Massed Prolonged Exposure Therapy for PTSD and Depression:

A Mixed-Methods Study

Submitted by

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Declaration

I, Mandisa Qodashe, hereby declare that this submission is a result of my own work, and that, to the best of my knowledge, it contains no material previously published or written by another person, except where due acknowledgement has been given in the text. This study has not been submitted before for any degree or examination at any university.

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"Nothing in this world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent."

Calvin Coolidge

Abstract

Approximately 97.6% of South African university students report exposure to a potentially traumatic event (PTE) (Padmanabhanunni, 2020). University students are thus at an increased risk of developing post-traumatic stress disorder (PTSD). Furthermore, of those with PTSD, 30-50% will experience severe major depressive disorder (Campbell et al., 2007). However, there remains a large treatment gap that is characteristic of university counselling centres. Consequently, this study employed a mixed methods design to investigate the effectiveness, acceptability and feasibility of Massed-Prolonged Exposure (MPE) in reducing PTSD as the primary outcome and comorbid depression as the secondary outcome in a South African university. A Single-Case Experimental Design (SCED) was employed to assess MPE's effectiveness, whilst interviews were conducted after the intervention to assess the participants perceptions related to the feasibility and acceptability of MPE. Participants (n = 2) were recruited from Rhodes University through purposive sampling. Initial screening utilized the PTSD Diagnostic Scale for DSM-5 (PDS-5) and Patient Health Questionnaire-9 (PHQ-9) to confirm PTSD and major depressive disorder (MDD) diagnoses. The PHQ-9 and PTSD Symptom Checklist for DSM-5 (PCL-5) were used for ongoing assessment during the intervention. The participants no longer met the criteria for both diagnoses at the end of the intervention. Reflexive thematic analysis was used to assess the interviews. The findings from these interviews revealed that although participants found the techniques of the intervention initially challenging, they found the treatment helpful. The study provides preliminary evidence supporting the use of MPE in ameliorating PTSD and MDD symptoms. The study also contributes to the literature regarding evidence-based interventions within South African university settings.

Keywords: Post-traumatic stress disorder, prolonged exposure therapy, depression, university students.

List of abbreviations

APA	American Psychological Association
CBT	Cognitive Behavioural Therapy
CPT	Cognitive Processing Therapy
CT	Cognitive Therapy
DSM	Diagnostic and statistical manual for mental disorders
DV	Dependent variable
EBT	Evidence-based treatment
EPT	Emotional processing theory
ESTs	Empirically supported treatments
EBTs	Evidence-based treatments
EMDR	Eye movement desensitization
ICD	International Classification of Diseases
IV	Independent variable
LEC-5	Life events checklist for DSM-5
LMIC	Low-and-middle income country
MPE	Massed-Prolonged Exposure
NET	Narrative Exposure Therapy
PCL-5	Post-traumatic stress disorder checklist for DSM-5
PDS-5	Post-traumatic diagnostic scale
PE	Prolonged exposure
PHQ-9	Patient health questionnaire
RPERC	Research Proposal and Ethics Review Committee
RTA	Reflexive thematic analysis

RU-HREC	Rhodes University Human Research Ethics Committee
SAM	Situationally accessible memory system
SCED	Single case experimental design
SUD	Subjective units of discomfort
TA	Thematic analysis
TFTs	Trauma focused therapies
VAM	Verbally accessible memory system

Brief glossary

Imaginal exposure	A therapeutic process during which an individual visualizes and recounts trauma events aloud.
In-vivo exposure	A therapeutic process that entails confronting real-life situations, activities, places and objects that an individual is avoiding.
Habituation	The gradual process of symptom reduction within and across sessions due to imaginal exposure.
Over-engagement	An individual's difficult maintaining a sense of safety and grounding during imaginal exposure.
Under-engagement	An individual's difficulty in accessing the emotional components of a trauma memory.
Effectiveness	The degree to which an intervention achieves its intended outcomes, this which is determined by an individual's symptoms or adaptive functioning over time.
Feasibility	The degree to which an intervention can be delivered easily and practically given the existing resources and conditions.

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Chapter 1

Introduction

Chapter overview

This thesis presents the findings of a research study conducted with university students in Makhanda, South Africa. It exists within a broader research project that sought to investigate the effectiveness and feasibility of Massed-Prolonged Exposure (MPE) for post-traumatic stress disorder (PTSD). In this chapter, PTSD will refer to a diagnosis made using the criteria outlined by the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) (American Psychiatric Association, 2013).

This introductory chapter outlines the rationale, aims, and hypothesis for examining MPE therapy among university students. It begins with an exploration of psychological trauma prevalence among university students in South Africa. It is followed by a discussion of the relationship between PTSD and comorbid depression. Then, the current evidence-base for trauma-focused treatments is reviewed, with a particular focus on Prolonged Exposure (PE; Foa et al., 2019) therapy and its adaptation into the more compressed Massed-Prolonged Exposure (MPE; Foa et al., 2018) format. Current barriers to treatment insofar as counselling centres in universities are concerned is also discussed in this chapter. The chapter is concluded by a discussion related to the significance of the study.

1.1 Mental Health in University Students

Young adults are at a heightened risk for exposure to potentially traumatic events (PTEs) and subsequent mental health challenges (Lind et al., 2017). Literature establishes late adolescence as the critical period for the onset of mental health disorders. Further, approximately 75% of individuals will have developed a mental illness by age 25 (Kessler et al., 2005). Specifically, Cuijpers et al. (2021) set apart ages 17 to 24 as the distinct window

within which individuals are most susceptible to the onset of mental illness. Age is thus a strong predictor for ongoing mental health challenges, regardless of tertiary enrolment (Machisa et al., 2022).

This study focuses on individuals enrolled in university, a group often considered privileged yet face unique stressors that heighten their susceptibility to PTSD and other mental health conditions.

1.2 PTSD in University Students

University students possess unique characteristics that make them particularly vulnerable to trauma. Young adulthood is the period where the potential for trauma may be the greatest (Lind et al., 2017). A partial explanation for this is that this developmental period is marked by changes in family and peer relationships, leaving home, and increased opportunity for substance use and misuse (McGowan & Kagee, 2013; Pereira et al., 2018).

PTSD was found to be the second most prevalent mental disorder among South African university students in recent works by Bantjes et al. (2023a). The authors found a 30-day prevalence of 21% in said population. Interestingly, PTSD comes second to social anxiety disorder. In relation to the conditions that often co-occur with PTSD, the authors found 30-day prevalences of 15% and 6% for major depressive disorder and substance use disorder respectively (Bantjes et al., 2023a). Older works by McGowan and Kagee (2013) noted that 90% of students at a large South African university had experienced at least one traumatic event.

Over and above age, Machisa et al. (2022) highlighted that race and gender are also great predictors for ongoing mental health challenges. They noted that Black African females between the ages of 18 and 30 contribute significantly to the burden of mental illness in South Africa. Their study found high prevalence rates for depressive symptoms (43%),

suicidal thoughts (21%), PTSD symptoms (9%) and binge drinking (50%) among Black African female students particularly (Machisa et al., 2022). Although a key limitation of their research is that their study consisted of Black African females exclusively. Older works taken together with contemporary literature underscore the critical need for accessible mental health services within university contexts.

1.3 PTSD and Depression among University Students

PTSD seldom occurs on its own (APA, 2013). Major depressive disorder (MDD) is one of the most common comorbidities (Bröcker et al., 2023; Dell et al., 2021). Among the various hypotheses that exist to explain this, the overlap in symptomology with other mental illnesses may be one explanation. For example, McGowan and Kagee (2013) found subthreshold levels of anxiety and depression among university students exposed to trauma.

Comorbid depression is associated with a more complex clinical presentation and is known to greatly aggravate PTSD symptoms (Brady et al., 2000). Individuals with comorbid PTSD and MDD face a higher risk of poorer treatment outcomes compared to those with PTSD alone (Angelakis et al., 2020). Specifically, individuals with both PTSD and MDD are more likely to drop out of treatment or respond less favourably to interventions (Angelakis et al., 2020). Research further indicates that severe depressive symptoms predict a need for extended treatment (Resick et al., 2020). Among university students, this comorbidity is linked to impaired academic functioning and affects overall quality of life in adversarial ways (Cuijpers et al., 2021).

Additionally, in a study by Bantjes et al. (2016), trauma exposure was found to be a significant risk factor for suicidal ideation among university populations. Their findings noted that it may prove more beneficial to study PTSD at a symptom, rather than syndrome level, to truly understand its prevalence and impact. Left untreated, PTSD and depression result in

personal suffering, functional impairment, which is associated with further economic implications (Magruder et al., 2017; Seedat et al., 2006). There is thus an urgency that is required in the treatment of trauma and related conditions within university settings.

1.4 University Counselling Centres

University counselling centres serve as critical access points for mental health services among student populations (Pedrelli et al., 2015). However, these centres face several challenges in effectively addressing trauma-related mental health needs. There remains a rise in the need for evidence-based care on campuses worldwide (Bantjes et al., 2020).

In spite of an ever-increasing number of students being enrolled in universities, the number of mental health staff available to assist students is not expanding at equivalent levels (Watkins et al., 2012). According to Tavalli and Cox (2019) not only has the number of students requiring mental health services risen over the past few years, but the nature of concerns students present with has also fundamentally shifted. Students are increasingly presenting with more severe psychological issues, including trauma-related disorders, as opposed to developmental and informational concerns that traditionally characterized university counselling demands (Tavalli & Cox, 2019).

In South Africa, university counselling centres are typified by chronic resource limitations and student-to-counsellor ratios that far exceed international recommendations (Bantjes et al., 2021). For example, international literature establishes the current recommended student to counsellor ratio as 1 to 1000-1500, yet many South African institutions operate with ratios significantly higher than these benchmarks (Tavallali & Cox, 2019). Also, university settings within rural contexts such as those in the Eastern Cape, face additional disadvantages and are often neglected compared to their urban counterparts (Lund et al., 2022; Petersen et al., 2022).

Research indicates that counselling centres frequently operate with staff who lack specific training in delivering evidence-based treatments for trauma-related conditions, creating a significant gap between student needs and service provision (Tavallali & Cox, 2019). This is particularly concerning given the increasing prevalence of PTSD and comorbid conditions among university populations (Bantjes et al., 2020). The absence of appropriate and adequate interventions has the potential to lead to suboptimal outcomes and prolonged distress for students (Tavallali & Cox, 2019).

In spite of the changes seen in university demographics, such as rising enrollment numbers and increasingly complex clinical presentations, university service delivery models remain static (Walls, 2023). Traditional models of individual, weekly therapy sessions spanning 3-4 months represent an increasingly unsustainable approach that further entrenches barriers to treatment for trauma survivors (Walls, 2023). This mismatch creates a treatment gap that results in further adverse implications. Inadequate access to mental health care can lead to considerable distress, chronicity and an increased cost of care at an individual level. More broadly, untreated mental illness among university students can result in low productivity and low participation in the workforce in later years (Tavallali & Cox, 2019).

The evolving needs of students and resource constraints necessitates innovative and appropriate approaches to mental health delivery within university counselling centres. Massed interventions have thus emerged as a promising approach in addressing the systemic challenges facing university counselling centres particularly in contexts with limited resources. Massed interventions are intensive and concentrated treatment delivery models delivered over shortened timeframes. These approaches have demonstrated effectiveness in higher income settings and possess multiple characteristics that may be especially suitable to university contexts with resource constraints (Gutner et al., 2016).

Conventional PTSD interventions, while effective, have failed to adequately address the unique challenges often inherent to resource-constrained settings (Booysen & Kagee, 2020). Examining the feasibility and effectiveness of approaches like MPE could provide valuable insights into solutions that hold the potential in shifting conventional treatment modalities and increasing access to evidence-based care for trauma (Gutner et al., 2016; Rauch et al., 2021). Massed interventions offer improved treatment completion rates, reduced scheduling conflicts, efficient resource utilization and faster symptom improvement (Gutner et al., 2016). The rationale for investigating the effectiveness of massed interventions in bridging the mental health treatment gap in resource constrained university contexts is thus guided by the evidence of effectiveness found in well-resourced settings.

1.5 Trauma-Focused Treatments for PTSD

The knowledge base for PTSD treatment is rich (Bisson et al., 2019). Cognitive Behavioural Therapy (CBT) approaches are widely recognized as the preferred method for the treatment of PTSD and trauma-related mental disorders (Kaminer & Eagle, 2017). Specifically, prolonged exposure (PE) (Foa et al., 2019), cognitive processing therapy (CPT) (Resick et al., 2016) cognitive therapy for PTSD (CT-PTSD) (Ehlers & Clark, 2000), eye movement desensitisation and reprocessing (EMDR) (Shapiro, 1995) and narrative exposure therapy (NET) (Schauer et al., 2005) have been identified as superior within the evidence base. These interventions are grounded in extensive research, primarily through randomized controlled trials (RCTs) (Kaminer & Eagle, 2017).

RCTs face criticism for a number of reasons, especially in settings where resources are limited (Perez-Gomez et al., 2016). The generalizability of RCTs for one, is a source of contention and remains the subject of ongoing debate (Eagle & Kaminer, 2015; Kaminer & Eagle, 2018). The carefully selected samples inherent to RCTs often do not reflect real-world

conditions. Additionally, RCTs are costly and remain financially unfeasible in resource-constrained settings. Thus, there remains a gap in understanding how these interventions may be adapted and delivered effectively in settings and populations that fall outside of the scope of carefully and tactically constructed studies (Seedat et al., 2018).

1.6 Prolonged exposure therapy

Prolonged Exposure (PE) therapy is a trauma-focused treatment (TFT) with a strong empirical foundation, particularly in high-income countries (HIC's) such as the United States of America (USA) (Booysen & Kagee, 2021; Rothbaum & Schwartz, 2002). The treatment modality was developed shortly after the introduction of PTSD to the DSM-III and came as a response to the inconsistencies in PTSD treatment outcomes faced with other methods (McLean & Foa, 2024). McLean and Foa (2011) highlight that as many as 25 RCTs exist to showcase PE's efficacy in reducing PTSD symptoms. Similarly, findings from meta-analyses have demonstrated the effectiveness of PE in treating PTSD across a wide variety of populations as well as various comorbid conditions (Ghafoori, 2018; McLean & Foa, 2024). However, there is a notable dearth in the literature on PE in low-and-middle income countries (LMICs) (Booysen & Kagee, 2021; Fu et al., 2020).

The standard PE protocol consists of eight to 15 sessions, each lasting approximately 90-minutes (Peterson et al., 2019). Whilst PE has received much revision since 2019, its key tenets still remain, and they are: (a) psychoeducation, (b) in-vivo exposure, and (c) imaginal exposure combined with processing (Peterson et al., 2019). Several challenges have been identified with traditional formats of PE in lower-income settings where resources are scarce. These challenges have thus prompted efforts to adapt PE to enhance its feasibility and acceptability (McLean & Foa, 2024).

1.7 Massed-PE

Massed-Prolonged Exposure (MPE) is a TFT founded on the same principles as PE but compresses the protocol into a two-week process (Dell et al., 2021). As a novel treatment approach, MPE hypothesizes that many of the gains made in PE, can be achieved in a shorter timeframe. This approach aims to address PE's high dropout rates, consequently making it more suited for resource-constrained settings (Booysen & Kagee, 2021).

MPE has gained appeal on account of its potential to catalyse rapid symptom improvement whilst addressing critical barriers that have historically limited access to evidence-based treatment (Foa et al., 2018; Rauch et al., 2021). Booysen and Kagee (2021) reveal that the compressed format of MPE may yield treatment outcomes comparable, or superior to traditional delivery methods whilst considerably reducing the overall treatment burden.

MPE also constitutes a significant development in trauma treatment. The approach challenges conventional ideologies that trauma recovery warrants prolonged therapeutic engagement (Dell et al., 2023). Increasing access to evidence-based care through significant reductions in both time and associated costs are among the factors that also make MPE favourable (Booysen & Kagee, 2021). MPE aims to alleviate PTSD and depression symptoms, and it is hoped that this research will demonstrate its effectiveness among university students.

For resource constrained settings, MPE presents a solution to healthcare delivery challenges intrinsic to these systems (Kaminer & Eagle, 2017). By compressing the time required for treatment completion, MPE possesses the potential to redefine service delivery models altogether (Magruder et al., 2017; Seedat et al., 2020). MPE has been positioned as the catalyst for change in current treatment models, especially in university settings where

academic calendars often complicate adherence to traditional therapy approaches (Bantjes et al., 2021; Lund et al., 2022; Petersen et al., 2022).

1.8 Problem statement and rationale

University students in South Africa face significant barriers to accessing evidence-based mental health services, particularly for trauma-related conditions like PTSD (Bantjes et al., 2016; Bantjes et al., 2023b). Access to healthcare is a fundamental human right, and interventions must consider broader factors to effectively address the needs of university students and the wider population (Seedat et al., 2020). Feasibility and accessibility studies conducted in higher-income settings may not be generalizable to resource-constrained contexts (Eagle & Kaminer, 2015). To address these limitations, this research aimed to contribute to the development of contextually relevant and accessible mental health solutions by evaluating the acceptability and feasibility of MPE within a university setting. By challenging traditional treatment frameworks and delivery methods, this study could represent a critical step towards redefining trauma treatment, optimizing resources whilst maximizing therapeutic impact for a vulnerable population in need of innovative mental health interventions.

1.9 Aims of the study

The aim of the study was to assess whether MPE reduces symptoms of PTSD and comorbid depression. Using a Single-Case Experimental Design (SCED) with a sample of two participants, the study examined changes in PTSD and major depressive disorder symptoms within this context. Further, the study aimed to explore how the participants perceive the acceptability of MPE for treating PTSD and comorbid depression as well as understand the participants experiences regarding the feasibility of engaging with MPE within the context of PTSD and comorbid depression treatment.

1.10 Research hypothesis

The following research hypothesis underpinned the study:

- Two university students will report a reduction in the symptoms of PTSD and comorbid depression after receiving a minimum of 8-10 consecutive sessions of MPE therapy.

1.11 Research questions

The research questions that guided the study were as follows:

- Will the university students report a reduction in PTSD and comorbid depression symptoms after receiving 10 consecutive sessions of MPE therapy?
- How do the university students perceive the acceptability of MPE for treating PTSD and comorbid depression?
- What are the university students' experiences regarding the feasibility of engaging with MPE within the context of PTSD and depression treatment?

1.12 Significance of the research

The overarching significance of the study lies in addressing critical gaps in the literature regarding innovative and evidence-based PTSD interventions in South African university settings. This research makes several important contributions.

This study targets university students, a demographic with demonstrated high prevalence trauma exposure and PTSD symptoms. As noted by Bantjes et al. (2023a) PTSD affects approximately 21% of South African university students. The research addresses a vulnerable population during a critical period when effective intervention can prevent chronic mental health trajectories (Cuijpers et al., 2021; Lund et al., 2022).

The research challenges conventional PTSD frameworks by investigating a compressed, massed approach rather than a traditional weekly format. . As noted by Gutner et al. (2016), despite proven efficacy of evidence-based treatments like PE, implementation remains limited by traditional delivery constraints, particularly in resource-constrained settings where retention is problematic.

By evaluating MPE within South African university settings, this research addresses what Seedat et al. (2020) identify as a critical gap: the paucity of evidence regarding contextually adapted trauma interventions in LMICs. Further, by evaluating feasibility and acceptability, this study contributes to mental health research and has a potential to inform trauma treatment for broader populations (Rauch et al., 2021).

By evaluating a more efficient treatment model, this study responds to calls by scholars and alike who emphasize the importance of maximizing limited mental health resources (Petersen et al., 2022). It is hoped that this research will inform resource allocation decisions within university counselling centres.

1.13 Thesis outline

Chapter 1 introduces the background of the research, the rationale, aims, hypothesis and research questions of the study.

Chapter 2 presents a detailed examination of Emotional Processing Theory and other psychological frameworks that inform exposure-based interventions for PTSD.

Chapter 3 provides a comprehensive review of PTSD prevalence and current treatment strategies. The chapter also focuses on MPE's development, current research status and potential advantages over conventional delivery formats. The chapter also discusses the limitations associated with MPE.

Chapter 4 outlines the methodology employed to carry out this study, presenting a comprehensive discussion of the mixed-methods design. This chapter details the participant recruitment procedures, assessment measures, and data analysis techniques used, with particular focus on the single-case experimental design and reflexive thematic analysis.

Chapter 5 presents the intervention protocol in detail. The chapter describes the implementation of the MPE program, including session structure, therapeutic components, and adaptations made for the university context. Treatment fidelity and ethical considerations are also discussed in this chapter.

Chapter 6 presents in-depth case conceptualizations and case descriptions of the study participants. Individual trauma histories, symptom presentations, treatment responses, and outcomes are analysed within the context of the theoretical framework discussed in chapter 2.

Chapter 7 provides the results related to the effectiveness, acceptability and feasibility of the intervention. As will be seen in the chapter, SCED was used for the quantitative component, whilst reflexive thematic analysis was used for the qualitative component.

Chapter 8 presents a comprehensive discussion of the findings of this study. This chapter provides a synthesis of the quantitative findings and the qualitative data. The limitations of the study, recommendations for future research, and final reflections on the potential of MPE to address the mental health needs of trauma-exposed university students in resource-constrained settings are discussed.

Chapter summary

This chapter established the significant burden of PTSD and comorbid depression among university students in South Africa. It highlighted the unique vulnerabilities of this population and the critical need for accessible, evidence-based interventions. Further, the introduction outlined the rationale for investigating Massed-Prolonged Exposure (MPE) therapy as a

potential solution to address both the high prevalence of trauma-related mental health conditions and the practical barriers to traditional treatment delivery in resource constrained university settings. The research aims, hypothesis and questions were presented in this chapter. Finally, the chapter was concluded by the significance of the study. The next chapter presents the theoretical underpinnings of the research.

Chapter 2

Emotional Processing Theory

Chapter overview

Chapter 2 begins by detailing a brief history of psychological theories of PTSD. Emotional Processing Theory (EPT), as the theoretical underpinning of this study, is then presented. The treatment challenges and associated limitations follow next. This chapter is concluded by a theoretical prediction of the expected outcome of the intervention based on EPT.

2.1 History of Psychological Theories of PTSD

During the 19th century, there was a consensus about the origins of trauma symptoms being physiological in nature (Ringel & Brandell, 2012). However, further inquiry into links between trauma and mental illness led by French neurologist Jean Martin Charcot (1825-1893) revealed that these symptoms were also psychological as opposed to solely physiological (Ringel & Brandell, 2012). Charcot's work was foundational and helped give rise to the concept of dissociation, previously used to describe a "hypnotic state" prompted by a traumatic event (Ringel & Brandell, 2012).

The works of Charcot were augmented by Pierre Janet (1859-1947). Building upon his predecessor's research, Janet's studies sought to investigate the impact of trauma on personality development and behaviour. Janet noted that individual interpretations of traumatic events influence subsequent affective states and asserted reexperiencing as an essential method in ameliorating the symptoms of trauma (Ringel & Brandell, 2012).

Trauma research from the late 19th to the early 20th century was largely shaped by the psychoanalytic theorist Sigmund Freud (1856-1939). At the time, theorists were working to describe what was being observed and known as hysteria. Freud worked alongside Josef

Breuer (1842-1925), a prominent Austrian physician and physiologist, to coin the term "hypnoid hysteria", whilst Janet had previously labelled the phenomenon as "dissociation". Freud's research predominantly centred on women and their sexuality, which led to his work being understood as "a study of the internal vicissitudes of fantasy and desire, dissociated from the reality of experience" (Herman, 1992, p. 14). Freud's findings during this time, led to his assertion of a link between sexually abused women and hysterical behaviour, that is, the seduction theory (Ringel & Brandell, 2012). In later years, Freud no longer endorsed the seduction theory however and changed his focus to understand trauma, hysteria and their links with the unconscious (Ringel & Brandell, 2012).

Mowrer's (1960) two-factor theory also forms a part of the seminal works essential in the conceptualisation of fear and trauma and forms a part of the foundations of exposure therapy. The theory provides a comprehensive learning-based explanation for the acquisition and maintenance of fear. According to Mowrer (1960), fear initially develops through Pavlov's classical conditioning wherein a neutral stimulus becomes associated with an aversive unconditioned stimulus, which results in a conditioned fear response. However, the theory of classical conditioning alone cannot explain why fear responses persist over time. The maintenance of fear is thus explained by Skinner's operant conditioning, wherein avoidance is negatively reinforced because of its ability to reduce or eliminate the distressing fear response (Foa et al, 1999).

The above findings, amongst others, like those that established a relationship between trauma and cognitive functions like memory and attention, were essential in informing subsequent psychological theories of trauma and PTSD (Brewin & Holmes, 2003).

The *stress response theory* by Horowitz formed a part of the early trauma literature and was underpinned by psychodynamic theory. The stress response theory was a cornerstone of

trauma research and aided in understanding the involuntary and automatic nature of memories of distressing events. Further, the theory aided in understanding avoidance and its role as a psychological defence mechanism (Brewin & Holmes, 2003; Horowitz, 1976).

The *theory of shattered assumptions* theorizes that individuals' worldviews are affected in the most adverse ways consequent to a traumatic event and the world is no longer perceived as benevolent and predictable or themselves as competent and invulnerable (Edmondson, et al., 2011). Moreover, the anxiety and physiological reactivity inherent to PTSD, are the result of a state of "defencelessness, terrifying, and confusing awareness of personal vulnerability" (Edmondson, et al., 2011., p.2).

Early trauma theorists also included Brewin and Holmes (2003) whose *information processing theory* informed contemporary research. This theory hypothesizes that psychopathology is as a result of inaccurate processing of a traumatic event. Similarly, social-cognitive theories highlight the need for new and accurate information related to the traumatic event for the purposes of reintegration within the memory system (Brewin & Holmes, 2003; Lang, 1977).

Contemporary psychological theories of PTSD include the *dual representation theory* which posits that symptoms of PTSD are attributable to the memory processes present after a traumatic event. Notably, the theory makes mention of two memory systems that are involved in memory formation, specifically the verbally accessible memory system (VAM) and the situationally accessible memory system (SAM) (Brewin & Holmes, 2003). The former consists of information that individuals are consciously aware of and can deliberately access and retrieve when needed. The latter consists of information that is not processed consciously, rendering the individual out of control of retrieval processes. Thus, SAM makes individuals susceptible to intrusive PTSD symptoms (Brewin & Holmes, 2003).

Ehlers and Clark's cognitive model hypothesizes that PTSD is caused by the erroneous processing of a traumatic event that leads to an individual believing they are in a state of constant imminent danger (Ehlers & Clark, 2000). The fallible appraisal of situations and biased recall serve to make PTSD and its symptoms enduring (Ehlers & Clarke, 2000).

Modern theories like *Ehlers and Clark's cognitive model* continue to gain favourability among scholars studying PTSD (Ehlers et al., 2005).

2.2 Emotional Processing Theory

Emotional Processing Theory (EPT) provides the theoretical framework for the current study and guides both the case conceptualizations and descriptions of the intervention. EPT, originally proposed by Foa and Kozak (1986) and further elaborated by Rauch and Foa (2006) has established a rich evidence base and is fundamental to the conceptualization and treatment of anxiety disorders and PTSD (Foa & Kozak, 1986; Rauch & Foa, 2006).

EPT is grounded in Lang's bioinformational theory of fear (Lang, 1977). Based on this theory, fear is conceptualized as a pathological emotional structure that forms subsequent to a traumatic event (Rauch & Foa, 2006). The structure is comprised of three components, namely information related to the feared stimulus; information about the verbal, physiological, and overt behavioural responses; and interpretive meaning of the feared stimulus and responses which ultimately serve as a mechanism to escape or avoid (Lang, 1977).

2.2.1 Emotional Processing Theory: Fear Structure of PTSD

As mentioned above, EPT operates on the premise that highly disturbing events result in the creation of a pathological fear structure and this fear structure consists of excessive and maladaptive elements related to stimuli, responses and meanings associated with the trauma

(Foa & Kozak, 1986). For example, a person who has experienced a traumatic car accident could, theoretically, develop a fear-response to all driving situations that overgeneralizes danger even in safe contexts.

Additionally, the fear structure is underpinned by two erroneous cognitions: a) erroneous beliefs related to safety in the world and; b) erroneous beliefs about one's self-efficacy and competence (Rauch & Foa, 2006). The activation of the fear structure as well as the opportunity for new information which disproves the fear structure are prerequisites for emotional processing (Lang, 1977).

2.2.2 Emotional Processing Theory: Modifying the feature structure

Although most individuals go on to successfully integrate emotionally disturbing events, known as natural recovery, of those who do not, they become subjected to intrusive and persisting emotional responses and their fear response is chronically activated (Rauch & Foa, 2006). There is an inability to discriminate between that which is threatening and not.

As noted above, two conditions are necessary for the modification of pathological fear structures to take place (Foa & Kozak, 1986; Rauch & Foa, 2006). Firstly, the fear structure must be activated by engaging with stimuli that evoke fear. Secondly, new information must be integrated into the fear structure and be retrievable (Foa & Kozak, 1986).

Through repeated exposure to trauma-related stimuli, emotional processing occurs, leading to a gradual reduction of the fear responses and the restricting of the individuals cognitive and emotional responses to the trauma (McLean & Foa, 2011). Over time, the emotional and cognitive restructuring facilitates a more adaptive integration of the traumatic memory, helping the individual to regain a sense of control and to diminish the distress associated with the trauma (Foa et al., 2019).

The yardstick through which satisfactory emotional processing can be measured include a decline in subjective distress, a decline in disturbed behaviour and a return to routine behaviour. These indices are only but one way research states satisfactory emotional processing can be measured, and they can be used on their own or in combination with other indices (Foa et al., 2019).

2.2.2.1 Habituation

Habituation refers to decrease in the strength of response at the presentation of trauma related stimuli (Benito & Walther, 2015; Foa et al., 1999). Between session habituation and within session habituation may be used in the assessment of treatment outcomes, however research regarding the latter is unclear. Consistency and repetition are important for the process of habituation to take place. The process may be impeded upon when exposure occurs under the wrong conditions. This happens when exposure is conducted in too many contexts simultaneously and multiple contexts are introduced prematurely which can hinder generalizability (Benito & Walther, 2015).

2.3 Treatment challenges and limitations

In early studies, those preceding 2000, emotional processing was often criticized for being hard to operationalize. Contemporarily, other factors have been identified as serving to impede emotional processing. Among many a factor, scholars list state factors, personality factors, stimulus factors and associated activity factors as the factors most likely to interfere with emotional processing (Foa & Kozak, 1986). State factors include fatigue, insomnia or hypersomnia (Foa & Kozak, 1986). Thus, suggesting that the severity of MDD should be considered in the inclusion and exclusion criteria. The personality factors that have been identified include neuroticism and introversion (Rachman, 1980). These two factors have to do with the extremity with which emotions like fear are felt and importantly feelings related

to self-efficacy which authors suggest are not commonly found in those who are neurotic or introverted. Stimulus factors refer to the intensity and suddenness with which stimuli are presented but also how prepared individuals feel when a stimulus is presented (Rachman, 1980). There is an emphasis on the need for the stimulus to be presented in a signalled, controlled, predictable and progressive manner. Finally, concurrent demands make it difficult to engage in emotional processing altogether (Rachman, 1980).

The common thread among the limiting factors discussed above is whether underengagement or overengagement is present during the therapeutic process. A prerequisite for EPT is the successful activation of the individual's fear structure. The process is hindered when the person is either under-engaged or over-engaged (Rauch & Foa, 2006). Engagement may be assessed using Subjective Units of Discomfort (SUDS), also commonly referred to as Subjective Units of Distress, during in-vivo or imaginal exposure. SUDS measure self-reported distress levels and are recorded during these processes to indicate levels of distress, with 0 indicating no distress, whilst 100 indicates the most distress (Bluett et al., 2014; Jaycox et al., 1998; Rauch & Foa, 2006).

Underengagement may be observed when an individual indicates low SUDS even when high SUDS are expected. They may engage in a detached way, impeding the activation and ultimately modification of the fear structure. Underengagement also looks like excluding details related to feelings and thoughts during and immediately following the trauma. Moreover, moving through traumatic memories speedily (Jaycox et al., 1998; Rauch & Foa, 2006).

On the other hand, overengagement may be observed in an individual who experiences high levels of distress. The overengagement occurs in such a way that it mimics PTSD symptomology in real time, however, it occurs whilst in a safe space. For the individual, it

may feel as though they are experiencing the trauma all over again. They may experience flashbacks, which can intensify their distress and contribute to their feelings of incompetency. High levels of distress are expected especially initially, however excessive distress and exaggerated responses can get in the way of true emotional processing (Jaycox et al., 1998; Rauch & Foa, 2006).

2.4 Theoretical prediction

Avoidance and erroneous beliefs about oneself and the world are the mechanisms that serve to maintain PTSD and its symptoms (Foa et al., 2019; Kozak et al., 1988). EPT postulates that the activation and modification of the fear structure and processing are critical in ameliorating the symptoms of PTSD. Thus, it is hypothesized that the participants of this research will show a gradual reduction of PTSD symptoms when engaged in exposure and emotional processing during the intervention. Further, positive outcomes will be observed for the secondary outcome of comorbid depression. The intervention will demonstrate symptom improvement whilst being assessed as acceptable and feasible.

Chapter summary

This chapter provided a brief history of the psychological foundations of PTSD, with a particular emphasis on Emotional Processing Theory. EPT as the theoretical framework, was used to explain how traumatic memories are stored, processed and retrieved. The role of avoidance in making PTSD symptoms long suffering was discussed here. The tenets of EPT were detailed in this chapter, particularly exposure techniques. The final section of the chapter addresses the limitations and associated challenges of EPT.

Chapter 3

Literature review

Chapter overview

A comprehensive literature review was conducted to investigate PE of PTSD. There was a particular focus placed on examining literature insofar as South Africa is concerned and further, university students.

The following key words were included in the search criteria: “posttraumatic stress disorder”, “prolonged exposure therapy”, “massed-prolonged exposure therapy”, “trauma-focused therapy”, “PTSD in university students”, “PTSD treatment” and “trauma amongst South African students”.

The literature retained and selected for use in this review was deemed reliable on the basis that it was peer-reviewed and empirical in nature. High impact journals were consulted for the literature, specifically, the SA Journal of Psychology, the Journal of Traumatic Stress, the European Journal of Psychotraumatology as well as the Journal of Psychological Trauma: Practice, Research, Theory, and Policy. The journals were consulted on account of their frequent publication of research related to trauma and PTSD. Further searches were conducted on Google Scholar, SAGE publications, the internet and through citation chaining.

3.1 History of Psychological Trauma

Unlike longer-established diagnoses like Schizophrenia or Bipolar Disorder, PTSD represents a relatively new development in psychiatric nosology (Eagle, 2002). PTSD and its origins can be traced back to the conditions that typified war eras. In its infancy, PTSD was defined as the observation of distinctive patterns of distress among combat veterans (Eagle, 2002; Green, 1994).

During World War I, the term “shell shock” was coined by soldiers and military physicians and used to define a constellation of symptoms that resulted from brain trauma caused by proximity to exploding shells (Sadock & Sadock, 2003). This explanation evolved as similar presentations were noted in veterans without direct exposure to explosions. “Operational fatigue,” “battle exhaustion”, or “combat neurosis” were introduced in the Second World War. These terms were also among the terms used to describe similar symptomology across diverse trauma-exposed populations, including veterans, Holocaust survivors, and survivors of the atomic bombings in Japan (Sadock & Sadock, 2003).

The Vietnam War was particularly influential in informing the clinical understanding of trauma-related psychiatric sequalae. The formal diagnosis finds close ties with the legacy of the Vietnam War (Eagle, 2002; Green, 1994). Returning veterans frequently presented with symptoms that characterized the syndrome at the time. Specifically, physical complaints (fatigue, weakness, headaches, nausea and other gastro-intestinal symptoms and other physical pain), cognitive difficulties (memory impairment, attention and concentration difficulty) and affective complaints (anxiety, depression and irritability) (Eagle, 2002).

PTSD, as it is now known, first appeared in the third edition of the Diagnostic and Statistical Manual of Mental Disorders, i.e., DSM-III published in 1980. Its initial formulation placed emphasis on the trauma memory and intrusion symptoms, including nightmares, intrusive recollections, and flashbacks (American Psychological Association, 1980). The original diagnostic framework established PTSD as having 17 symptoms which were organized into three different clusters in the DSM-III. Furthermore, the condition was classified as an anxiety disorder (American Psychological Association, 1980).

The diagnostic criteria for PTSD have also received revisions in subsequent editions of the International Classification of Mental and Behavioural Disorders (ICD) and have been a topic

of ongoing discussion among scholars. The DSM-5 and its Text Revision (DSM-5-TR) offer a broad and inclusive view of PTSD and capture individuals with sub-threshold presentations. Contrastingly, the ICD-11 is more stringent and aims to limit overdiagnosis of the condition (Stein et al., 2014). The stricter diagnostic criteria have received criticism on account of their potential to narrow the definition of PTSD, whilst failing to recognise those with slightly below diagnostic threshold levels of PTSD (Wisco et al., 2017).

A particularly significant development in trauma-related conditions is the emergence of Complex PTSD (C-PTSD) as a distinct psychological syndrome (Giourou et al., 2018). The diagnosis is still in its infancy and can be found in the latest revision of the ICD. The syndrome acknowledges that prolonged and repeated trauma, particularly occurring in developmentally sensitive periods, may produce a symptom profile that is not adequately captured by the current PTSD diagnostic criteria.

Although C-PTSD has received formal recognition in the ICD-11, the condition has not yet found its way into the DSM. Of note, moreover, is that C-PTSD is also absent from the "Conditions for Further Study" appendix. The diagnostic framework for C-PTSD is constituted by the three core symptom clusters of PTSD and additional clusters such as emotional dysregulation, negative self-concept and relational disturbances (Giorou et al., 2018).

Evidence suggests that within the DSM, this condition may be best captured by borderline personality disorder (BPD). However, this is an area of serious contention and debate. The overlap in symptom presentations is regarded as superficial. Whilst complex PTSD and BPD share similarities in their symptomology, they also differ in distinct ways. Complex PTSD is marked by a relatively stable, albeit negative, self-concept and predominantly avoidant

attachment style consequent to a history of complex trauma, whilst BPD is symbolised by an unstable sense of self and fluctuating attachment style (Giorou et al., 2018).

Subsequent revisions of the DSM, reflect an evolving understanding of PTSD. Later revisions of the DSM have expanded the symptom profile to 20 different symptoms organized into four clusters (American Psychological Association, 2013). Additionally, PTSD was moved to a newly established category, "Trauma and Stressor-Related Disorders," where "exposure to a traumatic or stressful event" became a core diagnostic criterion (North et al., 2016). This reclassification came after a recognition that trauma-related conditions represent a distinct psychological syndrome not adequately captured by anxiety disorders.

3.2 Clinical definition of PTSD

PTSD is a complicated and incapacitating mental health condition that emerges subsequent to exposure to a traumatic event (American Psychological Association, 2013). The mental health condition is associated with extreme psychological and physiological symptoms that significantly impair functioning across multiple life domains (American Psychological Association, 2013).

Research demonstrates that although a majority of people may be exposed to a traumatic event, only a small proportion may go on to develop post-traumatic stress disorder. Majority of people are in fact equipped to deal with said traumatic stress. Evidence asserts that 25%, may develop dysfunction and disequilibrium (Kaminer & Eagle, 2010; Koenen et al., 2017).

The development of PTSD is mediated by various factors, including social support, coping mechanisms and individual personality traits (Kaminer & Eagle, 2010). In delineating that which is a normal response to trauma and that which is pathological, symptoms need to be assessed according to the intensity, duration and extent to which they cause impairment or dysfunction in most areas of an individual's life (American Psychological Association, 2013).

The ICD-11 and the DSM serve as the standardized frameworks that provide the criteria for diagnosing psychiatric disorders (Miao et al., 2018). The DSM will be used as the primary framework for outlining the diagnostic criteria for PTSD. According to the manual, the criterion is applicable to individuals over the age of 6 years, further, symptoms organised into distinct clusters must be present for a diagnosis to be considered (American Psychological Association, 2013; Miao et al., 2018).

The cornerstone of PTSD diagnosis involves direct exposure to an event involving actual or threatened death, serious injury, or sexual violence (North et al., 2016). The presence of a physical threat is a fundamental component in diagnosing PTSD. That is, sole emotional threat, for example, is not a qualifying factor and would have to be accompanied by a physical threat (American Psychological Association, 2013; Miao et al., 2018).

The theme for Cluster B is intrusion and reexperiencing. Here, individuals need to meet at least one of the criteria for the diagnosis of PTSD to be considered. The symptoms included here are recurrent, intrusive and distressing memories, dreams and reactions in relation to the trauma all of which are involuntary, as well as intense physiological distress or reactivity to internal and external cues associated with the traumatic event. So, an individual may experience an increased heart rate for reasons unrelated to the trauma however on account of the association of the increased heart rate with the trauma memory, this may elicit intrusion symptoms (Brewin & Holmes, 2003).

Cluster C, for which avoidance is the theme, necessitates extensive efforts to avoid stimuli associated with the traumatic event. Both internal and external reminders are avoided. An individual must meet at least one of the avoidance symptoms for the consideration of a diagnosis (American Psychological Association, 2013).

The theme for Cluster D reflects negative alterations in cognition and mood. Here, there may be an inability or significant difficulty in remembering important aspects of the trauma. Individuals may present with persistent and exaggerated negative beliefs about themselves, the world or others. Individuals may blame themselves for the trauma, experience feelings of detachment and may be unable to experience positive emotions. Following the trauma, the baseline emotions felt by an individual may be anger, shame, fear and guilt. There may also be a diminished interest in participating in significant activities. Individuals must present with at least two symptoms within this cluster to be considered for a diagnosis (American Psychological Association, 2013; Miao et al., 2018).

Finally, the hyperarousal cluster requires at least two symptoms reflecting heightened physiological activation and reactivity. This cluster is defined by reactions that are out of proportion to the stimulus or provocation. Irritability and angry outbursts may be present. The individual may present with reckless and self-destructive behaviour, they may also be hypervigilant, have difficulty with concentration and sleep, and exhibit an exaggerated startle response (American Psychological Association, 2013).

PTSD is marked by an interplay of symptoms across the different clusters. Be this as it may, individual symptom profiles may be predominantly marked by a single theme. In addition to meeting the criteria for PTSD, clinicians should specify whether depersonalization and derealization accompany the clinical presentation. Feelings of being removed from one's body or mental processes describes depersonalization whilst derealization is encompassed by experiencing the world as dreamlike, distorted or distant (American Psychological Association, 2013).

The symptoms presented above must persist beyond 1 month for the consideration of a PTSD diagnosis. Should symptoms be present before such a time or should they persist

beyond the typical course of PTSD as predicted by research, then several psychiatric diagnoses found in the DSM can be considered. Importantly, the symptoms need not be attributable to the effects of a substance or another medical condition (American Psychological Association, 2013).

3.2.1 Contemporary debates surrounding the clinical definition of PTSD

The conceptualization of PTSD is continuously evolving and is informed by ongoing empirical research and clinical observation. Evidence indicates that there are ongoing debates related to PTSD and its structure as outlined by the DSM. The transition from DSM-IV to DSM-5 criteria was characterized as "empirically based and rigorous" by Friedman (2013).

Further debates related to PTSD highlight the issues surrounding the broader versus more stringent diagnostic criteria (Friedman, 2013). Authors argue for the use of broader criteria especially when juxtaposed against more stringent criteria as seen in the ICD-11. Broader criteria gain favourability on account of their ability to cover most typical presentations adequately. Similarly, Kilpatrick (2013) notes that the broader definition of PTSD is appropriate as it further includes clinically significant issues which allow for reliable and accurate diagnosis.

Haslam (2016) emphasizes that the concept of trauma has evolved significantly since its initial inclusion in the DSM. Originally derived from the Greek word, *trauma,* meaning "wound" the term primarily referred to a physical injury that was caused by an external event. Haslam (2016) notes that although subtle, changes from the DSM-III to the DSM-IV essentially widened the criteria for trauma. The author challenges the DSM-5's restrictive framework, noting that trauma need not be a discrete, identifiable event. Instead, he argues for a more inclusive understanding of trauma that should encompass all events perceived and internalized by an individual as physically or emotionally harmful (Haslam, 2016).

Similarly, McNally (2016) highlights the consequences of stringent criteria, particularly pertaining to Criterion A of the DSM. This author states that individuals who do not meet Criterion A fall short of receiving a PTSD diagnosis and may not be eligible for disability compensation or access to reimbursable trauma treatment regardless of the severity of their symptoms (McNally, 2016). Thus, both Haslam (2016) and McNally (2016) advocate for a reconsideration of what constitutes trauma particularly in the twenty-first century, arguing that the original definitions fail to encompass contemporary traumatic experiences.

The recent COVID-19 pandemic has also prompted reconsideration of what constitutes a "traumatic event" as outlined by Criterion A (Norrholm et al., 2021). Traditional conceptualizations emphasising direct physical threat may not account for the psychological impacts of prolonged public health crises (Bridgland et al., 2021; Van Overmeire, 2020). Contemporary evidence suggests that pandemic related stressors such as threats to health, uncertainty, loss of loved ones, economic instability and disruption in social support systems can be as debilitating as conventionally defined traumatic events (Coetzee et al., 2024). This necessitates the question, then, about whether emotional threat should be included as a part of Criterion A (Bridgland et al., 2021).

The above criticism lends itself to a discussion related to the expansion of Criterion A. Generally, diagnostic expansion is associated with over-diagnosis and overtreatment (Thombs et al., 2019). In resource-constrained settings, this has the potential to divert already limited mental health resources away from individuals with more severe presentations who are in greater need of services and treatment. Widening the diagnostic criteria, particularly to include responses to the COVID-19 pandemic, may serve to pathologize normal responses to stress (Norrholm et al., 2021). The distinction between adaptive and maladaptive responses to adverse events is critical as blurring these lines may misdirect clinical focus, pathologize

normative stress responses whilst overlooking harmful coping mechanisms (Norrholm et al., 2021).

The field of trauma studies is continuously evolving and developing. Scholars and alike are frequently engaged in discourse to address both lingering and emerging questions (Friedman, 2013). Contemporary research directions are many and an exploration of these falls beyond the scope of this study.

3.3 Prevalence of PTSD

South Africa experiences exceptionally high rates of trauma exposure on account of a complex interplay of factors unique to the country (Atwoli et al., 2013; Kaminer & Eagle, 2010). A distinct feature of trauma in the South African context is its chronic and repetitive nature (Kaminer et al, 2018). The South African Stress and Health (SASH) study is the most extensive and nationally representative investigation of mental disorders to date (n = 4351). The study's findings revealed that 70% of South Africans had experienced at least one PTE (Williams et al., 2008). Of note, these findings are lower than those found in HICs like the United States, with documented prevalence rates of 87.2-89.6%. Further, Stevenson et al. (2023) set out to explore trauma exposure and frequency of traumatic events in South Africa. The authors employed a representative sample (n = 6,765) and made use of the Life Events Checklist for the DSM-5 (LEC-5). Findings from the study revealed that approximately 94% of the participants reported experiencing one or more traumatic events (Stevenson et al., 2023).

In their works, Koenen et al. (2017) contextualized South Africa's trauma burden within an international framework. Their study examined trauma-exposure patterns, lifetime PTSD-prevalence, 12-month prevalence, and 30-day prevalence across various global contexts. South Africa accounted for 6% of the total sample (n = 71,083). The researchers found a

lifetime PTSD prevalence of 3%, with 12-month and 30-day prevalence rates of 1% and 0.2% respectively (Koenen et al., 2017). A particular strength of the research was that it analysed data from multiple World Mental Health (WMH) surveys, including the SASH study.

Although the evidence commonly asserts that PTSD rates are lower in the developing world in comparison to those typically observed in higher-income settings, lower-income settings face greater lifetime prevalence and higher burden of disease (Kaminer & Eagle, 2010; Kaysen et al., 2023; Seedat et al., 2018). Furthermore, probable PTSD rates are noted to be particularly high within these regions (Ng et al., 2021).

University populations within resource-limited contexts are faced with the double burden of navigating a developmentally sensitive period whilst grappling with constrained access to mental health resources. Padmanabhanunni (2020) set out to investigate trauma exposure patterns among South African university students enrolled at a historically disadvantaged institution (HDI). The study included a sample size of 914 participants and alarmingly found that 97.6% reported exposure to traumatic events.

Hoffman (2002) asserts that the common trauma types experienced by university populations include interpersonal violence, sexual assault, motor vehicle accidents and the unexpected death of loved ones. Whilst Serrao (2014) echoed this, noting that sexual crimes were among the most common forms of violence across 15 South African universities. Padmanabhanunni (2020) shares similarities, noting that the most common trauma types in their work were physical assault and motor vehicle accidents at 69.3% and 64.7% respectively. In contexts like the United States, emerging trauma types also encompass school shootings and terrorist attacks. Furthermore, contemporary evidence is increasingly finding escalating rates of psychological distress among university students as a direct consequence of the COVID-19 pandemic (Coetzee et al., 2024).

3.4 University Counselling Centres

University counselling centres play a vital role as the primary access points for students in need of mental health support (Schreiber, 2007). Commonly, students are most likely to present to counselling centres when their academic performance is adversely affected (Schreiber, 2007). A study assessing the presenting complaints of students within an urban South African university found that 11% of the students (n = 844) presented with trauma related concerns, both past and present, whilst 42% presented with depressive symptoms (Schreiber, 2007). Research on treatment-seeking behaviour in post-apartheid South Africa also found that black young females were among the most frequent users of university counselling services (Bowman & Payne, 2011).

Many students with mental disorders do not receive any treatment. For example, Bantjes et al. (2023b) conducted a large-scale study exploring perceived barriers among university students who recognized a need for care but did not access available services. Students cited practical barriers, specifically expensive cost, a lack of knowledge about available resources, timing issues and other practical barriers as the predominant reasons for not accessing treatment (Bantjes et al., 2023b).

Additionally, stigma, competing demands and priorities are highlighted as contributing to the barrier to treatment (Bantjes et al., 2023b). The existing services on university campuses are commonly under-resourced, over-stretched or entirely absent. Also, traditional therapeutic approaches such as in-person prolonged engagement are often not feasible or affordable to address the large need for care (Bantjes et al., 2023b)

The study by Bantjes et al. (2023b) aptly reflects the structural and systemic challenges faced by university counselling centres. Their study sought to investigate treatment rates and barriers to mental health service utilization among South African university students across

17 institutions. PTSD was identified as having a prevalence rate of 36% (n = 28,516). Of note, treatment among students who perceived a need for treatment and treatment among students with the disorder was 36.5% and 27.3% respectively. This is alarming as it implies that 7,407 students with PTSD had not received treatment (Bantjes et al., 2023b).

Despite alarming statistics highlighting the need for care, the implementation and uptake of evidence-based interventions remains disproportionately low. Cilliers et al. (2010) examined the structure and services offered by student counselling centres across South African universities and assessed staff expertise. It was noted that 64% of staff members had specialized training in sexual abuse, whilst 45% had expertise in substance abuse treatment. Importantly, the focus of many counselling centres was crisis intervention, with 100% of the centres offering the service, and 91% providing psychotherapy. Crisis intervention is often employed in the event of sexual assault, as also seen in HICs (Morissette et al., 2023).

Other areas of focus in university counselling centres include career counselling and HIV counselling (Cilliers et al., 2010). A significant number of students indicate a preference for peer group counselling on account of the reduced stigma and anonymity it provides (Cilliers et al., 2010). In assessing the services offered by counselling centres, more recent evidence reveals variability and inconsistencies in treatment approaches. The evidence indicates that an urban South African university makes use of solution-focused or integrative approaches as opposed to standardized protocols (Lunsky et al., 2015). Integrative approaches with an unstable empirical foundation in the face of severe mental disorders like PTSD may serve to inadvertently entrench barriers to treatment.

It is unsurprising that the literature related to current treatment practices for PTSD in university settings in South Africa is sparse, in spite of the alarming treatment gap discussed above. As is often the case, literature must be transposed from Western contexts and made to

apply to the South African context in ill-fitting ways. Current treatment for PTSD in university contexts in South Africa may follow integrative approaches as opposed to standardized and evidence-based treatment. There is a notable gap in the literature regarding the monitoring and evaluation of these treatment practices. Research by Morissette et al. (2023) in the United States, noted that of the 80 healthcare providers from university counselling centres included in the study, 91% of the providers endorsed evidence-based therapies in their treatment of PTSD. CBT was the most frequently used approach (33.6%), followed by humanistic therapy (22.7%), then interpersonal therapy (12.7%) and acceptance and commitment therapy (12.7%). Of note, only 5.5% reported using PE (Morissette et al., 2023).

3.5 Trauma-focused treatment for PTSD

A number of psychological interventions are available for the treatment of PTSD (Watkins et al., 2018). Evidence demonstrates that these interventions consistently yield clinically significant reductions in PTSD symptoms, facilitate sustained remission of the disorder and lead to improvements in symptoms in co-occurring conditions like depression. The evidence supporting their effectiveness is robust. Importantly, longitudinal studies also demonstrate the durability of their effectiveness (Miao et al., 2018).

Trauma-focused therapies constitute the primary recommended treatment modalities and include, among others, cognitive behavioural therapy (CBT), cognitive processing therapy (CPT), cognitive therapy (CT), exposure-based therapies such as prolonged exposure therapy (PE) and massed-prolonged exposure therapy (MPE), as well as brief eclectic therapy (Miao et al., 2018).

3.6 Prolonged Exposure Therapy for PTSD

Prolonged Exposure therapy is an established TFT with strong empirical data supporting its effectiveness (McLean & Foa, 2011). The treatment modality, developed by Dr. Edna Foa, is predicated on the hypothesis that PTSD symptoms persist due to the inadequate processing of traumatic memories, which remain distressing and intrusive (Foa et al., 2019). The intervention is manualized and delivered over the course of 8-15 weeks with each session typically lasting approximately 90-minutes.

PE is theoretically grounded in EPT, the therapy aims to modify maladaptive fear structures that perpetuate PTSD symptomology. The intervention systematically addresses these dysfunctional patterns through its four components: breathing retraining, education about common reactions to trauma, imaginal exposure and in-vivo exposure. The treatment protocol typically follows a structured progression through these components (Peterson et al., 2019).

Breathing retraining as a component of PE is a foundational skill and involves teaching calm breathing techniques. Breathing techniques, once mastered, serve multiple therapeutic functions. The skill may be used to cope with anxiety throughout the course of the intervention and specifically during the exposure exercises. Breathing techniques may also be used to cope with physiologically distressing symptoms that occur outside of the intervention and long after the intervention has been delivered (Foa et al., 2019).

Psychoeducation is provided during the intervention and aims to normalize an individual's experience (Foa et al., 2019). Comprehensive information is provided about the typical physiological, psychological and behavioural responses to trauma. This process aids not only in normalization but prevents individuals from self-pathologizing which contributes to additional distress.

In imaginal exposure individuals are required to vividly recount the traumatic event to process and diminish its emotional impact (Dell et al., 2021). The process entails a detailed recounting of the trauma memory, with the added element of recounting the memory as though it were happening in the present, wherein heightened physiological arousal is expected. The emotional intensity is expected to diminish gradually through emotional processing and habituation (Dell et al., 2021).

In-vivo exposure involves confronting real-world situations that evoke anxiety and psychological distress but are often objectively safe (Dell et al., 2021). As with all other components of PE, this process is gradual and organizes the anxiety provoking situations into a hierarchy from the least challenging situations and progresses toward the most distressing situations (Dell et al., 2021).

Individuals with PTSD experience significant distress, including avoidant or isolative behaviour (Back & Jones, 2018; Bonar, 2015). The avoidance of trauma memories and associated cues serve to inadvertently make PTSD and its symptoms long suffering (Edwards, 2005). Through avoidance, individuals carefully construct an environment devoid of trauma reminders. The carefully engineered environment gives rise to the erroneous belief that the trauma memory is absorbed and ultimately processed. Here, individuals are motivated to avoid physical, behavioural, cognitive and emotional reminders of the trauma (Kaminer & Eagle, 2010). Emotional states, forms of media, places, thoughts, hobbies and social lives are but a few examples (Kaminer & Eagle, 2010).

The limited opportunity for triggers provides short-term relief and is misconstrued as mastery, competence or self-efficacy. As avoidance has increased so has the opportunity for the persistence or return of intrusive emotional states in the face of a memory associated with the trauma (Peterson et al., 2019). One can gauge one's levels of avoidance through the ease

and seamlessness through which they approach trauma associated memories. Thus, the four tenets of PE work together to address and disrupt the pathological fear structure through repeated and controlled exposure to trauma-related stimuli in a safe and structured environment (Foa et al., 2013).

3.6.1 PE as a first-line treatment for PTSD

PE is widely recognized as the first-line treatment for PTSD as mentioned in preceding discussions. It is widely endorsed by statutory bodies that guide the treatment of PTSD such as the American Psychological Association (APA), the International Society for Traumatic Stress Studies (ISTSS), and the United Kingdom's National Institute for Health and Care Excellence (NICE) (Isserline & Zerach, 2008).

PE has demonstrated effectiveness in comparative studies with various populations. A study exploring PE's effectiveness in a resource constrained setting was undertaken by Rossouw et al. (2022). This comparative study aimed to assess the outcomes of PE-A, a version of PE adapted for adolescents, against Supportive Counselling (SC). The study sample consisted of adolescents between the ages of 13 and 18 from 11 no-fee schools around Cape Town, South Africa. The findings revealed that a significant proportion (96%) of adolescents who underwent PE-A no longer met the criteria for PTSD at the 12-month post intervention assessment compared to 52% of those in the SC group. A notable strength of the study was its long-term follow-up as treatment gains were also assessed at 24-months (Rossouw et al., 2022).

Furthermore, PE has shown effectiveness in treating PTSD and concurrent conditions like MDD. In a study conducted by Foa et al. (1999), female survivors of sexual and non-sexual violence (n = 97) were treated using Prolonged Exposure, Stress Inoculation Therapy (SIT) or a combination of both, with the results compared to a waiting list control group (Foa et al.,

1999). The findings indicated that PE and SIT were both effective in reducing PTSD symptoms and alleviating MDD severity. The post-intervention results demonstrated that 35% of participants who received PE retained a PTSD diagnosis, compared to 42% of those who underwent SIT (Foa et al., 1999). Further, the treatment gains were maintained at 1-year follow-up assessment.

In spite evidence demonstrating PE's effectiveness, research in resource constrained settings with university students in particular is thin (Booysen & Kagee, 2021). Further research particularly focusing on university students is needed.

3.6.2 Recent developments in PE

The standard lengthy protocol of PE faces significant criticism, especially in low-resource contexts, including university counselling centres. Questions related to how the protocol can be adapted to settings with logistical barriers, clinician shortages, transportation costs and student time constraints remain unanswered (Dell et al., 2021; Kaminer et al., 2024). These factors account for high dropout rates and suboptimal outcomes (Dell et al., 2021)

The demanding time commitments and resource-intensive assessments associated with PE make it less appealing to students and represent an outdated and impractical approach. Bonar (2015) highlights that the assessment measures used in PE are labour intensive, making it difficult for students to prioritize therapy alongside academic obligations. Further, it is possible for students to begin treatment with much enthusiasm however balancing coursework with the demands of PE can be challenging (Bonar et al., 2015).

PE is evolving into multiple delivery formats to increase accessibility and adapt to diverse clinical settings. The traditional Standard PE involves weekly sessions over several weeks (Foa & Rothbaum, 1998). PE for Primary Care is emerging as a first-line treatment to extend PE's reach into primary care (Rauch et al., 2023). This treatment protocol offers a

streamlined version with briefer sessions that are tailored to the constraints of these settings, facilitating treatment for patients who may not have access to specialist mental health services (Rauch et al., 2017; Rauch et al., 2023).

The training and support of non-specialist health workers to deliver trauma-focused therapies like PE is continually recognized as a means to expand access to evidence-based PTSD treatments in resource-limited environments (Booysen & Kagee, 2022). Task-shifting models, which involve training non-specialist therapists to administer PE under the supervision of professional clinicians, have shown promising results in improving PTSD symptoms among patients (Booysen & Kagee, 2022; Kaminer et al., 2024).

Complementing task-shifting efforts, digital health interventions are also emerging as valuable tools to deliver PE components remotely, reducing the need for frequent in-person therapy and increasing access to treatment (Bröcker et al., 2024). Mobile applications such as the PTSD Coach app and Renew deliver PE components digitally. These mobile applications offer self-guided PE activities and other symptom management tools through smartphones, helping to overcome barriers related to stigma, transportation and security concerns (Acierno et al., 2017; Bröcker, et al., 2023; Bröcker et al., 2024). Early feasibility studies indicate that digital interventions can reduce PTSD symptoms and improve user involvement; however, some issues must be resolved to maximise their efficacy, particularly in LMICs (Acierno et al., 2017; Bröcker et al., 2023; Bröcker, et al., 2024; Dell et al., 2023). These digital solutions require adaptation to local contexts, including considerations of cultural appropriateness, digital literacy, language and internet accessibility to ensure reach, usability and effectiveness (Bröcker et al., 2024; Kaminer et al., 2018).

Massed-Prolonged Exposure has emerged as a promising alternative aimed at addressing the challenges and limitations associated with PE. As an abbreviated intervention, MPE

offers scalability, cost-effectiveness and enhanced engagement. Although in its early stages, evidence from comparative studies is increasingly finding that MPE significantly reduces dropout rates whilst achieving significant clinical outcomes (Zwetzig et al., 2022).

Zwetzig et al. (2022) assert that MPE has been able to reduce drop-out rates by 50% following the investigation of MPE with firefighters. The methodology employed in the study involved treating the first line responders with ten 90-minute sessions of MPE. Similarly, a randomized controlled trial by Dell et al. (2021) comparing Standard Prolonged Exposure and MPE demonstrated higher dropout during the intervention phase of the trial in the standard prolonged exposure group. Peterson et al. (2023) further demonstrated superiority in treatment completion with MPE versus intensive outpatient PE (IOP-PE). The treatment groups had an equal sample size (n = 117) with 12 requesting to drop out in the MPE group and 15 in the IOP-PE (Peterson et al., 2023).

3.6.2.1 Massed-PE

MPE is founded on the same principles as its counterpart PE. It entails compressing the protocol which typically spans over an 8–15-week process and delivering it within a 2-week process (Dell et al., 2021). It hypothesizes that many of the gains made in PE can be found in MPE whilst simultaneously addressing some of PE's greatest limitations thus making it superior (Booysen & Kagee, 2021; Dell et al., 2023). RCT's have been able to demonstrate similar results in a shorter period of time, demonstrating the modality's practicality and promise.

A randomized clinical trial conducted by Foa et al. (2018) examined the effectiveness of condensed PE. The study hypothesized that MPE, delivered over 10 sessions within a two-week period, would effectively reduce trauma symptoms and demonstrate non-inferiority compared to other treatment modalities. The researchers recruited active-duty military personnel between the ages of 18 and 65. The study compared MPE to Spaced Prolonged

Exposure, Present-Centred Therapy (PCT) and Minimal Contact Control (MCC). Spaced PE maintained the same therapeutic techniques as MPE but was administered over an 8-week period. PCT, a non-trauma-focused modality, involved ten 90-minute sessions where the focus may or may not have been trauma. MCC consisted of weekly telephonic check-ins. The studies concluded that MPE did not demonstrate superiority compared to PCT in the number of sessions completed (M = 9.04 and M = 9.10, respectively) (Foa et al., 2018). However, the findings concluded that MPE was superior to MCC and non-inferior to Spaced PE and PCT in reducing PTSD symptoms (Foa et al., 2018). Similar conclusions were found and reinforced by Dell et al. (2023).

University counselling centres within resource constrained settings call for treatment modalities that are effective in treating PTSD and concurrent conditions. Booysen and Kagee (2021) investigated the effectiveness of abbreviated PE and administered 6 sessions of PE for PTSD and concurrent depression and anxiety with a small sample (n = 7). At 3-months post intervention the researchers were able to conclude that abbreviated PE is effective in ameliorating PTSD symptoms as 71% of the participants no longer met the diagnostic criteria subsequent to treatment. The abbreviated treatment also demonstrated efficacy in treating comorbid depression as 71% of the participants also no longer met the diagnosis for MDD (Booysen & Kagee, 2021).

3.6.2.2 Limitations and associated challenges with MPE

Much of the criticism directed at PE, may also apply to MPE. Research asserts that the commitment, albeit no more than 3 weeks, is intense and enrolment in the treatment programme may require individuals to pause work and school commitments which at times is not always possible nor feasible (Wright et al., 2023).

The condensed format of treatment itself presents technical challenges. Daily homework assignments are inherent to the treatment, though, the limited timeframe may make it difficult for participants to learn and apply the skills across multiple contexts (Wright et al., 2023).

The accelerated pace of therapy is also an added disadvantage. There is little room for error particularly between sessions. Relapse prevention and preparation for transition post intervention has thus been highlighted as very important (Wright et al., 2023). The intervention has also received criticism on account of its burdensome nature when considering treatment providers. Additionally, it has been noted to present unique emotional intensity and limited variety in case load (Wright et al., 2023).

The effects of PTSD call for effective and well-studied treatments with demonstrable outcomes. In the South African context, exposure therapy, particularly massed prolonged exposure has the potential to have one of the strongest empirical foundations and perhaps it is this strength among others that make it the most suitable and feasible.

Furthermore, several themes identified in resource constrained settings make massed prolonged exposure favourable, specifically when considering university populations. MPE has demonstrated non-inferiority to other modalities, further it has consistently demonstrated better treatment retention in comparison to traditional weekly formats. The treatment modality has also demonstrated efficacy in treating comorbidities.

Chapter summary

This chapter reviewed the literature forming the foundation of this research. It began with the history of trauma as a phenomenon of interest. A clear definition of PTSD according to the DSM criteria was outlined. Further, contemporary debates around the diagnosis of PTSD, particularly related to Criterion A and the lack of consensus regarding the broader and more stringent criteria was discussed. This chapter also outlined the trauma types commonly

experienced by university students. Furthermore, the prevalence of PTSD in South Africa was explored comprehensively. An overview of university counselling centres was provided, focusing on current treatment practices in these settings. Trauma-focused interventions, specifically PE, were discussed comprehensively. Finally, MPE was presented as a promising alternative for addressing the treatment gap among university students, particularly in LMICs.

Chapter 4

Methodology and Research Design

Chapter overview

The previous chapter comprehensively reviewed research relevant to PTSD and its treatment. PTSD across different populations was discussed and an overview of the common psychotherapeutic treatments was provided.

This chapter details the methodology and research design employed to investigate the aim and hypothesis underpinning the study. First, the rationale for using mixed methods is presented alongside the aims of the research study. The overview of the chosen methodology is discussed. The recruitment process, sample size, and inclusion and exclusion criteria are explained in this chapter, as well as the setting in which the research was conducted. Finally, the data analysis methods applied to this study's findings are discussed.

4.1 Mixed methods research

A mixed methods approach was employed to investigate the broad aim of the study. Mixed-methods research refers to the integration of both quantitative (numerical) and qualitative (descriptive) research methods within a single study (Schoonenboom & Johnson, 2017; Walliman, 2021). In the present study, the term "mixed method" is adopted for the purposes of a meaningful synthesis of both methodologies to provide a coherent understanding of the research questions and hypothesis (Creswell & Clark, 2004; Schoonenboom & Johnson, 2017).

The adopted quantitative (Single-Case Experimental Designs; SCEDs) and qualitative (reflexive thematic analysis; RTA) methods in the present study are complementary as both methods emphasise an idiographic focus on individual experiences and outcomes

(Schoonenboom & Johnson, 2017). Furthermore, RTA methods provide nuanced insights into intervention processes and participant perspectives which enriches the understanding of a study's objectives (Richards et al., 1999). The use of a mixed method design is also favourable as it controls for the limitations associated with both qualitative and quantitative methodologies (Clark & Ivankova, 2015). Table 4.1 outlines the process of the research design.

Table 4.1

Research Design

Phase	Aim	Methodology
1. Quantitative – MPE intervention	To assess whether MPE will lead to improved symptoms of PTSD and comorbid depression after 8-10 consecutive sessions.	Single case experimental design (Kazdin, 2019).
2. Qualitative	1. To explore how the university students perceive the acceptability of MPE for treating PTSD and comorbid depression. 2. To assess what the university students' experiences are regarding the feasibility of engaging with MPE within the context of PTSD and depression treatment.	In-depth semi-structured individual interviews based on thematic analysis (Braun & Clarke, 2021; Clarke & Braun, 2013).

4.2 Research site

The study was set in Rhodes University in Makhanda, Eastern Cape. Although the second largest province by land in South Africa, the province is plagued by significant socio-political and economic challenges (Hamann & Tuinder, 2012). The Eastern Cape is noted to have some of the highest rates of poverty and unemployment. It was noted that approximately 72% of the province's population was living below the poverty line in 2004. Moreover, educational attainment is low, as it was noted in the same year that Blacks with a matric education in the province aged 20 years or older were just 30%. This is in spite of the province being home to Rhodes University. The province is also challenged by high HIV prevalence rates. Additionally, it is prone to high levels of migration, with much of its population leaving the province for the Western Cape, Gauteng and KwaZulu-Natal (Hamann & Tuinder, 2012). Moreover, the province is not immune to trauma and trauma exposure. The Eastern Cape had the highest reported rates (31.6%) in the South African Demographic and Health Survey (SADHS) for experience of physical violence by any partner in comparison to all provinces (Stats SA, 2017).

4.3 Overview of Single-Case Experimental Design (SCED)

The present study employed a Single-Case Experimental Design (SCED; Kazdin, 2019) which incorporates pre-intervention assessment, during-intervention assessments, and post-intervention assessments to systematically explore treatment effects (Barlow et al., 2009). SCEDs have been widely used in the behavioural and medical sciences to investigate and demonstrate treatment effectiveness at the individual level (Kazdin, 2019). This methodological approach, also referred to as single-subject design, case-series design, or interrupted time series, finds its origins in the foundational work of behavioural science pioneers like John B. Watson and B. F. Skinner (Kazdin, 2019; Richards et al., 1999; Sidman,

1960). Seminal works by David H. Barlow and Alan Kazdin have advocated for and highlighted SCEDs value over the years, noting that the method offers an alternative to large-scale group-based designs, especially for its idiographic focus and ability to provide detailed analysis of individual change (Barlow & Hersen, 1984; Epstein & Dallery, 2022; Kazdin, 2019; Kratochwill & Levin, 2014).

Single-Case Experimental Designs (SCEDs) remain highly relevant and frequently utilized in contemporary psychological and educational research. Shadish and Sullivan (2011) found that approximately 44% of intervention studies within these fields employed SCEDs, highlighting their favourability. The popularity of SCED has increased in recent years, especially in cognitive-behavioural therapies like PE (Kazdin, 2019). This may be attributed to the ongoing revision, expansion and proven effectiveness, especially with smaller and sometimes unique samples (Smith, 2012).

Essential to this research is the distinction between Single-Case Experimental Designs (SCED) and case study research. Although both approaches focus on individual cases, they differ substantially in their data collection and analytical methods. Case study research typically involves gathering multiple sources of data, which may include interviews, observations and archival data to provide an in-depth descriptive exploration of a phenomenon within its real-life context (Yin, 1981). Contrastingly, SCED employs systematic and experimental procedures to establish causal and functional relationships between interventions and outcomes by manipulating independent variables and measuring their effects on behaviour over time (Kazdin, 2021; Kratochwill & Levin, 2014). Thus, SCED aligns quite closely with the traditions of experimental psychology. Whilst case studies are valuable for generating hypotheses and providing rich contextual data, research asserts that SCEDs offer greater internal validity through repeated measurement and experimental

control, making them especially appropriate for evaluating treatment efficacy at the individual level (Richards et al., 1999 & Shadish & Sullivan, 2011).

4.4 Features of SCED

Single-Case Experimental Designs (SCEDs) enable researchers to draw empirically grounded inferences regarding the efficacy of therapeutic interventions. The investigation of treatment effectiveness is reliant on the observation of individuals symptoms or adaptive functioning over a distinct period of time (Kazdin, 2019). SCED is encompassed by four key tenets: a dependant variable (DV), such as PTSD symptom severity; an independent variable (IV), such as MPE; the assessment of the causal relationship (i.e., effect) between the DV and IV and the determination of whether meaningful change has occurred, such as a negative diagnosis of PTSD after MPE treatment (Kratochwill & Levin, 2014). Furthermore, SCEDs involve repeated measurement and the use of each participant as their own control (Epstein & Dallery, 2022; Kazdin, 2019).

4.4.1 Specification of treatment focus

A cornerstone of SCED is the clear specification of treatment goals, including the symptoms and areas of functioning targeted for change (Kazdin, 2019). The measures selected for use in the study are thus expected to accurately reflect therapeutic progress over time. It is the prerogative of the researcher to select psychometrically sound and standardized instruments that will capture changes in the targeted outcomes in valid ways. In the present study, the primary outcome was PTSD, whilst the secondary outcome was MDD; therefore, validated and reliable measures were employed to measure treatment outcomes over time. Details regarding the psychometric properties of these instruments are provided in the succeeding sections of this chapter.

4.4.2 Continuous assessment

Continuous and ongoing assessment is a fundamental requirement in Single-Case Experimental Design (SCED). This prerequisite influences the choice of assessment tools (Kazdin, 2019). The assessment tools must accurately and validly capture changes in symptoms or functioning throughout the treatment process. Assessments are conducted at specific time points, including prior to treatment initiation (baseline), and repeatedly during the intervention period. This practice is essential to SCED as it allows for detailed monitoring of symptom changes longitudinally (Kazdin, 2019). In the present study, this protocol was followed, with assessments administered at baseline and post-intervention to measure treatment effects.

4.4.3 Separate phases

Separate phases in SCED refer to the distinct periods during which repeated assessments are conducted (Kazdin, 2019). The initial phase, also known as the baseline phase, occurs prior to the introduction of any treatment or intervention and serves as a control against which subsequent changes in an individual's functioning and symptoms are compared. Furthermore, continuous assessment is maintained throughout the intervention phase to monitor progress and track changes over time (Kazdin, 2019).

4.4.4 Stability of performance

In SCED, data collected at baseline should ideally be relatively stable as it serves to predict an individual's future responses (Kazdin, 2019). It is essential to gather reliable and stable data before the manipulation of the IV can commence. This suggests that the data should be devoid of any trend, variability or fluctuation (Gast & Ledford, 2018; Kazdin, 2010). It is reported that research has yet to find a consensus on how many observations are sufficient to form a part of the baseline period. Some researchers oscillate between 3 to 12

observations, whilst others suggest 5 as the minimum number of observations needed to establish the stability of the DV. Smith (2012) conducted a meta-analysis of SCED studies and found that there may not be a universally agreed-upon minimum for baseline observations. Of the studies included in the meta-analysis, 1.7% reported mean baselines with fewer than three data points, highlighting the variability in methodology among studies. Many SCED studies may conduct multiple baseline assessments to ensure stability. However, waiting for complete baseline stability may not always be feasible nor ethically appropriate, particularly when delaying treatment may disadvantage study participants (Lanovaz & Rapp, 2016). Recent research thus suggests that the stability of performance may not be a strict prerequisite to SCED research. The following measures were employed in the present study to establish the stability of performance at baseline:

4.4.4.1 Stability of performance measures

Posttraumatic Stress Diagnostic Scale (PDS-5): The PDS-5 is a self-administered tool that assesses trauma history in accordance with the DSM-5 criteria (Foa et al., 2016a) (See Appendix D). The measure begins with two preliminary questions, followed by 20 items that evaluate the severity of PTSD symptoms within the past month. The measure is concluded by questions that assess the distress associated with the trauma and the history of the trauma to provide a comprehensive evaluation. An individual's total score is the sum of the 20 PTSD items, with a cutoff score of 28 or greater indicating probable PTSD. The PDS-5 has demonstrated excellent internal consistency (Cronbach's alpha = .95). Moreover, it has shown higher sensitivity (.79) and specificity (.78) in detecting probable PTSD when compared to a diagnosis made using the PTSD Symptom Scale – Interview Version for DSM-5 (PSSI-5; Foa et al., 2016b) (Wittmann et al., 2021). The measure has not been standardized in the South African population; however, its psychometric properties have been evaluated in a context culturally distinct from a U.S. sample. In the Chinese version of the

PDS-5, Su et al. (2020) found that the measure possessed excellent internal consistency with a Cronbach's alpha of .94-.95 in a sample of Taiwanese trauma-exposed individuals. Further, convergent, concurrent and discriminant validity were established (Su et al., 2020).

Patient Health Questionnaire-9 (PHQ-9): The PHQ-9 is a self-report measure used in the assessment and monitoring of MDD symptomology in accordance with the DSM-5 criteria (Bhana et al., 2015) (See Appendix E). The total scores range from 0 to 27 with cut-off points at 5, 10, 15 and 20 corresponding to mild, moderate, moderately severe and severe levels of depressive symptoms, respectively. Generally, however, a probable diagnosis of MDD may be considered once a score falls above the standard cut off-point of 10 (Makhubela & Khumalo, 2023). Two conditions act as prerequisites for the consideration of a MDD diagnosis. First, a patient must endorse one of two symptoms, such as a depressed mood or a loss of interest. Second, MDD may be considered in those who endorse at least five of the nine symptoms, with these symptoms occurring "more than half the days" within the assessment period. The PHQ-9 is favourable in clinical use and research contexts. The measure has been able to demonstrate sensitivity (.88) and specificity (.88) as well as excellent reliability represented by a Cronbach's alpha ranging from .86 to .89 (Kroenke et al., 2010). Hart et al. (2025) note that the measure is psychometrically sound when used with a South African population. The authors report that the measure possesses a Cronbach's alpha of .81. They note however that a big limitation of their study was that the sample was comprised exclusively of young African women who were proficient in English.

Implementation Measures (Weiner et al., 2017): Following the implementation of the intervention, semi-structured interviews were conducted to explore the study's two primary research questions concerning the acceptability and feasibility of the intervention. These interviews were guided by the conceptual framework for implementation science developed by Weiner et al. (2017), which emphasizes three critical implementation

outcomes: acceptability, appropriateness, and feasibility. To systematically assess these outcomes, the study employed three validated measures: the Acceptability of Intervention Measure (AIM), the Intervention Appropriateness Measure (IAM), and the Feasibility of Intervention Measure (FIM) (Weiner et al., 2017).

4.5 Sample size in SCED

Single-case experimental designs (SCEDs) represent a valuable methodology in psychology and related disciplines for assessing the impact of interventions, particularly when working with individual subjects or small groups (Jamshidi et al., 2023). The typical number of participants in SCEDs is between 1 to 3 (Krasny-Pacini & Evans, 2018). This forms a part of the rationale in employing SCED in the current study. Consequently, purposive sampling was employed to recruit participants in this study, and a maximum of two (n = 2) participants were retained. Purposive sampling is a sampling technique used to select distinct individuals from a population to provide information that cannot be provided by other individuals (Taherdoost, 2016).

4.6 SCED Designs

Common SCED variations include A-B-A withdrawal design, multiple baseline design, changing criterion design and alternating treatment design (Kratochwill & Levin, 2014; Maric, 2020). The elected design is dependent upon the research questions and relevant ethical considerations. The present study employed the A-B-A design.

4.6.1 A-B-A design

The A-B-A design consists of three distinct phases: an initial baseline phase (A), an intervention phase (B), and a subsequent post-assessment phase (A). This structure enables a demonstration of intervention effectiveness through systematic comparison of performance across conditions (Byiers et al., 2012).

4.6.1.1 Rationale for using an A-B-A design

The research question fundamentally informed the choice of a Single-Case Experimental Design (SCED) for this study (Barlow & Hersen, 1984). Specifically, an A-B-A design was deliberately chosen to evaluate the hypothesis that Massed Prolonged Exposure (MPE) therapy will reduce symptoms of PTSD and comorbid depression among university students attending a community psychology clinic. As a part of the broader study, and in line with the A-B-A design, different researchers were involved at distinct phases of the study. During the baseline phase, a researcher was responsible for administrative tasks. I conducted the intervention phase, and finally, a different researcher facilitated the post-intervention phase where interviews were conducted.

Table 4.2

Mixed Methods Data Collection Aligned with ABA Design Phases

Phase	Time Point	Assessment Measures
Baseline (A)	Time Point 1	PDS-5, PHQ-9
Intervention (B)	Time Point 2	PCL-5, PHQ-9 (administered every other session)
Follow-up (A)	Time Point 3	Acceptability and Feasibility Interviews

4.7 Limitations of SCED

Although set apart from qualitative research methodology, SCED may be similar to qualitative research methodology in that many of the conclusions established in SCED may be difficult to generalize. It should be noted however that generalization is not a part of the aims of this research. Moreover, SCED receives criticism often for the ambiguity inherent in the design. This is attributable to the many terms used to refer to them (Kazdin, 2021). SCED may also be limited on account of their very big focus on self-report measures. Self-report measures are inherent to subjectivity and bias, thus limiting their reliability and validity. Further, on account of the limited reliance on statistical analysis, SCED analysis methods have received critique for the possible bias inherent in interpreting the data (Kazdin, 2021).

4.8 Recruitment of participants

Following ethical clearance, the recruitment process was initiated (See Appendix B). As a part of a broader research study, the lead researcher sought participants from Rhodes University's student population and recruitment was conducted through the university's mailing list. Students who completed the informed consent process and expressed interest were required to complete initial screening measures (Appendix A). The interested participants were to complete the Posttraumatic Stress Diagnostic Scale (PDS-5) and the Patient Health Questionnaire-9 (PHQ-9), and all scores would constitute the baseline data for those who were retained in the study. Based on the responses, participants were organised and assigned to specific researchers according to trauma history, as there were studies that focused exclusively on sexual violence. Another means of participant recruitment was through the researcher's clinical practice. If a client presented with symptoms indicative of PTSD, the researcher would inform them about the study.

The research process spanned over four years. The study site was a community psychology clinic in the Eastern Cape however, the researcher relocated. As a result, attempts were made to conduct teletherapy sessions. During this period, two participants showed interest in the study but were not retained due to attrition and failure to meet the inclusion criteria following baseline assessment. Subsequently, the researcher relocated back to the Eastern Cape, and the participants included in the study were seen in person at the original research site. Digital interventions are increasingly finding favour because they increase access to treatment and reduce stigma for those seeking mental health treatments (Acierno et al., 2017; Bröcker, et al., 2023; Bröcker et al., 2024). However, online MPE has yet to find its way into the literature.

The study initially employed the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) as its primary assessment tool (Weathers et al., 2018). The CAPS-5 has demonstrated sound psychometric properties as evidenced by a global Cronbach's alpha estimate of 0.91 across 15 studies (Wojujutari et al., 2024). The CAPS-5 is usually employed alongside the Life Events Checklist (LEC) in clinical work and research. The LEC is a 17-item self-report measure that screens for potentially traumatic events (PTE's). Despite its validity, the CAPS-5 was not retained in the research due to several strenuous factors. Comparative studies that compared the CAPS-5 and the PTSD Checklist for DSM-5 (PCL-5) noted high discrepancies in scoring in the CAPS-5, with the measure showing no superiority in measuring PTSD symptoms (Wortmann et al., 2016).

Ultimately, the decision was made not to retain the CAPS-5 due to its lengthy and resource-intensive administration protocol. As noted earlier, one participant withdrew from the study in its initial phases, citing the high administrative burden as their reason for dropping out.

4.9 Inclusion and exclusion criteria

To be eligible for participation in the study, individuals had to be between the ages of 18 and 65 years old and be registered students at Rhodes University. Prospective participants had to meet the criteria for a diagnosis of PTSD as indicated by a score of 28 or higher on the PTSD Diagnostic Scale for DSM-5 (PDS-5). Further eligibility criteria required that participants speak English, as the treatment protocol and the intervention would be conducted in English. Exclusion criteria included individuals with severe psychopathology. According to the manualized treatment described in this study, exposure therapy should not be administered to individuals who are at imminent risk of suicidal or homicidal behaviour, those with self-injurious tendencies, individuals currently experiencing psychosis, those at high risk of being assaulted or those with a lack of clear memory of the traumatic(s) (Foa et al., 2007). Intervention can be pursued once the mentioned conditions have stabilized. Those who had received psychotherapy for PTSD within the past 3 months were also excluded. Lastly, participants were excluded from the study if their distress was not primarily due to trauma or trauma exposure.

4.9 Data analysis

4.9.1 Quantitative data analysis

4.9.1.1 Visual analysis

Single-case experimental designs prescribe the use of graphs for the purposes of visual analysis. Through this data analysis method, data is displayed on graphs for all participants with the trend, level and stability within and between conditions (Lane & Gast, 2014). Trend is defined as the direction of the data, or progress over time, whilst the level in visual analysis refers to the value of the data patterns on the dependent variables, and the stability refers to

the similarity of the scores. Lane and Gast (2014) state that participants' data is calculated and transferred to a graph for the purposes of visual analysis. Data can be presented through cumulative records, bar graphs, line graphs and semi-logarithmic charts, with line graphs being the most commonly used.

4.9.2 Qualitative data analysis

4.9.2.1 Thematic analysis

Braun and Clarke's (2006) thematic analysis (TA) is a qualitative method for identifying, analysing, and reporting patterns or themes within data. The data analysis method is recognized for its flexibility and accessibility across epistemological positions. TA is particularly suited to interpretivist frameworks that place emphasis on rich and nuanced accounts of participants' lived experiences through in-depth interviews (Blanche et al., 2006; Braun & Clarke, 2006). In line with this, semi-structured interviews were conducted in the present study to explore participants' experiences of the intervention in depth. Mixed-methodology studies, particularly those incorporating qualitative data within exposure therapy research in the South African context, remain limited.

Since its inception, TA has evolved into reflexive thematic analysis (RTA), which asserts that researcher subjectivity and reflexivity are tools to be understood as interpretive resources rather than biases that should be discarded (Braun & Clarke, 2019; 2021). RTA emphasizes active engagement with data, theory and the researcher's positionality (Braun & Clarke, 2021; Clarke & Braun, 2013). This is in alignment with contemporary qualitative approaches that value transparency and critical reflection (Byrne, 2021).

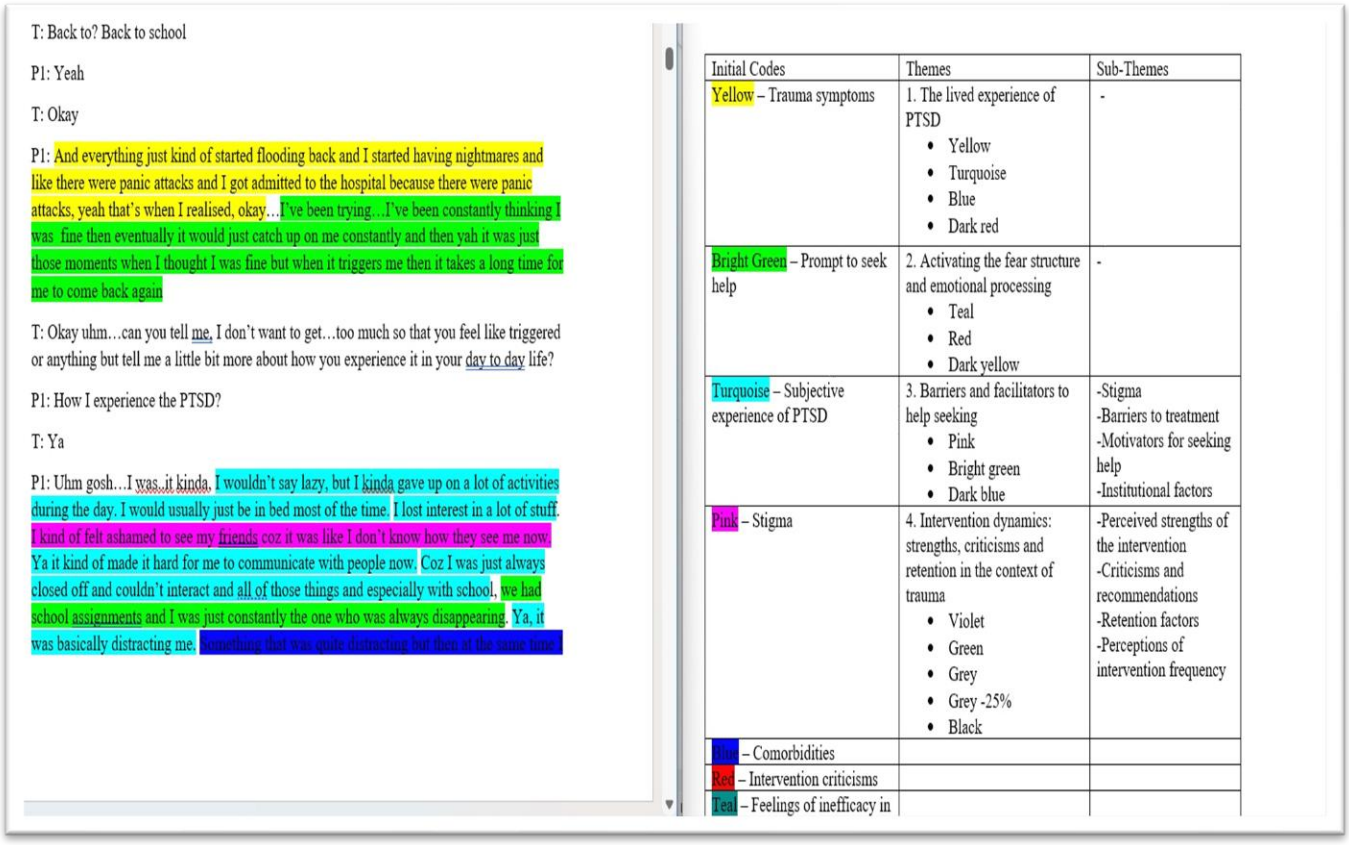
The interview schedule was designed using Weiner et al.'s (2017) implementation science framework, focusing on acceptability, appropriateness, and feasibility of the intervention (See Appendix H). Interviews were audio-recorded by an independent researcher

to ensure neutrality and reduce bias. Following data collection, I transcribed the interviews verbatim in accordance with TA best practices (Braun & Clarke, 2006; 2019).

I followed the six-phase approach to Reflexive Thematic Analysis systematically. Firstly, I engaged in data familiarization, which involves immersing oneself in the data and content to understand its depth and breadth and includes reading and re-reading the transcribed data (Campbell et al., 2021). Secondly, I generated initial codes to organize the data, with full and equal attention given to each data item. As seen in Figure 4.1, this process includes labelling and organizing data items into meaningful groups (Campbell et al., 2021). The third phase involved generating initial themes wherein relationships among the different codes are mapped out. The fourth phase describes a process wherein the initial themes are reviewed and refined. The fifth phase entailed defining and naming the themes. Finally, the sixth phase involves reporting the themes (Braun & Clarke, 2006; Campbell et al., 2021; Saldaña, 2021). Furthermore, where necessary and appropriate, I developed sub-themes for the purposes of elaborating on themes that may have been too broad or general (Braun & Clarke, 2006). The themes that were developed specifically aimed to address the research questions concerning the acceptability and the feasibility of the intervention. Rough analytical notes, as well as selected excerpts and screenshots from participants' accounts, are provided in Appendix J.

Figure 4.1

Coding Process Overview



Throughout the analysis, I maintained reflexivity by critically examining how my assumptions, positionality and interactions with participants shaped theme construction (Braun & Clarke, 2021). Furthermore, to ensure trustworthiness, the transcripts were cross-checked against audio recordings for accuracy (Lincoln & Guba, 1985). The supervising researcher independently reviewed transcripts and themes to mitigate interpretive bias (Nowell et al., 2017).

Chapter summary

This chapter outlined the methodology employed in the present study. It began with an overview of mixed-methods research, including a rationale for its selection. A detailed discussion of the Single-Case Experimental Design (SCED) and its fundamental principles

was provided. The recruitment process was described, detailing the sample size as well as the inclusion and exclusion criteria. This chapter also introduced the assessment measures used to establish baseline stability, alongside the implementation measures designed to evaluate intervention acceptability and feasibility. Methods for data analysis were discussed, including visual analysis for quantitative data and reflexive thematic analysis for qualitative data. The next chapter will focus on the intervention procedures and address the ethical considerations pertinent to this study.

Chapter 5

Intervention

Chapter overview

The previous chapter was dedicated to outlining the methodology and design that were employed to carry out the study. It outlined the assessment measures that were vital to the recruitment process. The purpose of this chapter is to outline what the intervention process entailed. The assessment measures that were utilized in the intervention process will be presented. Additionally, this chapter will provide a detailed breakdown of the two-week intervention, which was based on the Prolonged Exposure Therapy for PTSD by Foa, Hembree and Rothbaum (Foa et al., 2007). The chapter will also present a brief discussion on treatment fidelity. Finally, ethical considerations will conclude this chapter.

5.1 Assessment measures

Foa and Meadows (1997) emphasize the importance of utilizing valid and reliable assessment measures as an essential component of intervention research. In alignment with this recommendation, the current study incorporated a range of psychometrically sound instruments administered at various time points to evaluate both the primary and secondary outcomes. Specifically, the PDS-5, the PTSD Checklist for DSM-5 (PCL-5) and PHQ-9 were used to assess PTSD and depression, respectively.

5.1.2 Primary outcome measures

5.1.2.1 PDS-5

The PDS-5 was administered at baseline to ascertain whether prospective participants met the diagnostic criteria for PTSD and to assess the severity of their symptoms. The PDS was essential for collecting data on the index trauma, which was fundamental since the

intervention focuses on addressing one specific trauma at a time. This is in alignment with the chosen research design which prescribes a baseline assessment as participants serve as their own controls during the intervention (Kazdin, 2019). The psychometric properties of this instrument were discussed comprehensively in the preceding chapter.

5.1.2.2 PCL-5

The PTSD Checklist for DSM-5 (PCL-5) is a 20 item self-report measure used to assess trauma-related symptoms (Weathers et al., 2013) (See Appendix C). Total scores range from 0 to 80, with higher scores indicating greater PTSD symptom severity (Weathers et al., 2013). The measure aligns with the four symptom clusters outlined in the DSM-5 and classifies symptom severity into five categories: Normal Range, Mild, Moderate, Severe, and Extremely Severe. A total score of 33 or higher is considered clinically significant. The PCL-5 has sound psychometric properties with good internal consistency demonstrated by a Cronbach's alpha of 0.96 (Bovin et al., 2016). The measure has also been validated with a South African population (Kagee et al., 2021). Kagee et al. (2021) report a sensitivity score of .88 and a specificity score of .88 in a study assessing the ability of the PCL-5 to distinguish between caseness and noncasesness for PTSD.

The instrument was administered throughout the intervention phase, with multiple observations recorded. Following the manuals guidelines, it was administered every other session (Foa et al., 2007). The scores were used to monitor changes in PTSD symptoms and to assess whether participants showed improvement between the sessions.

5.1.3 Secondary outcome measures

5.1.3.1 PHQ-9

The PHQ-9 was administered intermittently throughout the intervention to assess and compare depression scores between sessions.

5.2 Overview of treatment

The therapist manual for Exposure Therapy for PTSD is designed for use alongside the client workbook *Reclaiming Your Life from a Traumatic Experience.* Prior to delivery of the treatment programme, brief training was provided by the principal investigator, a senior clinical psychologist and CBT therapist. The intervention was carried out over 2 weeks. Following recruitment, participants were contacted for an initial meeting and history taking, in which they'd be screened further, which took place outside the 2-week intervention period. A detailed history, particularly focusing on the trauma relevant to the treatment programme, was assessed. Moreover, the rationale for the treatment was briefly introduced. Foa et al. (2007) emphasize that the foundation of treatment is built upon a therapeutic alliance, empathy and support. Peer supervision with another MA-level psychologist and ad-hoc supervision from the principal investigator was provided throughout the process.

Prior to the intervention, the manual dictates that The Trauma Interview be conducted with the participant (See Appendix I). The information gathered from the Trauma Interview is used to guide the intervention. Audio recording devices should be available to record the sessions, and these recordings must be made available to the principal investigator for treatment fidelity purposes. Ongoing assessment is a key component of the treatment and is achieved through clinical interviews and self-report measures.

5.2.1 Intervention overview

Key components of the intervention included homework assignments and the continuous presentation of the rationale for treatment. The use of the workbook was especially encouraged during the initial stages, as it reinforced the treatment rationale whilst providing clarity about what the treatment entailed.

5.2.1.1 Session 1

The first session of the intervention involved presenting a comprehensive overview of the treatment program. A substantial amount of time was dedicated to this. In-vivo exposure and imaginal exposure as the central components of the treatment program were presented. Moreover, breathing retraining took place in the first session. The Trauma Interview was conducted to gather detailed information about the participants' experiences insofar as the trauma is concerned (Foa et al., 2007). Homework was assigned at the end of the session and entailed listening to the audiotape of the session. Participants were also instructed to arrive early for the next session to complete self-report forms.

5.2.1.2 Session 2

During this session, the PHQ-9 and the PCL-5 were administered at the start. Once the assessments were completed, audiotaping began, and the session format was outlined. The session started with a review of the assigned homework from the previous session. A significant portion of time was dedicated to psychoeducation about PTSD, including the common reactions to trauma and the role of avoidance as a central feature of the disorder. A collaborative effort was made to build an in-vivo hierarchy with the participants. Also, the SUDS was introduced here as a tool for tracking distress and discomfort levels throughout the treatment and exposure exercises. The session concluded with assigning homework once more.

5.2.1.3 Session 3

Here, the Therapist Imaginal Exposure Recording Form was introduced, and imaginal exposure occurred (See Appendix F). The participants were guided through the process and encouraged to detail their trauma, the feelings associated with the trauma and do so in the present tense (Foa et al., 2007). Foa et al. (2007) emphasize that participants need to be

encouraged and informed that memories in and of themselves are neither harmful nor dangerous. SUDS were recorded at regular intervals during the imaginal exposure process. This session was audiotaped, with separate recordings to isolate the imaginal exposure segment, which would be the focus of the homework. Participants were instructed to listen to both audiotapes though. Participants were also instructed to use the Imaginal Exposure Homework Recording Form and the In Vivo Exposure Homework Recording Form to document reflections and progress (See Appendix G).

5.2.1.4 Intermediate sessions

As the intervention progressed, intermediate sessions focused on reinforcing previously introduced techniques. Self-report measures were administered every other session to continuously assess PTSD and MDD symptomology. An important component introduced later in the interventions was the Hot Spots procedure, as outlined by Foa et al. (2007). The Hot Spots procedure entailed focusing on the most distressing aspects of the traumatic event, known as the "hot spots." The sessions continued with daily homework.

5.2.1.5 Final session

The final session of the intervention was dedicated to summarizing the treatment progress and outlining the next steps. It was important to reinforce the participants' feelings of self-efficacy and sense of control. The session highlighted the coping strategies and mechanisms learned all throughout the intervention, which may be employed in the event that there is an increase in anxiety, stress or PTSD-related symptoms (Foa et al., 2007). The PDS-5 and the PHQ-9 were administered during the final session with each participant.

5.3 Treatment fidelity

Treatment fidelity involves the continuous assessment, monitoring and enhancement of the reliability and internal validity of a study (Kendall & Beidas, 2007). According to

Kratochwill and Levin (2014), treatment fidelity is a fundamental component of reliable and credible intervention research. Treatment fidelity was closely monitored by the principal investigator and research supervisor Dr. Duane Booysen, who had access to all audiotapes and intervention materials. Supervision was provided after the first participants first session for the purposes of consistency and delivery of the intervention. It should be noted that while the treatment manual recommends using the PSSI for screening and assessing trauma symptoms, this study made use of the PCL-5 and the PDS-5. Although both instruments possess sound psychometric properties, it can be said that this methodological inconsistency reflects the challenges in maintaining uniformity in research protocols in LMICs. As asserted by Kane et al. (2015) and Seedat et al. (2018) who note that statistics in LMICs are influenced unfavourably by variations in methodology such as non-random sampling, small sample sizes and deviance in psychometric protocols. This deviance in methodology acts as a limitation in treatment fidelity.

5.4 Ethical considerations

The Health Professions Council of South Africa (HPCSA) and the National Health Research Ethics Council (NHREC) provide the guidelines for which scholars and alike must adhere to when conducting studies involving human participants. The fundamental ethical principles overarching all scientific practice are (1) respect for persons, (2) beneficence and, (3) justice (Bless et al., 2014). Researchers are obligated to treat persons with respect for their autonomy, do no harm and ensure they are treated in reasonable and non-exploitative ways (Vanclay et al., 2013). Ethical approval for this study was provided by the Rhodes University Research Projects and the Ethics Review Committee (RPERC) Rhodes University Human Research Ethics Committee (RU-HREC) (clearance number 2022-5515-6982). The ethical considerations relevant to this study are presented below.

5.4.1 Informed consent

Informed consent is the foundation of all research and involves voluntary participation by individuals in the research based on sufficient information and disclosure of the purpose and potential benefits and risks inherent to the study (Vanclay et al., 2013). Thus, prospective participants provided informed consent to engage in the research and be audio-recorded. The informed consent outlined the purpose, procedures, the potential risks and discomforts, the practices that will be utilized for maintaining confidentiality, as well as the rights participants have. Participants were provided with the contact details of the principal investigator and the Rhodes ethics committee if they had further questions related to the study. Moreover, prospective participants were informed of the mental health services, such as the Rhodes Counselling Centre and the Assumptions Development Centre (ADC) Counselling Hub, that can be accessed in the event that further psychotherapeutic services are needed after the study or there is withdrawal from the study prior to completion of the intervention.

5.4.2 Voluntary participation and right to withdraw

Research participants must be made aware that participation in research is voluntary and that they will not be subject to any coercion. Similarly, the right to withdraw at any point in the research must be made known to participants (Vanclay et al., 2013). Participants were informed of this right and informed that no penalty would come as a result of withdrawal from the study.

5.4.3 No harm to participants

Participation in research must ensure that participants are not exposed to adverse consequences as a result of engaging in the research process (Vanclay et al., 2013). Participation in social research, particularly studies involving trauma and psychological interventions, often requires individuals to reflect on personal and distressing issues, which

may lead to emotional discomfort (Jorm et al., 2007). This emotional distress and discomfort are inherent to trauma-focused interventions and research. However, this emotional distress does not necessarily outweigh the potential benefits (Jorm et al., 2007; Newman & Kaloupek, 2004). Prospective participants were fully informed about the potential risks and discomforts associated with confronting traumatic memories.

Therefore, in the event that this is the case. Literature dictates that it is the researcher's obligation to ensure that the process does not finish until there is recourse for the emotional distress (Vanclay et al., 2013). Services that could be accessed in the event that an individual did not meet the inclusion criteria were also disclosed.

5.4.4 Anonymity

Prospective participants engage in the research process with the presumption that anonymity will be upheld (Vanclay et al., 2013). Participants were thus allocated numbers during the research recruitment process and their identity is kept anonymous throughout the research.

5.4.5 Confidentiality and data protection

Confidentiality refers to non-disclosure of private and personal information. It is the responsibility of the researcher to make a good judgment about what is to be shared and what is not. The study involves particularly personal and private information, it is thus important that the ethical principles of anonymity and confidentiality be understood to be working together to ensure that even when personal information is shared, it excludes the participant's identity and cannot be traced back to them. Similarly, data protection, is the process of ensuring that data is carefully stored and safe from unauthorized access (Vanclay et al., 2013). To ensure confidentiality, all paper and electronic data were stored in a Google Drive that was safeguarded and monitored by the principal investigator.

5.5 Adverse events and mitigation

According to Wassenaar and Slack (2016), it is crucial not to underestimate the potential for harm in psychological treatments, especially within research contexts. Participants may experience harm affecting their dignity or well-being during a study. Therefore, a distress protocol was developed for the present study.

Participants were monitored continuously through formal assessment measures as well as verbally by regularly checking in on their experiences during the trauma therapy. The informed consent form and information sheet clearly stated participants' right to withdraw from the study at any time, this which was also communicated verbally. Additionally, participants who expressed interest but did not meet inclusion criteria were referred to counselling services available at the Counselling Centre to ensure appropriate support.

It was important to consider that the protocol acknowledges symptoms may initially worsen before improvement occurs. However, in the event that participants experienced worsening beyond predicted levels, several safety and mitigation measures were implemented. The Principal Investigator, senior psychologist and supervisor were accessible outside of office hours for emergencies. Additionally, ad-hoc supervision sessions provided a platform for discussing potentially dangerous scenarios in depth and planning appropriate mitigation strategies.

No adverse events occurred during the study. Importantly, when participants were contacted for interviews at the post-intervention phase, they verbally reported sustained benefits from the intervention.

Chapter summary

This chapter was dedicated to providing a detailed description of the intervention. The intervention mechanisms and materials were outlined in detail and treatment fidelity was

discussed. A brief overview of the limits of treatment fidelity was presented. The chapter was concluded by a comprehensive discussion related to the ethical considerations of the study. The subsequent chapter will focus on case conceptualizations.

Chapter 6

Case Studies

Chapter overview

The previous chapter provided a detailed description of the intervention. The aim of Chapter 6 is to provide an idiographic overview of the two trauma survivors who participated in the present study. The chapter begins by introducing each participant briefly and presenting information related to their trauma. The participants met the diagnostic criteria for both PTSD and MDD as affirmed by the assessment measures utilized in the intervention. Cases were conceptualized through the use of Emotional Processing Theory.

6.1 Case introductions

To uphold the anonymity of the research participants, they will be referred to as Participant 1 and Participant 2 throughout the study.

6.1.1 Participant 1

Participant 1 was and18-25-year-old female from Gauteng. At the time of the intervention, she was in her third year of undergraduate studies in the Commerce faculty at Rhodes University and lived off-campus.

In line with Criterion A of PTSD in the DSM-5, Participant 1 directly experienced a traumatic event wherein she endured serious injury (APA, 2013). She reported being physically assaulted by her mother and that the incident took place during the December vacation period. The participant was reportedly physically assaulted in front of her family. According to the participant, her mother physically assaulted her repeatedly whilst her aunt, a bystander looked and cheered her mother on. Participant 1 reported that other family members had to physically intervene to stop her mother from physically assaulting her.

During the incident, she reports observing her mother pick up a vase which she believed was intended to be used as a weapon against her. She stated sustaining a concussion and nerve damage in her left eye, as diagnosed by an optometrist.

6.1.2 Presenting complaints

Since the trauma, the participant reported salient intrusion symptomology. She reported recurrent distressing dreams related to the traumatic incident, such that she had insomnia. The participant reported being afraid to sleep and being reliant on energy drinks as a result. Following the traumatic incident, the participant had marked physiological reactions to reminders of the trauma, as evidenced by panic attacks. The participant was seen in April 2024. She reported 4 panic attacks in February and had been hospitalised as a result. Further, she reported a panic attack in the week prior to being seen. She had engaged in avoidant behaviour, indicative of Criteria C symptomology, as a result of the panic attacks, such that her class attendance had decreased because of a fear of having a panic attack in public. Further she reported feeling “exposed” and as though her classmates had known that she had endured physical assault at the hands of her mother.

Criteria D symptoms were evidenced by the participant’s persistent and distorted cognitions about the cause of the traumatic event. She reports being known as a good child and reports that part of what led to her being physically assaulted was her standing up for herself in the form of silent treatment. She states that she regrets that she did this and that she shouldn’t have stood up for herself in this way. Instead, she should’ve tried her best to continue being the good child who causes minimal trouble. Be this as it may, she attributed blame to her mother and her aunt. She reported feeling guilt at first, then reported a shift to anger.

In line with a persistent negative emotional state, she noted that her baseline mood following the trauma was frustrated. She added that she was easily distractible, absent-minded and forgetful. Her forgetfulness was evidenced by her losing things unnecessarily. A significant diminished interest in significant activities was reported by the participant. Apart from the decreased class attendance reported above, she reported that she used to enjoy aerobics and relied on her cousin for support. She also reported that she was beginning to enjoy the things traditionally associated with femininity, like make-up and experimenting with her clothing style. However, following the traumatic incident, she stopped experimenting with make-up as it was used to conceal the bruises resulting from the trauma. She reported a diminished interest in showing up in a feminine-presenting way entirely. The participant also added growing distant from her cousin and isolating from social groups altogether.

In terms of substances, she used alcohol, cigarettes, psychedelics and cannabis. It should be noted that she met the criteria for Cannabis Use Disorder. Although not formally assessed and diagnosed, the participant reported symptoms of social anxiety. She reported that cannabis was used as a means to cope with this anxiety. She reported using 5 grams of cannabis daily. The participant reported that she had gone to therapy, the gym and lectures whilst intoxicated. She was in the process of attempting to stop when she was seen, and it had been a week since she had had cannabis. Considering that there was a cessation of cannabis use following heavy and prolonged use, a diagnosis of Cannabis Withdrawal could've also been considered (APA, 2013). The symptoms of Cannabis Withdrawal may imitate those of MDD, particularly a depressed mood, sleep difficulties, nervousness or anxiety, and decreased appetite, as was seen with the participant. It should be noted, however, that the participant met the criteria for MDD prior to her cessation of cannabis, although her

symptoms of MDD may have been exacerbated and worsened by her cessation of the substance.

6.1.3 Case conceptualization

The case conceptualization is based on EPT as outlined in chapter 2 (Foa & Kozak, 1986).

Following the traumatic event, Participant 1 developed a pathological fear structure (Rauch & Foa, 2006). This was evidenced by her avoidance of her mother and other family members who reminded her of her trauma. Participant 1's pathological fear structure was extremely generalized however, such that it extended beyond trauma-specific reminders and included avoidance of stimuli, conversations and situations unrelated to the original trauma. Over and above her erroneous belief that she could not trust her mother and home environment, Participant 1 developed a deep mistrust of the world in general. Therefore, her generalized fear and mistrust led to pervasive avoidance behaviour wherein she withdrew from her family and from the activities she previously enjoyed. Further, there was a notable decline in her class attendance.

According to Lang (1977), fear structures serve as templates that guide avoidance of feared stimuli, and these structures may maintain and exacerbate PTSD symptoms as they limit corrective emotional processing. Participant 1's avoidance reflects the erroneous belief that many of the aspects in her life are unsafe. Further avoidance behaviours manifested through a reluctance to engage in the therapeutic homework which involved listening to the audio recordings of the sessions. She found listening to the audio recordings particularly distressing.

EPT posits that in order to modify the erroneous elements within the fear structure, the fear structure must be activated through exposure techniques like imaginal exposure and in-

vivo exposure (Foa & Kozak, 1986). Activation is indicated by increased emotional and physiological reactivity when confronting trauma memories, which is a necessary precursor to processing and habituation (Foa & Kozak, 1986; Foa et al., 2019). In fact, strong emotional reactivity is encouraged, especially initially, as it facilitates the integration of new, non-pathological information into the fear structure (Foa & Kozak, 1986; Rauch & Foa, 2006). This need not be confused with over engagement however, which can hinder true emotional processing.

Throughout the intervention, Participant 1 received continuous support and dedicated time for emotional processing. Habituation was observed and demonstrated by improvements on the self-report measures as well as a notable decline in her Subjective Units of Discomfort (SUDS) ratings particularly for listening to the audio recordings. SUDS is a self-report scale that allows individuals to rate the intensity of their distress or discomfort (Bluett et al., 2014). She reported high distress (SUDS = 75) initially when listening to the recordings, however by the end of treatment she was able to listen to the recordings with little discomfort and distress (SUDS = 5), indicating successful emotional processing and modification of the fear structure (Foa & Kozak, 1986; Foa et al., 2019).

6.2 Participant 2

6.2.1 Case introduction

Participant 2 was an 18-25-year-old female from the Eastern Cape. At the time of the intervention, she was in her fourth year of undergraduate studies in the Humanities faculty at Rhodes University and lived at home with her family.

It was quite difficult for Participant 2 to settle on a single index trauma, as prescribed by the treatment manual (Foa et al., 2007). As discussed in earlier chapters, South Africans are prone to multiple and repeated traumatic events, and Participant 2 exemplified this reality

(Kaminer et al., 2018). Although MPE can be applied to address multiple traumas, this is often done sequentially, rather than concurrently. In this intervention, the focus remained on one trauma per participant. Additionally, to accommodate Participant 2's complex trauma history, the Trauma Interview was conducted on two separate occasions, allowing her to ultimately identify the trauma she wished to focus on during treatment.

Participant 2 directly experienced a traumatic event through serious injury as indicated by Criteria A of PTSD in the DSM (APA, 2013). She reported being in a turbulent relationship during which she endured intimate partner violence (IPV), specifically physical assault, on two occasions in 2023 and early 2024. On the first occasion, she reports being slapped by her ex-partner in the center of her face and experiencing trouble with her vision since. Additionally, she was strangled on the second occasion by said partner and reported losing consciousness briefly. She sought a protection order against the partner.

6.2.2 Presenting complaints

Participant 2 reported intrusion symptoms as evidenced by recurrent and involuntary distressing memories of the traumatic incident. Further, she reported intense psychological distress to reminders of the traumatic incident. Salient features of participant 2's symptomology were avoidance of stimuli associated with the trauma. Participant 2 reported that she avoided a particular restaurant in the Makhanda area and avoided travelling a particular route when commuting by taxi. Her ex-partner was a member of the South African Defence Force (SANDF), and the likelihood of encountering him was nil at the time of the treatment, as he was deployed. However, the possibility of encounters with acquaintances or mutual friends was particularly distressing for the participant. Thus, she avoided the restaurant on account of a mutual friend who worked there and avoided the commuting route for similar reasons.

In line with Criteria D, she reported persistent distorted cognitions, a persistent negative emotional state, feelings of detachment from others and sustained inability to experience positive emotions. Participant 2 blamed herself for both traumatic events as she believed that she should have exited the relationship much sooner than she did. She felt guilty about staying long enough to be physically assaulted on two occasions. With regards to her mood, she reported indifference and numbness. Further, she reported experiencing difficulties with sleep and battling with concentration.

Participant 2 was diagnosed with MDD prior to the traumatic event(s). She reported, however, that her symptoms worsened following the trauma. In line with MDD symptomology, Participant 2 noted anhedonia, insomnia, concentration difficulties, low libido and low energy and noted that she isolated herself. She reported passive suicidality since 2018, with no intent and no plan.

6.2.3 Case conceptualization

Similar to Participant 1, Participant 2 developed a pathological fear structure following her traumatic experience, which functioned as a template for avoiding perceived threatening situations (Ruach & Foa, 2006; Foa et al., 2019). Participant 2 presented with avoidance that spanned multiple contexts, perpetuating her PTSD symptoms by reinforcing maladaptive beliefs about the inherent danger of the world (Lang, 1997; Lissek & van Meurs, 2014). Activation of this fear structure through exposure techniques was thus critical to disrupting these erroneous associations and facilitating corrective emotional processing (Craske et al., 2008; Foa & Kozak, 1986).

Participant 2 exhibited under-engagement during imaginal exposure exercises. She continuously narrated her trauma in the past tense and would detail and describe the trauma as though it were happening to someone else, wherein describing the trauma in the present

tense was a crucial element to activating her pathological fear structure. This was a coping strategy for her as it would detach her from her trauma. Moreover, it was also a means of avoidance. This distancing behaviour was coupled with an aloof and indifferent demeanour during sessions, which likely represented emotional numbing and blocking. This emotional numbing and blocking extended to other areas of Participant 2's life as she had disclosed that she had no emotional response to the death of a close aunt during the course of the intervention.

Avoidance and under-engagement were further observed in Participant 2's resistance in completing homework assignments, particularly listening to audio recordings, which is consistent with the challenges faced by Participant 1. Early in treatment, individuals commonly exhibit avoidance behaviours as they confront distressing trauma-related memories, which is a recognized and anticipated part of the therapeutic process (Rauch & Foa, 2006).

Despite these challenges, habituation was achieved. Participant 2 reported feeling "bored" during later sessions, which was reflected in declining SUDS ratings and reductions in her PCL-5 and PHQ-9 scores. Her report of feeling "bored" suggests that the emotional intensity associated with the trauma memory had diminished, reflecting that the trauma had been effectively "worn out", as prescribed by the treatment manual (Foa & Kozak, 1986; Foa et al., 2019).

It is important to note that Participant 2 had received a diagnosis of Major Depressive Disorder (MDD) prior to her engagement in the intervention. Although her depression was unrelated to her traumatic experience, the trauma did exacerbate her depressive symptoms. The intervention demonstrated effectiveness in treating her depression as a secondary outcome reflected by improvements in her PHQ-9 scores.

Chapter summary

This chapter provided an idiographic overview of the trauma survivors who participated in this research study, offering a detailed and individualized understanding of each case. The chapter presented the participants individually, beginning with a brief introduction, outlining their demographic backgrounds and relevant contextual information. An in-depth discussion of their presenting complaints was presented. Specific symptomology and unique case considerations were also presented. Lastly, comprehensive case conceptualizations were presented using Emotional Processing Theory.

Chapter 7

Results

Chapter overview

This chapter presents the results of the MPE intervention. First, the quantitative results are presented through visual inspection. Then, semi-structured interview findings using reflexive thematic analysis are discussed. Reflexivity is also presented in this chapter. Lastly, a summary of the results that synthesizes the findings is provided.

7.1 Introduction to the Results

The findings of this intervention demonstrated that MPE effectively improved symptoms of PTSD and depression after 10 consecutive sessions for both university student participants, with sustained improvements observed throughout the course of treatment. This mixed-methodology study is the first to specifically evaluate whether MPE can effectively improve symptoms of PTSD and depression in a university student population. As will be seen, the qualitative findings provide rich and nuanced insights into the intervention, both supplementing and complementing the quantitative data. The qualitative results highlighted several key themes such as the participants lived experiences of PTSD, the complexity of engaging in exposure-based treatment techniques, barriers and facilitators to help-seeking and intervention dynamics that influenced treatment retention and outcomes.

7.2 Participant Characteristics

As outlined in the previous chapter, the participants in this study were contextualized using idiographic case descriptions, in line with the recommendations of Barlow et al. (2009). This approach facilitates the exploration of causal relationships among variables.

Table 7.1 below summarizes the sample characteristics of the participants. Both participants were female and between the ages 18-25 at the time of the intervention. To ensure anonymity and maintain confidentiality, they will be referred to as Participant 1 and Participant 2 once more.

Table 7.1

Sample characteristics of trauma survivors

Participant	**Gender**	**Age**	**Race**	**Marital status**	**Nationality**	**Trauma type**	**Trauma history**	**Education**
1	Female	18-25	Black African	Single	South African	Physical assault	Single	University
2	Female	18-25	Black African	Single	South African	Intimate partner violence	Multiple	University

7.3 Quantitative Results

7.3.1 Visual inspection and analysis

Lane and Gast (2014) state that visual inspection permits analysis and understanding of participant data through a systematic approach. Visual inspection is particularly useful for establishing good post-intervention functioning based on visual representation of clinical measures (Lane & Gast, 2014). The authors identify three essential features employed in data analysis. Specifically, the level or mean performance in a condition (i.e., baseline or intervention), the trend of the data or the direction in which the data is progressing, which may either increase or decrease, and the variability or stability of the data (Kratochwill & Levin, 2014; Lane & Gast, 2014).

In addition to these core analytical features, the analysis of single-case data also involves examining both within-condition and between-condition data (Lane & Gast, 2014). Within-condition data refers to the analysis of data collected during each phase, for example, during the intervention phase, as demonstrated by administering the PCL-5 every other session (Lane & Gast, 2014).

The following section presents an idiographic analysis of the two participants (n = 2) who completed the intervention.

7.3.2 Participant 1

7.3.2.1 Primary outcome

At the time of intake, Participant 1 met the criteria for PTSD, with a PDS-5 score of 72, well above the clinical cutoff score of 28 (Wittmann et al., 2021). Participant 1's PTSD diagnosis was further confirmed by the PCL-5, on which she scored 63 at the pre-intervention

point. This score is also well above the established cutoff range of 31-33 (Bovin et al., 2016). By the end of the intervention, Participant 1 no longer met the criteria for PTSD, as indicated by a PCL-5 score of 1. Figure 7.1 illustrates Participant 1's treatment outcome, showing her PCL-5 scores before and after the intervention.

Figure 7.1

Participant 1's PCL-5 scores

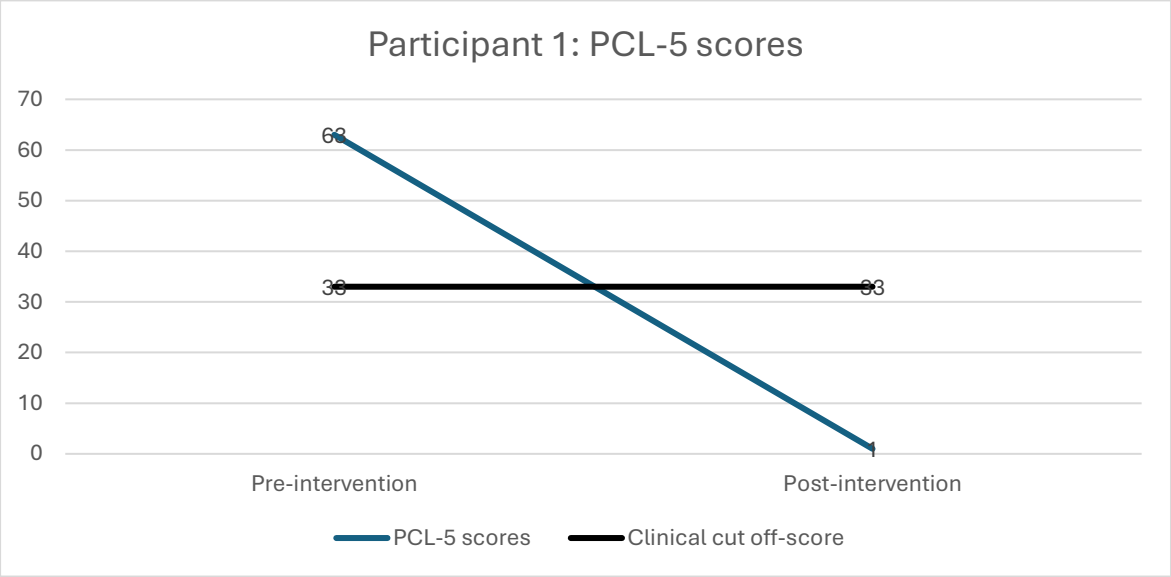
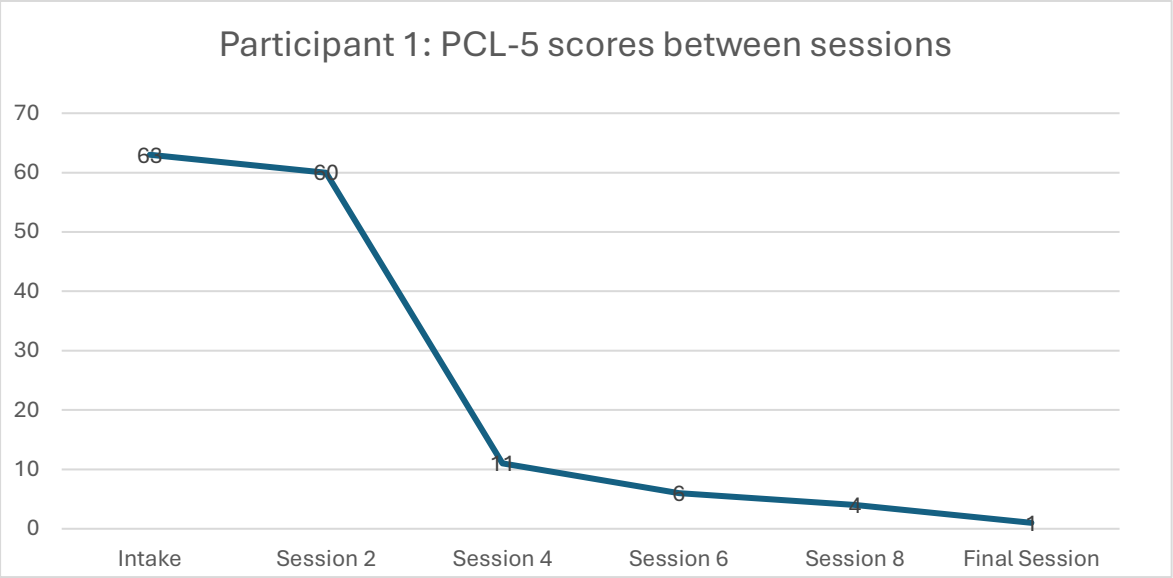


Figure 7.2 below illustrates Participant 1's PCL-5 scores within sessions, showing a steady and clear downward trend. The consistent decrease in her scores indicates a continuous reduction in PTSD symptom severity throughout the intervention period, with no observed fluctuations in symptom levels.

Figure 7.2

Participant 1's PCL-5 scores within sessions

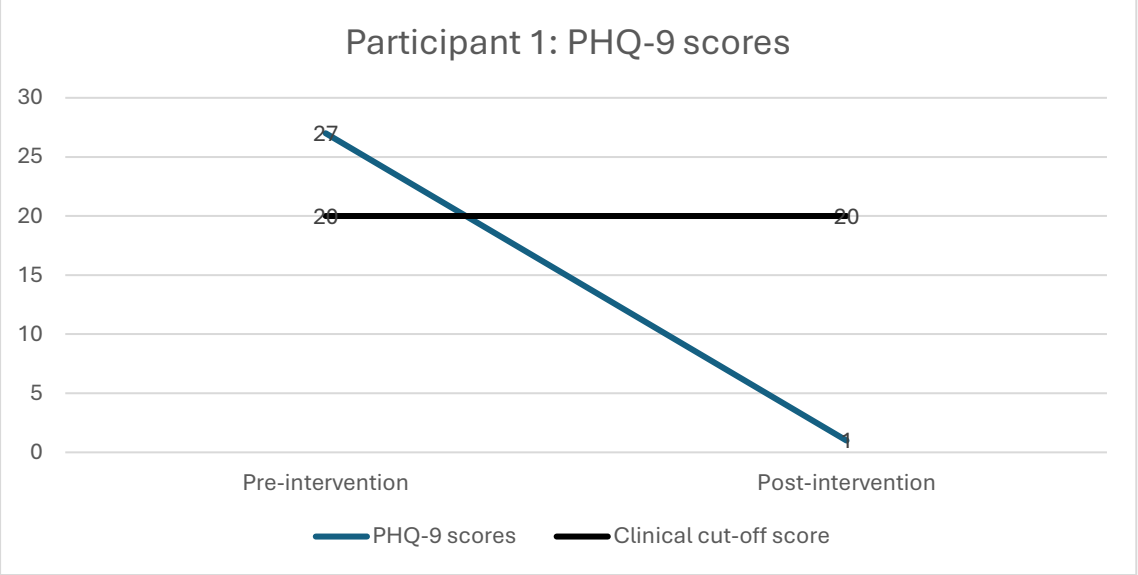


7.3.2.2 Secondary outcome

Participant 1 also met the diagnostic criteria for Major Depressive Disorder as indicated by a score of 27 on the PHQ-9, which is considered severe (Makhubela & Khumalo, 2023). Furthermore, her score is indicative of severe levels of depression. At the end of treatment, Participant 1 had a negative diagnosis of depression as indicated by a score of 1 on the PHQ-9. Figure 7.3 illustrates Participant 1's PHQ-9 scores.

Figure 7.3

Participant 1's PHQ-9 scores



7.3.3 Participant 2

7.3.3.1 Primary outcome

Participant 2 met the diagnostic criteria for the primary treatment outcome, PTSD, as indicated by a PDS-5 score of 60 at recruitment, which is well above the established cutoff score of 28 (Wittman et al., 2021). Furthermore, Participant 2's PTSD diagnosis was confirmed by the PCL-5, with a pre-intervention score of 65, also well above the cutoff (31-33). By the end of treatment, Participant 2 no longer met the diagnostic criteria for PTSD, as indicated by a score of 3. Figure 7.4 below illustrates Participant 2's PCL-5 scores from pre-intervention to post-intervention.

Figure 7.4

Participant 2's PCL-5 scores

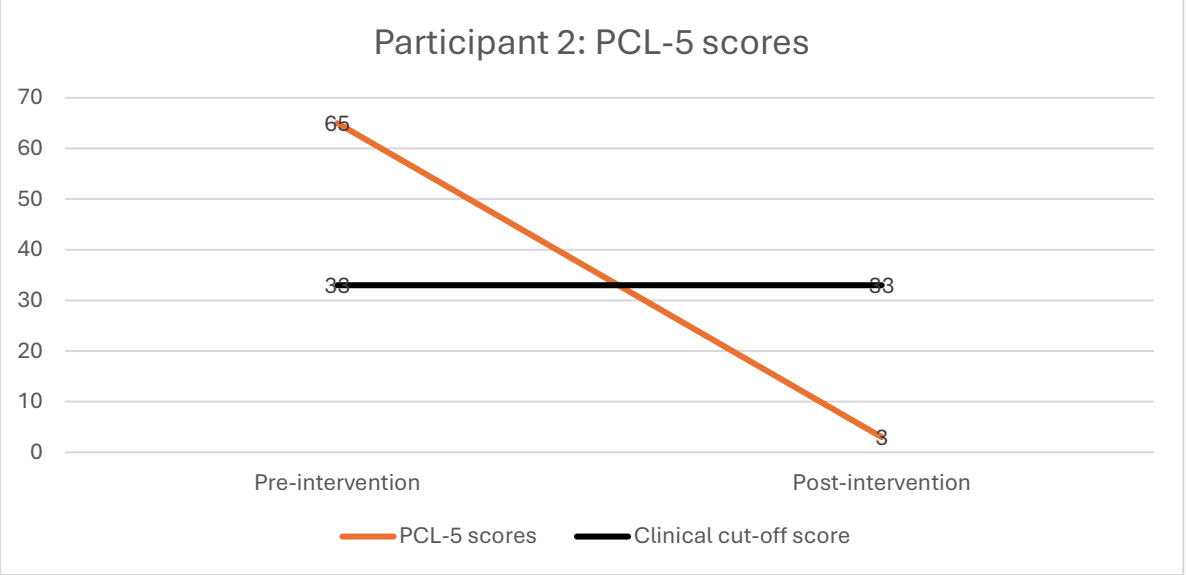
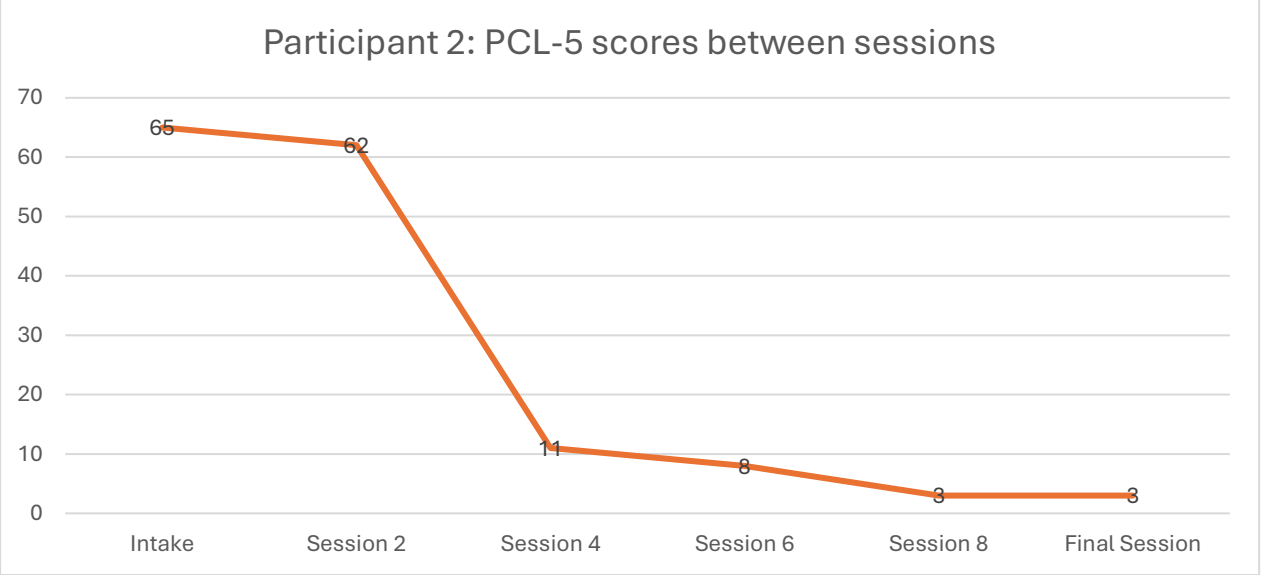


Figure 7.5 below illustrates Participant 2's PCL-5 scores across sessions. Similar to Participant 1, a clear and steady downward trend is evident, indicating a consistent improvement in PTSD symptoms over time. Moreover, there are no increases or fluctuations in symptom severity, reflecting the stability of progress.

Figure 7.5

Participant 2's PCL-5 scores between sessions

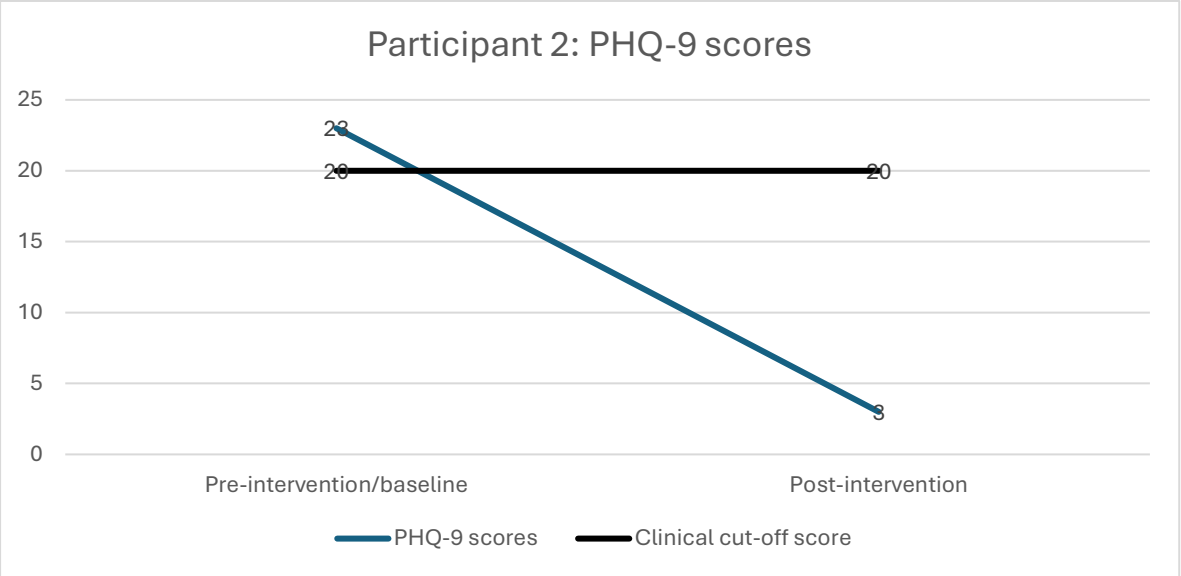


7.3.3.2 Secondary outcome

Participant 2 had received a diagnosis of Major Depressive Disorder prior to her involvement in the intervention. This diagnosis was supported by her PHQ-9 score of 23, which corresponds to severe depression (Bhana et al., 2015). By the end of treatment, Participant 2's PHQ-9 score had decreased to 3, reflecting a significant reduction in depressive symptoms. Interestingly, her score had previously stabilized at 2 before a slight increase to 3. Throughout the intervention, Participant 2 had consistently reported difficulties with sleep and concentration. When her score rose from 2 to 3, she additionally endorsed problems with appetite, specifically noting a lack of appetite. Figure 7.6 below illustrates Participant 2's PHQ-9 scores from pre-intervention to post-intervention.

Figure 7.6

Participant 2's PHQ-9 scores



7.3.4 Across participant trends

Figures 7.7 and 7.8 illustrate the combined trends in scores across sessions for the two participants who completed the treatment.

Figure 7.7 illustrates a clear downward trend in PCL-5 scores for both participants across sessions. In addition, Figure 7.8 illustrates a downward trend in PHQ-9 scores for both participants across sessions. Both Participant 1 and Participant 2 show a consistent reduction in depression symptoms from pre-intervention to post-intervention.

Figure 7.7

Participant 1 and 2 PCL-5 scores

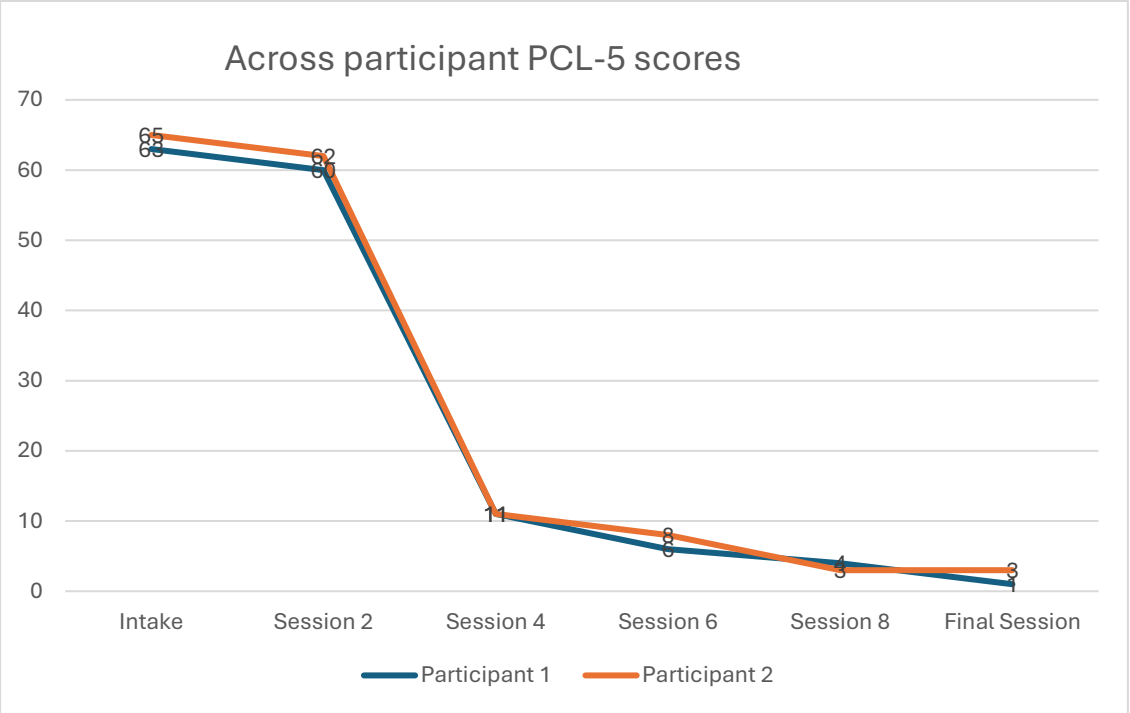
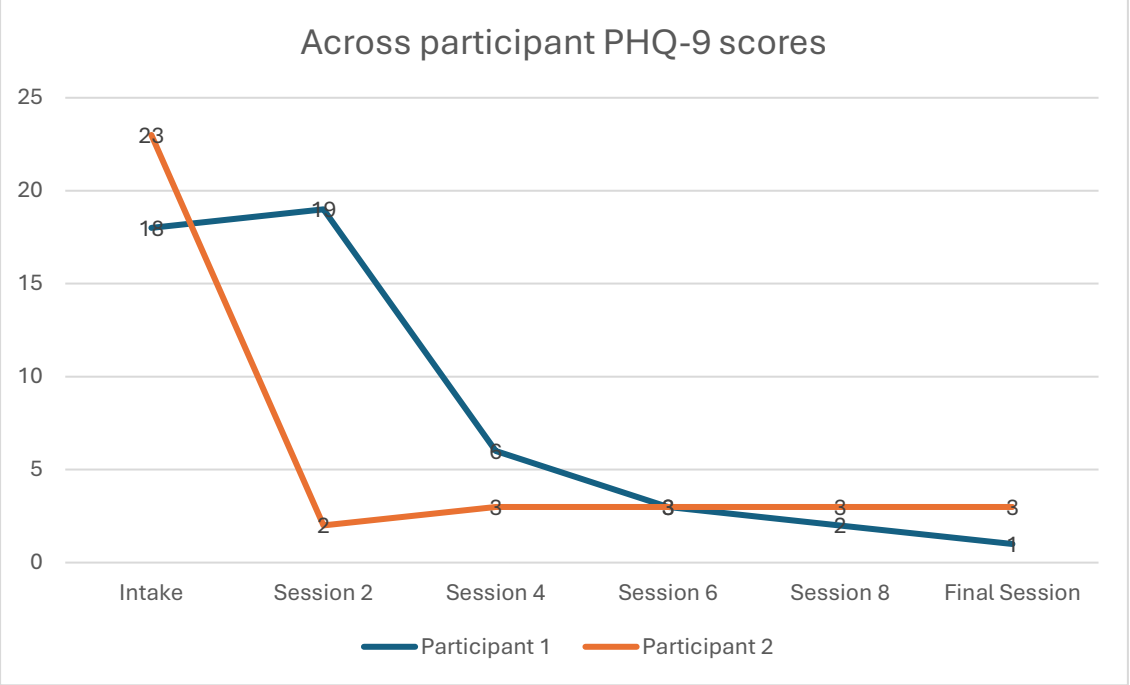


Figure 7.8

Participant 1 and 2 PHQ-9 scores



7.3.5 Summary of quantitative findings

Visual inspection and descriptive analysis of the quantitative results revealed marked and consistent reductions in both PTSD and depressive symptoms across both participants. At intake, both participants met the diagnostic criteria for PTSD and depression as indicated by scores significantly exceeding clinical cut-offs on both the PDS-5 and the PHQ-9. By the end of the intervention, neither participant met criteria for either disorder. Two notable findings emerged from the quantitative data, particularly concerning the comorbidity of PTSD and depression.

Firstly, symptom scores showed stability throughout the intervention period with no notable fluctuations. Participant 2 was an exception however as there was a minor increase in her PHQ-9 score, which rose from 2 to 3 at one assessment point. Although mild in severity, Participant 2 reported difficulties with sleep, concentration and appetite, which appeared to be longstanding and present prior to the intervention. Sleep and concentration problems overlap with PTSD symptoms as was reflected in her PCL-5 responses. Foa and Kozak (1986) noted that state factors like fatigue and difficulties with sleep may hinder successful engagement in MPE. Although inherent to depression, state factors alone are not defining features of MDD. Instead, the fundamental symptoms of the condition are a depressed or hopeless mood and anhedonia (APA, 2013). Further, Participant 2's state factors did not interfere with her treatment engagement. Thus, if Participant 2 had endorsed the two core symptoms of MDD on the PHQ-9 even at very low levels, asserting a negative diagnosis of depression at the end of treatment would have been extremely challenging. We can speculate that perhaps an interaction between state factors and the two core symptoms of MDD may have produced different treatment outcomes for Participant 2 and that state factors alone may not be sufficient. This thus informs the clarity with which treatment outcomes should be reported and suggests that symptom clusters and constellations may be more informative and

carry greater clinical significance than total scores on assessment measures such as the PHQ-9 and PCL-5.

Secondly, the current findings contrast research suggesting that comorbid PTSD and MDD are associated with (1) poorer treatment outcomes and (2) a need for extended treatment duration (Angelakis et al., 2020; Resick et al., 2020). In this study, the treatment was administered as prescribed with no indication for an extension despite the severity of depressive symptoms in both participants. The results support the concurrent treatment of PTSD and comorbid depression, showing equally positive downward trends in symptom reduction.

7.4 Qualitative Results

The qualitative component of this study was guided by two primary research questions exploring the participants' perceptions of MPE, specifically focusing on its acceptability and feasibility. Drawing on Weiner et al. (2017), acceptability is defined as "the perception among stakeholders that a given treatment, service, practice, or innovation is agreeable, palatable, or satisfactory" (p.2). Feasibility is conceptualized as "the extent to which a new treatment or innovation can be successfully used or carried out within a given agency or setting" (Weiner et al., 2017., p.2).

While the quantitative findings established the effectiveness of the MPE intervention, exploring participants perceptions of acceptability and feasibility offers critical insights to inform future implementation efforts (Proctor et al., 2011). Of note, there is a dearth in the research examining how trauma survivors themselves perceive trauma-focused treatments, particularly in LMICs (Booysen & Kagee, 2023). Understanding the perceptions of trauma survivors particularly those who have completed trauma treatments is essential if interventions are to be both effective and contextually relevant.

The following section presents the qualitative findings derived through RTA (Braun & Clarke, 2021). Table 7.2 summarizes the main themes and sub-themes identified, which are subsequently explored in detail.

Table 7.2

Themes and Sub-themes that emerged from the data analysis

Themes	Sub-themes
The lived experience of PTSD	-
Activating the fear structure and emotional processing	-
Barriers and facilitators to help seeking	a) Barriers to help-seeking: logistical barriers b) Treatment adherence and completion factors: clarity of treatment practices, readiness, therapeutic alliance, frequency of treatment, manualization
Treatment perspectives and suggestions	-

7.4.1 The lived experience of PTSD

This theme captures participants' accounts of the profound complexity of living with PTSD. It details how their trauma symptoms permeated every aspect of their daily existence, extending beyond their academic functioning. Both participants revealed how they leaned towards avoidance as a coping mechanism, which proved useful, however, only to a limited extent:

Participant 1: "*…At first you know obviously you know I kinda had to…kinda ignore it per se…avoidance…*"

Participant 2: "*…Then time went by as well and I was like no actually let me just block it out*."

The participants' reliance on avoidance provided temporary relief and a false sense of control over their trauma responses. This was particularly true for Participant 1 whose environment facilitated her avoidance strategies. However, her avoidance strategies created a maladaptive cycle that negatively affected her academic performance as her class attendance had notably decreased.

Furthermore, both participants demonstrated remarkable insight into how their lives had changed fundamentally following their traumatic experiences, showing awareness of the significant disparities between their pre-and post-trauma functioning:

Participant 1: "*Cause I kind of stopped doing a lot of things because I associated them with the trauma and everything so…*"

Participant 2: *"…I was so sad, I was so depressed uhm I stopped doing anything…Then I was like oh actually I won't do anything."*

The above extract from Participant 2 also encapsulates her subjective experience of living with the challenges of PTSD and comorbid depression. The pervasive nature of trauma symptoms extended far beyond academic functioning once more, infiltrating every domain of the participant's lives which was captured aptly by Participant 2 who shared "*So I was like putting everything on hold right*."

The narratives shared by the participants not only entrench the role of avoidance in perpetuating trauma symptomology but also provide clarity with regards to the rationale for

exposure treatment techniques like in-vivo exposure, for example, which, as will be seen in later sections was perceived as a particular strength of the treatment. This theme captured the emotional and psychological impact of trauma, helping to contextualize how the participants perceive the intervention's relevance and necessity.

7.4.2 Activating the fear structure and emotional processing

As established in earlier chapters, emotional processing is central to successful trauma treatment (Foa et al., 2019; Rauch & Foa, 2006). This theme aims to unpack how the participants actually experienced, perceived and made sense of this demanding therapeutic technique all of which contribute to the interventions perceived acceptability.

To the participants, imaginal exposure, particularly as prescribed in the intervention manual, that is retelling the trauma memory in the present tense, felt excessively threatening especially when introduced early in the therapeutic process. The timing of the technique emerged as a concern and felt too premature within their therapeutic journey.

Participant 1: ""*The first two sessions if I should say, were the worst because I was now in a position where I had to relive the trauma a bit, just to get inside obviously."*

Participant 2: "*So it was very hard, we went through the process then what was mostly hard for me was like reliving like the trauma, like retelling it as if its happening, that was very hard for me cause the first time she was explaining the process to me I did cry, uhm the second day I was like I'm going to be strong then I'm not going to cry, I'm going to behave like I'm literally telling someone else's story and not mine."*

Although describing subjective experiences of having to "relive" the trauma, participants were objectively safe and were detailing a narrative of significant emotional distress and discomfort. The study by Booysen and Kagee (2023) echoes the difficulty participants have in engaging in exposure techniques, often reporting being overwhelmed. It is important to

note that not only does the literature account for and actually predict emotional distress particularly in the beginning, it also encourages it (Foa & Kozak, 1986; Rauch & Foa, 2006).

Participant 2 describes a process wherein she was actively searching for means to cope with and negotiate with the overwhelming intensity of imaginal exposure as she later revealed: "*then I tried again and I was like actually I'm blocking it out right because I'm telling someone else's story and not my story then uhm I did tell her that and she was like no you need to be present. Then eventually uhm I started talking in present tense",* this is an illustration of avoidance as she sought to psychologically distance herself from the trauma memory by retelling it as though it were someone else's story rather than her own lived experience. Individuals may employ a variety of strategies to engage with traumatic memories, especially at the start of the treatment when the emotional intensity can be overwhelming (Booysen & Kagee, 2023).

Despite initial difficulties, both participants were ultimately able to shift their approaches and retell their trauma narratives in the present tense and comply with the homework requirements of the intervention. By the end of the intervention, both participants had habituated to the trauma narratives to the extent that the threat of "reliving" as captured by them was absent, as reflected in their own words:

Participant 1: *"…But I realized oh my goodness this thing is not even scaring you its boring you which means its kinda wearing off*."

Participant 2: *"…the more you talk about it the more it becomes less provoking like you don't feel as much and also you're gonna learn uhm to deal with things you think are more anxiety provoking when they're actually not."*

These narratives demonstrate a process of habituation wherein therapeutic techniques that initially elicited intense distress, and emotional arousal gradually elicited a feeling of

"boredom", particularly as the treatment was nearing its end, demonstrating that the trauma memory had been worn out effectively (Minnen & Foa, 2006).

7.4.3 Barriers and facilitators to help seeking

Among the limited literature examining qualitative accounts of trauma therapy, Hundt et al. (2018) conducted a notable study investigating the barriers to trauma treatment among veterans who did not attend evidence-based therapies, specifically CPT and PE. Understanding both the barriers and facilitators to help-seeking in trauma treatment is critical as it sheds light on (1) why individuals do not seek therapy or drop out, and equally important (2) why they remain in treatment. Thus, the factors discussed within this theme have a significant influence on the feasibility of MPE.

7.4.3.1 Barriers to help-seeking

Older works by Hundt et al. (2015) explored barriers to treatment among veterans who had completed 8 sessions of PE or CPT. Their study identified several barriers to treatment engagement, including ambivalence about evidence-based therapy, beliefs that avoidance is helpful, scepticism about the therapy rationale and limited knowledge about evidence-based psychotherapies (Hundt et al., 2015).

While Hundt et al. (2015) identifies psychological and individual barriers to treatment, the present study highlights systemic barriers to treatment which is captured through the sub-theme logistical barriers. This theme reflects dissatisfaction among both participants of the study related to issues encountered at the counselling center of the university. The participants expressed frustrations related to scheduling difficulties and limited appointment availability:

Participant 1: "*...She wasn't around a lot, so she was cancelling the sessions."*

Participant 2: *"But I was more available than she was."*

These accounts also highlight the limited availability of treatment providers. Furthermore, time constraints and academic demands had an influence on scheduling especially for Participant 1:

"...and when the term starts to end and all of that you start getting even more busy and you won't have time to add therapy."

In their pursuit of therapy at the counselling centre, timing was perhaps a reflection of the overburdened nature and unavailability of therapists as it seems that although Participant 1 carefully considered therapy scheduling in light of academic demands, Participant 2 presented with more flexibility and perhaps more time, however she also was not able to be seen at the counselling centre.

While Participant 1 carefully tried to balance therapy with academic responsibilities, Participant 2 appeared to have more flexibility, however she faced similar barriers to accessing consistent treatment at the counselling centre. Similarly, Ein et al. (2024) highlighted how a lack of continuity of care represented a significant systemic obstacle to mental health care treatment among veterans and their families. The authors noted that participants expressed disappointment and frustration with repeatedly having "first appointments" as opposed to established ongoing therapeutic relationships. It is important to note however that their study was broad and generalized and did not specifically examine perceptions related to TFTs.

7.4.3.2 Treatment adherence and completion factors

Similar to the above, Hundt et al. (2015) also explored facilitators to help-seeking among veterans who had completed 8 sessions of PE or CPT. This theme discusses the factors related to treatment adherence and completion among the two participants of the study. The

qualitative findings from Hundt et al. (2015) identified several facilitators relevant to treatment engagement. Specifically, they noted the importance of clear information and understanding about evidence-based psychotherapies. Clarity was noted to foster trust and a willingness to participate in treatment. Similarly, the helpfulness of clarity in structure is established in the qualitative findings reported by Booysen and Kagee (2023). This clarity in treatment practices was highlighted by Participant 1 as being a big motivating factor in her willingness to participate, as she noted:

"I knew what was expected of me and what would the outcome be after it."

Furthermore, Hundt et al. (2015) highlighted the importance of supportive providers who offer encouragement and personalized care as critical facilitators to treatment engagement. In the context of MPE, the participants retention and commitment to treatment may have been a reflection of a strong therapeutic alliance, which Foa et al. (2007) identify as the foundation of effective trauma treatment. The framing by the participants is interesting as Participant 1 noted:

"So the first two sessions, I was about to give up, I was about to send her a message to say that I'm sorry I can't continue but then I read the manual and it was just talking about how people do quite the thing, the programme a lot and I was like well let me not do this for her own sake, because she also needs this information for her research or what and let me not let her down because of that."

This extract also highlights the usefulness of manual based treatments, as engaging with the treatment material contributed to clarity and transparency regarding the therapy and its techniques. An important consideration is that the treatment manual was in English, raising important considerations for broader implementation within a culturally and linguistically diverse context like South Africa.

The concept of treatment readiness emerged as a significant facilitator, with Participant 2 emphasizing how her psychological preparation contributed to her successful completion of the intervention:

"...I feel like its important for someone to be ready to go through therapy. Cause for me I was like ready to go through therapy."

Treatment setting and stigma considerations also influenced engagement. Hundt et al. (2015) highlighted that veterans valued treatment environments that minimized stigma and provided safety and respect. This was reflected in Participant 2's account, who did not perceive stigma as a barrier to treatment:

"...It's a mental illness its normal."

Contextual factors shaped Participant 1's stigma experiences differently. While studying and away from Gauteng, she reported minimal stigma-related concerns. However, she expressed concerns and acknowledged that the family context would present more pronounced stigma related challenges:

"My family is very against mental health, very very much so. If I would mention that they'd be like argh come on."

Upon exploring the daily format of MPE, the frequency of the therapy and its massed component emerged as a facilitator to treatment completion and adherence as Participant 1 noted:

"*I found it very helpful that it was every day. I feel like it was easy to record my days like that."*

Participant 1's preference for the frequency of MPE aligns with findings by Sherill et al. (2022), who explored the perceptions of daily imaginal and in-vivo exposure. In their study,

9% of participants reported that engaging in the therapy every day enhanced their motivation, suggesting that a condensed treatment schedule can foster sustained engagement and therapeutic momentum.

The findings from this sub-theme are particularly valuable as they shed light on factors that contributed to treatment adherence and completion and ultimately the feasibility of MPE. Importantly, this particular investigation is the first of its kind within this context as it focused on facilitators to TFT completion and adherence among two university students who completed 10 sessions of MPE for PTSD and MDD.

7.4.4 Treatment perspectives and suggestions

This theme aims to capture the participants' overall perceptions of the intervention and highlight specific components they found particularly beneficial thus elucidating acceptability factors. Both participants identified in-vivo exposure as a particularly helpful component of the intervention. Participant 2 stated:

"The ones where you write your SUDS and everything, I think that's the best activity."

Similarly, Participant 1 emphasized how in-vivo exposure homework supported her reintegration into previously avoided activities. Notably, Participant 1's class attendance increased, and she was able to engage in activities like aerobics at the gym, noting:

"Those homework things actually kind of helped me get back to my activities."

In addition to exposure techniques, other therapeutic techniques elements were highlighted as helpful. Participant 1 expressed the usefulness of the breathing exercises, noting:

"We did like a lot of breathing exercises and all of that, that helped me a lot."

The interventions techniques were not only experienced as immediately helpful, but they also fostered feelings of safety and self-efficacy in the future. The participants expressed confidence in their ability to manage potential challenges in future:

Participant 2: *"I know I have tools to deal with whatever is going to happen to me or has happened to me."*

Regarding treatment recommendations and suggestions, Participant 1 suggested a systematic progression in session length:

"Maybe like if the session would usually run for 2 hours maybe like at the beginning take it for an hour like slower so the person doesn't get too overwhelmed and then when they start to get used to it, you kind of make the sessions long."

In line with recommendations, Participant 1 recommended incorporating family sessions and psychoeducation to enhance social support:

"…if it were to involve those people to kind of support you or something like that so that they can understand."

This particular recommendation is in line particularly with the stigma-related concerns Participant 1 shared in the previous sub-theme wherein she described being transparent with her diagnosis with everyone, with the exception of her family.

In line with enhancing social support, Participant 1 expressed the possibility of group therapy stating that:

"You can kind of feel safe in that place knowing we all feel this way."

This is in line with literature that asserts that group therapy as a preferred treatment modality, particularly among university student populations offering peer support and reducing isolation (Sloan et al., 2013).

7.4.5 Summary of qualitative findings

The qualitative analysis examined the experiences of two participants who completed 10 sessions of MPE for PTSD and MDD. Four key themes emerged from the data and were explored comprehensively, specifically the lived experiences of PTSD, activating the fear structure and emotional processing, barriers and facilitators to help-seeking and treatment perspectives and suggestions. The first, second and fourth themes pertain to university students perceived acceptability of MPE for treating PTSD and comorbid depression. Conversely, the third theme relates to university students' experiences regarding the feasibility of engaging with MPE within the context of PTSD and depression treatment.

The study findings reveal that while participants may have described therapeutic techniques such as imaginal exposure as emotionally difficult and threatening, it is important to clarify that this is a subjective perception rather than actual danger. Emotional distress during exposure is anticipated and encouraged (Foa & Kozak, 1986; Rauch & Foa, 2006). The participants narratives however of the interventions techniques as overwhelming may serve as a barrier to treatment engagement for both treatment providers and participants and influence the interventions acceptability in adverse ways. Fortunately, subjective emotional distress does not necessarily predict poor outcomes.

The qualitative data further demonstrates that MPE calls for and allows for flexibility in therapeutic approaches. Flexibility in the intervention is possible and encouraged and that robotic and rigid adherence without consideration of individual needs is not beneficial for treatment effectiveness (Galovski et al., 2024).

The barriers indicated here were primarily of a structural nature, emphasizing system level barriers to (1) treatment access and, (2) treatment continuity. Cultural and linguistic factors in manual-based treatment remain salient in the consideration of South Africa's

diverse and multilingual context. While treatment materials like the treatment manual in the present study were perceived as helpful, questions related to applicability and adaptability in populations with low literacy levels and limited English proficiency remain. The next section presents reflexivity.

7.5 Reflexivity

Reflexivity is an integral part of mixed-methods studies, particularly within qualitative research. Literature asserts reflexivity as the researcher's ability to recognize and acknowledge their role and its influence on the research process and research findings (Berger, 2015). Within reflexivity lies the awareness that the researcher and the object of a study exist in a mutual relationship with one another (Atkinson & Whitaker, 2019). Meaning that the research process is co-constructed and dynamic rather than purely objective.

Key insights from reflexive thematic analysis reject the notion of neutrality, emphasizing that the researcher is as a part of the research as the researched (Berger, 2015). Through reflexive thematic analysis, we do not view ourselves as objective and neutral observers removed from the process of meaning-making, rather, we embrace our embeddedness with the research context (Braun & Clarke, 2019).

As a novice psychologist, this intervention was unlike anything I have ever experienced, and I am doubtful that I will ever experience anything like it again. At the time of the intervention, I was a registered Master's student in my third year, having gained clinical experience through internships.

Initially, I held reservations and misconceptions about the treatments capacity to achieve meaningful outcomes within such a condensed timeframe. I worried that there was a lack of appreciation of individuals' traumas, and perhaps engaging in the treatment in the way MPE prescribes was too great a task. This may have been a reflection of my own apprehensions

about trauma work and, ultimately, the participants' trauma memories being too threatening to me.

Manualized treatments like MPE have received criticism on account of a perceived lack of flexibility in pursuit of treatment fidelity (Galovski et al., 2024; Truijens et al., 2019). Furthermore, as mentioned in Chapter 3, MPE may be described as burdensome for treatment providers due to its structured and intensive nature (Wright et al., 2023). The interventions' systematic progression through various techniques left little room to accommodate missed homework, for example, or incomplete mastery of skills within sessions. Therefore, incomplete homework or avoidance behaviours often left me feeling frustrated. The rigidity with which I initially approached treatment reflected my developing understanding of clinical and therapeutic practice, highlighting perhaps an over-reliance on strict adherence to protocol.

In navigating these challenges, peer supervision and guidance from the principal investigator, Dr. D. Booysen, were invaluable. Through supervision, I was able to balance empathy with the need to maintain a strong therapeutic alliance in the face of participant resistance and avoidance strategies. The critical role of supervision in managing the emotional demands of exposure therapy is well illustrated by Munishvaran and Booysen (2022). Their work highlights how a clinical psychologist successfully coped with the overwhelming emotions elicited during trauma-focused exposure therapy through personal supervision and collegial support. Further, I learned that MPE not only allows flexibility but endorses it.

The feelings of frustration at times co-existed with feelings of appreciation for the very aspects of manual-based treatment that initially seemed rigid. The clarity and structure of the framework I believe provided safety and predictability for both myself and the participants

who had shared the helpfulness of knowing explicit details related to the treatment. Importantly, I believe the structure contributed particularly to my efficiency as a therapist. The literature supports these observations, highlighting that predictability, reported efficacy and a reduced reliance on intuitive clinical judgement are key advantages of manualised treatments (Truijens et al., 2019; Wilson, 2007).

I was profoundly impacted and deeply moved by the courage of the participants in their willingness to see the process through, in spite of the challenges they encountered. Of note, both participants attended all sessions and never arrived late. I think they presented with an eagerness to do the work in efforts to reclaim their lives as is the goal of MPE therapy. One participant cited how her readiness for therapy was instrumental to her success in the treatment.

Witnessing the treatments effectiveness was a highlight of this intervention. I believe that the participants' resilience played a significant role in the therapy's success. Despite my initial reservations about the condensed timeframe and the manualized nature of MPE, seeing the tangible progress the participants made challenged my understanding of trauma work. Through this study, misconceptions that I had held in my role as therapist became undone. The treatment unfolded as prescribed, and the emotional distress experienced initially was both temporary and an anticipated aspect of trauma therapy.

Chapter summary

This chapter presented a comprehensive analysis of the effectiveness, feasibility, and acceptability of MPE therapy for university students with PTSD and comorbid depression. It began with the quantitative results from the Single-Case Experimental Design, showing symptom changes over time. Next, it detailed qualitative findings through reflexive thematic analysis, highlighting the participants' experiences and perceptions of the therapy. The

chapter also included a reflexivity section, offered insights on my positionality and experience as a novice trauma therapist conducting the study. The next chapter is dedicated to a discussion of the results as well as a conclusion.

Chapter 8

Discussion, Limitations and Conclusions

This chapter aims to consolidate the key findings of the study by providing a discussion of the effectiveness, feasibility, and acceptability of Massed-Prolonged Exposure (MPE) therapy for PTSD and comorbid depression among university students in a South African community psychology clinic. The chapter also consolidates the implications of the study for clinical practice, university mental health services and future research. The limitations that were inherent to the study are also provided here. Finally, a conclusion summarising the main insights from the study is presented.

8.1 Discussion

Mixed-methods research investigating the effectiveness, feasibility, and acceptability of Massed-Prolonged Exposure (MPE) therapy for treating PTSD and comorbid depression among university students in South Africa is essentially absent. The present study was set against the backdrop of the high prevalence of trauma and trauma exposure, particularly with university students who have been set apart as being most at risk for trauma exposure and subsequent mental health challenges (Bonar, 2015; Lind et al., 2017). Furthermore, the research was set against the backdrop of the limited literature related to the treatment of university students in resource-constrained settings (Booysen & Kagee, 2020; Kaminer et al., 2024; Kane et al., 2015).

The present study aims to add to the preliminary evidence supporting the effectiveness of MPE therapy in treating PTSD and comorbid depression among university students in South Africa. Two students from Rhodes University were recruited and a SCED was utilized to investigate the study's aims. Standardized assessment measures were employed to monitor symptom changes over time. Both participants completed 10 daily sessions of the MPE

intervention. Visual inspection and analysis of the data indicated that by the end of the intervention both participants no longer met the diagnostic criteria for the primary outcome (PTSD) and the secondary outcome (comorbid depression).

Notably, both participants were Black and female, which aligns with findings by Machisa et al. (2022), who identified race and gender, alongside age, as significant predictors for ongoing mental health challenges in South Africa. Machisa et al. (2022) specifically highlighted that Black African females contribute disproportionately to the burden of mental illness in the country. Earlier research by Bowman and Payne (2011) similarly observed that Black young females are among the most frequent users of university counselling centres.

The present study aims to contribute to the growing body of literature indicating that physical assault is among the most prevalent type of trauma experienced by university students, as noted by Padmanabhanuni (2020). More specifically, intimate partner violence (IPV) has been identified as a particularly concerning form of trauma within this population, consistent with findings by Hoffman (2002). IPV is increasingly recognised as a significant issue on university campuses, posing significant risks on students' mental health and academic performance (Spencer et al., 2016).

Findings from this research contribute to the preliminary evidence supporting the effectiveness of MPE for the concurrent treatment for PTSD and depression, aligning with results reported by Zwetzig et al. (2022), who also explored the efficacy of MPE in an understudied population. In their study, the PCL-5 and PHQ-9 were used to monitor symptom changes in PTSD and depression symptoms, respectively, in a sample of two veteran firefighters. For one participant, PCL-5 scores decreased from 62 at baseline to 2 at one-month follow-up, while the PHQ-9 scores dropped from 22 to 2. The second

participant's PCL-5 scores decreased from 50 to 34, and PHQ-9 scores from 22 to 14 at follow-up (Zwetzig et al., 2022).

The concurrent treatment of PTSD and depression is particularly important in light of the high comorbidity and functional impairment associated with these conditions among university students (Bröcker et al., 2023; Dell et al., 2021). Zwetzig et al. (2022) argued that the standard protocol of weekly sessions over extended periods can act as a barrier to accessing mental health care, particularly for individuals facing logistical and financial challenges. By utilizing a condensed, daily treatment format, MPE offers feasibility and scalability that may reduce these barriers and expand access to effective evidence-based care.

This study makes contributions to understanding treatment adherence and completion in trauma-focused interventions. The high dropout rates associated with PE make it difficult to accurately assess treatment outcomes (Foa et al., 2018). Of note, Foa et al. (2018) found that compressed PE protocols were linked to lower dropout rates compared to minimal-contact and standard PE formats. In the current study, both participants completed the full course of MPE, underscoring its potential in enhancing treatment adherence. These findings are consistent with those reported by Peterson et al. (2023), who assert that MPE demonstrates superior treatment completion rates when compared to intensive outpatient PE. Similarly, high dropout rates were observed in a study by Dell et al. (2021) who compared dropout rates in MPE and Standard PE.

As a first of its kind, this study qualitatively explored participants perceived acceptability of the MPE intervention as well as their experiences regarding the feasibility of engaging with MPE and several insights emerged, particularly regarding the daily treatment format. The qualitative accounts revealed that the daily format enabled full engagement and was perceived as helpful. Sherill et al. (2022) state that among the advantages of a daily treatment

format are reduced avoidance behaviours and enhanced motivation. Thus, it can be speculated that the high dropout rates associated with standard PE delivered weekly may be on account of the extended intervals between sessions which inadvertently facilitate avoidance behaviours and reduce treatment adherence (Zwetzig et al., 2022). The compressed format minimizes these gaps, thus limiting opportunities for avoidance.

The barriers and facilitators identified through qualitative analysis in this study provide essential context for understanding why MPE may be particularly effective in university settings. The academic calendar, with its holidays, breaks and exam periods, presents significant challenges for PTSD treatment among university students and creates scheduling difficulties for most counselling centres (Bonar, 2015). The concentrated nature of MPE appears to mitigate many of these calendar-related challenges by reducing the risk of treatment interruption.

In addition to supporting the evidence base for MPE, this study contributes valuable insight to the literature exploring participant perceptions of the intervention and its core tenets. Notably, the results align closely with the qualitative findings reported by Sherill et al. (2022), who examined veterans' experiences with daily exposure therapy. Their research addressed key challenges often associated with PE, such as between-session distraction, avoidance and demotivation. Sherill et al. (2022) found that although participants frequently reported initial emotional distress, particularly at the beginning of treatment, overall satisfaction with MPE remained high. This phenomenon of early discomfort is well-documented in the literature (Foa et al., 2007; Jaycox et al., 2010). Importantly, both Sherill et al. (2022) and the present study demonstrate that while initial emotional distress is common and expected, it does not diminish the overall acceptability or effectiveness of MPE.

Among the very limited qualitative studies examining trauma survivors' perceptions of trauma treatment in developing contexts is the work by Booysen and Kagee (2023). Their study qualitatively explored the experiences of trauma survivors who completed manualised treatment. Their findings make significant contributions regarding the uptake of manualised treatment. The authors highlighted that treatment adherence and completion were strongly supported by the structure and transparency inherent to the manual-based protocol (Booysen & Kagee, 2023). The current study supports these findings and demonstrates that the manualised format of the intervention acted as a facilitator for treatment adherence and completion. Participants reported that the structured and transparent nature enhanced their engagement and provided clarity regarding the intervention and its techniques.

Given the limited research on trauma therapists' perspectives, it is hoped that this study will contribute meaningfully to identifying the factors that influence therapists' adoption of ESTs. Qualitatively exploring the lived experience of trauma therapists is crucial as it provides rich insights into the complexities of trauma work that may be overlooked in quantitative data. Results from this research demonstrate the effectiveness of manual-based treatments, concurring with existing literature highlighting their advantages. Specifically, manualised treatments have been highlighted as advantageous on account of their ability to enhance treatment fidelity and their demonstrated reliability compared to clinical judgement alone (Mansfield & Addis, 2001). The manualised nature of MPE in the present study yielded several important gains, specifically, it facilitated more effective monitoring and support through supervision, and it ensured consistent delivery of the intervention across participants which ultimately contributed to improved clinical outcomes.

The importance of supervision was explored thoroughly within the reflexivity component of this dissertation. Supervision serves multiple critical functions, including providing support for trauma therapists. Booysen and Kagee (2022) highlighted the critical role of

robust support systems in their study exploring the perspectives of non-specialist health workers delivering trauma interventions. Their findings align closely with those of the present study, underscoring the essential nature of supervision in trauma-focused-care. However, these findings present a significant conundrum given the well-documented scarcity of adequate and accessible supervision in many LMICs (Chen et al., 2017). This shortage of supervision is widely recognized in the literature as a major contributor to the persistent mental health treatment gap in LMICs.

This study provides preliminary evidence for the effectiveness of MPE in treating PTSD and depression among university students. The convergent quantitative and qualitative findings provide valuable insights into both therapists' and participants' experiences of this intensive treatment format. Overall, this research contributes to advancing trauma treatment by informing the strategies that increase the accessibility of evidence-based interventions in resource-constrained contexts.

8.2 Limitations of the study

This section outlines the inherent limitations of the study. Of note, the sample was homogenous, consisting of only two Black female participants. Such homogeneity limits the generalizability of the findings and confines the research to a very specific and niche population and context, as is often the case with trauma research (Chen et al., 2017; Kaysen et al., 2023).

The generalizability is further limited by the methodological design employed and the small sample of two participants. Further, the attrition of one participant during the early stages of the study represents a limitation as it impacted broader applicability and reduced the overall sample size. A notable limitation of the study is that it did not include formal follow-up assessment. Thus, it is it difficult to ascertain MPE's long-term effectiveness in the current

study. Although it is possible that symptom fluctuations or relapses may have been qualitatively captured during the semi-structured interviews conducted by an independent researcher 3-months post-intervention, this is methodologically difficult to assert.

Additionally, there is uncertainty about the applicability of the intervention in populations that do not resemble the characteristics of the university students used in this study. Specifically, the findings of the study highlight that literacy levels and English proficiency may facilitate the successful completion of treatments, which holds particular relevance in the South African context where access to formal education remains highly unequal. Although the percentage of individuals pursuing tertiary education is increasing over time, from 7.1% between 1996 and 2001 to 12.2% in 2022, those who do not access higher education continue to far outnumber those who do (Statistics South Africa [StatsSA], 2022). It is important then, that trauma interventions do not inadvertently perpetuate social factors that limit access to care for South Africans at large.

Finally, the overreliance on self-report measures acts as a limitation within the research, primarily due to the inherent biases that compromise their validity (Razavi, 2001).

8.3 Implications of the study

The fact of the matter is that concerningly high numbers of university students with PTSD and comorbid depression are left untreated (Bantjes et al., 2020). University counselling centres face significant challenges in addressing the mental health needs of student populations (Tavallali & Cox, 2019). This is particularly pronounced in resource-constrained settings, where systemic and structural barriers limit these centres capacity to manage complex mental illnesses effectively. Moreover, research highlights a lack of consistent monitoring and evaluation of current treatment practices, alongside a resistance to adopting ESTs (Tavallali & Cox, 2019).

As a mixed methodology study, this research offers valuable insights into the effectiveness of a compressed model of therapy in treating PTSD and comorbid depression among university students in South Africa. Treatment success is commonly defined as a reduction in symptoms and distress, alongside potential improvements in functioning at work, school and interpersonal relationships (Kazdin, 2019; Mansfield & Addis, 2001). Beyond effectiveness, this study also examines the feasibility and acceptability of MPE, guided by the framework proposed by Weiner et al. (2017).

The qualitative component of the study yielded four main themes that deepen the understanding of how MPE functions not only as an effective intervention but also as a feasible and acceptable treatment modality. The first theme explored the lived experience of PTSD, highlighting the central role of avoidance behaviours in maintaining PTSD symptoms. The second theme focused on the activation of the fear structure and emotional processing, highlighting the process of recovery whilst acknowledging the difficulties inherent to engaging in trauma-focused work. The third theme, divided into two sub-themes, explored the barriers and facilitators to help-seeking, providing valuable insights as it was explored through the perspectives of treatment completers.

The study found that systemic and logistical barriers, rather than intrapersonal or interpersonal factors, were the primary obstacles to accessing treatment for the participants. This distinction is important as intrapersonal barriers refer to internal thoughts and beliefs that influence help-seeking behaviour, whereas systemic barriers relate to external structures and organisational challenges (Ein et al., 2024). This aligns with existing literature indicating that university counselling centres are often overwhelmed and under-resourced, limiting their capacity to adequately meet the growing mental health needs of students (Evans-Edwards, 2022). Within this context, the manualized format of the intervention emerged as a significant facilitator of treatment adherence and completion. The fourth and final theme captured

participants' perspectives on specific components of the intervention, such as in-vivo exposure, and provided an opportunity for them to offer suggestions and recommendations aimed at enhancing the treatment.

The study highlighted the experience of the researcher who was also a novice therapist delivering the trauma treatment. The experience and perspective of the researcher made several points. Attitudes and perceptions related to manual-based treatment influence the utilization of ESTs. Thus, the research highlighted the usefulness of manuals in treatments and dispelled misconceptions related to the lack of human element often associated with manualised treatments. Furthermore, the qualitative account of the researcher emphasized the role of supervision and asserted it as integral to successfully carrying out this research. Supervision was important for the purposes of treatment fidelity but also for the purposes of support.

8.4 Recommendations

It is important to embrace and adopt flexibility in the delivery of manual-based care. Flexibility is both possible and encouraged in the adoption of MPE therapy. Strict and rigid adherence to treatment manuals is neither necessary nor encouraged in TFTs. Flexibility should especially be applied when employing treatment techniques such as imaginal and in-vivo exposure, as individual readiness and circumstances influence engagement and therapeutic outcomes.

Above all, the success of this intervention was grounded not only in the treatment techniques themselves but, importantly, in the strength of the therapeutic alliance between therapist and participant (Norcross & Wampold, 2019). Building a trusting and collaborative relationship remains a cornerstone of effective trauma therapy and should be prioritized alongside manualised protocols.

Furthermore, clinicians and students engaged in trauma work should actively seek and utilize support systems, including supervision and peer consultation.

In line with participants' perspectives and recommendations, possible future treatment formats could explore the potential of group-based exposure therapy (GBET) combined with MPE to enhance peer support and treatment engagement in university settings. While GBET remains an understudied area in trauma treatment, the existing research has demonstrated effectiveness and highlighted benefits such as normalization (Mott et al., 2013; Ready et al., 2012; Ready et al., 2018). Current research has demonstrated effectiveness with combat veterans, future research should investigate the effectiveness, feasibility and acceptability of GBET with MPE among university populations.

8.5 Value of the study

This research makes a significant contribution to the growing evidence base in South Africa concerning TFTs for treating PTSD and comorbid conditions. To the researcher's knowledge, this study is the first to investigate the effectiveness, acceptability and feasibility of MPE therapy specifically for PTSD and depression among university students in the South African context. A unique aspect of this study is its qualitative exploration of the researcher's dual role as both therapist and investigator. The findings demonstrate that MPE is not only effective in reducing symptoms of PTSD and comorbid depression but is also perceived by participants as an acceptable and feasible treatment approach within this population.

8.6 Conclusion

It is important to note that the preliminary findings from this study are not generalizable and are limited, as discussed extensively throughout this dissertation, due to the methodological components employed. Despite the limitations inherent to the study, the findings contribute meaningfully to the emerging body of research on MPE as a promising

alternative for treating PTSD and comorbid depression in university students. The findings presented here are particularly significant given the heightened vulnerability of university students to trauma exposure and related mental health difficulties. The study thus supports ongoing efforts to develop accessible, evidence-based trauma interventions tailored to the unique needs of students in South Africa and similar settings.

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Appendices

Appendix A

Informed Consent and Information Sheet

RHODES UNIVERSITY
Where leaders learn

Thank you for the interest in accessing trauma support via this research study. The following section will provide you with the relevant information of the study.

If you are interested, please complete the consent form below and complete two questionnaires related to assessing symptoms of traumatic stress and depression.

Once completed and submitted, the form will go directly to Dr. Duane D. Booysen and he will make contact with you to take the next step.

1. CLIENT CONSENT TO PARTICIPATE IN RESEARCH

You are kindly asked to participate in a research study conducted by Dr. Duane D. Booysen (Principal investigator) from the department of psychology of Rhodes University. The results of the study will contribute to academic publication(s), conference presentation(s), and further implementation of trauma therapy within the said community.

2. PURPOSE OF THE STUDY

The primary aim of the study is to investigate whether brief two-week trauma model, known as massed-prolonged exposure therapy, is an effective, feasible, and acceptable treatment for post-traumatic stress disorder (PTSD) in a resource-constrained setting.

3. PROCEDURES

If you volunteer to participate in this study, you will be asked to complete the following things:

1. Complete the brief screening questionnaires to assess whether you meet the minimum requirements to participate in the study (See below). Should you meet the minimum requirements, you will be contacted by Dr. Booysen or someone else on our team to provide you with more information and to answer any questions you might have regarding your participation.

2. Then, you will be assigned to a trainee clinical psychologist or registered counsellor (hereafter referred to as clinicians). The clinicians have been trained to provide ethical and competent therapy. Your therapy will consist of daily 90-minute sessions of massed-prolonged exposure therapy over a two-week period (Monday to Friday).

3. Upon the completion of the therapy, you will be invited to complete a questionnaire. In addition, you will also be invited to be interviewed about your experience of the therapy. This information will contribute to the literature surrounding the feasibility and acceptability of massed-prolonged exposure therapy in the stated context.

4. POTENTIAL RISKS AND DISCOMFORTS

This research project has obtained ethical clearance by the Rhodes University Human Research Ethics Committee (Approval number: 2022-5515-6982). This study will prioritize the rights and dignity of all persons involved in this project.

Please note the following:

Firstly, you have the right to decline and/or exit the study at any time. Secondly, if you have decided to opt out of the study you can still use the services available to you in the

community and/or university campus. Thirdly, if you decide to decline or withdraw from the study you will not be treated unfairly. Lastly, if you feel it is necessary and based on your psychological functioning, you can apply for further services at the RU Counselling Centre or ADC Counselling Hub or any of the online services (i.e., South African Depression and Anxiety Group) available once you have competed your participation in the project.

5. POTENTIAL BENEFITS

You will have the opportunity to receive a minimum of 10 daily sessions of trauma support counselling over a two-week period, which is an evidence-based trauma therapy for the treatment of post-traumatic stress disorder (PTSD). In addition, you will also have the opportunity to speak about your experience of the therapy. This research will contribute to the literature on evidence-based practices in South African psychology, with a specific focus on treating traumatic stress in resource-constrained settings.

6. PAYMENT FOR PARTICIPATION

You will not be reimbursed for your participation in the study.

7. CONFIDENTIALITY

Any information that is obtained from this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of removing your personal details from documents and the use of a participant number for each person. All paper documents will be safeguarded in the personal office of the principal investigator, and electronic data will be encrypted and stored on Dropbox storage owned by the principal investigator. These storage spaces will have controlled access. The principal investigator and research coordinator will have access to the Dropbox's stored data.

Post-intervention interviews will be audio-recorded, transcribed, and stored. Dr. Boysen will oversee that these recordings and interviews are stored on a password protected Dropbox account. The information will also be encrypted and only accessible to the principal investigator (Duane D. Booysen). You have the right to listen or request a copy of the audio recordings.

The results of the research will be prepared for academic publication and presentation at conferences. Your identity will remain anonymous.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Dr. D. Booysen (Principal investigator) on his office number: 046 603 8507 or send him an email at: d.booysen@ru.ac.za

Dr. Booysen: https://www/ru.ac.za/psychology/people/drduanebooysen/

9. RIGHTS OF RESEARCH PARTICIPANTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have any questions regarding your rights as a research subject, contact ethics-committee@ru.ac.za or (+27) 046 603 7727 at the Research Office, Rhodes University

Appendix B

Ethical Clearance

RHODES UNIVERSITY
Where leaders learn

Rhodes University Human Research Ethics Committee
PO Box 94, Makhanda, 6140, South Africa
t: +27 (0) 46 603 7727
f: +27 (0) 46 603 8822
e: ethics-committee@ru.ac.za

https://www.ru.ac.za/researchgateway/ethics/

1 December 2022

Mr Mandisa Qodoshe
Department of Psychology
Rhodes University

Dear Mr Qodashe

Re: 2022-5515-6982 Massed-Prolonged Exposure Therapy for PTSD in a semi- rural setting in the Eastern Cape: An effectiveness and feasibility trial.

This letter confirms that the RU-HREC has reviewed the proposed changes to your research protocol. Your request to conduct your data collection online and to mitigate potential risks accordingly has been granted.

Approval has been granted for 1 year. An annual progress report will be required to renew approval for an additional period. You will receive an email notifying you when your annual report is due.

Approval number: 2022-5515-6982

Sincerely,

Dr Janet Hayward
Chair of Rhodes University Human Research Ethics Committee

Assessment measures

Appendix C

PCL-5

PCL-5

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

Your worst event: _____

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

Appendix D

PDS-5

Subject ID_____ **Date**_____

TRAUMA SCREEN

Have you ever experienced, witnessed, or been repeatedly confronted with any of the following:
(Check all that apply)

- ☐ Serious, life threatening illness (heart attack, etc.)
- ☐ Physical Assault (attacked with a weapon, severe injuries from a fight, held at gunpoint, etc.)
- ☐ Sexual assault (rape, attempted rape, forced sexual act with a weapon, etc.)
- ☐ Military combat or lived in a war zone
- ☐ Child abuse (severe beatings, sexual acts with someone 5 years older than you, etc.)
- ☐ Accident (serious injury or death from a car, at work, a house fire, etc.)
- ☐ Natural disaster (severe hurricane, flood, earthquake, etc.)
- ☐ Other trauma (Please describe briefly):

_____

_____

_____

- ☐ None

*** If NONE, please STOP and return this questionnaire ***

If you marked any of the above items, which single traumatic experience is on your mind and currently bothers you the most:
(Check only one)

- ☐ Serious, life threatening illness (heart attack, etc.)
- ☐ Physical Assault (attacked with a weapon, severe injuries from a fight, held at gunpoint, etc.)
- ☐ Sexual assault (rape, attempted rape, forced sexual act with a weapon, etc.)
- ☐ Military combat or lived in a war zone
- ☐ Child abuse (severe beatings, sexual acts with someone 5 years older than you, etc.)
- ☐ Accident (serious injury or death from a car, at work, a house fire, etc.)
- ☐ Natural disaster (severe hurricane, flood, earthquake, etc.)
- ☐ Other trauma (Please describe briefly):

_____

_____

_____

PTSD Diagnostic Scale for DSM-5

(PDS-5)

Instructions: Below is a list of problems that people sometimes have after experiencing a traumatic event. Write down the most distressing traumatic event that you checked on the last page:

Please read each statement carefully and circle the number that best describes how often that problem has been happening and how much it upset you over THE LAST MONTH. Rate each problem with respect to the traumatic event that you wrote above.

For example, if you've talked to a friend about the trauma one time in the past month, you would respond like this: (because one time in the past month is less than once a week)

Talking to other people about the trauma

0	(1)	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

1. Unwanted upsetting memories about the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

2. Bad dreams or nightmares related to the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

3. Reliving the traumatic event or feeling as if it were actually happening again

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

4. Feeling very EMOTIONALLY upset when reminded of the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

5. Having PHYSICAL reactions when reminded of the trauma (for example, sweating, heart racing)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

6. Trying to avoid thoughts or feelings related to the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

PTSD Diagnostic Scale for DSM-5

(PDS-5)

7. Trying to avoid activities, situations, or places that remind you of the trauma or that feel more dangerous since the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

8. Not being able to remember important parts of the trauma

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

9. Seeing yourself, others, or the world in a more negative way (for example "I can't trust people," "I'm a weak person")

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

10. Blaming yourself or others (besides the person who hurt you) for what happened

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

11. Having intense negative feelings like fear, horror, anger, guilt or shame

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

12. Losing interest or not participating in activities you used to do

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

13. Feeling distant or cut off from others

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

14. Having difficulty experiencing positive feelings

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

15. Acting more irritable or aggressive with others

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

PTSD Diagnostic Scale for DSM-5

(PDS-5)

16. Taking more risks or doing things that might cause you or others harm (for example, driving recklessly, taking drugs, having unprotected sex)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

17. Being overly alert or on-guard (for example, checking to see who is around you, being uncomfortable with your back to a door)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

18. Being jumpy or more easily startled (for example when someone walks up behind you)

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

19. Having trouble concentrating

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

20. Having trouble falling or staying asleep

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

DISTRESS AND INTERFERENCE

21. How much have these difficulties been bothering you?

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

22. How much have these difficulties been interfering with your everyday life (for example relationships, work, or other important activities)?

0	1	2	3	4
Not at all	Once a week or less/a little	2 to 3 times a week/somewhat	4 to 5 times a week/very much	6 or more times a week/severe

SYMPTOM ONSET AND DURATION

23. How long after the trauma did these difficulties begin? [circle one]
    a. Less than 6 months
    b. More than 6 months

24. How long have you had these trauma-related difficulties? [circle one]
    a. Less than 1 month
    b. More than 1 month

Appendix E

PHQ-9

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

FOR OFFICE CODING 0 + _____ + _____ + _____

=Total Score: _____

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
☐	☐	☐	☐

Intervention measures

Appendix F

Therapist Imaginal Exposure Recording Form

Name of Client: _____ Therapist: _____

Date: _____ Exposure #: _____ Session #: _____

Description of exposure in imagination: _____

_____

_____

Start time	*SUDS*	*Notes*
Beginning	_____	_____
5 minutes	_____	_____
10 minutes	_____	_____
15 minutes	_____	_____
20 minutes	_____	_____
25 minutes	_____	_____
30 minutes	_____	_____
35 minutes	_____	_____
40 minutes	_____	_____
45 minutes	_____	_____
50 minutes	_____	_____
55 minutes	_____	_____
60 minutes	_____	_____

Appendix G

Imaginal Exposure Homework Recording Form and In-Vivo Exposure Homework

Appendix B *In Vivo Exposure Hierarchy*

In Vivo Exposure Hierarchy

Name: _____

Date: _____

Therapist: _____

SUDS Anchor Points

0— _____

50— _____

100— _____

Item	SUDS (Sess. 2)	SUDS (Final Sess.)
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4 _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
	_____	_____

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Appendix H

Interview Schedule

Interview Orientation

My name is [Interviewer's name] and I am a researcher/student researcher at Rhodes University working on the Massed-PE for PTSD project.

Before we begin, I would like to take a minute to explain why I am inviting you to participate in this interview today and what I will be doing with the information you provide to me. Please stop me at any time if you have any questions. After I've told you a bit more about this interview, you can decide whether or not you would like to participate.

We are conducting interviews with patients who participated in the Massed-PE programme. The purpose of this interview is to help us understand your experience of the programme and to hear any suggestions you may have about how to improve it. I am interested in hearing about the things that you especially liked about your treatment and also any particular ways you think treatment could have been improved. There are no right or wrong answers. Your input will help us to evaluate PTSD treatment and improve it for other patients.

Participation is purely voluntary. If you agree to participate in this interview, you will be asked questions related to your experiences in the Massed-PE programme. We will NOT ask you any questions about your trauma specifically, rather, we are only interested in your experiences with the treatment you received. The interview should take approximately 30-45 minutes and will be audio taped so that we do not miss anything that you have to say.

If at any time and for any reason, you would prefer not to answer any questions, please feel free not to answer. If at any time you would like to stop participating, please tell me. We can take a break, stop and continue at a later date, or stop altogether. You will not be penalized in any way for deciding to stop participation at any time. In addition, your counsellor/clinician is not listening to this, nor will they have access to the audio recording of this interview.

Any information you provide will be handled in a confidential manner. Only people working on this study will use the interview recordings. We will take steps to ensure your answers stay confidential. Your name will not appear on any of the transcripts. The interview transcript will be labeled only with a study ID number and any personal references that would identify any individuals will be removed.

We may be required to break confidentiality if we believe that there is a risk of harm to yourself or someone else (for example, you may harm yourself, someone else, or someone is harming you, or in cases of child or elder abuse). This means that we may be required to inform the authorities to protect you or others. As with any research study, there may be other risks that are unforeseeable at this time. As mentioned before, if at any time you would like to stop participating, please tell me. We can take a break, stop and continue at a later date, or stop altogether.

Are you interested in participating in this study?

If the participant agrees to participate, start the recording and begin the interview. Interviewers, please make a note to probe for the title of any person mentioned by the interviewee but discourage the use of individual names. In addition, please state your name, the participant's ID number, and the date of the interview at the beginning of the recording.

Introduction

As this is a semi-structured interview, use the opening five to ten minutes to make small talk with the participant. Participants will understandably be nervous and this could cause them to feel less comfortable and could adversely affect how they respond to questioning. It is important to make participants feel comfortable without over-familiarizing yourself with them. A dynamic of researcher and participant must be kept.

Part One – Question(s) relating to intervention experience:

1. Can you tell me about the therapy you received? (Probe for duration and frequency of therapy)
2. And how did feel about the therapy that you received? (Probe for a detailed subjective experience)
3. Can you think of any way that this therapy could improve or any way to better the experience of this therapy?
4. Do you feel like the therapy you received was helpful in any way? (Whether the answer is yes or no, ask the participant to elaborate as much as they can).
5. Would you recommend this therapy to someone who is struggling with traumatic stress? (Whether the answer is yes or no, ask the participant to elaborate as much as they can).

The purpose of the abovementioned questions is to get a complete picture of how the participant experienced massed prolonged exposure therapy and their thoughts after receiving this therapy.

Part Two – Questions relating to perception of therapy.

1. Before you started your own therapy, what were your views on therapy or mental health?
2. After receiving your own therapy, have your views changed in any way?
3. Did the therapy you received change your view on therapy or mental health in anyway? Please explain.
4. What do you believe affects your views on therapy? (Probe for cultural, community, or religious influence).

These questions allow the researcher to better understand the participants perception of therapy and what may or may not be playing a role in this perception.

Part Three – Questions relating to feasibility:

Many things can get in the way of patients going to therapy. We're going to ask you about some potential problems, and we'd like you to tell us which ones have gotten or could get in the way of you coming to your therapy sessions. Please answer the following according to this guideline:

Response Scale:
1 = Completely disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Completely agree

(Scoring Instructions: Scales can be created for each measure by averaging responses. Scale values range from 1 to 5. No items need to be reverse coded)

1. I have experienced a problem regarding the time commitment required for massed prolonged exposure therapy.
2. I have experienced a problem regarding my daily duties (such as childcare, parental care, etc.) that has prevented me from attending therapy.

3. I have experienced a problem regarding transport to and from therapy sessions.
4. I have experienced a problem regarding finances for therapy.
5. Are there any possible problems or barriers that I have not mentioned that you would like to mention?

NB. Ask participant to elaborate at the end of each question. Each detail could be very useful.

Part Four – Question regarding scheduling:

What was your experience with scheduling appointments? (Probe for detail).

Part Five – Question(s) regarding acceptability:

1. Has any stigma affected your decision to attend therapy sessions? (If necessary, briefly describe what a stigma is).
2. Has any cultural or religious belief affected your decision to attend therapy sessions?
3. Has your community or community members opinion on mental health, psychology, therapy etc. affected your decision to attend therapy?
4. Has anything else that I have not mentioned affected your ability or decision to attend therapy sessions?

NB. Ask participant to elaborate at the end of each question. Each detail could be very useful.

Part Five – Question(s) regarding ways to address barriers:

Given your experiences, we would like to hear any suggestions you may have for how we can help other patients who are struggling with PTSD. Do you have any suggestions for:

1. What your clinic could do to help patients get PTSD treatment?
2. What your clinic could do to help patients stay in PTSD treatment?
3. Did you experience any barriers to treatment (this could be a lack of money, transport problems, ability to get leave from work etc)? (This question provides the interviewer and interviewee to clarify potential barriers)

Part Six – Finishing up.

1. Before we finish up here is there anything that you would like to add?
2. And lastly, do you have any questions or anything you would like to clarify before we finish up?

Thank you for participating in this interview.

Appendix I

Trauma Interview

TRAUMA INTERVIEW

Client: _____ Date: _____

Therapist: _____

Note: This interview is structured on the assumption that a thorough **assessment or intake has already been conducted, that this evaluation confirmed the experience of at least one *DSM-IV* Criterion A trauma and the diagnosis of PTSD or significant symptoms of PTSD**, and that the therapist has reviewed this information.

Age: _____ Educational level: _____ Date of birth: _____

Race: _____

1 - African American
2 - Biracial
3 - Caucasian
4 - Native American
5 - Asian/Pacific Islander
6 - Spanish Origin
7 - Other
8 - Unknown

Marital Status: _____ Living with: _____ Work Status: _____

Current employment or job: _____

Psychiatric diagnoses or conditions (obtain before session from initial evaluation; review as needed):

_____

_____

_____

_____

Any other current treatments (may obtain from initial evaluation or ask as needed):

_____

_____

_____

_____

SAY TO THE CLIENT: I'm going to ask you some questions about the trauma and how you have been feeling and doing lately or since the time of the trauma. Some of what we will discuss may be difficult for you to talk about. If there is anything I can do to make our conversation less difficult for you, please let me know. Do you have any questions before we begin?

I have information from your initial assessment (or intake) with _____ [name intake assessor if not self], so I know what you told him/her about your trauma. I understand from his/her notes that… [***Briefly*** *summarize the trauma information obtained in the intake.*]

Is that about right? Is there anything you would like to add?

_____

_____

_____

_____

_____

Sometimes people have experienced other traumatic events at other times in their lives. Has this happened in your life? Have you ever experienced, or witnessed, or been confronted with other traumatic events?

_____

_____

_____

_____

_____

Note to clinician: If client is unsure, you may want to list all or some of the following to give him/her an idea of what comprises a Criterion A trauma:

Natural disaster (e.g., tornado, hurricane, fire, or flood)
Serious accident or serious injury
Combat or being in a combat zone
Sudden life-threatening illness
Accidental death or murder of a close friend or family member
Suicide of a close friend or family member
Being attacked with a gun, knife, or other weapon
Attacked without a weapon but with the intent to kill or seriously injure
Severely beaten (i.e., beatings that left marks or bruises), or witnessing severe physical violence
Sexual abuse as a child or adolescent

Physical force or the threat of physical force leading to unwanted sexual contact
Rape or attempted rape
Aggravated assault

IDENTIFICATION OF TARGET TRAUMA (i.e., the one that will be of primary focus in PE treatment)

SAY TO THE CLIENT: Of all these things that happened to you [*summarize traumatic events endorsed by client*], which one is currently bothering you the most? Which causes you the most distress? [*Use additional probe questions as needed if the client has difficulty identifying an event; e.g., "Which one most often comes into your thoughts when you don't want to think about it? Which one upsets you the most? Which one is the worst? In which event were you most afraid?"*]

Specify target trauma: _____

SAY TO THE CLIENT: Do you remember what you were thinking and feeling at the time? When it was happening, did you think you would be killed or seriously hurt?

No ☐ Yes ☐

During the _____ [insert identified trauma], did you feel helpless, horrified, or terrified?

No ☐ Yes ☐

If there was an assailant or perpetrator(s), who was it/who were they?

1 - Stranger
2 - Acquaintance
3 - Enemy
4 - Terrorist
5 - Friend
6 - Parent
7 - Sibling
8 - Clergy member
9 - Boyfriend/girlfriend
10 - Husband/wife/partner
11 - Organization
12 - Authority figure (specify) _____
13 - Relative
14 - Neighbor
15 - Other _____
16- Unknown _____

Where did the trauma occur?

1 - Own residence
2 - Assailant's residence
3 - Friend/relative's residence
4 - Park, street, alley
5 - Parking lot/garage
6 - School
7 - Institution
8 - Battlefield
9 - Public place
10 - Abandoned property
11 - Car, bus, train, plane
12 - Workplace
13 - Other (describe) _____
_____
_____

What, if any, physical injuries did you have? Have these injuries continued to cause or to be a problem for you?

_____

_____

_____

_____

Were you given medical attention? Was it helpful? Are you still under medical care for these injuries or problems?

_____

_____

_____

_____

Has any criminal or legal action resulted from this trauma? What is the status of that now? (If appropriate:) How is that affecting you?

_____

_____

_____

_____

SAY TO THE CLIENT: I'm going to ask you some questions now about who, if anyone, you blame for the occurrence of this trauma. I want you to know that there are no right or wrong answers to these questions, and we don't think that it is necessary that you place blame. We ask them because it is often helpful to me in our work together to understand how YOU view this event and how you have responded to it. OK?

Who, if anyone, do you blame for the occurrence of the trauma?

1 - Myself	5 - Friend or acquaintance
2 - Assailant(s) or perpetrators	6 - The environment
3 - An organization	7 - Chance
4 - The government	8 - Other (describe) _____

How so? (i.e., how is the person or organization responsible?)

_____

_____

_____

_____

Have you been feeling guilty about the trauma or your response to it? Shamed? Angry? How much have these feelings been present for you?

_____

_____

_____

_____

Physical and Mental Health Since Trauma

How has your physical health been since the trauma? (Or, if trauma was long ago: how has your health been lately?)

☐ Good ☐ Fair ☐ Poor

What health problems, if any, are you having? Are these related to the trauma?

_____

_____

_____

_____

_____

How is your support system? Who do you like to spend time with or talk to? Have you been connecting with your friends and family lately?

_____

_____

_____

_____

How has your mood been since the trauma? (Or, if trauma was long ago: how has your mood been lately?) Have you been feeling down or depressed? Are you as interested in things as you usually are?

_____

_____

_____

_____

Note: Even if client does not endorse depressed mood, ask the following questions about suicidal ideation and behavior:

Since the trauma, have you ever thought that life is not worth living, or thought about suicide? If yes, how often?

_____

_____

_____

_____

Have you gone so far as to make a careful plan as to how you would kill yourself? Have you taken any action on this (e.g., selected a location or date, bought a gun, obtained pills)?

_____

_____

_____

_____

Do you intend to act on this plan or intend to hurt yourself?

_____

_____

_____

_____

Have you made a suicide attempt since the trauma or at any time? When? (Assess as needed.)

_____

_____

_____

_____

Have you ever deliberately hurt yourself in any way? (If necessary: For example, people sometimes scratch or cut or burn themselves on purpose, or otherwise act in potentially self-harming ways.) **Ask as needed**: What do you do to harm yourself? When did you last hurt yourself? How do you manage the urges now if you don't

act on them?

If yes, describe:

_____

_____

_____

_____

Have you sought psychiatric or psychological help as a result of the trauma? Crisis intervention? (not including this treatment)

No ☐ Yes ☐

If yes, describe:

_____

_____

_____

_____

Have you been to the hospital since the trauma for an emotional or nervous condition? Suicide attempt? Alcohol or drug treatment?

No ☐ Yes ☐

Tell me why you were hospitalized:

_____

_____

_____

_____

Summarize current risk assessment and plan if indicated:

_____

_____

_____

_____

Alcohol and Drug Use

I'd like to ask you about your use of drugs or medications. Since the trauma, have you used: (Go through each of the categories below)

Prescription medications (Note specific meds and frequency of use) _____

_____

_____

Street drugs (Note types and frequency of use) _____

_____

_____

Over-the-counter medications (Note type and frequency of use) _____

_____

_____

On average, about how many drinks containing alcohol do you have per day? (Consider one drink to be a 12-ounce can of beer, one cocktail, or a 4-ounce glass of wine.) Has your pattern of use changed since the trauma? If yes, how so?

_____

_____

Have you ever had legal, social, or employment problems because of your alcohol or drug use?

No ☐ Yes ☐

Do you consider yourself to have a drinking or a drug problem?

No ☐ Yes ☐

Is there anything else about your life now or about how the PTSD is affecting you that you think I should know now?

_____

_____

_____

Appendix J

Working notes and theme development

Initial Codes	Themes	Sub-Themes
Yellow – Trauma symptoms	1. The lived experience of PTSD • Yellow • Turquoise • Blue • Dark red	-
Bright Green – Prompt to seek help	2. Activating the fear structure and emotional processing • Teal • Red • Dark yellow	-
Turquoise – Subjective experience of PTSD	3. Barriers and facilitators to help seeking • Pink • Bright green • Dark blue	-Stigma -Barriers to treatment -Motivators for seeking help -Institutional factors
Pink – Stigma	4. Intervention dynamics: strengths, criticisms and retention in the context of trauma • Violet • Green • Grey • Grey -25% • Black	-Perceived strengths of the intervention -Criticisms and recommendations -Retention factors -Perceptions of intervention frequency
Blue – Comorbidities		
Red – Intervention criticisms		
Teal – Feelings of inefficacy in relation to intervention techniques		
Green – Retention factors		
Violet – Perceived intervention strengths		
Dark red – Symptom changes		
Dark yellow – General perceptions of intervention components		

Grey – Intervention frequency perceptions		
Grey -25% - Recommendations		
– Massed vs. spaced interventions at the counselling centre		
– Barriers to treatment		

time went on and then I started sharing it with my friends umm some would laugh some would like this is literally serious right? So they didn't see the seriousness of it because I was talking as if im laughing it out right? So when they knew that actually this is serious they were like more concerned. Then time went by as well and I was like no actually let me just block it out…(cant deal with it?). So I did that for some time until I finished the court proceedings right then after that I was like oh okay how am I going to move past this stress cause if im gonna stay and be like actually I've shied away from it okanye I've blocked it from me experiencing it or reliving the process whats gonna happen to me? Cause I literally don't want to be part of it and at the time I didn't know that it was something that was triggering my anxiety so I was like okay fine. Then I came across the email then I was like actually, let me go through this therapy then deal with the trauma then see what happens after.

T: Mmkay, I see. Okay thanks. Uhm. Okay, I'm going to go into the treatment that we received in the massed-pe treatment. So can you tell me about the treatment that you received.

P1: Uhm wow. The first two sessions if I should say, were the worst because I was now in a position where I had to relive the trauma a bit, just to get inside obviously and so what made me uncomfortable was that we had to do recordings and I also had to go back home and listen to those recordings and I was not yet ready to do that and it made me very frustrated because I would come back for a session and you know Mandisa would be like "did you listen to your recordings?" and I would be like "no I cant do it" and she would constantly like you know try