and indicates that high levels of fortitude were associated with lower levels of PTSD. Lastly, a negative association between self-appraisals and PTSD ( $p = .001$ ) were significant and indicates that increased positive self-appraisals were associated with less PTSD symptoms. In terms of demographic associations, those with mental health disabilities were more

inclined to suffer symptoms of PTSD, compared to those with physical disabilities. There was no significance found in terms of age and gender.



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## Chapter Five: Discussion

This chapter discusses the results of the data analysed for the purpose of satisfying the objectives of this study. The study investigated the prevalence of exposure to trauma amongst SWD. It further investigated the association between exposure to trauma and PTSD and the role of fortitude in this association. Lastly, demographic correlates of exposure to trauma and PTSD amongst this group, were identified.

### Trauma Exposure amongst SWD

The results of the current study indicate that the most prevalent form of trauma amongst the participants was exposure to and/or experience of physical assault. Trauma amongst South African students has increased significantly. A recent study revealed that 97.6 % of a sample of South African university students were exposed to trauma (Padmanabhanunni, 2020a) in comparison to the 90% reported by a study conducted in 2013 (McGowan & Kagee, 2013). Direct exposure to physical assault being the most prevalent trauma revealed by this study, is similar to the findings of Padmanabhanunni (2020a) and differ from the studies by Hoffmann (2002) and McGowan and Kagee (2013), that found the death of a loved one to be the most frequent traumatic event. The results are consistent with those in the study by Neille and Penn (2015), who demonstrated that people with disabilities, particularly those from disadvantaged backgrounds, are more susceptible to various forms of violence. Even though demographics of socio-economic status had not been included in this study, the majority of students (75%) at the UWC hail from low socio-economic status backgrounds (Willemse et al., 2018). Therefore, it is no surprise that physical assault was identified as the most prevalent type of trauma exposure, owing to the disparities in the South African context, rendering this population amongst the most vulnerable to violence (Neille & Penn, 2015).

Transportation accidents were the trauma scoring the second highest in prevalence following physical assault, which is similar to the order of prevalence reported by McGowan and Kagee (2013)

and Padmanabhanunni (2020a). The increase in the frequency of physical assault portrays the elevated level of violence in South Africa, particularly amongst students (McGowan & Kagee, 2013). However, the high rate of transportation accidents being common in these studies is an alarming phenomenon and should be investigated in support of better understanding and intervention concerning safety strategies in respect of transport.

The least frequent direct exposure to trauma was combat or war, followed by captivity and exposure to toxic substances. The least frequent indirect exposure to trauma was physical assault, other stressful events or experiences and serious accidents. These findings differ from studies by Hoffmann (2002) and McGowan and Kagee (2013), that found the least frequent traumatic exposure to be forced sexual activity and xenophobic assaults. In contrast, the current study reveals traumatic exposure to be that of a sexual nature, as more than half of the sample (54%) had experienced direct unwanted sexual experience while over a quarter of the sample had experienced direct sexual assault (37%) suggesting that a good number of SWD are exposed to trauma of a sexual nature. South Africa currently faces an elevated level of gender-based violence that may explain the increase in such trauma observed by the most recent studies. However, there is insufficient literature on research regarding the experiences of those with disabilities and their experiences of traumatic sexual encounters. The fact that direct physical assault was the most prevalent trauma, suggests that the majority of students with disabilities are the victims of physical assault, rather than witnessing or learning about it. It is interesting to note the variance between direct and indirect exposure to physical assault, where direct physical assault was of the highest in prevalence and indirect physical assault was of the least in prevalence. Even though indirect exposure to other stressful events and serious accident were least frequent, direct exposure to these traumatic events were of the most frequent, thus indicating first-hand experience of these traumatic events amongst this sample. The results suggest that experience is more prevalent than simply exposure to crime and violence amongst SWD in the Western Cape. It may further indicate the need for longitudinal studies to investigate the increase of

these particular types of trauma. Exposure to trauma amongst South African students have been constant over time, as may be gleaned from the results of South African studies over the years (Peltzer, 1998; Hoffmann, 2002; McGowan & Kagee, (2013); Padmanabhanunni, 2020a).

### **The Relationship between Exposure to Trauma and PTSD**

The results of this study demonstrated a significant relationship between trauma exposure and PTSD. As trauma exposure increased, so did PTSD. Therefore, exposure to trauma was associated with PTSD amongst SWD and this is consistent with other studies on student population groups (Hoffmann 2002; McGowan & Kagee, 2013; Padmanabhanunni, 2020a; Peltzer, 1998).

According to the literature reviewed, the outcomes following trauma exposure also include other psychological disorders, such as anxiety or depression (McGowan & Kagee, 2013). Those who do develop PTSD symptomology either struggle academically (Van Breda, 2017) or fail to complete their studies (Boyras et al., 2013; Edman et al., 2016). Emotional and cognitive disturbances experienced following trauma exposure, resulting in diminished executive functioning, impact academic performance (Boyras et al., 2016), and social stressors arising from the trauma exposure may affect mental health and wellbeing (Edman et al., 2016), that may cause suicide by those who develop depression (Bantjes et al., 2016). Research (Boyras et al., 2013; Boyras et al., 2016; Edman et al., 2016; Van Breda, 2017) shows that students develop various emotional, psychological, and social outcomes, following exposure to trauma. However, it is important to consider that SWD face additional challenges in so many ways, even though the fact that they have met admission requirements at tertiary institutions reveal their resilience and fortitude in striving towards academic achievement. Despite the experiences and challenges they face at university - be it practical, logistical, social, psychological or academic (Bordoff, 2017; MacCullagh et al., 2016; Mutanga, 2017; Mutanga, 2018; Mutanga & Walker, 2017; Ndlovu & Walton, 2016; Phukubje & Ngoepe, 2017; Pretorius et al., 2011) - SWD appear to manage such obstacles on a daily basis.

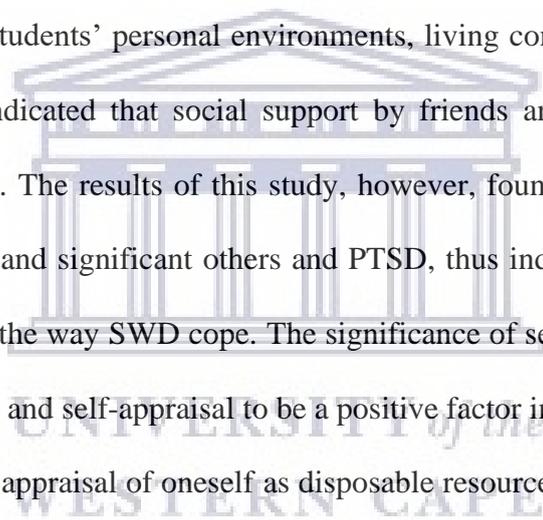
PTSD was significantly associated with exposure to trauma in the current study and differs from other aforementioned studies that found other psychological outcomes following exposure to trauma. This study only focused on PTSD as an outcome of trauma. The literature reviewed provided information regarding the negative impact of PTSD. This was not primarily considered by the current study and further research may be recommended.

### **The Role of Fortitude in the Association between Trauma Exposure and PTSD**

This study found that greater levels of fortitude and positive self-appraisal were associated with lower incidence of PTSD. This suggests that fortitude is a potential protective factor in psychological outcomes associated with trauma exposure amongst SWD. The findings are consistent with previous studies where increased fortitude was associated with less PTSD or increased positive outcomes (Padmanabhanunni, 2020b; Padmanabhanunni & Pretorius, 2020; Padmanabhanunni & Wiid, 2021; Pretorius et al., 2016). In studies of different population groups, i.e., adolescents from communities where violence is rife (Pretorius et al., 2016), lay counsellors working in communities where trauma is rife (Padmanabhanunni, 2020b), nurses caring for patients with Alzheimers (Heyns et al., 2003), and healthcare workers (Adejuwon et al., 2015), fortitude, in the form of positive self-appraisals of self and others, was associated with improved psychological wellbeing (Padmanabhanunni & Wiid, 2021). The current study differs from other studies on fortitude, as the population sample is SWD, and no such previous research in respect of this population appears to be available.

SWD possessed of fortitude are better able to negotiate life challenges. Students with dyslexia have shown resilience in the management of their educational needs (MacCullagh et al., 2016). SWD have exhibited active roles in perseverance and advocacy, that resulted in improved university experiences and inclusivity (Box, 2019; Mutanga, 2018). The results of this study showed no significant association of family appraisals and other support appraisals. Neille and Penn (2015) claimed that the elevated mortality rate amongst residents of rural areas and the consequent

disintegration of family structures, increase the vulnerability of people with disabilities. Perhaps family appraisals are less evident in the current sample, owing to families residing in other provinces or family disintegration as a result of the high mortality rate and poverty in these areas (Neill & Penn, 2015). Existing literature that discusses the university challenges encountered by SWD (Mutanga 2015; Mutanga & Walker, 2017; Pretorius et al., 2011) suggests that, notwithstanding the advocacy by and perseverance of SWD, additional support – i.e., resources, teaching and learning, management, legislation, destigmatisation - appears to be lacking (Mutanga, 2015), and could therefore explain the results of the current study, where attributions to “others” were found to be insignificant. Mutanga and Walker (2017) discussed the need for universities to provide support, not only via resources, but also by consideration of the students’ personal environments, living conditions and accessibility of transport. Mutanga (2017) indicated that social support by friends and family contribute to the successful outcomes of SWD. The results of this study, however, found no significant association between appraisals of family and significant others and PTSD, thus indicating the strength of self-appraisals to be influential to the way SWD cope. The significance of self-appraisals in this manner indicates the level of fortitude and self-appraisal to be a positive factor in the lives of SWD. Positive cognitive self-appraisal is the appraisal of oneself as disposable resource, such as judging oneself to be capable and competent (Padmanabhanunni, 2020b). Ehlers and Clarke (2000) proposed that the appraisals of oneself and others following trauma exposure influence the development and maintenance of PTSD, where positive appraisals could reduce PTSD and negative appraisals could develop and maintain PTSD. Whereas self-appraisals of fortitude relate to cognitive strength, self-esteem is referred to as one’s affective evaluation of self or overall evaluation of one’s worthiness as a person (Rosenberg, 1979, as cited in Franck et al., 2008). Self-esteem is considered to be a protective factor when one is confronted by adversity, as suggested by Mann et al. (2004), Hayter and Dorstyn (2014), Padmanabhanunni (2020b), and Singh and Wani (2020). Positive self-esteem is similar to positive self-appraisal, as both relate to a positive view of one’s strengths. SWD may face challenges



regarding self-esteem owing to stigmatisation and marginalisation (Mutanga, 2017), however, this may stem from a societal influence and not necessarily from a personal judgement. As for those displaying fortitude, they may be more likely to possess healthy self-esteem, as both arise from psychological strength factors that contribute to overcoming adversity. Fortitude (fortigenesis) stems from salutogenesis, that is associated with resilience. Self-esteem contributes to resilience (Padmanabhanunni, 2020b). From a cognitive behaviour theoretical view, cognition influences emotion and so influences behaviour (Ehlers & Clarke, 2000). Positive appraisals of self may lead to enhanced self-esteem, that may result in improved coping strategies when faced with adversity.

Similar to the findings by Pretorius et al. (2016), it was found that SWD mainly encounter traumatic events of a violent nature, observed by the prevalence of exposure to physical assault. The sample of the current study differs from that of Pretorius et al. (2016), as their sample represented a younger population. However, the participants to their study hailed from disadvantaged communities, similar to the majority of students at the current study's setting. The findings of this study correspond to that of Pretorius et al. (2016), demonstrating elevated levels of fortitude by both sample populations, notwithstanding negative external conditions. The 2016-study found the association between trauma exposure and PTSD to be moderately significant.

Padmanabhanunni and Wiid (2021) found that increased appraisals of friends, self and family, were associated with less PTSD symptoms. The current study revealed different results, as only positive appraisal of self and total fortitude were found to be significantly associated with reduced PTSD symptoms. It could be proposed that SWD have learnt to rely more on themselves, compared to people without disabilities. Hence, they exhibit increased positive self-appraisal. The sample of both studies were derived from the same university, however, the current study focused solely on SWD and not the general student population.

The studies by Padmanabhanunni (2020b) and Padmanabhanunni and Pretorius (2020) concluded that the role of fortitude existed and was observed to be a coping factor when participants

were exposed to trauma and unprecedented levels of distress. The current study did not investigate fortitude's role in coping following trauma exposure, as no mediating effects were found by this study. However, even though it did not play a role, it was significantly related to less PTSD, which could be an indication of improved wellbeing.

The current study was conducted during the Covid-19 pandemic, similar to the study by Padmanabhanunni and Pretorius (2020) and the sample is comparable as both sample populations included students at the same university. It should be considered that SWD may have experienced additional distress owing to the pandemic and that they had been compelled to face new challenges. However, despite the unprecedented level of distress, including depression, worry and hopelessness (Padmanabhanunni & Pretorius, 2020) characterising the study setting at the time, the level of PTSD was not significantly strong in its association to trauma exposure.

### **Demographic Correlates in the Exposure to Trauma and PTSD**

The study results did not support significant relationships between exposure to trauma, PTSD, and demographics of age, gender and status of registration. However, those with mental health disabilities reported higher levels of PTSD, compared to those with physical disabilities. Even though physical disabilities (visual disabilities) were found to be the most prevalent in South Africa (Stats SA, 2014), those with mental health disabilities reported higher levels of PTSD symptoms, in this study. These findings are similar to the findings by Pingry O'Neill and Markward (2012), who revealed differences between the academic outcomes of those with mental health disabilities and those with physical disabilities. Even though the results disclosed by Pingry O'Neill and Markward (2012) do not indicate a relationship between those with mental health disabilities and PTSD, the outcome of those with mental health disabilities exhibiting less positive academic outcomes, does relate to difficulties with cognition, attention and memory, that are common symptoms of PTSD. This could potentially indicate that individuals who have been exposed to trauma may have developed mental health disabilities as a result, or that those with mental health disabilities may be more prone

to experiencing traumatic encounters. McGowan and Kagee (2013) proposed that trauma exposure amongst South African university students were associated with PTSD, depression and anxiety. The highest prevalence of trauma exposure is that of physical assault. It should be considered that elevated levels of physical assault occur in high crime areas that are often areas occupied by disadvantaged communities. Therefore, residing in high crime communities may impact the mental health of these residents, that would therefore include PTSD.

With regard to age, gender and status of OSwD-registration, no significant relationship was found by this study. This may be owing to the fact that those who are confronted with traumatic events are not limited to age, gender or whether they are registered with the OSwD. Trauma exposure in South Africa has increased significantly over the years and is experienced by the majority of students, regardless of age, gender or OSwD-registration status.

## **Conclusion**

Findings of the study showed that those who were exposed to trauma displayed symptoms of PTSD. No significant association was found between trauma exposure and age, gender or whether the participant had registered with the OSwD. Those with mental health disabilities had encountered more exposure to trauma than those with physical disabilities. The most prevalent type of exposure to trauma was physical assault, followed by other stressful event/ experience, and transport accident. No mediating role of fortitude was found in the association of trauma exposure and PTSD. However, irrespective of the level of trauma exposure, fortitude acted as a protective factor in relation to the development of PTSD symptoms. Fortitude existed irrespective of trauma exposure and PTSD.

## **Limitations**

There are several limitations to this study. Firstly, the current sample was small, limiting the representativeness of the sample to the population. Secondly, the nature of disability experienced by the participants, may have limited the participation of all SWD in the research. An example of this

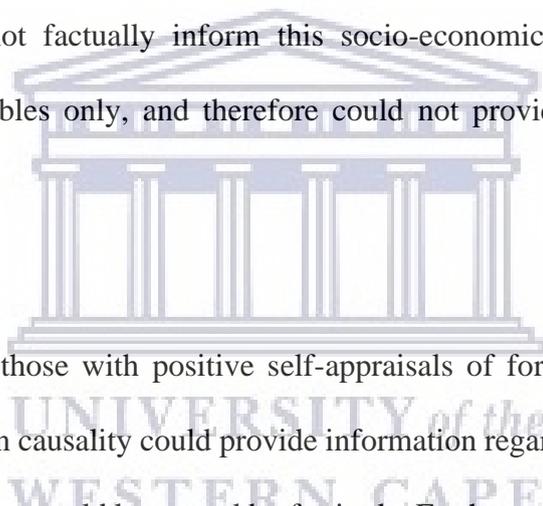
would be the translation of the survey into braille. Thirdly, the researcher was unable to provide physical assistance and hand out hard copies to participants, as the university was in national lockdown due to the Covid-19 pandemic. This resulted in universities being closed throughout the duration of data collection period. Due to the unforeseen changes in learning practises during the pandemic, the survey could only be completed via online methods. Increased online learning amongst students during the pandemic may have led to online fatigue, thereby impacting the number of participants who partook in the study. Fourthly, assumptions about participants' socio-economic backgrounds were made, owing to the majority of students at the UWC hailing from disadvantaged backgrounds. However, socio-demographic factors were not included in this study and the assumption therefore does not factually inform this socio-economic demographic. The results provided correlation of variables only, and therefore could not provide information of causality between variables.

### **Recommendations**

The study showed that those with positive self-appraisals of fortitude exhibited less PTSD symptoms. Further research on causality could provide information regarding whether psychological wellbeing after trauma exposure could be caused by fortitude. Furthermore, intervention could focus on protective factors that mitigate the effects of PTSD and negative psychological outcomes.

Further research is needed amongst this population, in order to support SWD academically and psychologically. By gaining more knowledge in these areas, subsequent support and assistance may encourage SWD to achieve academic success, allowing them to become well integrated in the economic and academic fields of the working sector.

SWD' experiences of trauma are additional challenges they face, notwithstanding the challenges of their disabilities. More information regarding positive factors such as resilience and fortitude



amongst SWD will provide opportunities to mitigate the negative effects of trauma and improve the wellbeing of SWD, by focusing on their strengths as opposed to their deficits.

SWD may possess various protective factors, and interventions that focus on cognitive appraisals such as cognitive behavioural therapy models could facilitate the development of positive coping strategies when faced with life challenges.



## References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders DSM-5* (5<sup>th</sup> ed.). ISBN 978-0-89042-554-1
- Aslam, N. (2015). Paradigm shift from post-traumatic stress to post-traumatic growth: Prompting integrative psychosocial framework of the trauma studies. *Pakistan Journal of Medical Research*, 54(3), 67-68.
- Atwoli, L., Stein, D. J., Williams, D. R., Mclaughlin, K. A., Petukhova, M., Kessler, R. C., & Koenen, K. C. (2013). Trauma and posttraumatic stress disorder in South Africa: Analysis from the South African Stress and Health Study. *BMC Psychiatry*, 13(182). <https://doi.org/10.1186/1471-244X-13-182>.
- Babbie, E. (2016). *The practice of social research*. Cengage Learning.
- Bantjes J., Lochner C., Saal, W., Roos, J., Taljaard, L., Page, D., Auerbach, R. P., Mortier, P., Bruffaerts, R., Kessler, R. C., & Stein, D. J (2019). Prevalence and sociodemographic correlates of common mental disorders among first-year university students in post-apartheid South Africa: implications for a public mental health approach to student wellness. *BMC Public Health*, 19(922). <http://doi.org/10.1186/s12889-019-7218-y>
- Bantjes J. R., Phil, D., Kagee, A., McGowan, T., & Steel, H (2016). Symptoms of posttraumatic stress, depression, and anxiety as predictors of suicidal ideation among South African university students. *Journal of American College Health*, 6(64), 429-437. <http://dx.doi.org/10.1080/07448481.2016.1178120>

- Barends, M. S. (2004). *Overcoming adversity: an investigation of the role of resilience constructs in the relationship between socio-economic and demographic factors and academic coping*. [Master's Thesis, University of the Western Cape]. Retrieved from <https://etd.uwc.ac.za/handle/11394/259>.
- Blanchard, E. B., Jones-Alexander, J., Buckley, T.C., & Forneris, C. A. (1996). Psychometric properties of the PTSD Checklist (PCL). *Behaviour, Research and Therapy*, 34, 669-673.
- Bordoff, B. (2017). The challenges and limitations of diagnosing and pharmacologically treating ADHD in university students. *Psychological Injury and Law*, 10(2), 114-120. <https://psycnet.apa.org/doi/10.1007/s12207-017-9288-4>.
- Boyras, G., Granda, R., Baker, C. N., Tidwell, L. L., & Waits, J. B. (2016). Posttraumatic stress, effort regulation, and academic outcomes among college students: A longitudinal study. *Journal of Counselling Psychology*, 63(4), 475- 486.
- Boyras, G., Horne, S. G., Owens, A. C., & Armstrong, A. P. (2013). Academic achievement and college persistence of Africa American students with trauma exposure. *Journal of Counselling Psychology*, 60(4), 582-592.
- Box, H. (2019). Opening of a new space for the office for students with disabilities. *University of the Western Cape*. Retrieved August 10, 2021 from <https://www.uwc.ac.za/news-and-announcements/news/opening-of-a-new-space-for-the-office-for-students-with-disabilities-254>

Cusack, S. E., Hicks, T.A., Bourdon, J., Sheerin, C.M., Overstreet, C.M., Kendler, K.S., Dick, D.M., Amstadter, A.B. (2019). Prevalence and predictors of PTSD among a college sample. *Journal of American College Health*.67 (2), 123-131. <https://doi.org/10.1080/07448481.2018.1462824>.

Department of Education. (2001). *National plan for higher education*. Republic of South Africa. [http://lst-iiiep.iiiep-unesco.org/cgi-bin/wwwi32.exe/\[in=epidoc1.in\]/?t2000=014523/\(100\)](http://lst-iiiep.iiiep-unesco.org/cgi-bin/wwwi32.exe/[in=epidoc1.in]/?t2000=014523/(100)).

Department of Higher Education and Training. (2018). *Strategic policy framework on disability for the post-school education and training system*. Republic of South Africa. <https://www.dhet.gov.za/SiteAssets/Gazettes/Approved%20Strategic%20Disability%20Policy%20Framework%20Layout220518.pdf>

Department of Social Development. (n.d). *Policy on disability*. Republic of South Africa. Retrieved August 10, 2021 from [https://www.westerncape.gov.za/assets/departments/social-development/national\\_disability\\_policy.pdf](https://www.westerncape.gov.za/assets/departments/social-development/national_disability_policy.pdf).

Department of Women, Youth and Person's with Disabilities, (n.d). *Disability Statistics*. Republic of South Africa. Retrieved August 10, 2021 from <http://www.women.gov.za/images/FACT-SHEET---Disability-Statistics.pdf>.

Diaz, M. G., & Garcia M. J. (2018). Emotional intelligence, resilience and self-esteem in disabled and non-disabled people. *Enfermeria Global*, 50, 274-283.

Edman, J. L., Watson, S.B., & Patron, D. J. (2016). Trauma and psychological distress among ethnically diverse community college students. *Community Journal of Research and Practice*, 40(4), 335-342. <https://doi.org/10.1080/10668926.2015.1065211>.

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345. [https://doi.org/10.1016/S0005-7967\(99\)00123-0](https://doi.org/10.1016/S0005-7967(99)00123-0)

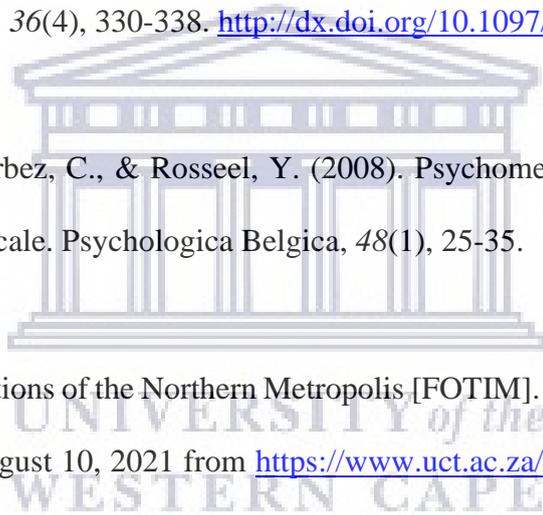
Fleischer, A., Adolfsson, M., & Granlund, M. (2013). Students with disabilities in higher education – Perceptions of support needs and received support: A pilot study. *International Journal of Rehabilitation Research*, 36(4), 330-338. <http://dx.doi.org/10.1097/MRR.0b013e328362491c>

Franck, E., De Raedt, R., Barbez, C., & Rosseel, Y. (2008). Psychometric properties of the Dutch Rosenberg self-esteem scale. *Psychologica Belgica*, 48(1), 25-35.

Foundation of Tertiary Institutions of the Northern Metropolis [FOTIM]. (2011). *Disability in higher education*. Retrieved August 10, 2021 from [https://www.uct.ac.za/usr/disability/reports/annual\\_report\\_10\\_11.pdf](https://www.uct.ac.za/usr/disability/reports/annual_report_10_11.pdf).

Gravetter, F. J., & Wallnau, L. B. (2017). *Statistics for behavioral sciences*. Cengage Learning.

Hadley, W. M. (2011). College students with disabilities: A student development perspective. *New directions for higher education, Wiley Periodicals*, 154. <http://doi:10.1002/he.436>



Harandi, T. F., Taghinasab, M. M & Nayeri, T. D. (2017). The correlation of social support with mental health: A meta-analysis. *Electronic Physician*, 9(9), 5212-5222. <http://dx.doi.org/10.19082/5212>

Hayter, M. R & Dorstyn, D. S. (2014). Resilience, self-esteem and self-compassion in adults with spina bifida. *Spinal Cord*, 52, 167-171.

Heyns, P. M., Venter, J. H., Esterhuysen, K. G., Bam, R. H., & Odendaal, D. C. (2003). Nurses caring for patients with Alzheimer's disease: Their strength and risk of burnout. *South African Journal of Psychology*, 33, 80-85.

Hoffmann, W. A. (2002). The incidence of traumatic events and trauma-associated symptoms/experiences amongst tertiary students. *South African Journal of Psychology*, 32(4), 48–53.

Hong, B. S. (2015). Qualitative analysis of the barriers college students with disabilities experience in higher education. *Journal of College Student Development*, 56(3), 209-226. <https://doi:10.1353/csd.2015.0032>

Howell, C. (2006). Disabled students and higher education in South Africa. In B. Watermayer, L. Swartz, T. Lorenzo, M. Schneider & M. Priestley (Eds), *Disability and social change* (pp. 164–178). Human Sciences Research Council Press.

Hughes, K., Bellis, M., Jones, L., Wood, S., Bates, G., Eckley, L., McCoy, E., Mikton, C., Shakespeare, T., & Officer, A. (2012). Prevalence and risk of violence against adults with

disabilities: A systemic review and meta-analysis of observational studies. *The Lancet*. 379(9826), 1621-1629.

Julius, M. N. (1999). *The influence of gender and fortitude on the types of problems that students present with at the institute for counselling at the University of the Western Cape*. [Mini-thesis, University of the Western Cape. Retrieved from [http://etd.uwc.ac.za/bitstream/handle/11394/2762/Rahim\\_MPSYCH\\_2007.pdf?sequence=1](http://etd.uwc.ac.za/bitstream/handle/11394/2762/Rahim_MPSYCH_2007.pdf?sequence=1).

Kallsen, S. R., Allwood, M. A., Adams, S. W., & Pugach, C. P. (2020). Community violence exposure and academic performance: Examining the roles of posttraumatic stress symptoms and sleep quantity and quality among college students. *Journal of Aggression, Maltreatment and Trauma*, 29, 1161-1175. <https://doi:10.1080/10926771.2019.1697779>

Kaminer, D., & Eagle, G. (2010). *Traumatic stress in South Africa*. Wits University Press.

Lacoviello, B. M., & Charney, D. S. (2014). Psychosocial facets of resilience: Implications for preventing posttrauma psychopathology, treating trauma survivors, and enhancing community resilience. *European Journal of Psychotraumatology*, 5(1). <https://doi:10.3402/ejpt.v5.23970>

Lacoviello, B. M., & Charney, D. S. (2020). *Cognitive and behavioral components of resilience to stress. Stress resilience molecular and behavioral aspects*. Academic Press.

MacCullagh, L., Bosanquet, A., & Badcock, N. A. (2016). University students with dyslexia: A qualitative exploratory study of learning practices, challenges and strategies. *Dyslexia*, 23(1). <https://doi.org/10.1002/dys.1544>

Mann, M., Hosman, C. M. H., Schaalma, H. P., & de Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health Education Research*, 19(4), 357-372.

Mayat, N., & Amosun, S.L. (2011). Perceptions of academic staff towards accommodating students with disabilities in a civil engineering undergraduate program in a university in South Africa. *Journal of Postsecondary Education and Disability*, 24(1), 53-59.

McGowan, T., & Kagee, A. (2013). Exposure to traumatic events and symptoms of posttraumatic stress among South African university students. *South African Journal of Psychology*, 43(3), 327- 339. <https://doi.org/10.1177/0081246313493375>.

Mutanga, O. (2015). *Experiences of disabled students at two South African universities: A capabilities approach*. University of the Free State. Bloemfontein, South Africa: Center for Research on Higher Education and Development. [https://www.ufs.ac.za/docs/librariesprovider34/default-document-library/oliver-mutanga\\_thesis-\\_final-versiona5edcae65b146fc79f4fff0600aa9400.pdf?sfvrsn=39f9a521\\_0](https://www.ufs.ac.za/docs/librariesprovider34/default-document-library/oliver-mutanga_thesis-_final-versiona5edcae65b146fc79f4fff0600aa9400.pdf?sfvrsn=39f9a521_0).

Mutanga, O. (2017). *Inclusive policy for students with disabilities*. UFS Centre for Research on Higher Education and Development, Policy Brief Advancing the Public Good. University of the Free State. <https://www.ufs.ac.za/docs/librariesprovider34/default-document-library/inclusive-policy-for-students-with-disabilitiesd1aab7e65b146fc79f4fff0600aa9400.pdf?sfvrsn=0>.

Mutanga, O. (2018). Inclusion of students with disabilities in South African Higher Education. *International Journal of Disability, Development and Education*, 65(2), 229-242. <https://doi.org/10.1080/1034912X.2017.1368460>.

Mutanga, O., & Walker, M. (2015). Towards a disability- inclusive higher education policy through the capabilities approach. *Journal of Human Development and Capabilities*, 16:4, 501-517, DOI: 10.1080/19452829.2015.1101410.

Mutanga, O., & Walker, M. (2017). Exploration of the academic lives of students with disabilities at South African universities: Lecturers' perspectives. *African Journal of Disability*, 6, 316. <https://doi.org/10.4102/ajod.v6i0.316>.

Mutanga, O. (2020). *Student with disabilities and the transition to work: A capabilities approach*. Routledge. Retrieved on August 10, 2021 from <https://books.google.co.za/books?id=yNGlDwAAQBAJ&printsec=frontcover&dq=Mutanga+2020+DOI&hl=en&sa=X&ved=2ahUKEwj7hKOa0KjyAhXLSsAKHTqtB3QQ6AEwA3oECAsQA#v=onepage&q&f=false>.

Ndlovu, S., & Walton, E. (2016). Preparation of students with disabilities to graduate into professions in the South African context of higher learning: Obstacles and opportunities. *African Journal of Disability*, 5(1), 150. <https://dx.doi.org/10.4102%2Fajod.v5i1.150>

Neille, J., & Penn, C. (2015). Beyond physical access: A qualitative analysis into the barriers to policy implementation and service provision experienced by persons with disabilities living in a rural context. *Rural and Remote Health*, 15(3332).

Padmanabhanunni, A. (2020a). Trauma nation: Exposure to traumatic events among South African university students. *Journal of Community Psychology*, 48(11). <https://doi.org/10.1002/jcop.22377>

Padmanabhanunni, A. (2020b). Caring does not always cost: The role of fortitude in the association between personal trauma exposure and professional quality of life among lay trauma counsellors. *Traumatology*, 26(4), 420-426. <https://doi.org/10.1037/trm0000262>

Padmanabhanunni, A., & Pretorius, T. B. (2020). When coping resources fail: The health sustaining and moderating role and of fortitude in the relationship between Covid-19-related worries and psychological distress. *Social and Health Sciences*, 18(2), 27-47.

Padmanabhanunni, A., & Wiid, C. (2021). From fear to fortitude: Differential vulnerability to PTSD among South African university students. *Traumatology*. <https://doi.org/10.1037/trm0000312>

Peltzer, K. (1998). Traumatic experiencing and post traumatic psychological symptoms in South African university students. *The Central African Journal of Medicine*, 44(11), 280-283.

Phukubje, J., & Ngoepe, M. (2017). Convenience and accessibility of library services to students with disabilities at the University of Limpopo in South Africa. *Journal of Librarianship and Information Science*, 49(2), 180-190.

Pickett, S. M., Barbaro, N., & Mello, D. (2016). The relationship between subjective sleep disturbance, sleep quality, and emotion regulation difficulties in a sample of college students

reporting trauma exposure. *Psychological Trauma: Theory, Research, Practice, and Policy*, 8(1), 25-33. <https://doi.org.ezproxy.uwc.ac.za/10.1037/tra0000064>

Pingry O'Neill, L. N., & Markward, M. J. (2012). Predictors of graduation among college students with disabilities. *Journal of Postsecondary Education and Disability*, 25(1), 21-36.

Pretorius, A., Lawton-Misra, N., & Healey, T. (2011, November 30-December 2). *Disability: Continued marginalisation* [Conference session]. 34th AFSAAP Conference, Flinders University, Adelaide, South Australia.

Pretorius, T. B., & Heyns, P. M. (1998). *Fortitude as stress-resistance: Development and validation of the Fortitude Questionnaire (FORQ)*. University of the Western Cape: Bellville, South Africa.

Pretorius, T. B., & Padmanabhanunni, A. (2020). The dynamics of appraisal: A review of 20 years of research using the Fortitude Questionnaire. *South African Journal of Psychology*, 51(1), 157-174. doi: <https://doi.org/10.1177/0081246320957489>

Pretorius, T.B., Padmanabhanunni, A., Campbell, J. (2016). The role of fortitude in relation to exposure to violence among adolescents living in lower socio-economic areas in South Africa. *Journal of Child and Adolescent Mental Health*, 28(2), 153-162. <https://doi.org/10.2989/17280583.2016.1200587>.

Republic of South Africa. (1997). The white paper on the *integrated national disability strategy*. Government Printing Works. Retrieved March 6, 2021, from [www.gov.za](http://www.gov.za): [https://www.gov.za/sites/default/files/gcis\\_document/201409/disability2.pdf](https://www.gov.za/sites/default/files/gcis_document/201409/disability2.pdf)

Roothman, B., Kirsten, D. & Wissing, M. (2003). Gender differences in aspects of psychological well-being. *South African Journal of Psychology*, 33(4), 212-218.

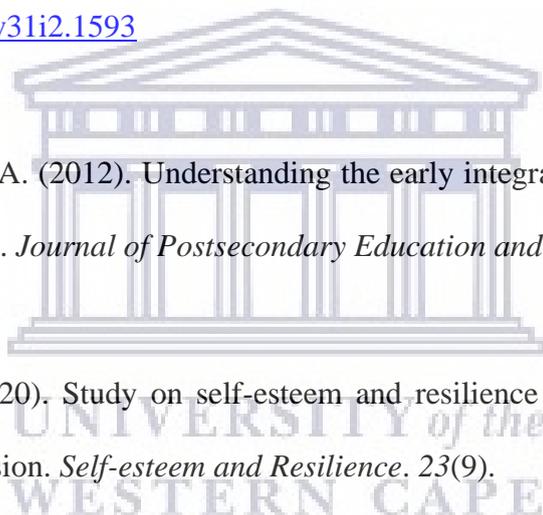
Sachs, D., & Schreuer, N. (2011). Inclusion of students with disabilities in higher education: Performance and participation in student's experiences. *Disability Studies Quarterly*, 31(2). <http://doi:10.18061/dsq.v31i2.1593>

Shepler, D. K & Woosley, S. A. (2012). Understanding the early integration experiences of college students with disabilities. *Journal of Postsecondary Education and Disability*. 25(1), 37-50.

Singh, P & Wani, M. A. (2020). Study on self-esteem and resilience among locomotor disabled persons in Kashmir division. *Self-esteem and Resilience*. 23(9).

Statistics South Africa. (2014). *Stats SA profiles persons with disabilities*. Republic of South Africa. <http://www.statssa.gov.za/?p=3180>.

Stellenbosch University. (2018). *Disability access policy*. Retrieved July 23, 2021, from <https://sunrecords.sun.ac.za/controlled/C4%20Policies%20and%20Regulations/Disability%20Access%20Policy%201%20April%202018.pdf>.



Strümpfer, D. (1995). The origins of health and strength: From 'salutogenesis' to 'fortigenesis'. *South African Journal of Psychology*, 25(2), 81-89. <https://doi.org/10.1177/008124639502500203>.

University of Cape Town. (2011). *University of Cape Town disability policy*. Retrieved July 22, 2021, from [https://www.uct.ac.za/sites/default/files/image\\_tool/images/328/about/policies/DIS\\_Policy\\_Disability\\_2011.pdf](https://www.uct.ac.za/sites/default/files/image_tool/images/328/about/policies/DIS_Policy_Disability_2011.pdf).

Van Breda, A.D. (2017). Students are human too: Psychosocial vulnerability of first-year students at the University of Johannesburg. *South African Journal of Higher Education*, 31(5). <https://doi.org/10.20853/31-5-1567>.

Weathers, F. W., Blake, D. D., Shennur, P. P., Kaloupek, D. G., & Keane, T. M. (2013). *The life events checklist for DSM-5 (LEC-5)*. [https://www.ptsd.va.gov/professional/assessment/te-measures/life\\_events\\_checklist.asp](https://www.ptsd.va.gov/professional/assessment/te-measures/life_events_checklist.asp)

Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1993). The PTSD Checklist (PSL): Reliability, validity, and diagnostic utility. *Annual Convention of the International Society for Traumatic Stress Studies*, 462. Retrieved on August 10, 2021 from <https://scholar.google.com/citations?user=ddEs-1oAAAAJ&hl=en>.

Willemsse, M., Smith, M.R., & Padmanabhanunni, A. (2018). Exploring an historically disadvantaged South African tertiary institution's culture and response to providing reasonable accommodation to students diagnosed with ADHD. *Inted2018 Proceedings*, p.8162.

World Health Organization & World Bank. (2011). *Summary: World report on disability*. World Health Organization. <https://apps.who.int/iris/handle/10665/70670>



## Annexures

### Annexure 1

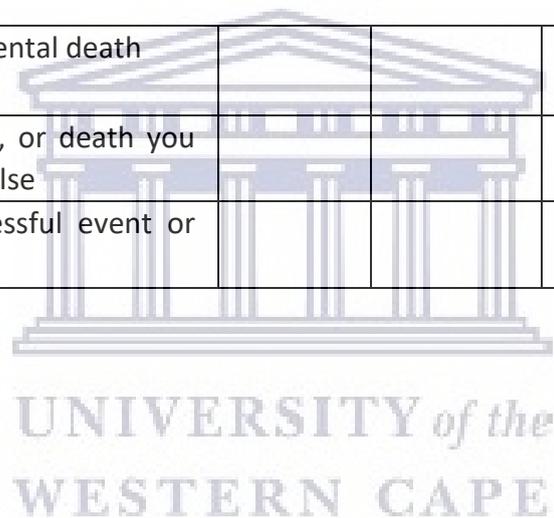
#### *Life Events Checklist for DSM-5 (LEC-5) Standard Version*

| Event  | Happened to me | Witnessed it | Learned about it | Part of my job | 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)                             |  |  |  |  |  |

17

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| 15. Sudden accidental death                                   |  |  |  |  |  |
| 16. Serious injury, harm, or death you caused to someone else |  |  |  |  |  |
| 17. Any other very stressful event or experience              |  |  |  |  |  |



**Annexure 2**

***PTSD Checklist for DSM-5 (PCL-5)***

| 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?   |            |              |            |             |           |
| 2. Repeated, disturbing dreams of the stressful experience?   |            |              |            |             |           |
| 3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?            |            |              |            |             |           |
| 4. Feeling very upset when something reminded you of the stressful experience?  |            |              |            |             |           |
| 5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)? |            |              |            |             |           |
| 6. Avoiding memories, thoughts, or feelings related to the stressful experience?  |            |              |            |             |           |
| 7. Avoiding external reminders of the stressful experience (for example, people, places, conversations,   |            |              |            |             |           |



|  |  |  |  |  |  |
|--|--|--|--|--|--|
| activities, objects, or situations)?   |  |  |  |  |  |
| 8. Trouble remembering important parts of the stressful experience?  |  |  |  |  |  |
| 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)? |  |  |  |  |  |
| 10. Blaming yourself or someone else for the stressful experience or what happened after it?   |  |  |  |  |  |
| 11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?  |  |  |  |  |  |
| 12. Loss of interest in activities that you used to enjoy?   |  |  |  |  |  |
| 13. Feeling distant or cut off from other people?  |  |  |  |  |  |
| 14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?  |  |  |  |  |  |



|  |  |  |  |  |  |
|--|--|--|--|--|--|
| 15. Irritable behavior, angry outbursts, or acting aggressively?     |  |  |  |  |  |
| 16. Taking too many risks or doing things that could cause you harm? |  |  |  |  |  |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| 17. Being “superalert” or watchful or on guard? |  |  |  |  |  |
| 18. Feeling jumpy or easily startled?           |  |  |  |  |  |
| 19. Having difficulty concentrating?            |  |  |  |  |  |
| 20. Trouble falling or staying asleep?          |  |  |  |  |  |



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## Annexure 3

### *The Fortitude Questionnaire (FORQ)*

#### **The Fortitude Questionnaire**

*Please indicate the extent to which the following statements applies 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.

**Annexure 4**

*Demographic Questionnaire*



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2911, Fax: 27 21-959 3515

E-mail: sameera.hardien@gmail.com

**DEMOGRAPHIC QUESTIONNAIRE**

**Title of Research Project:** Trauma and fortitude among undergraduate students with disabilities

Please add your details below the following headings:

Age:

---

Gender:

---

Name of course/ degree:

---

Thank you for your time and participation

## Annexure 5

### *Information Sheet*



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa  
**Tel: +27 21-959 2283 Fax: 27 21-959 3515**

E-mail: sameera.hardien@gmail.com/ apadmana@uwc.ac.za

### **Appendix 1**

#### **INFORMATION SHEET**

**Project Title: *Trauma and fortitude among undergraduate students with disabilities***

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

This is a research project being conducted by Sameera Hardien at the University of the Western Cape. We are inviting you to participate in this research project because you are a student whose contribution will provide relevant information to the research project. The research study focuses on the trauma exposure that students with disabilities face and how the role of fortitude may be instrumental in the association between PTSD and trauma exposure. It is proposed that fortitude could bring to light how students with disabilities could preserve positive psychological well-being when faced with adversity such as trauma.

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

You will be asked to complete four self-report questionnaires, namely the Life Events Checklist (LEC-5) which screens for potentially traumatic events in a participant's lifetime, The Posttraumatic Stress Disorder Checklist (PCL-5) which assesses the degree to which a participant has experienced DSM-5 PTSD symptoms in the past month, The Fortitude Questionnaire (FORQ) which measures fortitude, and a Demographic Survey to provide demographic information. To complete these surveys, you will need to answer a range of questions. The LEC-5 you to answer questions by choosing one of the following answers as a response: "Happened to me", "Witnessed it", "Learned about it", "Part of my job" or "Not sure", as well as a possible short response in writing 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”. The FORQ requires you to answer on a 4-point scale where 1= “does not apply”, to 4 = “applies very strongly”. The research will take place at the campus of UWC and online. The term PTSD means post-traumatic stress which is psychological condition that develops after exposure to a traumatic event. The DSM -5 is the Diagnostic and Statistical Manual, edition 5 which explains various psychological conditions such as PTSD. The overall duration for your participation could be 30 to 60 minutes.

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

The researchers undertake to protect your identity and the nature of your contribution. To ensure your anonymity, the surveys are anonymous and will not contain information that may personally identify you. For coded identifiable information, your name will not be included on the surveys and other collected data, a code will be placed on the survey and other collected data and the use of an identification key will be used to link your survey to your identity. Only the researcher will use and have access to the identification key.

To ensure your confidentiality, all the information gathered will be stored safely in a secure locked cabinet, where only identification codes on data will be used. Electronic data will be kept safe by using a protected password and only the researcher and the supervisor will have access to all the information. Written information which may indicate any form of identification will be completely protected.

If we write a report or article about this research project, your identity will be protected. If any information regarding child abuse or neglect, abuse or neglect of disabled or other vulnerable adults is disclosed, we will comply with the legal requirements and /or professional standards. In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities’ information that comes to our attention concerning child abuse or neglect or potential harm to you or others. *In this event, we will inform you that we have to break confidentiality to fulfil our legal responsibility to report to the designated authorities.*

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

There may be some risks from participating in this research study. All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

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

This research is not designed to help you personally, but the results may help the investigator learn more about the role of fortitude amongst students with disabilities in the association of traumatic exposure and PTSD. We hope that, in the future, other people might benefit from this study through improved understanding of students with disabilities and their exposure to trauma, and

the psychological outcomes of students with disabilities faced with trauma. There is a gap in research related to students with disabilities, and the role of fortitude amongst university students with disabilities who face trauma.

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

**What if I have questions?**

This research is being conducted by Sameera Hardien from the Psychology Department at the University of the Western Cape. If you have any questions about the research study itself, please contact Sameera Hardien at: 0845166982 or [sameera.hardien@gmail.com](mailto:sameera.hardien@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:

Head of Department:  
Dr. Maria Florence  
Psychology Department  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
Email: [mflorence@uwc.ac.za](mailto:mflorence@uwc.ac.za)

Dean of the Faculty of Community and Health Sciences:  
Professor Anthea Rhoda  
University of the Western Cape  
Private Bag X17  
Bellville 7535  
Email: [arhoda@uwc.ac.za](mailto:arhoda@uwc.ac.za)

Humanities and Social Sciences Research Committee (HSSREC)  
Research Development  
Tel: 021 959 4111  
Email: [research-ethics@uwc.ac.za](mailto:research-ethics@uwc.ac.za)

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

## Annexure 6

### *Consent Form*



## UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

**Tel: +27 21-959 2911, Fax: 27 21-959 3515**

**E-mail: sameera.hardien@gmail.com/ apadmana@uwc.ac.za**

### **Appendix 2**

#### CONSENT FORM

**Title of Research Project:** *Trauma and fortitude among undergraduate students with disabilities*

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 in 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.

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

Participant's name: \_\_\_\_\_

Participant's signature: \_\_\_\_\_

Date: \_\_\_\_\_

Annexure 7

*Editorial Certificate*

*Editorial Certificate*

| AUTHOR | DOCUMENT TITLE | DATE ISSUED |
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