

**Massed Prolonged Exposure Therapy for PTSD and Alcohol Use:
A Single Case Experimental Study of a University Student**

Submitted by

SHERWIN ABRAHAMS

Thesis submitted in partial fulfilment of the requirements for the degree of

MASTER OF ARTS IN CLINICAL PSYCHOLOGY

in the

Faculty of Humanities

at

Rhodes University

Supervisor: Dr Duane D. Booysen

June 2024

Declaration

I, Sherwin Abrahams, 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 acknowledgment has been given in the text. This study has not been submitted before for any degree or examination at any university.

Acknowledgements

I would like to express my deepest gratitude to the following individuals who have played a significant role in the completion of this dissertation.

I am profoundly grateful to my supervisor, Duane, for his unwavering support, guidance, and expertise. His insightful feedback and encouragement have been invaluable throughout this research journey.

Heartfelt appreciation goes to my family for their enduring encouragement and understanding. Their love and support have been my anchor, providing me with the strength needed to navigate the challenges of this academic pursuit.

I am grateful to my friends who have been a source of inspiration, laughter, and camaraderie. Your encouragement, understanding, and occasional distractions have made this journey more enjoyable.

I would like to acknowledge the collaborative spirit of my colleagues at Rhodes University. The exchange of ideas and shared experiences has enriched my research and personal growth.

I extend heartfelt gratitude to the participant for her exceptional commitment and significant contribution to this research. Her unwavering dedication, her openness in sharing experiences, and her trust throughout this journey have been instrumental.

I am profoundly grateful to God for His constant guidance, strength, and blessings throughout this dissertation journey. His grace has been my steadfast support in every challenge.

“The curious paradox is that when I accept myself just as I am, then I can change.”

- Carl Rogers

Abstract

Post-traumatic stress disorder (PTSD) and alcohol use disorder (AUD) are common among university students in South Africa. Bantjies et al. (2023) found a PTSD prevalence of 21.0% (n=28,268), and McGowan and Kagee (2013) reported that 90% (n=1337) had experienced at least one traumatic event. There is a high comorbidity between PTSD and AUD, especially in hazardous drinkers (Peltzer & Pengpid, 2015). Despite the prevalence, research on effective trauma-focused therapies (TFTs) in low-resource settings is limited (Booyesen & Kagee, 2021).

This study evaluates the effectiveness of massed-prolonged exposure (MPE) therapy for comorbid PTSD and AUD among South African university students, using a Single-Case Experimental Design (SCED). The participant (n=1) underwent comprehensive assessments using CAPS-5, AUDIT, PDS-5, and PCL-5, confirming PTSD and AUD diagnoses. Regular PCL-5 assessments during the intervention showed significant symptom improvement, and post-intervention assessments indicated the participant no longer met PTSD criteria. AUDIT scores also improved from 11 (harmful/hazardous drinking) to 6.

The participant found MPE therapy to be feasible, acceptable, and appropriate. This study supports the effectiveness, feasibility and acceptability of MPE therapy and highlights the importance of evidence-based interventions to improve PTSD outcomes within university settings and in low-to-middle-income countries.

List of abbreviations

APA American Psychological Association

AUDIT Alcohol Use Disorders Identification Test

CAPS-5 Clinician-Administered PTSD Scale for DSM-5

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 therapy (EBT)

EPT Emotional processing theory

ESTs Empirically supported treatments

EBTs Evidence-based treatments

EMDR Eye movement desensitisation

ICD International Classification of Mental and Behavioural Disorders

ICT Information and Communication Technologies

ISTSS International Society for Traumatic Stress Studies

IV Independent variable

LMIC Low- and middle-income country

MPE Massed Prolonged Exposure

NET Narrative Exposure Therapy

NICE United Kingdom's National Institute for Health and Care Excellence

PCL-5 Post-traumatic stress disorder checklist for DSM-5

PDS-5 Post-traumatic Diagnostic Scale

PE Prolonged exposure therapy

RPERC Rhodes University Research Projects and Ethics Review Committee

RT Reprocessing Therapy

RU-HREC Rhodes University Human Ethics Committee

SAM Situationally accessible memory system

SCED Single case experimental design

SUD Subjective units of distress

TFTs (Trauma focused therapies)

VAM Verbally accessible memory system

Brief glossary

Imaginal exposure	Imaginal exposure is a process during which the client visualises and recounts trauma events aloud.
In-vivo exposure	In-vivo exposure entails real-life exposure to safe situations, activities, places, and objects that the client is avoiding.
Habituation	The gradual process of symptom reduction within and across sessions, due to imaginal exposure.
Over-engagement	A client's difficulty maintaining a sense of safety and grounding during imaginal exposure.
Under-engagement	A client's difficulty in accessing the emotional components of the trauma memory.
Effectiveness	The effectiveness of treatment, i.e., how well it works, is determined based on the client's symptoms or adaptive functioning over time.
Feasibility	Whether or not treatment can be performed relatively easily or conveniently, given the existing resources and circumstances.

Table of contents

Acknowledgements	iii
Abstract	iv
List of Abbreviations	v
Brief Glossary	vii
Table of Contents	viii
List of Figures	xiii
List of Tables.....	xiv
List of Appendices	xv
Chapter 1 Introduction	1
1.1 Context and Rationale.....	1
1.2 PTSD and Alcohol Use among University Students	1
1.3 Trauma-Focused Therapy for PTSD.....	3
Problem Statement and Rationale	4
1.4 Aims of Study	5
1.5 Research Hypothesis.....	5
1.6 Research Questions	5
1.7 Value of the Study	5
1.8 Thesis Outline	6
Chapter Summary	7
Chapter 2 Theoretical Foundations of PTSD and Treatment.....	8
Chapter Overview	8
2.1 History of Psychological Theories of PTSD.....	8

2.2 Emotional Processing Theory	10
2.3 Emotional Processing Theory: Fear Structure of PTSD	11
2.4 Emotional Processing Theory: Modifying the Fear Structure	11
2.4.1 Habituation.....	12
2.5 Treatment Challenges and Limitations	12
Chapter Summary	13
Chapter 3 Literature Review	14
Chapter Overview	14
3.1 History of Psychological Trauma.....	14
3.2 Clinical Definition of PTSD	16
3.3 Prevalence of PTSD and Alcohol Use	18
3.4 Trauma-Focused Treatment for PTSD	20
3.5 Massed-Prolonged Exposure Therapy for PTSD.....	20
3.5.1 Massed-PE as a First-Line Treatment for PTSD.....	21
3.5.2 Recent Developments in Massed PE	23
3.5.2.1 Online-Massed PE	24
3.5.3 Rationale	24
Chapter summary	25
Chapter 4 Methodology and Design	26
Chapter Overview	26
4.1 Aim of the Study	26
4.2 Overview of Single-Case Experimental Design (SCED)	26
4.3 Features of SCED	27
4.3.1 Specification of Treatment Focus	28

4.3.2 Continuous Assessment	28
4.3.3 Separate Phases	28
4.3.4 Stability of Performance	29
4.4 Sample Size in SCED	30
4.4.1 Recruitment of Participants	30
4.4.2 Inclusion and Exclusion Criteria	30
4.4.3 Sample Size	30
4.5 SCED Designs	31
4.5.1 A-B-A Design	31
4.5.1.1 Rationale for Using an A-B-A Design	31
4.6 Data Analysis	32
4.6.1 Visual Analysis.....	32
4.6.2 Descriptive Statistical Analysis.....	32
Chapter Summary	33
Chapter 5 Massed PE (MPE) Intervention, Case Study & Results.....	34
Chapter Overview	34
5.1 Intervention.....	34
5.1.2 Overview of Massed-PE	35
5.1.1.1 Session 1	35
5.1.1.2 Session 2	36
5.1.1.3 Session 3	36
5.1.1.4 Intermediate Sessions.....	36
5.2 Treatment Fidelity.....	37
5.3 Ethical Considerations	37

6. MPE Case Study & Results	38
6.1 Case Introduction	38
6.1.1 Amy Case Introduction	38
6.2 Presenting Problems.....	39
6.2.1 Amy Presenting Problems.....	39
6.3 Case Conceptualisation.....	40
6.3.1 Conceptualisation of Amy	40
6.4 Results.....	41
6.5 Visual Inspection.....	43
6.5.1 Amy Results.....	43
6.6 Descriptive Analysis	46
6.7 Feasibility of Massed-PE.....	46
6.7.1 Implementation Measures.....	47
6.8 Reflections as a Therapist	49
6.8.1 Imaginal Exposure	49
6.8.2 In-Vivo Hierarchy	50
6.8.3 Therapeutic Relationship	51
Chapter Summary	52
Chapter 6 Discussion	53
Chapter 7 Limitations, Implications and Conclusions.....	59
7.1 Summary	59
7.2 Limitations of the Study.....	60
7.3 Implications of the Study	61
7.4 Treatment Implications	61

7.5 Recommendations to clinicians and students.....	61
7.6 Value of the Study	62
7.7 Conclusion	62
References	63

List of figures

6A - Participant's CAPS-5 Scores	44
6B - Participant's PDS-5 Scores	44
6C - Participant's AUDIT Scores	45
6D - Participant's PCL-5 Scores	46
6E - Acceptability of Intervention Measure (AIM)	47
6H - Intervention Appropriateness Measure (IAM)	48
6F - Feasibility of Intervention Measure (FIM)	49

List of tables

6.4 – Sample characteristics of trauma survivors.....	42
---	----

List of appendices

Appendix A – Participant informed consent declaration.....	78
Appendix B – Larger project letter.....	81
Appendix C – RU-HREC.....	83
Appendix D – Approval from Registrar.....	84
Appendix E – AUDIT.....	85
Appendix F – CAPS-5.....	87
Appendix G – PCL-5.....	111
Appendix H – PDS-5.....	112
Appendix I – Implementation measure.....	116

Chapter 1

Introduction

1.1 Context and Rationale

Post-traumatic stress disorder (PTSD) is considered a mental health concern in low and middle-income countries (LMICs), including South Africa, where poverty and exposure to traumatic events are widespread (Atwoli et al., 2013; Booysen & Kagee, 2020). Bantjies et al. (2023) reported a PTSD prevalence rate of 21.0% (n=28,268) among South African university students, marking it as one of the highest compared to prevalence rates of other common mental health disorders. University students in South Africa are particularly vulnerable to PTSD, due to their exposure to various traumatic events, such as sexual assault, robbery, and other forms of violence (Padmanabhanunni, 2020).

Furthermore, comorbid conditions, such as AUD are prevalent among university students with PTSD in South Africa, which can further complicate their recovery (Peltzer & Pengpid, 2015; Blow & Isaacs, 2023). Studies have shown that up to 33.4% (n=6000) of university students in South Africa engage in hazardous drinking behaviour (Young & De Klerk, 2008), and alcohol use is often used as a coping mechanism to manage the symptoms of PTSD (Read et al., 2014). Alcohol use among university students is also associated with consequences, such as unsafe sex, absenteeism, and academic failure (Young & De Klerk, 2008; Htet et al., 2020; Blows & Isaacs, 2022).

Despite the high prevalence of PTSD and AUD among university students in South Africa, access to and research on the effectiveness of TFTs within universities and broader South Africa are limited (Booyesen & Kagee, 2021). One of the most effective treatments for PTSD is Massed-prolonged exposure (MPE) therapy, which has been shown to significantly reduce PTSD symptoms in a variety of populations (Foa et al., 2018; Zwetzig et al., 2021; Dell et al., 2023;). However, the effectiveness of MPE therapy for the treatment of comorbid PTSD and AUD in university students in South Africa has not been evaluated. Therefore, the study aims to examine MPE's effectiveness in treating comorbid PTSD and AUD in university students in South Africa.

1.2 PTSD and alcohol use amongst university students

PTSD and AUD are two prevalent mental health disorders among university students in South Africa. Bantjies et al. (2023) reported a PTSD prevalence rate of 21.0% (n=28,268) among

South African university students, marking it as one of the highest compared to prevalence rates of other common mental health disorders. Research suggests that 90% (n = 1337) of South African university students have experienced at least one traumatic event, with suicide or homicide of a close person or family member, witnessing harm to another, and life-threatening situations being the most common (McGowan & Kagee, 2013). These traumatic experiences increase the risk of developing PTSD and comorbid AUD (Smith et al., 2016), especially in a population that has a high prevalence of alcohol use (Young & De Klerk, 2008; Blow & Isaacs, 2023).

Several studies have reported high rates of comorbidity between PTSD and AUD. One study found that (n=800) those students who engage in alcohol use reported elevated PTSD symptoms and that hazardous drinking was associated with a higher likelihood of having elevated PTSD symptoms, compared to non-drinking university students (Peltzer & Pengpid, 2015). This is of concern, given that another study found half of the students (n=2094) reported hazardous, harmful, or dependent drinking patterns (Young & De Klerk, 2008). In the study by Young and De Klerk (2008), it was found that the average AUDIT scores for the total sample in 2007 and 2008 were 8.94 and 8.84, respectively. The difference between the two years was small and not statistically significant. These findings indicate that approximately half of the students who completed the questionnaire exceeded the clinical cut-off score of eight, indicating a risk of alcohol-related harm. About one-third of the students fell into the hazardous drinking category, while the remainder engaged in harmful or dependent drinking patterns (Young & De Klerk, 2008). Pengpid et al. (2013) found that (n=722), 21.1% of university students (n=152) tested positive for the AUDIT with a score of 8 or more, which is associated with harmful and hazardous drinking.

More recent research conducted (n=4016) among university students in Johannesburg, has found that the prevalence of lifetime use of alcohol was 79.1%, with 70.2% for the past 12-month use, and 37.1% for the past 30-day use (Chen et al., 2023). Risky drinking prevalence was identified at 54.8%, indicating a significant portion of the student population engages in hazardous drinking behaviours (Chen et al., 2023). Another study (n=2915) looking at the prevalence of and factors associated with substance use, focusing on university students in the Western Cape, reported a substance use prevalence rate of 62.7%, with alcohol (80.6%) being the most commonly used substance. This study also found significant associations between

substance use and mental health issues, such as higher depression and anxiety scores among substance users (Blows & Isaacs, 2022). These recent findings underscore the ongoing concern of hazardous and harmful alcohol use among university students, as found earlier by Young and De Klerk (2008).

Consistent with the findings by Blow and Isaacs (2022), another study reported that PTSD often has additional health conditions, including depression, anxiety, and substance use disorders, with comorbid substance use disorders being prevalent, with rates as high as 76% (Smith et al., 2016). Furthermore, the negative impact of comorbid PTSD and AUD on students' mental health and academic performance cannot be ignored. It is well documented that PTSD symptomology (e.g. persistent negative emotions, intrusive memories, and hypervigilance to threats) can interfere with a student's capacity to concentrate and successfully accomplish academic tasks that require cognitive flexibility and focused attention, ultimately impacting their academic performance. In addition to this, increased alcohol consumption among university students is also associated with consequences, such as unsafe sex, absenteeism, and academic failure (Young & De Klerk, 2008). When considering student mental health, it is also important to consider risk to self. Bantjes et al. (2016) found that rates of suicidal ideation are higher amongst South African university students than among the general population of the country and student populations in other parts of the world. Moreover, symptoms of trauma exposure and depression predict suicidal ideation (Bantjes, 2016).

1.3 Trauma-focused therapy for PTSD

One of the most extensively studied TFTs for PTSD is Prolonged Exposure Therapy (PE; Foa et al., 2019), which has demonstrated efficacy in treating PTSD and comorbid conditions, such as AUD (Brown et al., 2019; Foa et al., 2019). PE involves helping the individual confront their traumatic memories and process their emotional responses by processing the traumatic memory in a safe and controlled environment, to reduce the fear and avoidance associated with the trauma (Foa et al., 2019). This is achieved through repeated exposure to the trauma memory and associated stimuli, until the fear response decreases (Foa et al., 2007).

Over the last three decades, Standard PE (SPE) has been adapted to fit various clinical and population challenges, such as premature termination of treatment, known as a drop-out. Massed-prolonged exposure (MPE) therapy is a treatment approach for PTSD that involves repeated exposure to trauma-related stimuli over a 10-day period, in contrast to Standard PE, in

which therapy duration lasts between 8 and 15 weeks. During the sessions, patients engage in imaginal exposure, where they recount and vividly describe the trauma memory, and in-vivo exposure, which is when a patient confronts safe situations that they have been avoiding. The goal of MPE is to help patients learn to confront and manage the learnt fear associated with the memory of the traumatic experience, and to reduce PTSD symptoms within a shorter period of time. This shorter duration of MPE is advantageous to university clinics and counselling centres.

University counselling centres play a crucial role in providing mental health services to students, addressing issues ranging from stress and anxiety, to depression and PTSD. These centres typically offer a variety of services, including individual therapy, group therapy, workshops, and crisis intervention (Bonar, 2015). Despite the broad range of services offered, counselling centres often struggle with resource limitations, thus impacting their ability to serve the student population effectively (Pedrelli et al., 2014). The demand for mental health services in university settings has significantly increased over the years, placing a considerable burden on counselling centres (Watkins et al., 2012). Many centres are under-resourced and face challenges in meeting this growing demand, resulting in long waiting lists and limited session availability.

Despite the increasing need for effective mental health interventions, many university counselling centres continue to rely on traditional therapy modalities that may not be the most effective for specific conditions, such as PTSD (Sokol, 2009; Abrams, 2022). Clinical staff at university counselling centres often resist evidence-based treatments (ESTs) for PTSD, such as MPE therapy, due to concerns that it may be too intense, retraumatise the client, and clients may drop out (Bonar, 2015). However, research indicates that “the rates of symptom worsening associated with exposure treatments are generally very low and that exposure therapy is not associated with a greater risk of symptom worsening than other forms of treatment” (Riggs et al., 2006, p. 81). Furthermore, there is no empirical evidence that exposure treatments are associated with high drop-out rates. Research indicates that clients “tolerate exposure therapy at least as well as other forms of CBT” (Riggs et al., 2006, p. 81).

Problem statement and rationale

Ultimately, the goal of MPE therapy is to deliver the same amount of exposure therapy more rapidly, with the hope that this will reduce drop-out and still improve outcomes for PTSD and comorbidities, such as AUD. This is especially useful in low resource settings where SPE,

that is 3-6 months is not feasible. With a high prevalence of trauma exposure, PTSD, and alcohol use among university students in South Africa, as well as limited access to effective TFTs, it is crucial to investigate the effectiveness and feasibility of MPE in the treatment of comorbid PTSD and AUD among university students (Koenen et al., 2017; Padmanabhanunni, 2020; Booysen & Kagee, 2021; Blows & Isaacs, 2022; Bantjies et al., 2023).

1.4 Aims of study

The primary aim of the study was to investigate whether massed-prolonged exposure (MPE) therapy is an effective, feasible, and acceptable treatment for PTSD and comorbid alcohol use in a single case participant. The proposed study was be guided by the following research hypothesis and questions:

1.5 Research hypothesis

- Massed-prolonged exposure therapy will improve symptoms of PTSD and alcohol use disorder among a university student at a community psychology clinic.

1.6 Research questions

- Does a university-going student perceive and experience Massed-PE as a feasible therapy for PTSD and AUD?
- Does a university-going student perceive and experience Massed-PE as an acceptable therapy for PTSD and AUD?

1.7 Value of the study

This study addresses a critical and underexplored area in the field of TFTs in South Africa. With a high prevalence of trauma exposure, PTSD and alcohol use among university students, this study addresses a complex challenge that demands evidence-based treatments (EBTs) (McGowan & Kagee, 2013; Blows & Isaacs, 2022; Bantjies et al., 2023). This research study is the first of its kind to specifically evaluate the effectiveness of MPE in the treatment of comorbid PTSD and AUD among university students in South Africa. It therefore stands at the forefront of addressing this challenge, offering new insights into the effectiveness and feasibility of MPE in a university setting in South Africa.

The value of this study lies in its potential to significantly impact mental health outcomes for South African university students, who are vulnerable to PTSD due to widespread exposure

to traumatic events (Padmanabhanunni, 2020) and to hazardous alcohol use, often used as a coping mechanism (Smith et al., 2016). University students experiencing symptoms of PTSD often do not receive TFTs from university counselling centres or clinics, due to the perception by university staff that TFTs are too intense and may retraumatise students (Bonar, 2015).

Therefore, by evaluating the effectiveness of MPE, a rapid form of PE therapy, this study not only seeks to provide evidence for an effective treatment approach for university students struggling with comorbid PTSD and AUD but also to address the practical constraints of access and resource availability in low resource settings.

Importantly, this study contributes to the broader discourse on TFTs in low- and middle-income countries (LMICs), where there is limited access to EBTs (Booyesen & Kagee, 2021). By demonstrating the effectiveness of Massed-PE (MPE) among university students, this research study hopes to pave the way for the further study and implementation of MPE in other LMIC and low resource settings, with the ideal of increasing accessibility to EBTs.

1.8 Thesis outline

Chapter 1 introduces the research context and rationale, aims of the study, research hypothesis, research questions, and concludes with the value of the study.

Chapter 2 briefly outlines the history of psychological theories of PTSD and introduces the theoretical framework underpinning the research study. This is followed by a discussion of treatment challenges and limitations. The chapter predicts the expected treatment outcomes of the intervention, based on emotional processing theory (EPT).

Chapter 3 provides an overview of the literature on PTSD, as well as the psychological interventions. The chapter also highlights the literature relevant to South African university students.

Chapter 4 focuses on the methodology and research design which was utilised to examine the aim of the study and the research hypothesis. The aim of the study and methodology are presented. The chapter provides a discussion of the data analyses processes.

Chapter 5 explains the intervention phase of the research study, namely Massed-PE. The recruitment process, inclusion and exclusion criteria and sample size are presented, as well as the assessment measures employed. An outline of the sessions is then provided and addresses treatment fidelity and ethical considerations. The chapter also provides an idiographic overview

of the participant recruited for the study. Through the theoretical lens of EPT, a case conceptualisation is presented, together with the results of MPE with the participant. The chapter concludes with a discussion of idiographic visual inspection and descriptive analysis.

Chapter 6 includes a discussion of the results in relation to the existing literature.

Chapter 7 reflects on the study's limitations and implications, and presents conclusions.

Chapter summary

Chapter 1 introduced the study by describing the research context, rationale and the aim of the study, which is to investigate the effectiveness and feasibility of Massed-PE for PTSD and comorbid alcohol use amongst South African university students. The following chapter will briefly describe the trauma theories of PTSD and discuss EPT.

Chapter 2

Theoretical Foundations of PTSD and Treatment

Chapter overview

Chapter 2 provides a concise overview of the historical development of psychological theories concerning Post-Traumatic Stress Disorder (PTSD). Subsequently, it examines emotional processing theory (EPT) as the foundational theoretical framework supporting the study. Following this, it explores the challenges associated with treatment, concluding the chapter by offering a theoretical projection of the anticipated intervention results, grounded in the principles of EPT.

2.1 History of psychological theories of PTSD

Before the late 19th century, it was commonly accepted that the symptoms stemming from trauma had a physiological basis. However, through his research into the connection between trauma and mental health issues, Jean Martin Charcot (1825-1893), a French neurologist renowned for his research on hysteria in women who had experienced trauma, identified that these symptoms were psychological rather than strictly physical (Ringel & Brandell, 2012). This ground-breaking discovery by Charcot also contributed to the early understanding of dissociation, which he initially described as a form of “hypnotic state” triggered by traumatic experiences (Ringel & Brandell, 2012).

Building upon Charcot's investigations into the dissociative symptoms in trauma-affected individuals, Pierre Janet (1859-1947) delved into the effects of traumatic events on personality formation and behaviour. Through his research, Janet observed that the personal interpretation of a traumatic incident played a significant role in shaping an individual's emotional response thereafter. He also found that methods, such as re-experiencing the trauma could help reduce its symptoms.

In the closing years of the 19th century and the onset of the 20th, the psychoanalytic theory put forth by Sigmund Freud (1856-1939) held a prominent position in trauma research. Freud and Josef Breuer (1842-1925), a noted Austrian physician and physiologist, labelled what Pierre Janet had termed as "dissociation" in cases of hysteria as "hypnoid hysteria". Freud's

investigative efforts were largely focused on the sexual experiences of women, leading to his work being described as an exploration into the intricacies of fantasy and desire, removed from the actuality of lived experiences (Herman, 1992, p. 14). It was within this context that Freud initially proposed a correlation between the experiences of sexual abuse in women and the exhibition of hysterical symptoms, thus introducing the seduction theory. Nonetheless, Freud subsequently re-evaluated his stance on the seduction theory, choosing instead to focus on the interrelation between trauma, hysteria, and their ties to the subconscious (Ringel & Brandell, 2012).

According Bisson (2009) *Bowlby & Ainsworth's attachment theory* also played a significant role in understanding the development of PTSD, especially in cases of repeated childhood abuse. Insecure attachment was associated with difficulties in forming relationships and regulating emotions, characteristics common in complex forms of PTSD (Bisson, 2009). According to Brewin and Holmes (2003), these insights, along with additional discoveries, such as the connection between trauma and aspects of memory and attention, laid the foundational groundwork for the evolution of numerous psychological theories related to trauma and PTSD.

Among the initial theories of trauma is *Horowitz's stress response theory*, deeply influenced by psychodynamic principles. This theory played a critical role in elucidating the nature of trauma, particularly highlighting the phenomenon where memories of a stressful incident are involuntarily and unavoidably relived by an individual. It also shed light on the use of avoidance as a psychological defence strategy to cope with such memories (Brewin & Holmes, 2003; Horowitz, 1976).

Furthermore, the *theory of shattered assumptions* posits that individuals' worldviews are negatively impacted when they experience a traumatic event, and, as such, they no longer perceive the world as a safe and meaningful place, or themselves as competent and invulnerable (Edmondson et al., 2011). According to this theory, the anxiety and physiological reactivity that are characteristic of PTSD, are consequences of a state of "defencelessness, terrifying, and confusing awareness of personal vulnerability" (Edmondson et al., 2011, p. 2).

Brewin and Holmes (2003) identify *information processing theory* as another pivotal early contribution to trauma theory that has significantly influenced contemporary thought. According to this theory, psychopathological conditions emerge from the flawed processing of traumatic experiences. Echoing aspects of social-cognitive theories, it underscores the necessity

for accurate and new information regarding the traumatic event to be assimilated into the memory system (Brewin & Holmes, 2003; Lang, 1977).

Modern psychological theories of PTSD include *dual representation theory* which proposes that symptoms of PTSD are attributable to memory processes present after a traumatic event (Brewin et al., 1996). The theory highlights two distinct types of memory: verbally accessible memories (VAMs) and situationally accessible memories (SAMs). VAMs give rise to conscious, distressing recollections, while SAMs remain unconscious, until triggered, leading to symptoms, such as flashbacks. Emotional processing relies on exposure to SAMs and conscious efforts to integrate trauma-related information with pre-existing schemas.

Ehlers and Clark's cognitive model of PTSD built on cognitive theory, emphasises negative appraisals about external and internal threats. These misinterpretations of situations, combined with biased recall, contribute to developing and maintaining PTSD. Therapy based on this model, focuses on identifying specific triggers and conducting experiments to overcome them (Ehlers & Clark, 2000).

At present, more contemporary theories, such as *Ehlers and Clark's cognitive model*, remain highly regarded among researchers studying PTSD (Ehlers, Hackmann & Fennel, 2005).

2.2 Emotional Processing Theory

Emotional Processing Theory (EPT) plays a central role in the study, providing the theoretical framework for understanding the aetiology and treatment of PTSD. EPT posits that traumatic events give rise to fear structures, avoidance behaviours, and distorted beliefs (Foa et al., 2019; Rauch et al., 2017). EPT is rooted in Lang's bioinformational theory of fear (Lang, 1977). According to this theory, fear is depicted as an abnormal emotional structure that persists, following an individual's exposure to a traumatic event (Rauch & Foa, 2006). Lang (1977) delineates this structure into three key components: information about the feared stimulus; verbal, physiological, and overt behavioural responses; and the interpretive significance of the feared stimulus and associated responses. These three components, collectively called the fear structure, function as a programme guiding individuals to avoid situations they fear (Lang, 1977). This inclination to avoid feared situations, commonly known as avoidance, contributes to maintaining PTSD (Foa et al., 1989).

For instance, individuals may believe they are weak, and their surroundings are unsafe. Massed-PE, as a trauma-focused therapy, modifies these fear structures through gradual exposure to feared stimuli, preventing avoidance behaviours and leading to habituation (Foa et al., 2019; Rauch et al., 2017). By challenging distorted beliefs and diminishing fear responses, EPT explains the mechanisms underlying exposure-based therapies, making it a valuable framework for understanding the nature of PTSD and the therapeutic processes involved.

2.3 Emotional Processing Theory: Fear Structure of PTSD

Foa, Stetekee and Rothbaum (1989) posit that three components comprise the pathological fear structure: excessive stimulus; response; and pathological meaning elements. For instance, consider an individual who experiences a traumatic car accident; they may develop a heightened fear response not just to similar traffic situations, but also to stimuli that remotely resemble the conditions of the accident.

In addition, within the fear structure, two cognitive factors play a foundational role: a) erroneous beliefs about the overall safety of the world, such as the "world is entirely dangerous", and b) distorted beliefs about one's self-efficacy and competence, for instance, "I am losing my mind" (Rauch & Foa, 2006).

2.4 Emotional Processing Theory: Modifying the fear structure

Some individuals experience a natural recovery process following a traumatic event, where pathological elements are corrected through engagement in daily activities that challenge them (Rauch & Foa, 2006, p. 62). However, not everyone undergoes this spontaneous healing; some require psychological intervention to aid in emotional processing. The central aspect of emotional processing involves modifying pathological fear structures (Foa & Kozak, 1986; Rauch & Foa, 2006). This involves two essential conditions. First, the fear structure must be activated by exposing oneself to fear-inducing information in real-life situations (in-vivo exposure) and through imagination (imaginal exposure). Second, new information must be integrated into the existing fear structure and made accessible (Foa & Kozak, 1986). It is crucial to emphasise that the new information does not replace the pre-existing, albeit erroneous, beliefs but rather adjusts them.

Facilitating emotional engagement with traumatic memories, for instance, through imaginal and in-vivo exposure, is vital because post-traumatic stress disorder (PTSD) often persists due to avoidance behaviours and erroneous beliefs (Foa et al., 2019). Repeatedly revisiting the trauma memory helps organise the narrative, differentiate between remembering and reliving, and distinguishes the trauma from similar safe events, ultimately disproving the belief that the world is inherently dangerous. Through these processes, incorrect cognitions and the associated distress underlying PTSD can be modified (Foa et al., 2019).

Evidence-based practice (EBP) in trauma treatment recommends using both imaginal and in-vivo exposure techniques, since earlier research has shown that combining these approaches yields better treatment outcomes (Foa et al., 1980).

2.4.1 Habituation

Habituation reduces the fear response to a stimulus when individuals engage in processes, such as imaginal and in-vivo exposure (Benito & Walther, 2015; Foa & Rothbaum, 1998). Habituation plays a significant role in the treatment of PTSD and trauma-related disorders. This is done by recognising that the traumatic memory is not as threatening as initially perceived, (Foa & Kozak, 1986). Consequently, through habituation, individuals who have experienced traumatic events can reclaim their lives and experience a sense of empowerment as they discover that fear is not permanent and they are not incapable (Foa et al., 2019).

2.5 Treatment challenges and limitations

Research has also explored the limitations associated with Emotional Processing Theory (EPT). Foa and Kozak (1986) identified four factors that can impede a client's emotional processing during therapy. To begin with, cognitive avoidance tactics, such as diverting attention, for instance, can obstruct emotional processing and hinder modifying traumatic memories (Foa & Kozak, 1986). Second, severe depression has been observed to hamper effective emotional processing. This can be attributed to the client's struggles with self-confidence, feelings of hopelessness, and cognitive biases, which might prevent the encoding of corrective information needed to weaken the connections within the fear structure (Foa & Kozak, 1986). Foa and Kozak (1986) identified a third factor that could complicate treatment, known as overvalued ideation. This involves resisting the encoding of corrective and rational information by justifying erroneous thoughts (Foa, 1979).

Finally, if the fear structure is not adequately activated due to under-engagement or over-engagement in treatment, it can impede habituation, ultimately impacting the overall treatment outcome (Rauch & Foa, 2006). Habituation is recognised as one of the fundamental underlying processes of successful exposure therapy. According to EPT, both within-session and between-session habituation of fear are essential for long-term symptom relief. However, despite its apparent validity, these premises lack consistent empirical support. Consequently, more recent exposure therapy theories have shifted their focus to extinction research, underscoring the importance of inhibitory regulation or the formation of safety learning as the primary underlying process. Instead of weakening the original fear memories, the emphasis is placed on establishing new memories, as they are believed to lead to fear extinction (Craske et al., 2012; Baker et al., 2010). This shift in perspective may have significant implications for the implementation of exposure therapy.

The prevalence of comorbid PTSD and AUD among university students in South Africa presents a complex challenge regarding effective treatment. Limited access to trauma therapies within universities and society at large compounds the issue (Booyesen & Kagee, 2021). Despite the demonstrated effectiveness of Prolonged Exposure (PE) in reducing PTSD symptoms (Foa et al., 2007), its applicability to the comorbid population remains mainly unexplored.

Chapter Summary

Chapter 2 provides an insightful exploration of the historical development of psychological theories related to PTSD. It begins by tracing the development of these theories, from early classical conditioning models to contemporary cognitive, emotional, and psychodynamic perspectives. EPT was discussed as the underpinning theoretical framework. Furthermore, the chapter addresses the challenges and limitations associated with EPT and concludes with a theoretical prediction regarding the potential of Massed-PE as a promising treatment option.

Chapter 3

Literature review

Chapter overview

A literature review was undertaken to examine the psychological treatment of PTSD, emphasising Massed-PE. Another critical aspect of the literature review was examining the literature relevant to the South African context and, more specifically, student populations. Moreover, the literature review also focused on PTSD and comorbid alcohol use, and alcohol use amongst university students in South Africa.

The following keywords were included in the search criteria: "PTSD"; "traumatic stress"; "prolonged-exposure therapy"; "massed-prolonged exposure therapy"; "exposure therapy"; "online prolonged exposure therapy"; "trauma amongst university students in South Africa"; "alcohol use amongst university students in South Africa"; and "PTSD and alcohol use". The researcher reviewed the literature, resulting in the utilisation of the relevant literature in this thesis.

Articles were chosen based on their perceived reliability, highlighting their empirical nature, peer-reviewed status, and relevance to the research topic. To identify high-impact sources, searches were conducted in renowned academic journals that consistently feature research related to PTSD, including the SA Journal of Psychology and the Journal of Traumatic Stress. Additional searches were conducted on platforms, such as Google Scholar, SAGE publications, and internet-based resources.

3.1 History of psychological trauma

The concept of Post-Traumatic Stress Disorder (PTSD) is relatively recent in psychiatry, yet it possesses a complex historical background (Eagle, 2002). Its roots can primarily be traced back to conditions arising from wartime experiences. According to Eagle (2002) and Green (1994), PTSD originated from observing how individuals reacted to social and natural norm violations, often with political implications.

During World War I in the early 1900s, soldiers coined the term "shell shock" to describe a condition they believed resulted from brain trauma caused by exploding shells (Sadock & Sadock, 2003). Terms, such as "operational fatigue," "battle exhaustion," and "combat neurosis" were used interchangeably to describe similar symptoms in survivors of various traumatic events, including Nazi concentration camps, World War II, and the atomic bombings in Japan (Sadock & Sadock, 2003).

The prevalence of psychiatric comorbidities among Vietnam War veterans played a pivotal role in formalising the diagnosis of PTSD. This diagnosis is closely associated with the legacy of the Vietnam War (Eagle, 2002; Green, 1994). Symptomatology among Vietnam War veterans encompassed fatigue, weakness, sleep disturbances, headaches, physical pain, memory problems, attention and concentration difficulties, gastrointestinal symptoms, anxiety, depression, and irritability (Eagle, 2002).

In 1980, PTSD received formal recognition as a psychiatric disorder and was included in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III). At that time, it was characterised as a disorder marked by traumatic memories and intrusive symptoms, such as nightmares, involuntary recollections, and flashbacks (American Psychological Association, 1980).

When officially introduced in DSM-III, PTSD featured 17 symptoms divided into three clusters. Over the years, the concept of PTSD has evolved across different editions of the DSM. The most recent edition, DSM-5, identifies 20 symptoms categorised into four clusters (American Psychological Association, 2013).

The diagnostic criteria for PTSD have also undergone refinement in subsequent editions of the International Classification of Mental and Behavioral Disorders (ICD) and have been a topic of discussion among researchers. While DSM-5 has a comprehensive perspective on PTSD, capturing individuals with significant symptoms and those just below the threshold, the latest version of the ICD, ICD-11, has stricter criteria to avoid over-diagnosis (Stein et al., 2014). However, this change may result in a narrower definition and potentially miss diagnosing individuals slightly below the diagnostic threshold (Wisco et al., 2017).

Diagnostic criteria for complex PTSD incorporate three core PTSD symptom clusters and introduce three additional clusters: emotional dysregulation, negative self-concept, and relational disturbances. Although a clear personality change is not mandatory for diagnosis, sustained

alteration in self-organisation is often observed, particularly in those with prolonged early-life trauma, resembling a subtype of Borderline Personality Disorder (BPD) (Giourou et al., 2018). According to Giourou et al. (2018), the debate centres on whether complex PTSD is a distinct entity or a comorbidity of PTSD and BPD. While both share core symptoms, the stability of self-concept and attachment styles differs. BPD features an unstable sense of self and fluctuating attachment styles, while complex PTSD is characterised by a stable negative self-concept and an avoidant attachment style, following complex trauma.

Furthermore, the World Mental Health Surveys found that a core cluster of symptoms are prevalent across 26 nations, meaning that PTSD is not culture bound yet some cultural expressions and idioms are relevant to understand. This refutes earlier claims by Summerfield (2001) and Allan Young (1995). The implication is that the fundamental features of PTSD are universal and not limited by cultural boundaries. The recognition of a common set of symptoms across diverse cultures emphasises the cross-cultural validity of PTSD as a psychiatric diagnosis.

3.2 Clinical definition of PTSD

Post-Traumatic Stress Disorder (PTSD) is a mental health condition that can emerge following exposure to a traumatic event. This event may involve personal experience; witnessing trauma; learning about the violent death of a close associate; or repeated exposure to traumatic incidents (American Psychological Association, 2013).

The most commonly used diagnostic manuals, DSM-5 and ICD-11, are recognised as essential references (Miao et al., 2018). In the latest edition of DSM-5, 20 distinct symptoms are categorised into four clusters (Miao et al., 2018).

To establish a diagnosis of PTSD, specific criteria must be met, including the presence of one avoidance symptom, two symptoms connected to adverse changes in cognition and mood, and two symptoms related to arousal and reactivity. These symptoms should persist for at least one month after the traumatic event and harm the individual's overall functioning (Miao et al., 2018).

Individuals with PTSD frequently encounter intrusive thoughts and often revisit the traumatic incident involuntarily through memories, distressing dreams, or flashbacks (Iribarren et al., 2005). The occurrence of intrusive thoughts and flashbacks is a distinctive characteristic of PTSD, distinguishing it from other disorders (Brewin & Holmes, 2003). In addition, individuals

with PTSD exhibit avoidance strategies both in their thoughts and emotions (internal) and their interactions with people, places, and activities (external) (American Psychological Association, 2013). Noticeable changes in cognition, such as self-blame or negative thoughts about others or the world, as well as mood alterations encompassing fear, anger, guilt, or shame, are also common symptoms associated with PTSD (American Psychological Association, 2013). Furthermore, individuals with PTSD may experience changes in arousal and reactivity, including irritability, outbursts of anger, reckless behaviour, or sleep disturbances (American Psychological Association, 2013).

Research findings indicate that ongoing discussions persist, regarding the structure of PTSD as outlined in the DSM-5. According to Friedman (2013), the alterations in the diagnostic criteria for PTSD from the DSM-IV to the DSM-5 were "empirically based and rigorous." Consequently, these ongoing debates remain pertinent and exemplify the sustained commitment to the study of psychological trauma and PTSD.

Friedman (2013) draws attention to the issue concerning the broader scope of the DSM-5 criteria in contrast to the ICD-11 PTSD criteria and advocates a more comprehensive definition of PTSD. This broader definition is favoured because it adequately encompasses the typical clinical presentations. Kilpatrick (2013) shares this perspective and deems the expanded criteria for PTSD in the DSM-5 appropriate, as they include clinically significant issues or problems, thereby facilitating a reliable and accurate diagnosis.

Another noteworthy debate centres on the process that resulted in the reclassification of PTSD, from an anxiety disorder to the creation of a distinct chapter known as Trauma- and Stressor-Related Disorders within the DSM-5 (Friedman, 2013; Schnurr, 2013). Kilpatrick (2013) underscores the advantages of this change, as it acknowledges the role of nurture vs. nature. In essence, it recognises that psychological disorders, such as PTSD are influenced by both genetic and biological factors (nature) and psychological risk and protective factors (nurture). Therefore, PTSD is viewed as a condition resulting from the interplay between these two factors (Kilpatrick, 2013).

Interestingly, the global impact of the COVID-19 pandemic has prompted a re-evaluation of what constitutes a traumatic event, leading to heated debates surrounding Criterion A. While the traditional criteria may not directly encompass the widespread effects of a global health crisis, proponents argue that the psychological toll of living through the pandemic, including fear

of illness, social isolation, and economic instability, can be as debilitating as more traditional traumatic events (Bridgeland et al., 2021).

On the other hand, critics assert that the expansion of Criterion A to include events, such as the pandemic, may dilute the specificity of the PTSD diagnosis. They argue that broadening the criteria may pathologise normal stress responses, making it challenging to distinguish between genuine psychiatric disorders and typical reactions to difficult life circumstances (Norrholm et al., 2021).

The debate over Criterion A is further complicated by the concept of Concept Creep. Concept Creep refers to the gradual expansion of the meaning of a concept, leading to an overextension of its boundaries (Haslam et al., 2021). In the context of PTSD, Concept Creep implies that the definition of trauma may be expanding to encompass a wider range of experiences than originally intended (Jones et al., 2023).

The dangers of Concept Creep include the potential for over-diagnosis and overtreatment. If the definition of PTSD becomes too inclusive, individuals experiencing normal stressors may be wrongly labelled as suffering from a psychiatric disorder. This not only poses risks to the mental health field but also has broader societal implications, including the allocation of limited resources and potential stigmatisation of individuals facing everyday challenges.

In summary, the field of traumatic stress continues to evolve, with scholars actively engaging in unresolved questions, such as those pertaining to Criterion A and the meta-structure of PTSD (Friedman, 2013).

3.3 Prevalence of PTSD and alcohol use

PTSD and AUD are two prevalent mental health disorders among university students in South Africa. Bantjies et al. (2023) reported a PTSD prevalence rate of 21.0% (n=28,268), among South African university students, marking it as one of the highest compared to prevalence rates of other common mental health disorders. Research suggests that 90% (n = 1337) of South African university students have experienced at least one traumatic event, with suicide or homicide of a close person or family member; witnessing harm to another; and life-threatening situations, being the most common (McGowan & Kagee, 2013). These traumatic experiences increase the risk of developing PTSD and comorbid AUD (Smith et al., 2016), especially in a population that has a high prevalence of alcohol use disorders (Chen et al., 2023).

Several studies have reported high rates of comorbidity between PTSD and AUD. One study found that (n=800) those students who engage in alcohol use reported elevated PTSD symptoms and that hazardous drinking was associated with a higher likelihood of having elevated PTSD symptoms, than non-drinking university students (Peltzer & Pengpid, 2015). This is of concern, given that another study found that half of the students (n=2094) reported hazardous, harmful, or dependent drinking patterns (Young & De Klerk, 2008).

The study by Young and De Klerk (2008) found that the average AUDIT scores for the total sample in 2007 and 2008 were 8.94 and 8.84, respectively. The clinical cut-off score is 8; thus, a score of 8 or more indicates harmful or hazardous drinking. The difference between the two years was slight and not statistically significant. These findings indicate that approximately half of the students who completed the questionnaire exceeded the clinical cut-off score of eight, indicating a risk of alcohol-related harm. About one-third of the students fell into the hazardous drinking category, while the remainder engaged in harmful or dependent drinking patterns (Young & De Klerk, 2008).

More recent research conducted (n=4016) among university students in South Africa has found that the prevalence of lifetime use of alcohol was 79.1%, with 70.2% for the past 12-month use, and 37.1% for the past 30-day use (Chen et al., 2023). Risky drinking prevalence was identified at 54.8%, indicating a significant portion of the student population engages in hazardous drinking behaviours (Chen et al., 2023). Another study (n=2915), looking at the prevalence of and factors associated with substance use, focusing on university students in the Western Cape reported a substance use prevalence rate of 62.7%, with alcohol (80.6%) being the most commonly used substance. This study also found significant associations between substance use and mental health issues, such as higher depression and anxiety scores among substance users (Blows & Isaacs, 2022). These recent findings underscore the ongoing concern of hazardous and harmful alcohol use among university students, as found earlier by Young and De Klerk (2008).

Another study reported that PTSD often has additional health conditions, including depression, anxiety, and substance use disorders, with comorbid substance use disorders being prevalent, with rates as high as 76% (Smith et al., 2016). Furthermore, the negative impact of comorbid PTSD and AUD on students' mental health and academic performance cannot be ignored. It is well documented that PTSD symptomology (e.g. persistent negative emotions,

intrusive memories, and hypervigilance to threats), can interfere with a student's capacity to concentrate and accomplish academic tasks that require cognitive flexibility and focused attention, ultimately impacting their academic performance. In addition to this, increased alcohol consumption among university students is also associated with consequences, such as unsafe sex, absenteeism, and academic failure (Young & De Klerk, 2008).

3.4 Trauma-focused treatment for PTSD

PTSD is a debilitating condition associated with significant challenges, including disruptions in individual and family well-being and adverse impacts on one's medical, financial, and social aspects (Miao et al., 2018). Fortunately, numerous effective psychological treatments exist for PTSD (Watkins et al., 2018). Extensive research suggests that these interventions typically result in reduced PTSD symptoms or even complete remission of the disorder, improvements in symptoms linked to coexisting conditions, such as depression, enhanced quality of life, and various other positive outcomes (Miao et al., 2018).

The primary treatment options for trauma-related issues are trauma-focused therapies (TFTs), which encompass cognitive-behavioural therapy (CBT); cognitive processing therapy (CPT); cognitive therapy (CT); exposure-based therapies, such as prolonged exposure therapy (PE); massed-prolonged exposure therapy (MPE), and brief eclectic psychotherapy, among others (Miao et al., 2018).

3.5 Massed-prolonged exposure therapy for PTSD

One of the most extensively studied trauma therapies for PTSD is prolonged exposure therapy (PE), which has demonstrated efficacy in treating PTSD and comorbid conditions, such as AUD (Brown et al., 2019; Foa et al., 2019). PE involves helping the individual confront the traumatic memories and process their emotional responses by processing the traumatic memory in a safe and controlled environment, to reduce the fear and avoidance associated with the trauma (Foa et al., 2019). This is achieved through repeated exposure to the trauma memory and associated stimuli, until the fear response decreases (Foa et al., 2007).

Over the last three decades, PE has been adapted to fit various clinical and population challenges, such as premature termination of treatment, known as a dropout. Standard PE and Massed PE are two treatment approaches for PTSD that involve repeated exposure to trauma-related stimuli. In Standard PE, patients receive weekly 90-minute sessions of prolonged

exposure therapy for 8-15 weeks. During the sessions, patients engage in imaginal exposure, where they recount and vividly describe the trauma memory, and in vivo exposure, when a patient confronts the safe situations they have been avoiding.

Standard PE aims to help patients learn to confront and manage the learnt fear associated with the memory of the traumatic experience and to reduce PTSD symptoms. In contrast, Massed-PE will adapt the weekly format of standard PE to a two-week daily intervention (10 working days) of about 90-minute sessions (Foa et al., 2018). Ultimately, the goal of Massed PE is to deliver the same amount of exposure therapy more rapidly, with the hope that this will reduce dropout and still improve outcomes for PTSD and comorbidities such as AUD. This is especially useful in resource-constraint settings where persons might not have enough resources to attend sessions for 3-6 months.

Emotional Processing Theory (EPT) provides a theoretical foundation for understanding the effectiveness of Massed-PE in treating PTSD. EPT underpins PE for PTSD by proposing that traumatic events lead to fear structures, avoidance behaviour, and distorted beliefs (Foa et al., 2019; Rauch et al., 2017). For instance, individuals may believe they are weak, and their surroundings are unsafe. Massed-PE modifies this fear structure by exposing patients to feared stimuli, preventing avoidance behaviours, and leading to habituation (Foa et al., 2019; Rauch et al., 2017). This challenges distorted beliefs and reduces PTSD symptoms by diminishing fear responses. EPT is a valuable framework for understanding PTSD and exposure-based therapies.

For treatment to be effective, the fear structure must be deliberately activated and modified, with new information that challenges the existing fears, thus leading to habituation. Through repeated exposure, the patient learns that the feared stimuli or situations are not as dangerous as they initially perceived, and their fear response gradually diminishes (Foa et al., 2019; Rauch et al., 2017). Overall, EPT provides a valuable framework for understanding the nature of PTSD and the mechanisms underlying exposure-based therapies. By intentionally activating and modifying the fear structure with new information, Massed-PE can help patients habituate to traumatic memories and reduce PTSD symptoms. With high levels of trauma exposure in South Africa and limited access to effective trauma therapies, it is crucial to investigate whether Massed-PE can effectively and feasibly improve symptoms of PTSD and AUD among university students (Koenen et al., 2017).

3.5.1 Massed-PE as a first-line treatment for PTSD

Prolonged exposure, a form of CBT, is a first-line trauma therapy for PTSD (Miao et al., 2018; Foa et al., 2019). It has been recognised and recommended as such, by many major PTSD treatment guidelines, 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) (Isserlin & Zerach, 2008).

Massed-PE therapy is a variant of Prolonged Exposure therapy, a well-established evidence-based treatment for PTSD. As mentioned, it involves delivering a condensed and intensive course of exposure therapy over a relatively short period, typically within one to two weeks. The primary goal of Massed-PE therapy is to help individuals confront and process traumatic memories, reduce avoidance behaviours, and alleviate the distress associated with PTSD symptoms.

Numerous studies have demonstrated the effectiveness of Massed-PE therapy in reducing PTSD symptoms. Foa et al. (2018) conducted a landmark, randomised, controlled trial (RCT) comparing Massed-PE therapy to weekly sessions of Prolonged Exposure therapy. The results indicated that Massed-PE therapy was as effective as the traditional approach, with modest reductions in PTSD symptoms observed in both groups (Foa et al., 2018; Dell et al., 2023). One of the critical advantages of Massed-PE therapy is its potential for rapid symptom reduction (Dell et al., 2023). Moreover, what is particularly noteworthy are the low rates of dropout across the two conditions, with that of the MPE group (4.8%) being 3.5 times less than the SPE group (16.9%), especially in light of the recent RCT, comparing prolonged exposure therapy to cognitive processing therapy where dropout by the group were 55.8% and 46.6%, respectively (Dell et al., 2022; Schnurr et al., 2022).

Some have contended that Massed-PE may effectively address issues such as distraction, avoidance, and reduced motivation, commonly encountered during therapy sessions (Sherrill et al., 2022; Dell et al., 2022). In addition, the reduced time commitment required by MPE could help mitigate a significant portion of potential dropouts from evidence-based therapy. Furthermore, engaging with a therapist daily through MPE, might foster a stronger sense of support and commitment to the therapeutic process. Recent qualitative research has indicated that US veterans perceive the MPE structure as a means to limit distractions and avoidance, while enhancing engagement and motivation (Sherrill et al., 2022; Dell et al., 2022).

Moreover, research conducted by Dell et al. (2023) found that reductions in PTSD severity were maintained at 12 months, and MPE remained non-inferior to SPE. Both treatment groups experienced a reduction in depression, anxiety, and anger, and improvements in quality of life at 12 weeks and 12 months post-treatment commencement (Dell et al., 2023). This is promising for the future of Massed-PE as a first-line treatment for PTSD.

As mentioned earlier, although Massed-PE has been proved to be an effective treatment for PTSD, research on its effectiveness in LMICs is minimal (Booyesen, 2021; Booyesen & Kagee, 2020). This indicates that further research is needed.

3.5.2 Recent developments in Massed-PE

Recent studies have expanded the application of Massed-PE therapy to various populations and trauma types. For instance, researchers have investigated its efficacy in treating military veterans, survivors of sexual assault, and individuals with complex PTSD resulting from childhood trauma. These studies have revealed promising results, suggesting that Massed-PE therapy can be tailored to diverse trauma populations.

Massed Prolonged Exposure (PE) therapy has garnered increasing attention, particularly in response to high dropout rates observed in conventional PE treatment. Unlike the Standard PE, which typically takes place once a week, Massed-PE involves daily therapy sessions and has enhanced treatment outcomes among specific populations (Zwetzig et al., 2021). Researchers responded to the dropout issues associated with Standard PE by exploring the efficacy of Massed-PE, where clients participate in multiple sessions within a short timeframe, as opposed to the weekly sessions in the conventional PE approach (Foa et al., 2018; Hendriks et al., 2018). Encouraging findings have led to a surge in the popularity of Massed-PE (Foa et al., 2018; Hendriks et al., 2018; Zwetzig et al., 2021).

A specific study conducted in the United States examined the effectiveness of Massed-PE in treating PTSD in two firefighters. The results indicated reduced symptoms for both individuals, suggesting the potential for similar positive outcomes in other population groups (Zwetzig et al., 2021). This study employed four assessment measures at baseline, post-treatment, and during a one-month follow-up. The initial assessment included the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5). For instance, the first participant had an initial score of 47, indicating full criteria for PTSD. This score aligned with their score on the PTSD

Checklist for DSM-5 (PCL-5), 62. On the Patient Health Questionnaire-9 (PHQ-9), the first participant scored 22, signifying severe depressive symptoms. Finally, the participant scored two on the Depressive Symptom Inventory-Suicidality Subscale (DSI-SS) (Zwetzig et al., 2021).

Following the intervention, the first participant's PCL-5 score decreased to 21, falling below the PTSD threshold, and their PHQ-9 score reduced to 6, indicating mild depression. Furthermore, they no longer exhibited suicidal ideation, as reflected by a DSI-SS score 0.

3.5.2.1 Online-Massed PE

The increasing prevalence of mental health issues, particularly in countries with limited resources, such as South Africa, has led to a growing demand for mental health services LMICs (Acharibasam & Wynn, 2018). Teletherapy has emerged as a viable approach for providing psychological support, especially during the COVID-19 pandemic, and may help mitigate challenges related to unequal access to such services (Acharibasam & Wynn, 2018; Situmorang, 2020).

Given the high occurrence of trauma among South African university students, it is crucial to consider teletherapy as an intervention to address their mental health needs. Bonar (2015), emphasises that universities are responsible for developing suitable interventions. Moreover, it is worth noting that leveraging the Internet and Information and Communication Technologies (ICT) offer several advantages, mainly because students rely heavily on technology and online platforms for communication (Acharibasam & Wynn, 2018). Research conducted in South Africa among university students indicates a preference for teletherapy over in-person sessions (Goldschmidt et al., 2021). Evans (2018) underscores how teletherapy has the potential to reduce the stigma associated with seeking help, thus enhancing the accessibility of mental health services. Nevertheless, it is essential to reiterate the limited availability of literature on this topic, within a South African context (Goldschmidt et al., 2021).

3.5.3 Rationale

PTSD and AUD are prevalent mental health disorders among university students in South Africa, with a high incidence of trauma exposure. The existing research highlights the comorbidity between PTSD and AUD, indicating the need for TFTs. Unfortunately, limited

access to appropriate therapies on university campuses exacerbates the problems faced by students dealing with these mental health concerns. Despite the prevalence of PTSD and AUD, access to TFTs on university campuses is constrained. The lack of available resources and research on the effectiveness of interventions, contribute to the challenges faced by students seeking mental health support. This underscores the urgent need for targeted interventions that can be feasibly implemented within the university setting.

Massed-prolonged exposure (MPE) therapy emerges as a promising solution, demonstrating positive outcomes in reducing PTSD symptoms and comorbid hazardous alcohol use. The study's findings contribute valuable insights into the potential effectiveness and feasibility of Massed-PE as a therapeutic approach, offering hope for improved mental health outcomes among university students.

Chapter Summary

Chapter 3 comprehensively explores the historical context and clinical definitions of Post-Traumatic Stress Disorder (PTSD) and Alcohol Use Disorder (AUD). It highlights the prevalence of these conditions among South African university students, emphasising the high rates of traumatic experiences and the significant comorbidity between PTSD and AUD in this population.

The chapter interrogates the TFTs available for PTSD, particularly trauma-focused therapies rooted in CBT, such as exposure-based therapies. It introduces MPE as a promising approach, emphasising its effectiveness and recent developments in its application to diverse trauma populations.

The chapter discusses the potential of online MPE as an innovative and accessible intervention, especially in resource-constrained settings, such as South Africa. It underscores the need for further research to explore the effectiveness of teletherapy in addressing the mental health needs of university students in South Africa.

Finally, the chapter addresses the rationale behind the current study. PTSD and AUD among university students are prevalent and limited access to effective treatments available to students on campuses. Massed PE, which is a brief and evidence-based intervention presents an opportunity to reduce the symptoms of traumatic stress and maladaptive coping, such as alcohol use among students.

Chapter 4

Methodology and design

Chapter overview

This chapter presents the methodology and research design employed to explore the study's objectives and the underlying hypotheses. Initially, the study's objectives are introduced, followed by a brief overview of the selected methodology. This encompasses a detailed discussion on participant recruitment, the criteria for inclusion and exclusion, and the determination of sample size, particularly in the context of employing Single-Case Experimental Designs. To conclude, this chapter explains the chosen data analysis method utilised in the study and the reasoning behind its selection.

4.1 Aim of the study

The study's primary aim is to investigate whether Massed-PE is an effective, feasible, and acceptable treatment for PTSD among university students. The following research hypothesis and questions will guide the proposed study:

Research hypothesis

- Massed-prolonged exposure therapy will improve symptoms of PTSD and alcohol use disorder in a university student at a community psychology clinic.

Research questions

- Does the university student perceive and experience Massed-PE as a feasible therapy for PTSD and AUD?
- Do university students perceive and experience Massed-PE as an acceptable therapy for PTSD and AUD?

4.2 Overview of Single-Case Experimental Design (SCED)

The study employed a Single-Case Experimental Design (SCED; Kazdin, 2019) that includes a pre-intervention assessment, during-intervention assessments, and post-intervention

assessments (Barlow et al., 2009). SCEDs are commonly used in behavioural and medical sciences to assess treatment effectiveness (Kazdin, 2019). Single-Case Experimental Design (SCED) is a research methodology deeply rooted in the history of behavioural science, tracing its origins to early pioneers such as John B. Watson and B. F. Skinner (Kazdin, 2019; Richards et al., 1999). This approach, which has also been referred to as single-subject design, case-series design, and interrupted time series, has evolved over the years (Barlow & Hersen, 1984; Kratochwill & Levin, 2014). Prominent scholars, such as David H. Barlow and Alan Kazdin have advocated its utility, highlighting that SCED offers an alternative to large-scale, group-based studies, with a distinct emphasis on idiographic analysis (Kazdin, 2019).

Despite its historical roots, SCED remains a relevant and frequently employed research method in the behavioural sciences. Shadish and Sullivan's (2011) study revealed that approximately 44% of psychological and educational intervention studies, utilised SCED. Its popularity has grown in recent years, particularly in cognitive-behavioural therapies, such as PE (Kazdin, 2019). This enduring appeal speaks to its effectiveness in investigating individual behaviour change and its capacity to provide valuable insights into the effectiveness of interventions.

It is essential to differentiate between SCED and case study research. While both methods probe individual cases, they differ significantly in their data collection and analysis approaches. Case study research relies typically on multiple data sources, including interviews, observations, and archival data. This allows for comprehensively exploring a social phenomenon and combining qualitative and quantitative data (Yin, 2013). In contrast, SCED primarily employs assessment instruments and interventions, and the analysis can encompass traditional visual inspection, statistical models, or a combination of these methods. Consequently, SCED aligns more closely with the tradition of experimental psychology (Barlow et al., 2009), emphasising controlled experimentation to uncover the cause-and-effect relationships between interventions and behaviour change.

4.3 Features of SCED

The employment of Single-Case Experimental Design (SCED) allows for the generation of empirically grounded conclusions, regarding the efficacy of therapeutic interventions. The treatment effectiveness assessment hinges on observing a client's symptoms or adaptive functioning over a specific period (Kazdin, 2019). SCED encompasses four fundamental

components: a dependent variable (DV), such as PTSD in this context; an independent variable (IV), such as Massed-PE therapy; the evaluation of the causal relationship (i.e., the effect) between the DV, and IV, aimed at ascertaining whether any notable changes have transpired. For instance, this methodology could be employed to investigate a reduction in PTSD symptomatology following a course of Massed-PE treatment (Kratochwill & Levin, 2014).

4.3.1 Specification of treatment focus

Following Kazdin's (2019) insights, a pivotal aspect of Single-Case Experimental Design (SCED) involves delineating treatment objectives, encompassing specific symptoms and areas of functioning targeted for modification. Consequently, choosing assessment measures capable of reflecting potential advancements during treatment becomes imperative. The clinician is responsible for delineating the nature of these anticipated changes and establishing the means through which they will be quantitatively evaluated (Kazdin, 2019).

In the current investigation, the principal focus was on assessing Post-Traumatic Stress Disorder (PTSD) as the primary outcome. Therefore, I employed meticulously validated and psychometrically reliable measurement tools to monitor the requisite symptom alterations. Detailed information regarding the psychometric properties of these measurement instruments will be provided in a subsequent section of this chapter.

4.3.2 Continuous assessment

Consistent and ongoing assessment is a crucial requirement in the Single-Case Experimental Design (SCED) framework, and it significantly influences the choice of various assessment tools (Kazdin, 2019). The selected measures should effectively gauge the progress made during treatment. They should be administered at distinct points in time, including prior to the initiation of treatment and consistently throughout the treatment duration. This practice is fundamental since SCED aims to monitor changes in a client's symptoms or adaptive functioning over an extended period (Kazdin, 2019).

In the current study, this fundamental principle was adhered to, by conducting assessments at the baseline, at the outset of each session, and at post-intervention.

4.3.3 Separate phases

In SCED, the ongoing assessment process unfolds across distinct phases (Kazdin, 2019). The initial assessment phase, referred to as the baseline phase, occurs before the commencement

of any treatment. The baseline phase establishes a reference point for evaluating a client's functioning and symptomatology in its natural state, devoid of any intervention. Subsequently, continuous assessment persists throughout the intervention phase, allowing for monitoring progress and changes during treatment (Kazdin, 2019).

4.3.4 Stability of performance

Ensuring the data gathered during the baseline phase maintains a stable pattern is of utmost importance, given its role in predicting the client's future responses. This entails the absence of discernible trends and minimal variability or fluctuation (Kazdin, 2019).

In some SCED investigations, researchers administer multiple assessments during the baseline phase to attain the desired stability in performance. However, employing multiple assessments in psychotherapy research is only sometimes practical or ethical, due to various considerations (Frank et al., 1963; Kazdin, 2019). Therefore, in the present study, a single baseline assessment was conducted utilising the following measurement instruments:

- **PTSD Diagnostic Scale for DSM-5:** The PDS-5 (Foa et al., 2016) is a self-report measure for PTSD symptoms with twenty items. It has demonstrated excellent internal consistency ($\alpha .95$), good test-retest reliability ($r = .90$), and good convergent and discriminant validity with other PTSD measures, such as the PTSD Checklist— Specific Version and the PTSD Symptom Scale—Interview Version for DSM–5, as well as with measures of depression and anxiety (Foa et al., 2015).
- **The Clinician-Administered PTSD Scale for DSM-5:** The CAPS-5 (Weathers et al., 2018) is a structured diagnostic interview for PTSD symptoms, with a 5-point ordinal scale to rate symptoms in the past month. Total scores range from 0 to 80, with higher scores indicating more severe symptoms. The CAPS-5 has demonstrated high internal consistency ($\alpha = .88$) and good reliability and validity (Weathers et al., 2018).
- **The Alcohol Use Disorder Identification Test:** The AUDIT questionnaire (Saunders et al., 1993) is a 10-item tool that detects hazardous and harmful alcohol use in primary healthcare settings. Scores range from 0 to 40; a score of 8 or more indicates hazardous or harmful alcohol use, while a score of less than 8 indicates non-hazardous consumption. The AUDIT has demonstrated high reliability and validity in South African contexts. Among bar patrons in rural areas, it showed good internal consistency, with potential

gender differences in factor structure (Morojele et al., 2015). For construction workers, the AUDIT exhibited very good internal consistency and satisfactory model fit, identifying 24.8% of participants as engaging in hazardous or harmful drinking (Bowen, 2021). When embedded within a general health risk questionnaire, the AUDIT maintained its psychometric properties, proving reliable and valid for identifying at-risk drinkers in primary care settings (Daeppen et al., 2000).

- **The PTSD checklist for DSM-5:** The PCL-5 (Weathers et al., 2013) is a 20-item self-report measure that assesses the 20 DSM-5 symptoms of PTSD. The PCL-5 has a variety of purposes, including (a) Monitoring symptom change during and after treatment; (b) Screening individuals for PTSD, and (c) Making a provisional PTSD diagnosis. The PCL-5 test scores demonstrate good internal consistency ($\alpha = .96$), test-retest reliability ($r = .84$), and convergent and discriminant validity (Bovin et al., 2016). Furthermore, the PCL-5 has been shown to accurately predict PTSD caseness in a South African sample ($n=688$) (Kagee et al., 2021; Booysen & Kagee, 2021).
- **Implementation Measures** (Weiner et al., 2017): The Implementation measures are made up of three sub-measures, namely, the Acceptability of Intervention Measure (AIM); Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM). Each measure consists of four questions with five categories to be selected, ranging from 1 (Completely disagree); 2 (Disagree); 3 (Neither agree nor disagree); 4 (Agree), and 5 (Strongly agree). For example, participants could report whether they agree or disagree with whether the intervention is acceptable, appropriate, or feasible.

4.4 Sample size in SCED

SCEDs are experimental designs aiming at testing an intervention's effect and usually focus on smaller samples (Krasny-Pacini & Evans, 2018). Smaller samples allow for more detailed observations, allowing researchers to investigate demographic, contextual, and process-orientated data for each participant (Kratochwill & Levin, 2014; Richards et al., 1999).

4.4.1 Recruitment of participants

The study recruited participants from the RU student population through email advertisements, such as 'StudentNews'. Advertisements were circulated bi-weekly until the desired participant number was reached.

4.4.2 Inclusion and exclusion criteria

In order to participate, Rhodes University students must have a PTSD Diagnostic Scale for DSM5 (PDS-5) score of 28 or higher and have directly experienced or witnessed a traumatic event. Fluency in English and/or Afrikaans or English and/or isiXhosa is required. Participants with severe suicidal or homicidal ideation and a clear intent or plan will be excluded. A total of three responses were received. One respondent did not meet the criteria as he was not a registered student. The second participant withdrew after intake, citing that she was not ready to proceed. The third participant met all inclusion criteria and remained consistent throughout the process.

4.4.3 Sample size

The study recruited a maximum of one ($n = 1$), using purposive sampling. SCED samples are small to establish causality, and the proposed intervention study's small sample size will provide valuable data on the intervention process, without aiming for generalisable results, due to time and resource constraints. It also proved valuable to have an idiographic approach that allowed for a more detailed observation and analysis of the independent variable (Massed-PE) on the dependent variables (PTSD and AUD).

4.5 SCED Designs

SCED offers a range of fundamental designs that can be applied across various settings and to address different research objectives and inquiries. These designs encompass the A-B-A withdrawal design, the multiple baseline design, the changing criterion design, and the alternating treatment design (Kratochwill & Levin, 2014; Richards et al., 1999).

In the present study, a specific SCED design, namely the A-B-A withdrawal design was employed.

4.5.1 A-B-A design

The A-B-A design, as employed in this study, consists of three distinct phases: an initial pre-assessment or baseline phase (A), followed by an intervention phase (B), and concluding with a post-assessment phase (A). The purpose of this design is to display the effectiveness of the intervention (Byiers et al., 2012).

4.5.1.1 Rationale for using an A-B-A design

In line with the perspective shared by Barlow and Hersen (1984), the choice of a Single-Case Experimental Design (SCED) is directly influenced by the research question at hand. Therefore, the selection of an A-B-A design for this study was meticulously considered, as it aligns with the study's research question and serves to address the research hypotheses. These hypotheses posited that:

- Massed-prolonged exposure therapy will improve symptoms of PTSD and alcohol use disorder in a university student at a community psychology clinic.
- University student perceives and experiences Massed-PE as a feasible therapy for PTSD and AUD.
- University student perceives and experiences Massed-PE as an acceptable therapy for PTSD and AUD.

This design choice was made to closely examine the effectiveness and feasibility of Massed-PE therapy as outlined in the research question and hypotheses.

4.6 Data analysis

A visual inspection approach was employed to analyse the data collected during the intervention phase of this study. In addition to providing comprehensive insights, a descriptive statistical analysis of the Single-Case Experimental Design (SCED) was utilised to present central tendency measures and standard deviation findings.

4.6.1 Visual analysis

Pre-, during-, post-intervention, and follow-up data will be analysed using visual inspection, a longstanding method of analysing SCED data (Barlow et al., 2009; Kazdin, 2019). A visual inspection is a systematic approach to analysing and understanding each participant's data (Kazdin, 2019). Visual inspection has also been critiqued for potential biases, yet it is valuable in small-sample intervention studies to observe symptom improvement within and across study participants. By visually inspecting the graphed data, researchers can assess the consistency and reliability of an intervention (Kazdin, 2019). This systematic approach facilitates a comprehensive understanding of each participant's data (Lane & Gast, 2014).

One of the primary advantages of visual analysis lies in its ability to discern positive outcomes, such as improved end-state functioning, based on graphical representations of clinical measures (Lane & Gast, 2014). In this study, visual inspection was utilised to evaluate three crucial aspects of the data derived from the single participant. These aspects encompassed the determination of the mean performance level within a given condition (e.g., baseline), the data's trend or the direction it was heading (as indicated by the pre-session administration of the PCL-5), and the assessment of data stability or variability (Kratochwill & Levin, 2014; Lane & Gast, 2014).

4.6.2 Descriptive statistical analysis

Descriptive statistics was used to summarise and analyse the data, providing measures of central tendency, (such as means and medians) and variability, (such as ranges and standard deviations). These statistics offer a quantitative summary of the intervention outcomes, allowing for a more comprehensive understanding of the treatment's effectiveness. By combining visual inspection and descriptive statistics, the study aims to provide a robust data analysis, capturing both qualitative and quantitative aspects of symptom improvement, within the small-sample intervention study.

Chapter Summary

This chapter outlined the study's objective along with an overview of Single-Case Experimental Design (SCED), with a particular focus on A-B-A designs. Furthermore, the assessment measures utilised in the research were introduced, providing a brief overview of their psychometric properties. Finally, the chapter clarified the selected data analysis methods, namely visual analysis and descriptive statistical analysis, while explaining the reasoning behind their utilisation.

Chapter 5

Massed PE (MPE) Intervention, Case study & Results

Chapter overview

An overview of the Massed-PE intervention is discussed in this chapter. After outlining the recruitment process, the inclusion and exclusion criteria are outlined, and the reasoning behind the sample size determination is explained. The screening tools used in the intervention phase are then explained in detail. Thereafter, a summary of the sessions is given, with a review of issues pertaining to treatment fidelity and ethical considerations. The chapter provides an idiographic overview of the participant who experienced a traumatic event. First, a brief introduction of the participant is given, followed by a discussion of the participant's presenting problems. The participant met the diagnostic criteria for PTSD and presented with comorbid alcohol use. These were confirmed by the administration of selected measures, namely PDS-5, CAPS-5, PCL-5 and the AUDIT. This chapter also presents the results of MPE therapy for the

university student. First, by using visual inspection, the result of the participant is presented. Secondly, descriptive analysis is used as a supplement to the visual inspection. The chapter concludes with an overview of the Massed-PE fidelity ratings as completed by the participant post-intervention.

5.1 Intervention

As mentioned earlier, PE is one of the most extensively studied TFTs for PTSD and has demonstrated efficacy in treating PTSD and comorbid conditions, such as AUD (Brown et al., 2019; Foa et al., 2019). PE involves helping the individual confront the traumatic memories, and process their emotional responses by dealing with the traumatic memory in a safe and controlled environment, so as to reduce the fear and avoidance associated with the trauma (Foa et al., 2019). This is achieved through repeated exposure to the trauma memory and associated stimuli, until the fear response decreases (Foa et al., 2007).

Over the last three decades, PE has been adapted to fit various clinical and population challenges, such as premature termination of treatment, known as a dropout. Standard PE and Massed-PE are two treatment approaches for PTSD that involve repeated exposure to trauma-related stimuli. In Standard PE, patients receive weekly 90-minute sessions of prolonged exposure therapy for 8-15 weeks. During the sessions, patients engage in imaginal exposure, where they recount and vividly describe the trauma memory, and in vivo exposure, when a patient confronts safe situations they have been avoiding.

Both Standard-PE and Massed-PE aims to help patients learn to confront and manage the learnt fear associated with the memory of the traumatic experience and to reduce PTSD symptoms. In terms of duration, Massed-PE will adapt the weekly format of Standard-PE to a two-week daily intervention (10 working days) of about 90-minute sessions (Foa et al., 2018). Ultimately, the goal of Massed-PE is to deliver the same amount of exposure therapy more rapidly, in the hope that this will reduce dropout and still improve outcomes for PTSD and comorbidities, such as AUD. This is especially useful in resource-constrained settings where people might not have enough resources to attend sessions for 3-6 months.

A single case was selected to participate in Massed-PE therapy. The selected participant attended ten sessions at the Rhodes University Psychology Clinic. During the initial phase, informed consent was gained from the participant, and screening tools (CAPS-5; PDS-5;

AUDIT) were administered. During the intervention phase, the participant engaged in imaginal exposure and in vivo-exposure. Before each session, the participant completed a PCL-5 assessment in order to monitor her PTSD symptoms. At post-intervention, the screening tools that were administered pre-intervention, were administered again.

5.1.2 Overview of Massed-PE

The treatment schedule consisted of a total of ten psychotherapy sessions which were between 60-90 minutes long. Sessions were audiotaped for participant to listen to at home as part of homework.

5.1.1.1 Session 1

The participant received an overview of the treatment plan and a general explanation of Massed-PE at the first session. Thereafter, the participant was asked questions about the trauma, using the Trauma Interview to obtain information about it. The Trauma Interview is a standard PE trauma interview and the PE Manual contains information about the PE trauma interview. The session concluded with an introduction to breathing retraining, a useful relaxation technique. The participant was then given homework, which consisted of reading the rationale for the treatment, listening to the session's audio recording, and engaging in daily breathing retraining exercises.

5.1.1.2 Session 2

In the second session, the participant was asked to discuss the trauma they had experienced and its aftermath in depth. The participant was then given the rationale for in-vivo exposure, and encouraged to ask questions. A hierarchy of activities and situations that the participant was actively avoiding was then created. The participant began voluntarily confronting these situations as part of her in-vivo exposure homework. In addition, the participant was provided with psychoeducation on the common responses to trauma, and encouraged to continue practicing breathing retraining and listening to the audio recording.

5.1.1.3 Session 3

The third session began with a homework review. The rationale for imaginal exposure was explained to the participant, who then spent 45 to 60 minutes engaging in their initial imaginal revisiting of the experience. While doing this, the participant received support through

regular "check-ins" and encouragement to use breathing exercises in times of discomfort. In addition, the participant was asked to rate their level of SUDs during the in-vivo exposure. After that, the participant engaged in emotional processing for 15 to 20 minutes, in an effort to facilitate the processing of feelings and thoughts related to the trauma. The participant was then given homework again, this time consisting of daily listening to the audio recording of the imaginal exposure and continuing with in-vivo exposure.

5.1.1.4 Intermediate sessions

The intermediate sessions proceeded in essentially the same manner. The participant was encouraged to concentrate on hotspots. The first part of the session was reviewing the homework, and then proceeding with imaginal exposure for around 45 minutes. Thereafter, 15-20 minutes were focused on processing. In-depth discussions of the in-vivo homework assignments were discussed in the final 15 minutes of the sessions. A review of the assigned homework also preceded the final sessions, and the trauma then recounted for 20 to 30 minutes. After that, the participant's treatment progress was reviewed. As the sessions came to an end, the researcher talked about the importance of continuing to apply everything the participant had learnt thus far. Before termination, relapse prevention discussions were encouraged. As in the baseline phase, the post-intervention measures were administered at the last session.

5.2 Treatment fidelity

Treatment fidelity describes the continuous evaluation, supervision, and improvement of a study's internal validity and reliability. Reliable and credible intervention research is thought to require treatment fidelity (Kratochwill & Levin, 2014). Furthermore, treatment fidelity describes the degree to which the recommended treatment, PE in this case, was delivered to the client (Kendall & Beidas, 2007). In the present study, treatment fidelity was ensured by a variety of practices. Sessions were audio recorded and securely stored on a Google Drive, to which only the researcher had access. The researcher was supervised by Dr Duane Booysen who was to advise or assist during the intervention, together with continuous ad hoc supervision taking place.

5.3 Ethical considerations

The Rhodes University Human Ethics Committee (RU-HREC) and Research Projects and Ethics Review Committee (RPERC) granted the researcher ethical approval (see Appendix C). Furthermore, gatekeeper consent was also acquired, in addition to ethical approval. This involved approval from the Registrar (see Appendix D). The participant's well-being was prioritised throughout the study, due to the nature of the research topic. As a result, those who were not included in the study were directed to the Counselling Centre. Important elements including informed consent, confidentiality, beneficence, and non-maleficence were upheld at every stage of the research process (Bless et al., 2014). For instance, a "Client Consent Form" with important information regarding the study was given to the participant. The following important issues were discussed: research aims and objectives; possible risks; potential advantages for participants and/or society; confidentiality; involvement and withdrawal, and written informed consent were all included.

6. MPE case study & results

6.1 Case introduction

To maintain the anonymity of the participant, they will be referred to as Amy, a pseudonym.

6.1.1 Amy case introduction

Amy is a 23-year-old female student who is at the end of her Master's degree in Sociology and was born in South Africa. At the time of the intervention, Amy had almost completed her Master's Degree. She resided off-campus. During primary school, Amy's father unfortunately passed away; shortly thereafter, her mother became ill and passed away too. As a result, Amy and her sister had to enter social services and be placed with adoptive parents. Amy indicated that she had an older brother; however he was not responsible, nor willing to take care of her and her sister.

Amy indicated that her adoptive parents did not provide a caring and supportive environment, and would often be subject to verbal and emotional abuse. Moreover, she reported that the adoptive parents failed to provide them with the basic necessities for living, such as food and clothing. For Amy, this transition from living with your own biological parents, to having to live with adoptive parents was really difficult. She reported, however, that she felt guilty at times because when she left for high school, she decided to live in the school accommodation, leaving

her sister behind. It was during high school at the age of 17, when Amy was sexually assaulted. Despite the complexity of her past childhood, the index trauma Amy wanted to work with was the sexual assault.

Amy was sexually assaulted by a stranger in 2017 while she was at a music festival with friends. She reported that two incidents occurred in one night. First, was when she went to the bathroom and a stranger forced himself onto to her. He pushed her to the ground, once he realised he was not going to get what he wanted from her; the second incident that night was when Amy lost her group of friends. She reported that a guy indicated that he knew where her friends were. After leaving with him, he pushed her down a hill and attempted to rape her but did not proceed. Amy reported that a rape kit test was conducted and revealed traces of ejaculation but that she was not raped.

After this traumatic event, Amy reported that she returned to school and finished grade 12. She indicated that she often had many existential questions about why all of these things had happened to her, such as losing both her parents and being a victim of sexual assault. She reported that the one thing that kept her going was her education and the idea of creating her own independent life. However, since the traumatic event, she has struggled to integrate what has happened and has never reached out for support because she was not aware that treatments, such as prolonged exposure were available.

6.2 Presenting problems

6.2.1 Amy presenting problems

The client's presentation manifested a constellation of symptoms consistent with PTSD, reflecting the profound impact of the traumatic experience. Notably, the client exhibited pronounced avoidance behaviours, a hallmark feature of PTSD, as evidenced by avoiding specific triggers and stimuli associated with the traumatic event. Avoidance manifested in various forms, including eschewing bars, crowded spaces, men, and external cues reminiscent of the trauma. Amy reported that she would often avoid bars and crowded spaces because they reminded her of the festival night. She indicated that she would spend time only with friends if it were in a space that felt safe to her, such as her home. Amy reported that avoidance was one of her primary coping mechanisms.

Furthermore, the client reported experiencing intrusive symptoms, marked by distressing memories and physiological reactions, triggered by cues associated with the trauma. She reported that she often experienced nightmares associated with the trauma, which often impacted her sleep. These intrusive thoughts appeared to permeate the client's daily life, causing significant distress. In addition, the client exhibited symptoms affecting mood and cognition, reflecting the pervasive nature of the trauma's impact on her emotional and cognitive well-being. Amy had a negative bias in terms of her interpretation of the traumatic events that had occurred in her life, which were centred on feelings of shame and guilt. She felt that the sexual assault was her fault because she was drinking alcohol and that perhaps it would not have happened if she had been more responsible.

Arousal and reactivity symptoms were also evident, with the client describing an exaggerated startled response during routine activities, particularly when walking with someone behind her. She reported that one evening she was walking home and the university security was patrolling behind her on a bicycle in order to get home safely. However, she indicated that this brought about significant distress and anxiety, even though she knew he was ensuring her safety. This heightened startled reaction underscored the client's heightened state of arousal and hypervigilance, indicative of a persistent sense of threat. In summary, the client's presentation encompassed a comprehensive array of PTSD symptoms, encompassing avoidance, intrusive thoughts, mood and cognitive disturbances, and arousal reactivity symptoms. The participant's presentation also included hazardous use of alcohol, despite its harmful consequences. The alcohol use also presents as a coping mechanism, albeit it being maladaptive. These manifestations collectively underscore the significant challenges the client faces in coping with the aftermath of the traumatic event, emphasising the necessity for targeted therapeutic interventions to address and mitigate the impact of PTSD on her overall well-being.

6.3 Case conceptualisation

The case conceptualisation for the participant was based on EPT, as discussed in Chapter 2 (Foa & Kozak, 1986).

6.3.1 Conceptualisation of Amy

Amy had developed a pathological fear structure after the traumatic event (Rauch & Foa, 2006). After the sexual assault, she had become afraid of being in crowded spaces, at

festivals or concerts and avoided conversations with men. This reflected a belief that one is not safe in these spaces and that men are harmful. Lang (1977) opines that this fear structure then serves as a programme to avoid feared situations, i.e. avoidance. As previously mentioned, Amy avoided memories about the sexual assault, as well as thinking or speaking thereof. Moreover, she avoided external reminders, such as not drinking certain alcoholic beverages, avoiding bars and conversations with men.

In order to modify these erroneous elements contained in the fear structure, it needs to be activated by using exposure techniques, such as imaginal exposure and in-vivo exposure (Foa & Kozak, 1986). According to EPT, it is deemed advantageous for clients to present with an increased level of emotional and physiological reactivity when engaging with the trauma memory, as it is indicative of an activation of the trauma memory. This was achieved in sessions with Amy. During the imaginal exposure, she initially presented with strong psychological and emotional reactions when revisiting the trauma memory. She became tearful a few times and reported high-levels of SUDs throughout the recounting.

But since it is thought to encourage processing and habituation, this was considered essential (Foa & Kozak, 1986; Foa et al., 2019). Amy received continuous support throughout the sessions and enough time was allocated to allow for emotional processing. She was encouraged to utilise the breathing retraining exercises she was taught, especially when recounting and she reported SUDs that were at a higher level. While over-engagement was considered as an explanation for her higher levels of SUDs, the client maintained a sense of grounding and control (Foa et al., 2007).

Importantly, Amy began to grapple with and change her underlying beliefs about herself and the world. Initially, she believed that she was fundamentally unsafe, and that the world was a dangerous place. Through exposure and cognitive restructuring, Amy started to challenge these beliefs. She began to see that not all men are harmful and that crowded spaces can be safe. These shifts in her cognitions were crucial in reducing her avoidance behaviours and in increasing her engagement with previously feared situations. EPT accounts for these changes in beliefs, which are essential for the therapeutic process. Amy's ability to process her trauma emotionally and cognitively led to a more adaptive and realistic understanding of herself and her environment, contributing significantly to her overall improvement.

Habituation took place for Amy, as reflected in her subjective reports and assessment results (i.e., PCL-5, PDS-5, CAPS-5). Based on PE clinical literature, this habituation was attributed to the corrective and incompatible information provided during fear activation in treatment. While this conclusion reflects the mechanisms underlying Amy's progress, other factors such as the therapeutic relationship and Amy's engagement in treatment likely also played a contributory role. Amy reported that Massed-PE provided her with the language to describe her experiences and offered an explanation for symptoms such as her avoidance habit. She was also able to identify cognitive distortions and negative beliefs, which facilitated improvements in her quality of life moving forward—an outcome that Amy described as liberating.

6.4 Results

For the present study, it was decided that an idiographic case description would be used to contextualise the participant. This is recommended by Barlow and Nock (2009), as it allows for the exploration of casual relations among variables. Below, Table 6.4 reports on the sample characteristics. The participant was female and 23 years old. Again, to protect the identity and confidentiality of the participant, they will be referred to as Amy.

Table 6.4*Sample characteristics of the trauma survivor*

Participant (pseudonym)	Gender	Age	Race	Marital Status	Nationality	Trauma type	Trauma History	Education	Employment
Amy	Female	23	Black African	Single	South African	Sexual assault	Multiple	University	Part-time

6.5 Visual inspection

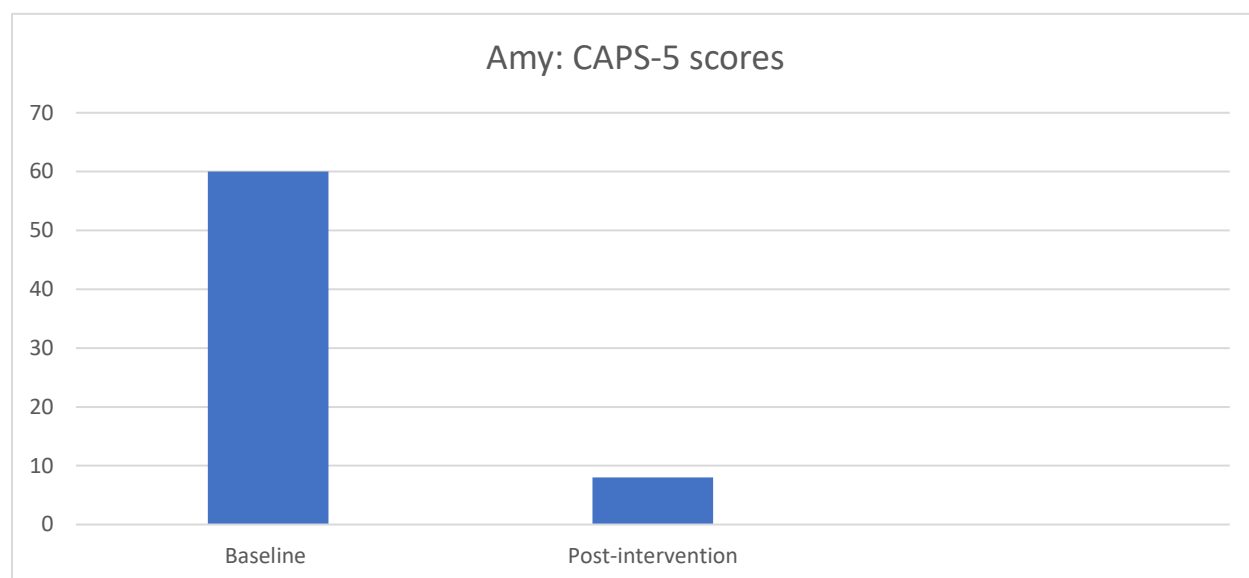
According to Lane and Gast (2014), a systematic approach to visual inspection enables the analysis and comprehension of participant data. Using the visual representation of clinical measurements to is helpful, in order to confirm that participants are functioning well after the intervention (Lane & Gast, 2014). Three main characteristics are used to evaluate the data: the variability or stability of the data, the trend of the data, or the direction in which the data are progressing, which can be either increasing or decreasing, and the level or mean performance in a condition (i.e., baseline or intervention) (Kratochwill & Levin, 2014; Lane & Gast, 2014).

Apart from the fundamental analytical components, the evaluation of individual case data also involve the scrutiny of data within specific conditions and the comparison of data between different conditions (Lane & Gast, 2014). Examining within-condition data involves a detailed analysis of the data within each phase, such as the intervention phase, where the PCL-5 was administered before each session, as outlined by Lane and Gast (2014).

The following section provides an idiographic presentation for the participant ($n = 1$) who completed the intervention.

6.5.1 Amy results

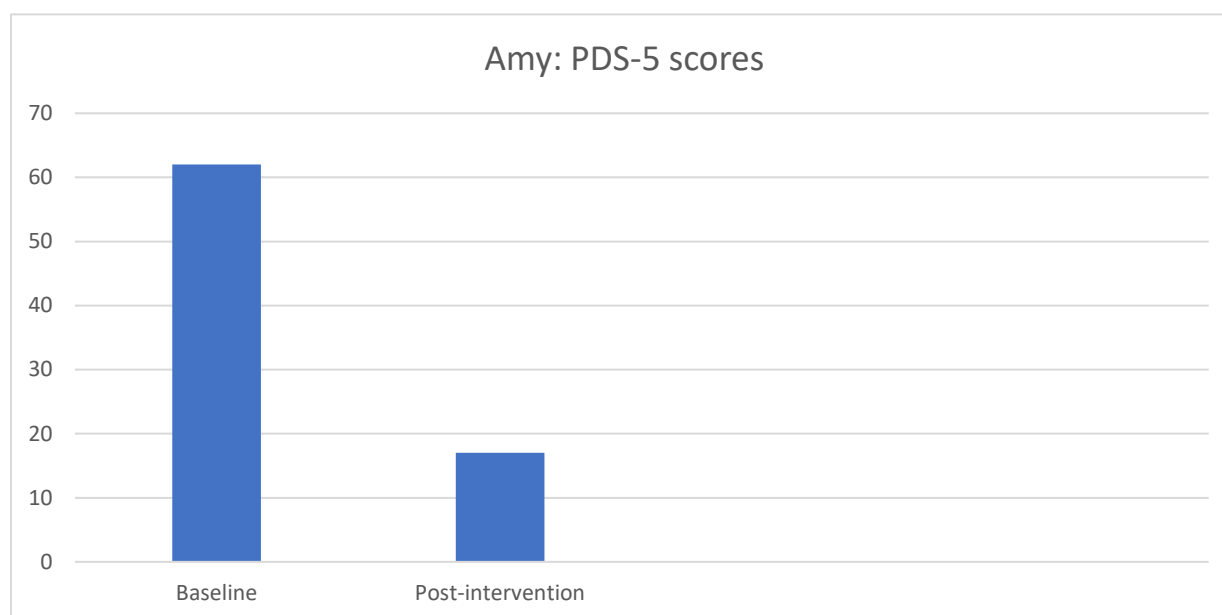
At the time of the intake, Amy met the criteria for a PTSD diagnosis which was confirmed by the administration of the CAPS-5. The participant's total CAPS-5 symptoms severity score was 60 at baseline and a score at 8 at post-intervention. Figure 6A below illustrates Amy's treatment outcomes, i.e. her CAPS-5 scores at baseline and post-intervention.

Figure 6A

In addition, the client's scores for PTSD symptoms on the PDS-5 were also significant. At baseline, the client had a total score of 62 while the clinical cut-off score is 28. At post-intervention, the client had a PTSD severity score of 17, suggesting no diagnosis. Figure 6B below illustrates the participant's PDS-5 scores at baseline and post-intervention. It is important to note that the PDS-5, unlike the CAPS-5, which is a clinician-administered assessment, is a self-report measure. Despite the inherent differences in administration, the self-report results from the PDS-5 were in line with the CAPS-5. This consistency between the two measures strengthens the reliability of the findings, indicating that the reductions in PTSD symptoms observed in Amy, reflect genuine changes in her symptomatology. The alignment of results across the clinician-administered CAPS-5 and the self-reported PDS-5, supports the validity of the observed therapeutic progress and symptom reduction.

Figure 6B

Participant's PDS-5 scores



The participant presented with hazardous and harmful drinking as indicated by the results on her AUDIT score. At baseline, the client presented with a total score of 11 and a total score of 6 at post-intervention. See Figure 6C below which illustrates the participant's treatment outcomes, i.e. scores at baseline and post-intervention.

Figure 6C

Participant's AUDIT scores

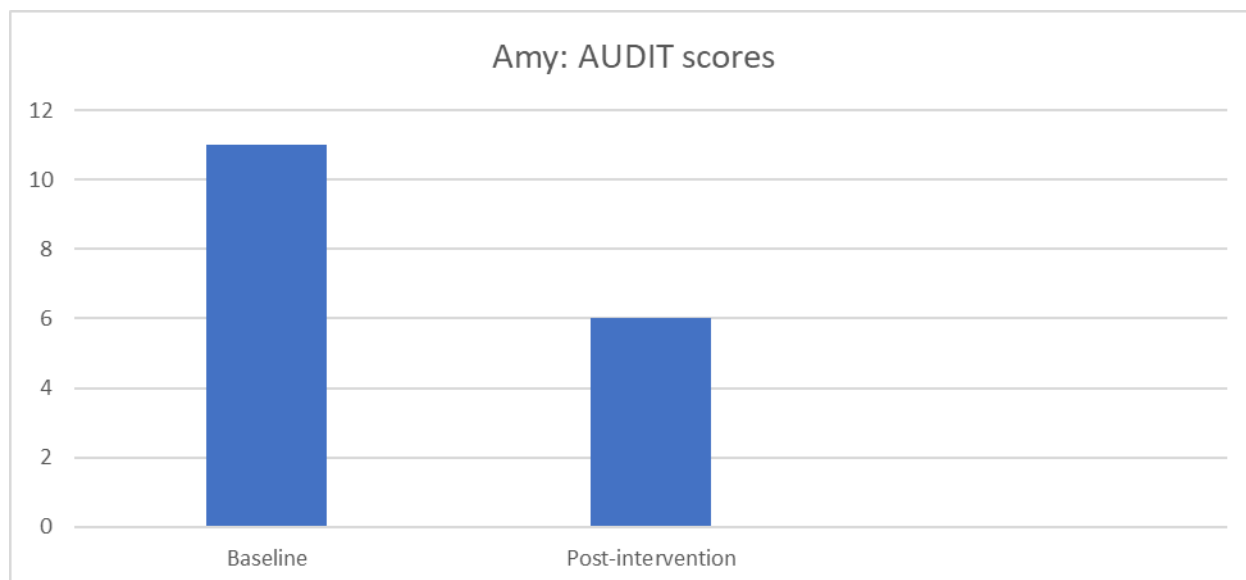
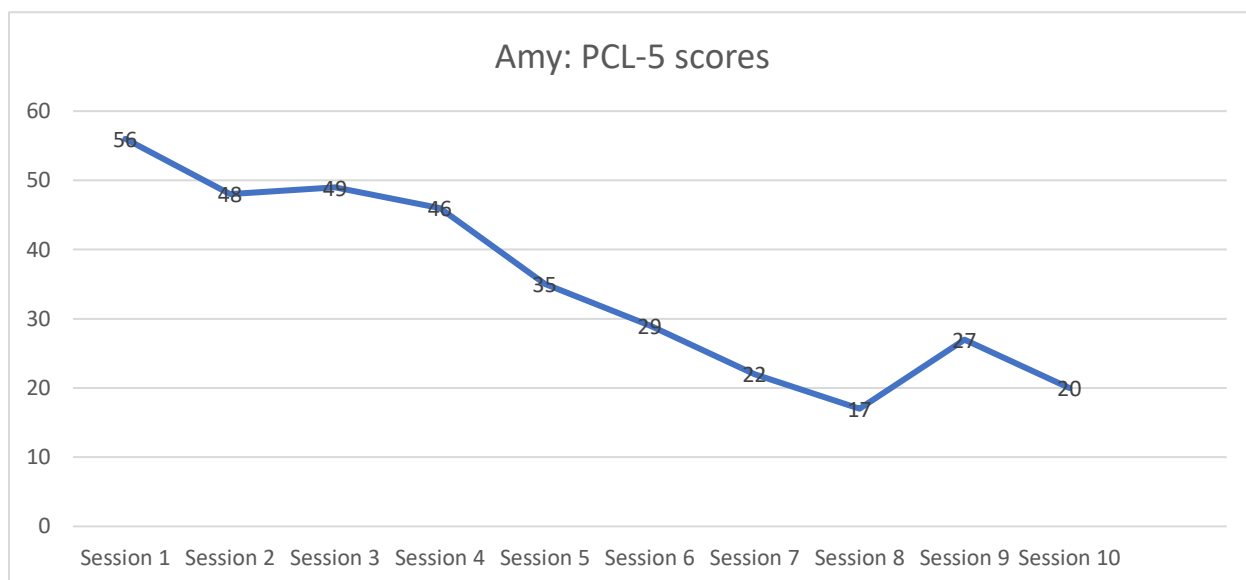


Figure 6D below illustrates the participant's PCL-5 scores across ten sessions. In session one, the participant had a total score of 56 and the clinical cut-off score is 31-33, which indicates a provisional PTSD diagnosis. The participant's scores decreased over sessions indicating good treatment outcomes with some spikes, due to imaginal exposure and also external stressors. At the final session, the participant had a total score of 20.

Figure 6D

Participant's PCL-5 scores



6.6 Descriptive analysis

In figures 6A to 6D, we can see a decrease in Amy's overall symptomatology on the various assessment measures. In terms of PTSD symptomatology and diagnosis, there is a significant improvement from baseline to post-intervention, as indicated by the CAPS-5, PDS-5 and PCL-5. Moreover, there is also an improvement in terms of alcohol use. Amy presented with hazardous and harmful drinking at baseline, and at post-intervention, her score had decreased significantly as illustrated by her AUDIT scores in Figure 6C.

6.7 Feasibility of Massed-PE

According to Booyesen and Kagee (2020), research on PE and its feasibility within in the South African context is limited. As mentioned, one of the aims of the study is to determine whether university students perceive Massed-PE as a feasible therapy for PTSD and AUD.

To determine the feasibility of Massed-PE therapy, the participant was requested to complete an Implementation measure post-intervention. This consisted of the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), and Feasibility of Intervention Measure (FIM) (Weiner et al., 2017).

Participants were requested to answer questions related to the acceptability, appropriateness, and feasibility of Massed-PE, by rating these according to four options: "Completely disagree"; "Disagree"; "Neither agree nor disagree"; "Agree", or "Completely agree" (see Appendix I).

6.7.1 Implementation measures

Key:

1	Completely agree
2	Disagree
3	Neither agree nor disagree
4	Agree
5	Completely agree

Figure 6E

Acceptability of Intervention Measure (AIM)

In terms of the AIM of Massed-PE, the participant seemed to deem it an acceptable intervention measure, with the most common response being “Agree”. Thus, it seems that overall, the participant considered Massed-PE to be an acceptable intervention measure, which indicates that this style of implementation would most likely be accepted by clients at organisations, such as the Rhodes University Psychology Clinic.

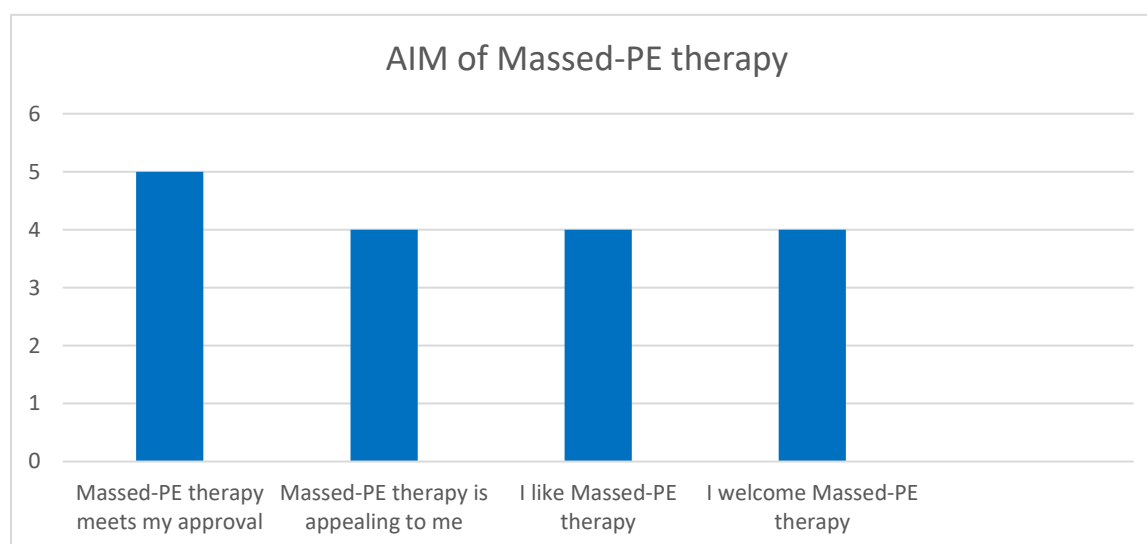


Figure 6H

Intervention Appropriateness Measure (IAM)

The participant was also requested to answer questions regarding the appropriateness of Massed-PE. All the responses were “Completely agree” indicating that the participant found the intervention to be appropriate.

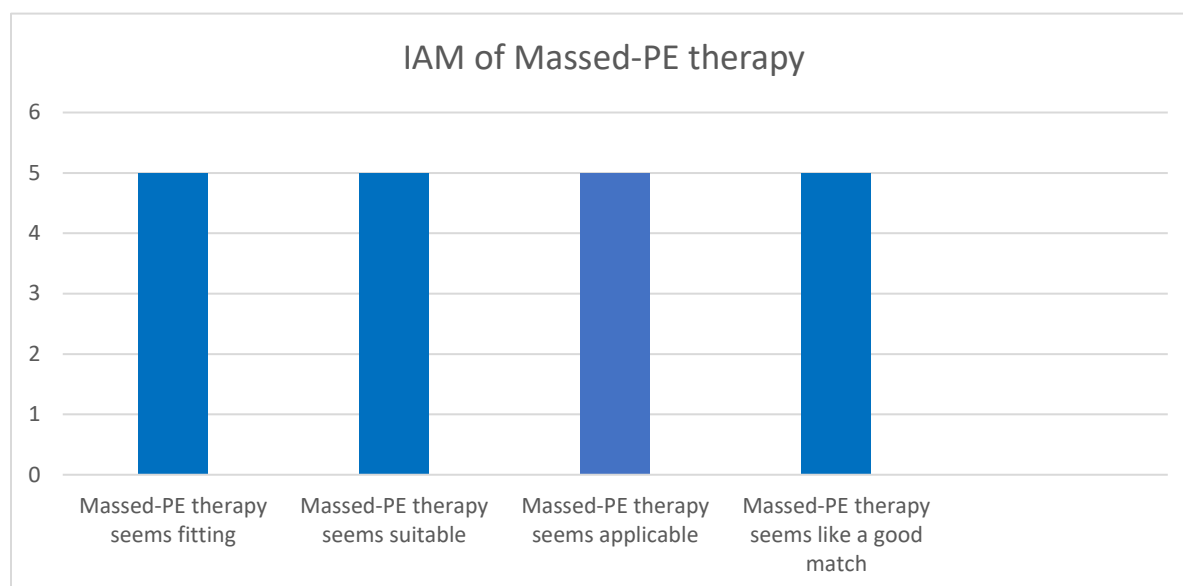
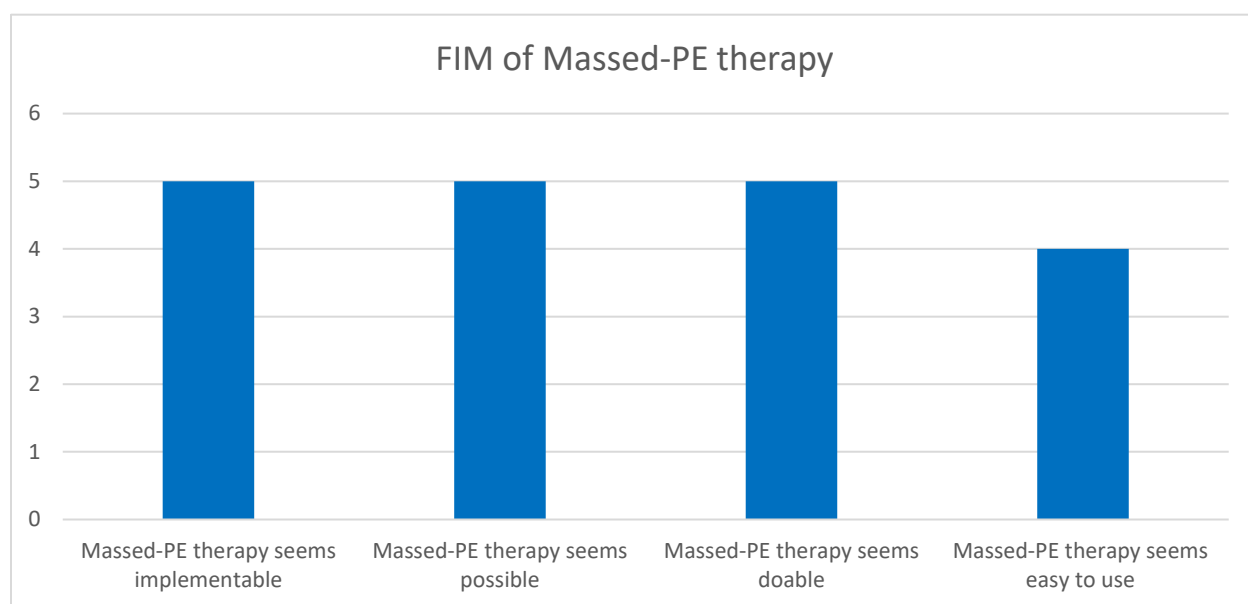


Figure 6F

Feasibility of Intervention Measure (FIM)



The participant was also requested to answer questions relating to the feasibility of Massed-PE with most answers indicating “Completely agree”. Thus, in terms of feasibility, the participant was satisfied with Massed-PE as intervention.

6.8 Reflections as a therapist

6.8.1 Imaginal exposure

Imaginal exposure is a cornerstone of exposure-based therapy for PTSD, designed to help patients confront and process traumatic memories through repeated, detailed recounting of the trauma within the safety of the therapeutic environment. This technique aims to reduce the power of trauma memories and the distress they cause, facilitating emotional processing and cognitive restructuring of the traumatic event (Foa, Hembree & Rothbaum, 2007).

The PE manual delineates a structured approach to imaginal exposure, emphasising the importance of a safe therapeutic setting and a strong therapist-patient alliance. Clinicians are guided to encourage patients to vividly recount their traumatic experiences, including thoughts, feelings, and sensory details, and to verbalise the emotions that arise during the recounting. The PE manual advises sessions be recorded, so that patients can listen to them between sessions, thus reinforcing the therapy's effects by promoting additional processing and habituation (Foa et al., 2007).

In applying imaginal exposure, I adhered to the manual's guidelines, ensuring a compassionate and supportive environment for the participant to share their traumatic memories. One of the first steps involved building a strong therapeutic alliance, reassuring the participant of the confidentiality and safety of the process. This foundation is crucial for patients to feel secure enough to engage deeply with their traumatic memories. Informing the patient for instance about the rationale behind recording and reminding them about confidentiality, caused the participant feel comfortable about being recorded. Later, the participant revealed that listening to the recordings helped them with processing their past experiences.

Sessions were structured around the patient's recounting of their trauma narrative, focusing on eliciting vivid sensory details and emotional experiences. This process was challenging both for the participant, who revisited deeply painful memories, and for me as the clinician, requiring me to balance empathy with the necessity of guiding the participant through their distress. Recordings of these sessions were used as prescribed, with the participant encouraged to listen to them between sessions to facilitate further processing.

Another insight was the transformative power of repeatedly confronting traumatic memories. Over time, the participant reported a noticeable decrease in the distress associated with her traumatic memories, alongside a shift in her perceptions of the trauma and themselves. This observation aligns with the theoretical underpinnings of PE, where repeated exposure is thought to facilitate emotional processing and cognitive restructuring, leading to symptom reduction (Rauch & Foa, 2006).

6.8.2 In-vivo hierarchy

Central to PE is the in-vivo exposure component, designed to systematically confront feared but safe situations, objects, or activities that individuals have been avoiding due to trauma-related fears (Foa et al., 2007). The in-vivo hierarchy is a core element of this process, where patients and clinicians collaboratively construct a list of feared stimuli ranked by difficulty or distress level, which then guides the gradual exposure exercises (Foa et al., 2007).

In the PE manual for clinicians, Foa et al. (2007) advise a meticulous approach to constructing the in-vivo hierarchy. It emphasises the importance of thorough patient involvement in identifying feared stimuli and assessing their subjective units of distress (SUDs) levels. Foa et al. (2007) suggest starting with less distressing stimuli, progressively moving to more challenging ones, to facilitate habituation and reduce avoidance behaviours.

In implementing the in-vivo hierarchy with the participant, I adhered closely to the manual's guidelines, while also adapting to the participant's unique needs. This process began with comprehensive discussions to identify a wide range of feared stimuli. The participant initially expressed apprehension about socialising and going out for drinks, fearing potential triggers and encounters with individuals who might perpetuate harm. We started with small, controlled exposures, such as meeting in familiar places, such as the university library with a close friend present. Slowly, we progressed to more public spaces, gradually desensitising her to the anxiety associated with socialising.

The success of in-vivo exposure also relies on respecting each patient's readiness to confront feared situations (Foa et al., 2007). In Standard PE, the clinician can adjust the pacing based on the patient's responses over the week, allowing for a more tailored and gradual approach (Foa et al., 2007). However, the condensed schedule of Massed-PE limits this flexibility, making it potentially more difficult to tailor the exposure exercises to the patient's evolving needs and comfort levels. I observed this with the participant initially, as they were

hesitant to engage with the in-vivo homework. Thus, providing psycho-education to the participant on the nature of Massed-PE and the rationale behind in-vivo, was important to encourage their engagement with the in-vivo exposure (Foa et al., 2019).

6.8.3 Therapeutic relationship

Establishing and navigating the therapeutic relationship with a participant who has experienced sexual assault, demanded a nuanced and compassionate approach. Research has shown that a positive therapeutic relationship predicts positive treatment outcomes, including decreased PTSD symptoms (Saraiya et al., 2023). Thus, from the outset, building trust was paramount. The therapeutic relationship, or therapeutic alliance, is a critical determinant of treatment outcomes across various forms of psychotherapy, including PE therapy for PTSD.

This relationship is not merely a foundation for the application of therapeutic techniques but is, in itself, a transformative element of the healing process (Norcross & Wampold, 2019). Within the context of PE therapy, the therapeutic alliance assumes a particularly pivotal role due to the emotionally charged nature of confronting and processing traumatic memories.

In PE therapy, the therapeutic relationship serves as the secure base from which clients can safely explore and reprocess traumatic events. The efficacy of PE hinges on the patient's willingness to engage with deeply distressing memories and emotions; a process significantly facilitated by a strong, supportive, and empathetic therapeutic alliance (Foa et al., 2007).

Chapter summary

Chapter 5 provided an overview of the intervention phase in which MPE therapy was provided. The screening tools administered at baseline and post-intervention were discussed, as well as issues related to treatment fidelity, and ethical considerations. The chapter provided an idiographic overview of the participant, using the pseudonym, Amy. A brief introduction of the participant and their index trauma was discussed followed by the presenting problem. The participant was formulated and conceptualised by using EPT. The chapter also presented an overview of the MPE results by utilising idiographic visual inspection and descriptive analysis. Overall results indicated a clear downward trend in symptom reduction for PTSD and alcohol use. Then, the implementation measures which were completed by the participant, were visually illustrated and discussed. Finally, the chapter closed with my reflections as a therapist.

Chapter 6

Discussion

This study set out to investigate the feasibility, acceptability, and effectiveness of MPE for the treatment of comorbid PTSD and AUD in a university student in South Africa. The research was grounded in the context of a high prevalence of PTSD, exposure to traumatic events and alcohol use amongst university students (McGowan & Kagee, 2013; Chen et al., 2023), coupled with limited research on PE and its efficacy, feasibility, and acceptability in the global south and in LMICs, such as South Africa (Booyesen & Kagee, 2020). Employing a SCED, this study focused on an intensive and rapid format of Standard PE, aimed at providing an EST for individuals facing both PTSD and comorbid AUD, reflecting a critical need in LMICs for EBTs.

The findings of this study provide preliminary evidence supporting the effectiveness of MPE in significantly reducing symptoms of PTSD and comorbid alcohol. The participant demonstrated a marked improvement in PTSD symptoms, as evidenced by substantial decreases on clinical measures. On the CAPS-5, the participant had a total symptom severity score of 60, substantially above the clinical threshold. At post-intervention, her CAPS-5 score dramatically decreased to 8, suggesting the remission of PTSD symptoms. This substantial improvement was mirrored in her PDS-5 scores, dropping from a baseline of 62 to 17 post-intervention, moving well below the clinical cut-off range. Furthermore, her PCL-5 scores decreased across ten sessions from a baseline of 56 to 20 at the final session, indicating good treatment outcomes with notable decreases in PTSD symptom severity. Similarly, her AUDIT scores indicated a significant reduction in risky drinking behaviours, moving from hazardous and harmful drinking levels (baseline=11), to below the threshold for such categorisation (post-intervention=6).

These outcomes are consistent with current findings in the existing literature and highlight the potential of Massed-PE as an effective intervention for reducing both PTSD symptoms and comorbid alcohol use. Numerous studies have demonstrated the effectiveness of MPE in reducing PTSD symptoms. Peterson et al. (2023) conducted a landmark, randomised controlled trial (RCT) comparing MPE to weekly sessions of SPE. The results indicated that MPE therapy was as effective as the traditional approach, with modest reductions in PTSD symptoms observed in both groups (Peterson et al., 2023; Dell et al., 2023).

Another recent study (n=234) found that MPE was effective for combat-related PTSD, concluding that that PE can be adapted into compressed treatment formats that effectively reduce PTSD symptoms (Peterson et al., 2023). According to Peterson et al. (2023), 61% of participants achieved clinically significant reductions in PTSD symptoms, and 74% had self-reported PTSD symptom reductions at the 1-month follow-up assessment.

The results of this study are consistent with another study which examined the effectiveness of MPE in treating PTSD in two firefighters. The results of this study indicated reduced symptoms for both individuals, suggesting the potential for similar positive outcomes in other population groups (Zwetzig et al., 2021). For instance, the first participant had an initial CAPS -5 score of 47, indicating full criteria for PTSD. This score aligned with their score on the PCL-5, 62. Following the intervention, the participant's PCL-5 score decreased to 21, thus falling below the PTSD threshold.

A key aspect of this study was to evaluate the efficacy of MPE for comorbid PTSD and AUD. As stated by Coffey et al. (2016), while valuable advances have been made toward the treatment of comorbid PTSD and substance use, additional research examining the efficacy of PE in comorbid substance use populations is still scarce (Coffey et al., 2016). More specifically, there appears to be a gap in the existing literature examining Massed-PE efficacy in the treatment of PTSD and comorbid AUD. Thus, existing studies, such as those conducted by Coffey (2016), Foa et al. (2013), and Back et al. (2012), suggest findings that align with the results of this dissertation. However, these researchers implemented different PE protocols, such as modified and SPE protocols. This means that these protocols differ in their session structure and duration. Nevertheless, they still follow the same principles of EPT, and therefore, it was valuable to compare the results with those of these studies.

For example, the study conducted by Coffey et al. (2016) implemented a modified PE protocol, consisting of 9-12 60-minute sessions for individuals with PTSD and comorbid substance use. Post-intervention participants achieved 85.7%-97.9% days' abstinence at follow-up (Coffey et al., 2016). Foa et al. (2013) found that participants who were being treated for PTSD and alcohol use with PE, had achieved 69.9% days' abstinence post-intervention. Back et al. (2012) looked at PE in the treatment of PTSD and comorbid alcohol use amongst combat veterans. The results of this study demonstrated a reduction in PTSD symptoms and alcohol use. At baseline, the patient scored in the clinical range for PTSD (CAPS Total Score = 71; PCL-5

Total Score = 53), and consumed approximately 12.5 alcoholic drinks per day for 50/60 days (83.3%). At post-intervention, the patient scored in the non-clinical range for PTSD (CAPS Total Score = 42; PCL-5 Total Score = 23) and his drinking significantly reduced and maintained low throughout follow-up. While these studies highlight the efficacy of PE protocols in the treatment of PTSD and comorbid AUD, there is a need for studies implementing Massed-PE in the treatment of PTSD and comorbid alcohol use.

The results of this study were also consistent with the findings of another study (Bonar, 2015) which looked at PE among two participants at a university counselling centre. As mentioned, university counselling centres are often hesitant to offer EBTs, such as PE therapy, despite the increasing demand for mental health services, due to concerns that the protocol may be experienced as too intense, may retraumatise the client, and clients may drop out. However, this is not the case, as research indicates that “the rates of symptom worsening associated with exposure treatments are generally very low and that exposure therapy is not associated with a greater risk of symptom worsening than other forms of treatment” (Riggs et al., 2006, p. 81).

In the study conducted by Bonar (2015), two participants at a university counselling centre received PE therapy over ten sessions. The results by Bonar (2015) showed that the first participant’s PCL-5 was initially quite high, 66 at baseline. During the intervention, the participant’s reduction of PCL-5 scores resulted in a final score of 24. The second participant’s PCL-5 score at pre-intervention was 46, resulting in a final score of 23 post-intervention. The second participant had spikes in their PCL-5 scores during intervention; however, as mentioned, this is to be expected with the introduction of imaginal exposure, which may exacerbate PTSD symptoms (Bonar, 2015). The findings by Bonar (2015) were in line with the Standard PE model which conducted ten sessions on a weekly basis, instead of the rapid protocol offered by Massed-PE. Nevertheless, the findings by Bonar (2015) reiterate that EBTs are important within university counselling centres, showing that they can be appropriately applied within university counselling centre contexts.

Similarly, Foa et al. (2005) conducted a study involving a diverse participant sample, including university students, which yielded positive outcomes. This randomised trial (n=171) focused on PE therapy for female assault survivors with chronic PTSD. Among those who returned for follow-up assessment, 80% maintained their gains, and 12% showed further improvement. Another case study (n=1) by Ghafoori and Davaie (2012) investigated training

master-level clinicians in PE at a university-based community clinic. The participant's symptom severity significantly decreased post-intervention on measures of depression, PTSD, and generalised anxiety disorder (GAD). Specifically, the participant's PCL-C score decreased from 58 pre-intervention to 28 post-intervention, and further to 25 at a 3-month follow-up, indicating no longer meeting PTSD diagnostic criteria. The participant also showed a decrease in depressive symptoms (BSI–Depression subscale T-score from 70 to 45) and GAD-7 score (from 8 pre-treatment to 2 post-treatment). The participant's SUDS ratings during sessions reflected decreased anxiety and habituation over time with PE (Ghafoori & Davaie, 2012).

This case study highlights the effectiveness of PE within a university setting and illustrates that trainee clinicians can effectively administer PE. University clinics could thus offer training to student psychologists, addressing resource constraints and increased accessibility to EBTs. Foa et al. (2005) found that less experienced clinicians were as effective as more experienced ones, thus suggesting that university clinics can leverage trainee clinicians to provide high-quality care.

Bonar (2015) argues that clinical staff at university counselling centres are often advised to work within a brief therapy model, focusing on containment and support. However, students with PTSD symptoms require more specialised treatment, given the nature of their symptoms (Bonar, 2015). Bonar (2015) argues that EBTs, such as PE result in a reduction in PTSD symptomatology, suicidal ideation, and overall risk in fewer than 10-12 sessions. Therefore, it is in the best interest for universities to offer EBTs, such as PE as opposed to offering a referral, placement in a non-specified trauma group, or other non-EBT (Bonar, 2015). Furthermore, for university counselling centres and clinics who do not have the capacity to implement Standard PE protocol, the findings of this study have shown the effectiveness, feasibility, and acceptability for Massed-PE within a university setting.

Research has shown that SPE can be adapted to fit different clinical populations (Dell et al., 2022). Moreover, one of the critical advantages of MPE therapy is its potential for rapid symptom reduction (Dell et al., 2023). What is particularly noteworthy are the low rates of dropout, with that of the MPE group (4.8%) 3.5 times less than the SPE group (16.9%). This is especially significant in light of the recent RCT, comparing prolonged exposure therapy to cognitive processing therapy, where dropout by the group was 55.8% and 46.6%, respectively (Dell et al., 2022; Schnurr et al., 2022). This advantage is particularly valuable in the context of

university counselling centres which often struggle with resource limitations, and where the demand for mental health services has significantly increased over the years, placing a considerable burden on counselling centres (Watkins et al., 2012; Pedrelli et al., 2014). Given that universities are responsible for developing suitable interventions (Bonar, 2015), MPE provides an opportunity for university counselling centres to offer an EBT of two weeks for students with PTSD and comorbid AUD.

A key component of this study was evaluating MPE acceptability, appropriateness and feasibility through the participant's lens. Utilising implementation measures (AIM; IAM; FIM), the findings suggest that the participant regarded MPE as both acceptable and appropriate. This positive reception underscores the potential of Massed-PE for broader application in clinical settings targeting PTSD and comorbid AUD among university students.

Regarding feasibility, one notable consideration was the provision of transportation assistance to the participant on one day during the intervention; a response to the substantial transportation barriers within South Africa (Orcutt, 1997; Maunganidze & Mistro, 2012; Walters, 2014). The participant had problems with transportation throughout the intervention, which raises the question about the feasibility of in-person MPE, which requires the participant to attend sessions for consecutive days over a two-week period. The lack of public transport and prevalent socio-economic challenges (Moyo et al., 2022) underscore the importance of considering the contextual realities and structural limitations (Booyesen & Kagee, 2023) of LMICs. This scenario underscores a broader challenge in conducting TFT research in LMICs. Socio-economic conditions often present barriers to participation and engagement in therapeutic interventions (Steele et al., 2007); researchers must, therefore, navigate the feasibility of rapid TFTs, such as MPE, aiming to provide equitable access to TFTs.

Despite this, the participant had a positive perception of MPE. These findings align with the existing literature that evaluates participants' reactions to this therapeutic approach. Sherrill et al. (2022) were pioneers in this area, assessing participants' perceptions post-intervention through a written survey that utilised open-ended questions. Their study revealed a predominantly positive reaction (51.27%) towards Massed-PE, highlighting benefits that resonate with the therapy's underlying rationale; the structured approach minimises distractions and avoidance, while rapid improvements boost motivation and engagement (Sherrill et al., 2022). According to Sherrill et al. (2022), although participants noted short-term discomfort and

a high demand for their time and effort, these aspects were anticipated based on the clinical theory underpinning PE and its massed delivery format. Hence, these findings corroborate the notion that despite its challenges, the intensity of Massed-PE is both appreciated and beneficial from the participant's perspective (Sherrill et al., 2022).

Furthermore, the findings published by researchers, Booysen and Kagee (2023) are also consistent with the results of this study. Their study, conducted in South Africa, employed a brief version of SPE comprising six sessions. While this study employed a Massed-PE protocol, the study conducted by Booysen and Kagee (2023) still included key factors in the PE protocol, such as imaginal exposure, in-vivo exposure, breathing retraining, and psychoeducation (Booyesen & Kagee, 2023). The difference here is the duration of the session structure. However, the context of this study is in line with the study by Booysen and Kagee (2023). Therefore, it is valuable to understand what the researchers have said about participants' experiences of EBTs such as PE, especially within LMICs, such as South Africa.

Booyesen and Kagee (2023) focused on trauma survivors in LMICs, a demographic less represented in PE research. Through qualitative interviews with seven adult trauma survivors who completed the therapy, Booysen and Kagee (2023) concluded that PE is perceived as a generally beneficial treatment for PTSD. Their findings further affirm that PE therapy is acceptable in diverse contexts, thus contributing valuable insights into its applicability in South Africa. In summary, the results of the study, alongside studies conducted by Sherrill et al. (2022) and Booysen and Kagee (2023), consistently illustrate that EBTs, such as Massed-PE, are perceived positively by participants. This collective evidence supports the view that PE therapy is an acceptable treatment modality for PTSD, with significant implications for its application across different populations and settings.

These findings contribute to the existing literature by offering new insights into the application of MPE within a university setting, addressing a gap in the availability and accessibility of effective trauma-focused therapies in LMICs. By demonstrating the preliminary effectiveness and acceptability of Massed-PE for PTSD and comorbid AUD, this study lays the groundwork for future research to explore its implementation and potential impact across similar settings. The ultimate aim is to enhance mental health outcomes for mental health care service users.

Chapter 7

Limitations, implications and conclusions

7.1 Summary

Globally, the high prevalence of PTSD is a significant mental health concern, especially in the global south, where LMICs lack the necessary resources to implement ESTs. Thus, in South Africa, despite the high-levels of trauma in the population, there is a lack of access to evidence-based trauma treatments. According to Singla et al. (2017), ESTs for mental health disorders such as PTSD have been recognised by the World Health Organization as first-line treatments. However, as mentioned above, in the global south in countries, such as South Africa and Brazil, this is not necessarily the case. Thus, the dissemination and implementation of ESTs are imperative in order to bridge the mental health gap (Singla et al., 2017).

One of the most effective treatments for PTSD is Massed-PE, which has been shown to significantly reduce PTSD symptoms in a variety of populations (Foa et al., 2007). However, the effectiveness of Massed-PE for the treatment of comorbid PTSD and AUD amongst university students in South Africa, has not been evaluated. Therefore, this study examined Massed-PE effectiveness and feasibility in treating comorbid PTSD and AUD in university students in South Africa. Given the prevalence of PTSD, trauma exposure and alcohol use amongst university students, this research study aimed to examine the effectiveness and feasibility of Massed-PE therapy for the treatment of PTSD and comorbid AUD amongst university students (Padmanabhanunni, 2020; Chen et al., 2023; Bantjies et al., 2023).

Kazdin (2019) indicates that the efficacy of a treatment is based on a client's symptoms over time. Feasibility, on the other hand, refers to whether the treatment can be done, and the process of doing so (Eldridge et al., 2016). Taking this into account, this research study recruited a student from Rhodes University, who presented with PTSD and comorbid AUD. The participant was assessed at baseline using the CAPS-5, the PDS-5 and the AUDIT. During treatment, before each session, the participant completed the PCL-5. Post-intervention, the participant was requested to complete the same assessments as were completed at baseline. Moreover, credible research requires treatment fidelity (Foa & Meadows, 1997). Hence, in this research study, fidelity was maintained through including recording sessions and saving these on Google Drive. Furthermore, the researcher was supervised.

The results of the research study indicated a downward trend in PTSD and alcohol symptomology.

7.2 Limitations of the study

A few limitations of the study were addressed, along with suggestions for future research. The study included only one participant. Given the intervention was conducted during the final assessment season, many university students are busy with their end-of-year examinations. Thus, many students may be too busy to participate in the study. Suggestions for future researchers are to conduct the intervention with university students at an earlier point during the year, which would allow for more participants.

Given that the sample includes only a female, also speaks to the generalisability of the study and the need to also include males in the sample. Thus, in hindsight having a male participant would have also been beneficial as the current findings limit the generalisability of the results.

A further limitation is that the study did not include a three-month, post-intervention assessment to gain insight into symptomology and whether the improvement in symptoms has been maintained. This would have given insight into whether symptom reduction is maintained and the medium- to long-term effectiveness of Massed-PE. The study is also limited by the absence of independent assessors. As the researcher, I conducted both the pre-intervention and post-intervention assessments of the participants, which limit the study's validity.

Furthermore, considering the inherent idiographic nature of the research design, it might face criticism for its perceived lack of generality. Nonetheless, it is essential to recognise that this criticism is based on an assumption. It is important to acknowledge that idiographic research can offer valuable insights into the workings of the nomothetic (Barlow & Nock, 2009).

The external applicability of the current study is constrained by the small size of the sample. Nevertheless, this aligns with the idiographic orientation of SCEDs. Owing to the restricted sample size and specific participant attributes, such as location, gender, and educational level, the outcomes for instance, may not necessarily generalise to individuals with varying educational backgrounds.

Finally, the study is constrained by the composition of the sample, which exclusively comprised university students. This limitation arises from students' access to resources, such as

mobile devices, laptops, and the internet; circumstances that may not be representative of all individuals.

7.3 Implications of the study

As mentioned earlier, the existing literature on PE and its efficacy, feasibility, and acceptability in the global south and LMICs, such as South Africa, is scarce (Booyesen & Kagee, 2020). The current study illustrates the significance of intervention research in addressing PTSD in resource-constrained contexts. It provides a foundation and guide to narrow the treatment gap for PTSD in LMICs. Therefore, the current study showcases, from a practical perspective, the implementation of a manualised exposure treatment and the challenges encountered. The intervention was found to be both effective and feasible.

7.4 Treatment implications

While Massed-PE has demonstrated effectiveness and a certain level of feasibility, there is still a requirement for additional assessment and implementation, particularly in LMICs, such as South Africa. The results of the current study offer initial insights into the implementation of Massed-PE among a student sample in a LMIC, characterised by insecurity and limited resources. Despite contextual challenges and other barriers affecting the intervention phase of the study, the treatment still yielded positive outcomes.

Moreover, the provision of Massed-PE sessions to the participants resulted in a positive global impact on their quality of life.

7.5 Recommendations to clinicians and students

Considering the unique characteristics of South African society, marked by pervasive violence and elevated crime rates, it becomes imperative to ensure that in-vivo homework is both feasible and practical (Williams et al., 2007). While the aim is to promote psychotherapeutic transformation, it is equally crucial to prioritise the safety and well-being of participants or clients.

Furthermore, the implementation and procedural aspects of Massed-PE may appear systematic, due to the structured nature of the assigned homework. This methodical approach has the potential to overwhelm the client or participant. Therefore, it is crucial to establish a robust therapeutic relationship, based on Rogerian principles, including unconditional positive regard, empathy, non-judgment, and congruence (Norcross & Wampold, 2019). Effectively

communicating the process to the client, engaging them collaboratively, and elucidating the rationale behind techniques, such as imaginal exposure and the in-vivo hierarchy, will contribute significantly to the client's comfort and comprehension (Foa et al., 2007).

7.6 Value of the study

This research study hopefully contributes to the literature on evidence-based practices in South African psychology, focusing on the treatment of PTSD and comorbid AUD using Massed-PE. To the researcher's knowledge, the study is the first to investigate and explore the effectiveness and feasibility of Massed-PE for university students in South Africa. The study demonstrated that Massed-PE is an effective and feasible form of intervention for PTSD and comorbid AUD.

7.7 Conclusion

This research investigation has enhanced our comprehension of the efficacy and feasibility of Massed-PE among university students in South Africa. The results indicate that Massed-PE proves effective in addressing PTSD and comorbid AUD among university students. These findings will hopefully hold significant relevance within the South African context, given the prevalence of trauma exposure and alcohol use. The study aspires to serve as a catalyst for additional research endeavours in this domain.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).
- Atwoli, L., Stein, D. J., Williams, D. R., McLaughlin, K. A., Petukhova, M., Kessler, R. C., & Koenen, K. C. (2013). Trauma and posttraumatic stress disorder in South Africa: analysis from the South African Stress and Health Study. *BMC psychiatry*, 13, 1-12. <https://doi.org/10.1186/1471-244X-13-182>
- Acharibasam, J. W., & Wynn, R. (2018). Telemental Health in Low- and Middle-Income Countries: A Systematic Review. *International journal of telemedicine and applications*, 2018, 9602821. <https://doi.org/10.1155/2018/9602821>
- Abrams, Z. (2022). Student mental health is in crisis. Campuses are rethinking their approach. *American Psychologist*, 53(7), 60. <https://www.apa.org/monitor/2022/10/mental-health-campus-care>
- Bowlby, J. (1969). *Attachment and Loss: Vol. 1. Attachment*. New York: Basic Books.
- Barlow, D. H., & Hersen, M. (1984). *Single-case experimental designs: Strategies for studying behaviour change* (2nd ed.). New York: Pergamon Press
- Barlow, D. H., Nock, M. K., & Hersen, M. (2009). *Single-Case Experimental Designs: Strategies for Studying Behaviour Change*. Boston, MA: Pearson.
- Brewin, C. R., & Holmes, E. A. (2003). Psychological theories of posttraumatic stress disorder. *Clinical Psychology Review*, 23(3), 339–376. [https://doi.org/10.1016/S0272-7358\(03\)00033-3](https://doi.org/10.1016/S0272-7358(03)00033-3)
- Bisson, J. I. (2009). Psychological and social theories of post-traumatic stress disorder. *Psychiatry*, 8(8), 290-292. <https://doi.org/10.1016/j.mppsy.2009.05.003>
- Byiers, B. J., Reichle, J., & Symons, F. J. (2012). Single-subject experimental design for evidence-based practice. *American journal of speech-language pathology*, 21(4), 397–414. [https://doi.org/10.1044/1058-0360\(2012/11-0036\)](https://doi.org/10.1044/1058-0360(2012/11-0036))

- Back, S. E., Killeen, T., Foa, E. B., Santa Ana, E. J., Gros, D. F., & Brady, K. T. (2012). Use of an integrated therapy with prolonged exposure to treat PTSD and comorbid alcohol dependence in an Iraq veteran. *American Journal of Psychiatry*, 169(7), 688-691. <https://doi.org/10.1176/appi.ajp.2011.11091433>
- Blanco, C., Xu, Y., Brady, K., Pérez-Fuentes, G., Okuda, M., & Wang, S. (2013). Comorbidity of posttraumatic stress disorder with alcohol dependence among US adults: Results from National Epidemiological Survey on Alcohol and Related Conditions. *Drug and alcohol dependence*, 132(3), 630-638. <https://doi.org/10.1016/j.drugalcdep.2013.04.016>
- Benito, K. G., & Walther, M. (2015). Therapeutic Process During Exposure: Habituation Model. *Journal of obsessive-compulsive and related disorders*, 6, 147–157. <https://doi.org/10.1016/j.jocrd.2015.01.006>
- Bonar, T. C. (2015). University counseling center use of prolonged exposure therapy: In-clinic treatment for students with PTSD. *Journal of College Student Psychotherapy*, 29(4), 271–288. <https://doi.org/10.1080/87568225.2015.1074019>
- Bantjes, J. R., Kagee, A., McGowan, T., & Steel, H. (2016). Symptoms of posttraumatic stress, depression, and anxiety as predictors of suicidal ideation among South African university students. *Journal of American college health : J of ACH*, 64(6), 429–437. <https://doi.org/10.1080/07448481.2016.1178120>
- Bovin, M. J., Marx, B. P., Weathers, F. W., Gallagher, M. W., Rodriguez, P., Schnurr, P. P., & Keane, T. M. (2016). Psychometric properties of the PTSD Checklist for Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (PCL-5) in veterans. *Psychological assessment*, 28(11), 1379–1391. <https://doi.org/10.1037/pas0000254>
- Brown, L. A., Zandberg, L. J., & Foa, E. B. (2019). Mechanisms of change in prolonged exposure therapy for PTSD: Implications for clinical practice. *Journal of Psychotherapy Integration*, 29(1), 6–14. <https://doi.org/10.1037/int0000109>
- Booyesen, D. D., & Kagee, A. (2020). The feasibility of prolonged exposure therapy for PTSD in low- and middle-income countries: A review. *European Journal of Psychotraumatology*, 11(1), Article 1753941. <https://doi.org/10.1080/20008198.2020.1753941>

- Booyesen, D. D., & Kagee, A. (2021). Preliminary Effectiveness of Brief Prolonged Exposure Therapy for PTSD: Expanding Access to Effective Therapies. *Clinical Case Studies*, 20(6), 482-497. <https://doi.org/10.1177/15346501211017989>
- Bridgland, V. M. E., Moeck, E. K., Green, D. M., Swain, T. L., Nayda, D. M., Matson, L. A., Hutchison, N. P., & Takarangi, M. K. T. (2021). Why the COVID-19 pandemic is a traumatic stressor. *PloS one*, 16(1), e0240146. <https://doi.org/10.1371/journal.pone.0240146>
- Bowen, Paul. (2021). Psychometric Properties of the Alcohol Use Disorders Identification Test (AUDIT) and Prevalence of Alcohol use Among SA Site-based Construction Workers. *Civil Engineering Research Journal*. 12. 10.19080/CERJ.2021.12.555837.
- Blows, S., & Isaacs, S. (2022). Prevalence and factors associated with substance use among university students in South Africa: implications for prevention. *BMC psychology*, 10(1), 309. <https://doi.org/10.1186/s40359-022-00987-2>
- Bantjes, J., Kessler, M., Lochner, C., Breet, E., Bawa, A., Roos, J., Davids, C., Muturiki, M., Kessler, R. C., & Stein, D. J. (2023). The mental health of university students in South Africa: Results of the national student survey. *Journal of affective disorders*, 321, 217–226. <https://doi.org/10.1016/j.jad.2022.10.044>
- Booyesen, D. D., & Kagee, A. (2023). Trauma survivors' perceptions and experiences of prolonged exposure for PTSD at a psychology clinic. *The South African journal of psychiatry : SAJP : the journal of the Society of Psychiatrists of South Africa*, 29, 1869. <https://doi.org/10.4102/sajpsy psychiatry.v29i0.1869>
- Campbell, R., Gregory, K. A., Patterson, D., & Bybee, D. (2012). Integrating qualitative and quantitative approaches: An example of mixed methods research. In L. Jason & D. Glenwick (Eds.), *Methodological approaches to community-based research* (pp. 51–68). American Psychological Association. <https://doi.org/10.1037/13492-004>
- Coffey, S. F., Schumacher, J. A., Nosen, E., Littlefield, A. K., Henslee, A. M., Lappen, A., & Stasiewicz, P. R. (2016). Trauma-focused exposure therapy for chronic posttraumatic stress disorder in alcohol and drug dependent patients: A randomized controlled

- trial. *Psychology of addictive behaviours: Journal of the Society of Psychologists in Addictive Behaviours*, 30(7), 778–790. <https://doi.org/10.1037/adb0000201>
- Chen, C., Mpinganjira, M. G., Motilal, A., Matukane, S., Letsoalo, R., McKee, T., Ntombela, Z., Mbulaheni, L., Hargovan, T., & Francis, J. M. (2023). Prevalence and correlates of alcohol use and risky drinking among undergraduate students in Johannesburg, South Africa: a cross-sectional study. *BMC psychiatry*, 23(1), 553. <https://doi.org/10.1186/s12888-023-05043-w>
- Daepfen, J. B., Yersin, B., Landry, U., Pécoud, A., & Decrey, H. (2000). Reliability and validity of the Alcohol Use Disorders Identification Test (AUDIT) imbedded within a general health risk screening questionnaire: results of a survey in 332 primary care patients. *Alcoholism, clinical and experimental research*, 24(5), 659–665.
- Dell, L., Sbisá, A. M., Forbes, A., O'Donnell, M., Bryant, R., Hodson, S., Morton, D., Battersby, M., Tuerk, P. W., Wallace, D., & Forbes, D. (2023). Effect of massed v. standard prolonged exposure therapy on PTSD in military personnel and veterans: a non-inferiority randomised controlled trial. *Psychological medicine*, 53(9), 4192–4199. <https://doi.org/10.1017/S0033291722000927>
- Dell, L., Sbisá, A. M., Forbes, A., O'Donnell, M., Bryant, R., Hodson, S., Morton, D., Battersby, M., Tuerk, P. W., Elliott, P., Wallace, D., & Forbes, D. (2023). Massed v. standard prolonged exposure therapy for PTSD in military personnel and veterans: 12-month follow-up of a non-inferiority randomised controlled trial. *Psychological medicine*, 53(15), 7070–7077. <https://doi.org/10.1017/S0033291723000405>
- Eagle, G. T. (2002). Posttraumatic stress disorder (PTSD): The malleable diagnosis? *South African Journal of Psychology*, 32(2), 37–42. <https://doi.org/10.1177/008124630203200205>
- Edmondson, D., Chaudoir, S. R., Mills, M. A., Park, C. L., Holub, J., & Bartkowiak, J. M. (2011). From Shattered Assumptions to Weakened Worldviews: Trauma Symptoms Signal Anxiety Buffer Disruption. *Journal of loss & trauma*, 16(4), 358–385. <https://doi.org/10.1080/15325024.2011.572030>

- Evans, D. J. (2014). South African psychologists' use of the Internet in their practices. *South African Journal of Psychology*, 44(2), 162–169.
<https://doi.org/10.1177/0081246314527874>
- Foa, E. B., Steketee, G., & Rothbaum, B. O. (1989). Behavioural/cognitive conceptualizations of post-traumatic stress disorder. *Behaviour Therapy*, 20(2), 155–176.
[https://doi.org/10.1016/S0005-7894\(89\)80067-X](https://doi.org/10.1016/S0005-7894(89)80067-X)
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, 99(1), 20–35. <https://doi.org/10.1037/0033-2909.99.1.20>
- Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A., Riggs, D. S., Feeny, N. C., & Yadin, E. (2005). Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: outcome at academic and community clinics. *Journal of consulting and clinical psychology*, 73(5), 953–964.
<https://doi.org/10.1037/0022-006X.73.5.953>
- Foa, E. B., Hembree, E. A., & Rothbaum, B. O. (2007). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences: Therapist guide*. Oxford University Press.
- Foa, E. B., Yusko, D. A., McLean, C. P., Suvak, M. K., Bux, D. A., Jr, Oslin, D., O'Brien, C. P., Imms, P., Riggs, D. S., & Volpicelli, J. (2013). Concurrent naltrexone and prolonged exposure therapy for patients with comorbid alcohol dependence and PTSD: a randomized clinical trial. *JAMA*, 310(5), 488–495.
<https://doi.org/10.1001/jama.2013.8268>
- Friedman M. J. (2013). Finalizing PTSD in DSM-5: Getting here from there and where to go next. *Journal of traumatic stress*, 26(5), 548–556. <https://doi.org/10.1002/jts.21840>
- Foa, E. B., & Meadows, E. A. (1997). Psychosocial treatments for posttraumatic stress disorder: a critical review. *Annual review of psychology*, 48, 449–480.
<https://doi.org/10.1146/annurev.psych.48.1.449>

- Foa, E. B., McLean, C. P., Zang, Y., Zhong, J., Powers, M. B., Kauffman, B. Y., Rauch, S., Porter, K., & Knowles, K. (2016). Psychometric properties of the Posttraumatic Diagnostic Scale for DSM-5 (PDS-5). *Psychological assessment*, 28(10), 1166–1171. <https://doi.org/10.1037/pas0000258>
- Franklin, C. L., Cuccurullo, L. A., Walton, J. L., Arseneau, J. R., & Petersen, N. J. (2017). Face to face but not in the same place: A pilot study of prolonged exposure therapy. *Journal of Trauma & Dissociation*, 18(1), 116–130. <https://doi.org/10.1080/15299732.2016.1205704>
- Foa, E. B., McLean, C. P., Zang, Y., Rosenfield, D., Yadin, E., Yarvis, J. S., Mintz, J., Young-McCaughan, S., Borah, E. V., Dondanville, K. A., Fina, B. A., Hall-Clark, B. N., Lichner, T., Litz, B. T., Roache, J., Wright, E. C., Peterson, A. L., & STRONG STAR Consortium (2018). Effect of Prolonged Exposure Therapy Delivered Over 2 Weeks vs 8 Weeks vs Present-Centered Therapy on PTSD Symptom Severity in Military Personnel: A Randomized Clinical Trial. *JAMA*, 319(4), 354–364. <https://doi.org/10.1001/jama.2017.21242>
- Foa, E. B., Hembree, E. A., Rothbaum, B. O., & Rauch, S. A. M. (2019). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences: Therapist guide* (2nd ed.). Oxford University Press.
- Peterson, A. L., Blount, T. H., Foa, E. B., Brown, L. A., McLean, C. P., Mintz, J., Schobitz, R. P., DeBeer, B. R., Mignogna, J., Fina, B. A., Evans, W. R., Synett, S., Hall-Clark, B. N., Rentz, T. O., Schrader, C., Yarvis, J. S., Dondanville, K. A., Hansen, H., Jacoby, V. M., Lara-Ruiz, J., ... Consortium to Alleviate PTSD (2023). Massed vs Intensive Outpatient Prolonged Exposure for Combat-Related Posttraumatic Stress Disorder: A Randomized Clinical Trial. *JAMA network open*, 6(1), e2249422. <https://doi.org/10.1001/jamanetworkopen.2022.49422>
- Green, B. L. (1994). Psychosocial research in traumatic stress: An update. *Journal of Traumatic Stress*, 7 (3), 341-362. <https://psycnet.apa.org/doi/10.1002/jts.2490070303>

- Ghafoori, B., & Davaie, S. (2012). Training student therapists in prolonged exposure therapy: A case study demonstrating teaching, supervising, and learning a trauma focused treatment. *Traumatology*, 18(4), 72–78. <https://doi.org/10.1177/1534765612438946>
- Giourou, E., Skokou, M., Andrew, S. P., Alexopoulou, K., Gourzis, P., & Jelastopulu, E. (2018). Complex posttraumatic stress disorder: The need to consolidate a distinct clinical syndrome or to reevaluate features of psychiatric disorders following interpersonal trauma? *World Journal of Psychiatry*, 8(1), 12–19. <https://doi.org/10.5498/wjp.v8.i1.12>
- Goldschmidt L, Langa M, Masilela B, et al. Telepsychology and the COVID-19 pandemic: the experiences of psychologists in South Africa. *South African Journal of Psychology*. 2021;51(2):314-324. doi:10.1177/0081246321993281
- Htet, H., Saw, Y. M., Saw, T. N., Htun, N. M. M., Lay Mon, K., Cho, S. M., Thike, T., Khine, A. T., Kariya, T., Yamamoto, E., & Hamajima, N. (2020). Prevalence of alcohol consumption and its risk factors among university students: A cross-sectional study across six universities in Myanmar. *PloS one*, 15(2), e0229329. <https://doi.org/10.1371/journal.pone.0229329>
- Haslam, N., Tse, J. S., & De Deyne, S. (2021). Concept creep and psychiatrization. *Frontiers in Sociology*, 6. <https://doi.org/10.3389/fsoc.2021.806147>
- Isserlin, L., Zerach, G., & Solomon, Z. (2008). Acute stress responses: A review and synthesis of ASD, ASR, and CSR. *American Journal of Orthopsychiatry*, 78(4), 423– 429. <https://doi.org/10.1037/a0014304>
- Jones, P. J., Levari, D. E., Bellet, B. W., & McNally, R. J. (2023). Exposure to descriptions of traumatic events narrows one's concept of trauma. *Journal of experimental psychology. Applied*, 29(1), 179–187. <https://doi.org/10.1037/xap0000389>
- Kilpatrick, D. G. (2013). The DSM-5 Got PTSD Right: Comment on Friedman (2013). *Journal of Traumatic Stress*, 26(5), 563–566. <https://doi.org/10.1002/jts.21844>
- Kratochwill, T. R., & Levin, J. R. (2014). Meta- and statistical analysis of single-case intervention research data: Quantitative gifts and a wish list. *Journal of School Psychology*, 52(2), 231–235. <https://doi.org/10.1016/j.jsp.2014.01.003>

- Koenen, K. C., Ratanatharathorn, A., Ng, L., McLaughlin, K. A., Bromet, E. J., Stein, D. J., Karam, E. G., Meron Ruscio, A., Benjet, C., Scott, K., Atwoli, L., Petukhova, M., Lim, C. W., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Bunting, B., Ciutan, M., de Girolamo, G., Degenhardt, L., ... Kessler, R. C. (2017). Posttraumatic stress disorder in the World Mental Health Surveys. *Psychological medicine*, 47(13), 2260–2274. <https://doi.org/10.1017/S0033291717000708>
- Krasny-Pacini, A., & Evans, J. (2018). Single-case experimental designs to assess intervention effectiveness in rehabilitation: A practical guide. *Annals of physical and rehabilitation medicine*, 61(3), 164–179. <https://doi.org/10.1016/j.rehab.2017.12.002>
- Kazdin A. E. (2019). Single-case experimental designs. Evaluating interventions in research and clinical practice. *Behaviour research and therapy*, 117, 3–17. <https://doi.org/10.1016/j.brat.2018.11.015>
- Kagee, A., Bantjes, J., Saal, W., & Sterley, A. (2021). Predicting posttraumatic stress disorder caseness using the PTSD Checklist for DSM-5 among patients receiving care for HIV. *Journal of Traumatic Stress*. Advance online publication. <https://doi.org/10.1002/jts.22654>
- Lang, P. J. (1977). Imagery in therapy: an information processing analysis of fear. *Behavior Therapy*, 8(5), 862–886. [https://doi.org/10.1016/S0005-7894\(77\)80157-3](https://doi.org/10.1016/S0005-7894(77)80157-3)
- Lane, J. D., & Gast, D. L. (2014). Visual analysis in single case experimental design studies: brief review and guidelines. *Neuropsychological rehabilitation*, 24(3-4), 445–463. <https://doi.org/10.1080/09602011.2013.815636>
- Maunganidze, L., & Mistro, R.F. (2012). The role of bus rapid transit in improving public transport levels of service, particularly for the urban poor users of public transport: a case of Cape Town, South Africa.
- McGowan, T. C., & Kagee, A. (2013). Exposure to traumatic events and symptoms of post-traumatic stress among South African university students. *South African Journal of Psychology*, 43(3), 327–339. <https://doi.org/10.1177/0081246313493375>

- Morojele, N. K., Kekwaletswe, C. T., Nkosi, S., Kitleli, N. B., & Manda, S. O. (2015). Reliability and factor structure of the audit among male and female bar patrons in a rural area of South Africa. *African Journal of Drug and Alcohol Studies*, 14(1), 23-35.
- Miao, X. R., Chen, Q. B., Wei, K., Tao, K. M., & Lu, Z. J. (2018). Posttraumatic stress disorder: from diagnosis to prevention. *Military Medical Research*, 5(1), 32. <https://doi.org/10.1186/s40779-018-0179-0>
- Moyo, C., Mishi, S., & Ncwadi, R. (2022). Human capital development, poverty and income inequality in the Eastern Cape province. *Development Studies Research*, 9, 36 - 47.
- Morissette, S. B., Ryan-Gonzalez, C., Blessing, A., Judkins, J., Crabtree, M., Hernandez, M. F., Wiltsey-Stirman, S., & Sloan, D. M. (2023). Delivery of written exposure therapy for PTSD in a university counseling center. *Psychological Services*, 20(1), 122–136. <https://doi.org/10.1037/ser0000608>
- Norcross, J. C., & Wampold, B. E. (2019). Evidence-based psychotherapy responsiveness: The third task force. In J. C. Norcross & B. E. Wampold (Eds.), *Psychotherapy relationships that work: Evidence-based therapist responsiveness* (3rd ed., pp. 1–14). Oxford University Press. <https://doi.org/10.1093/med-psych/9780190843960.003.0001>
- Norrholm, S. D., Zalta, A., Zoellner, L., Powers, A., Tull, M. T., Reist, C., Schnurr, P. P., Weathers, F., & Friedman, M. J. (2021). Does COVID-19 count?: Defining Criterion A trauma for diagnosing PTSD during a global crisis. *Depression and anxiety*, 38(9), 882–885. <https://doi.org/10.1002/da.23209>
- Orcutt, J.D. (1997). South africa: transportation struggles in the post-apartheid city. *Sustainable Transport*.
- Pengpid, S., Peltzer, K., van der Heever, H., & Skaal, L. (2013). Screening and brief interventions for hazardous and harmful alcohol use among university students in South Africa: results from a randomized controlled trial. *International journal of environmental research and public health*, 10(5), 2043–2057. <https://doi.org/10.3390/ijerph10052043>
- Peltzer, K., & Pengpid, S. (2015). Extent of alcohol use and mental health (depressive and post-traumatic stress disorder symptoms) in undergraduate university students from 26 low-,

- middle-and high-income countries. *South African journal of psychiatry*, 21(2), 39-43.
<http://dx.doi.org/10.7196/SAJP.662>
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College Students: Mental Health Problems and Treatment Considerations. *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*, 39(5), 503–511. <https://doi.org/10.1007/s40596-014-0205-9>
- Padmanabhanunni A. (2020). Trauma nation: Exposure to traumatic events among South African university students. *Journal of community psychology*, 48(6), 1853–1862.
<https://doi.org/10.1002/jcop.22377>
- Peterson, A. L., Blount, T. H., Foa, E. B., Brown, L. A., McLean, C. P., Mintz, J., Schobitz, R. P., DeBeer, B. R., Mignogna, J., Fina, B. A., Evans, W. R., Synett, S., Hall-Clark, B. N., Rentz, T. O., Schrader, C., Yarvis, J. S., Dondanville, K. A., Hansen, H., ... Jacoby, V. M. (2023). Massed vs Intensive Outpatient Prolonged Exposure for Combat-Related Posttraumatic Stress Disorder. *JAMA Network Open*, 6(1), e2249422.
<https://doi.org/10.1001/jamanetworkopen.2022.49422>
- Richards, S., Taylor, R. L., Ramasamy, R., & Richards, Y. R. (1999). *Single subject research: Applications in educational and clinical settings*. San Diego: Singular Pub. Group.
- Riggs, D. S., Cahill, S. P., & Foa, E. B. (2006). Prolonged exposure treatment of posttraumatic stress disorder. In V. M. Follette, & J. I. Ruzek (Eds.), *Cognitive-behavioral therapies for trauma* (pp. 65–95). New York, NY: The Guilford Press. Wilson, J. P., & Keane, T. M. (2004). *Assessing psychological trauma and PTSD* (2nd ed.). New York, NY: The Guilford Press
- Read, J. P., Griffin, M. J., Wardell, J. D., & Ouimette, P. (2014). Coping, PTSD symptoms, and alcohol involvement in trauma-exposed college students in the first three years of college. *Psychology of addictive behaviors : journal of the Society of Psychologists in Addictive Behaviors*, 28(4), 1052–1064. <https://doi.org/10.1037/a0038348>
- Rauch, S., & Foa, E. (2006). Emotional Processing Theory (EPT) and Exposure Therapy for PTSD. *Journal of Contemporary Psychotherapy: On the Cutting Edge of Modern*

- Developments in Psychotherapy*, 36(2), 61–65. <https://doi.org/10.1007/s10879-006-9008-y>
- Rauch, S. A. M., Cigrang, J., Austern, D., Evans, A., & STRONG STAR Consortium (2017). Expanding the Reach of Effective PTSD Treatment Into Primary Care: Prolonged Exposure for Primary Care. *Focus (American Psychiatric Publishing)*, 15(4), 406–410. <https://doi.org/10.1176/appi.focus.20170021>
- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption-II. *Addiction (Abingdon, England)*, 88(6), 791–804. <https://doi.org/10.1111/j.1360-0443.1993.tb02093.x>
- Sadock, B.J., & Sadock, V.A. (2003). *Synopsis of psychiatry: Behavioural sciences/Clinical Psychiatry* (9th ed.). Philadelphia: Lippincott Williams & Wilkins.
- Steele, L., Dewa, C., & Lee, K. (2007). Socioeconomic status and self-reported barriers to mental health service use. *Canadian journal of psychiatry. Revue canadienne de psychiatrie*, 52(3), 201–206. <https://doi.org/10.1177/070674370705200312>
- Sokol, J. T. (2009). Counselling psychology within the university: A study of roles and functions. *Graduate Journal of Counselling Psychology*, 1(2), 12.
- Shadish, W. R., & Sullivan, K. J. (2011). Characteristics of single-case designs used to assess intervention effects in 2008. *Behaviour Research Methods*, 43, 971–980. <http://dx.doi.org/10.3758/s13428-011-0111-y>
- Schnurr, P. P. (2013). The Changed Face of PTSD Diagnosis. *Journal of Traumatic Stress*, 26, 535–536. <https://doi.org/10.1002/jts.2185>
- Smith, S. M., Goldstein, R. B., & Grant, B. F. (2016). The association between post-traumatic stress disorder and lifetime DSM-5 psychiatric disorders among veterans: Data from the National Epidemiologic Survey on Alcohol and Related Conditions-III (NESARC-III). *Journal of Psychiatric Research*, 82, 16–22. <https://doi.org/10.1016/j.jpsychires.2016.06.022>

- Summerfield, D. (2017). Culture and PTSD: Trauma in Global and Historical Perspective. *The British Journal of Psychiatry :The Journal of Mental Science*, 210 3, 234.
- Stubbe D. E. (2018). The Therapeutic Alliance: The Fundamental Element of Psychotherapy. *Focus (American Psychiatric Publishing)*, 16(4), 402–403.
<https://doi.org/10.1176/appi.focus.20180022>
- Singla, D. R., Kohrt, B. A., Murray, L. K., Anand, A., Chorpita, B. F., & Patel, V. (2017). Psychological Treatments for the World: Lessons from Low- and Middle-Income Countries. *Annual review of clinical psychology*, 13, 149–181.
<https://doi.org/10.1146/annurev-clinpsy-032816-045217>
- Situmorang, D. D. B. (2020). Online/Cyber Counseling Services in the COVID-19 Outbreak: Are They Really New? *Journal of Pastoral Care & Counseling*, 74(3), 166-174.
<https://doi.org/10.1177/1542305020948170>
- Sherrill, A. M., Maples-Keller, J. L., Yasinski, C. W., Loucks, L. A., Rothbaum, B. O., & Rauch, S. A. M. (2022). Perceived benefits and drawbacks of massed prolonged exposure: A qualitative thematic analysis of reactions from treatment completers. *Psychological trauma: Theory, research, practice and policy*, 14(5), 862–870.
<https://doi.org/10.1037/tra0000548>
- Saraiya, T. C., Jarnecke, A. M., Bauer, A. G., Brown, D. G., Killeen, T., & Back, S. E. (2023). Patient- and therapist-rated alliance predict improvements in posttraumatic stress disorder symptoms and substance use in integrated treatment. *Clinical psychology & psychotherapy*, 30(2), 410–421. <https://doi.org/10.1002/cpp.2810>
- Schnurr PP, Chard KM, Ruzek JI, Chow BK, Resick PA, Foa EB, Marx BP, Friedman MJ, Bovin MJ, Caudle KL, Castillo D, Curry KT, Hollifield M, Huang GD, Chee CL, Astin MC, Dickstein B, Renner K, Clancy CP, Collie C, Maieritsch K, Bailey S, Thompson K, Messina M, Franklin L, Lindley S, Kattar K, Luedtke B, Romesser J, McQuaid J, Sylvers P, Varkovitzky R, Davis L, MacVicar D, Shih MC. (2022). Comparison of Prolonged Exposure vs Cognitive Processing Therapy for Treatment of Posttraumatic Stress Disorder Among US Veterans: A Randomized Clinical Trial. *JAMA Network*; 5(1):e2136921. <https://doi: 10.1001/jamanetworkopen.2021.36921>

- Watkins, D. C., Hunt, J. B., & Eisenberg, D. (2012). Increased demand for mental health services on college campuses: Perspectives from administrators. *Qualitative Social Work: Research and Practice*, 11(3), 319–337. <https://doi.org/10.1177/1473325011401468>
- Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). The ptsd checklist for dsm-5 (pcl-5). *Scale available from the National Centre for PTSD at www.ptsd.va.gov*, 10(4), 206.
- Walters, J. (2014). Public transport policy implementation in South Africa : quo vadis? : original research. *Journal of Transport and Supply Chain Management*, 8, 10.
- Wisco, B. E., Marx, B. P., Miller, M. W., Krystal, J. H., Southwick, S. M., & Pietrzak, R. H. (2017). A comparison of ICD-11 and DSM criteria for posttraumatic stress disorder in two national samples of U.S. military veterans. *Journal of Affective Disorders*, 17-19. <https://doi.org/10.1016/j.jad.2017.07.006>
- Weathers, F. W., Bovin, M. J., Lee, D. J., Sloan, D. M., Schnurr, P. P., Kaloupek, D. G., Keane, T. M., & Marx, B. P. (2018). The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5): Development and initial psychometric evaluation in military veterans. *Psychological assessment*, 30(3), 383–395. <https://doi.org/10.1037/pas0000486>
- Weiner, B. J., Lewis, C. C., Stanick, C., Powell, B. J., Dorsey, C. N., Clary, A. S., Boynton, M. H., & Halko, H. (2017). Psychometric assessment of three newly developed implementation outcome measures. *Implementation science : IS*, 12(1), 108. <https://doi.org/10.1186/s13012-017-0635-3>
- Watkins, L. E., Sprang, K. R., & Rothbaum, B. O. (2018). Treating PTSD: A Review of Evidence-Based Psychotherapy Interventions. *Frontiers in behavioural neuroscience*, 12, 258. <https://doi.org/10.3389/fnbeh.2018.00258>
- Young, A. (1995). Reasons and Causes for Post-Traumatic Stress Disorder. *Transcultural Psychiatric Research Review*, 32(3), 287–298. <https://doi.org/10.1177/136346159503200303>

- Young, C., & De Klerk, V. (2009). Patterns of alcohol use on a South African university campus: the findings of two annual drinking surveys. *African Journal of Drug and Alcohol Studies*, 7(2). <https://doi.org/10.4314/ajdas.v7i2.46367>
- Zwetzig, S. E., Koch, L. M., Blount, T. H., Graham, M. M., & Peterson, A. L. (2022). Massed Prolonged Exposure for PTSD in Two Firefighters: Preliminary Case Study Findings. *Behaviour modification*, 46(3), 427–452. <https://doi.org/10.1177/01454455211011977>

Appendices

Appendix A

Participant informed consent declaration

PARTICIPANT INFORMED CONSENT INFORMED CONSENT DECLARATION

(Participant)

Project Title: Massed-Prolonged Exposure (M-PE) Therapy for PTSD in a semi-rural setting in the Eastern Cape: An effectiveness and feasibility trial (H-REC Ref: 2022-5515-6726).

Dr Duane D. Booysen from the Department of Psychology, Rhodes University has requested my permission to participate in the above-mentioned research project.

Sherwin Abrahams from the Department of Psychology, Rhodes University has requested my permission to participate in the above-mentioned research project.

The nature and the purpose of the research project and of this informed consent declaration have been explained to me in a language that I understand.

I am aware that:

1. The purpose of the study is to explore whether Massed-PE can improve symptoms of traumatic stress, and whether Massed-PE is a feasible and acceptable treatment within an Eastern Cape setting.
2. Rhodes University has given ethical clearance to this research project, and I have seen/may request to see the clearance certificate by contacting ethics-committee@ru.ac.za
3. By participating in this research project, I will contribute the understanding of whether effective trauma therapies such as Massed-PE are effective, feasible, and acceptable to be implemented in a Eastern Cape setting. In addition, my participation would also

contribute to the dissemination and implementation of evidence-based practices in the Eastern Cape.

4. I will participate in the project by completing five assessments (baseline, during therapy, post-intervention, 12 weekly follow-ups, and 24-week follow-up). I will also complete a minimum of 10 sessions of Massed-PE daily (Monday - Fridays), but I know that I can withdraw from therapy whenever I see fit to do so.
5. My participation is entirely voluntary and should I at any stage wish to withdraw from participating further, I may do so without any negative consequences. I also know that if I decline or withdraw from the study, I could still access the usual services of the Rhodes Psychology Clinic and or Assumption Development Centre.
6. The project will form part of the routine clinical services of the Rhodes Psychology Clinic and Assumption Development Centre; therefore, I will not be compensated for participating in the research.
7. I am aware that counselling sessions will be video recorded to ensure the reliability and fidelity of the Massed-PE. These recordings will be kept private and confidential and will be stored in a secure and password protected cloud server owned by Dr Booysen. I am also aware that I will be invited to participate in a post-therapy interview to talk about my experience of Massed-PE. These interviews will be conducted by an independent interview to allow me to freely express my opinion regarding the treatment.
8. The following risks are associated with my participation: the risk is high as I will complete questionnaires that will explore aspects related to my trauma related experiences. Additionally, I will also be invited to participate in PE therapy for a minimum of 10 daily sessions. PE will solely focus on my trauma related experiences and difficulties, which could result in some levels of distress during therapy. For example, Massed-PE requires that I talk about my traumatic experience(s) and engage in practically safe activities outside of therapy to further my trauma recovery. In addition, I am also aware that I can contact the PI (DB) about any emergency regarding my trauma therapy.
9. The researchers intend to publish and present the research results in the form of journal articles and at national and or international research conferences. However, confidentiality and anonymity of records will be maintained and that my name and identity will not be revealed to anyone who has not been involved in the conducting of the research, ***unless I indicate to the contrary/recognize that as a public figure my identity will inevitably be/become known.***
10. I have been informed that the data obtained in the current study will be used in future research projects to inform the dissemination and implementation of PE for PTSD at relevant organizations who provide mental health services.

11. I will have the right to request feedback in the form of a summary report regarding the results obtained during the study.
12. Any further questions that I might have concerned the research, or my participation will be answered by Dr Duane D. Booysen (0781676607 / 0466038507 [/d.booysen@ru.ac.za](mailto:d.booysen@ru.ac.za)).
13. By signing this informed consent declaration, I am not waiving any legal claims, rights or remedies.
14. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I,, have read the above information / confirm that the above information has been explained to me in a language that I understand and I am aware of this document's contents. I have asked all questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

I have not been pressurised in any way and I voluntarily agree to participate in the above-mentioned project.

.....

Participants signature

.....

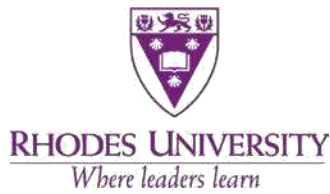
Date

Rhodes University, Research Office, Ethics

Ethics Coordinator: ethics-committee@ru.ac.za

t: +27 (0) 46 603 7727 f: +27 (0) 86 616 7707

Room 220, Main Admin Building, Drostdy Road, Grahamstown, 6139



Appendix B

Larger project letter

Psychology Department

1 University Road, Grahamstown, 6139, South Africa

PO Box 94, Grahamstown, 6140, South Africa

t: +27 (0) 46 603 8500

f: +27 (0) 46 603 7614

e: psychology@ ru.ac.za

www.ru.ac.za/psychology

August 2023

To:

Dear Professor L Wilbraham
Chair of the RPERC
Department of Psychology
Rhodes University

Re:

Student: Sherwin Abrahams
Project title: Massed-prolonged exposure therapy for PTSD and alcohol use among university students
Degree: MA in Clinical Psychology

The proposed study forms part of a larger research project on the implementation of massed-prolonged exposure (Massed-PE) therapy for post-traumatic stress disorder (PTSD). The larger study has obtained ethical approval from the human-research ethics committee (Ref: 2022-5515-6982) and gatekeeper clearance for the study to be conducted at Rhodes University and the Assumption Development Centre.

The current proposal will only focus on accruing preliminary data on the effectiveness of Massed-PE for PTSD and alcohol use among university students. The ensuing information's describes the focus of the current proposal which stems from the larger project (See attached ERAS application).

Please let me know if this is possible and if you need any further information from my side.

Best wishes,

Dr Duane D. Booysen (PhD)

Senior Lecturer & Clinical Psychologist

Coordinator: Master's in Clinical Psychology Programme

Department of Psychology

Faculty of Humanities

T: +27 (0) 46 603 8507

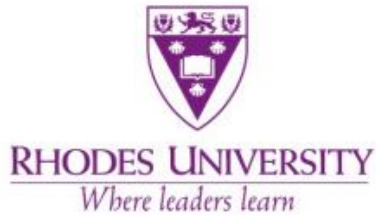
Makhanda (Grahamstown), 6139

PO Box 94, Makhanda, 6140, South Africa

www.ru.ac.za

Appendix C

RU-HREC



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

NHREC Registration number: RC-241114-045

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

10 October 2022

Dr Duane Booysen

Email: D.Booyesen@ru.ac.za d.booyesen@ru.ac.za

Review Reference: 2022-5515-6982

Dear Dr Duane Booysen

Title: Massed-Prolonged Exposure Therapy for PTSD in a semi-rural setting in the Eastern Cape: An effectiveness and feasibility trial

Researcher: Dr Duane Booysen

Supervisor(s): Dr Duane Booysen,

This letter confirms that the above research proposal has been reviewed and **APPROVED** by the Rhodes University Human Research Ethics Committee (RU-HREC). Your Approval number is: 2022-5515-6982

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

Please ensure that the ethical standards committee is notified should any substantive change(s) be made, for whatever reason, during the research process. This includes changes in investigators. Please also ensure that a brief report is submitted to the ethics committee on the completion of the research. The purpose of this report is to indicate whether the research was conducted successfully, if any aspects could not be completed, or if any problems arose that the ethical standards committee should be aware of. If a thesis or dissertation arising from this research is submitted to the library's electronic theses and dissertations (ETD) repository, please notify the committee of the date of submission and/or any reference or cataloguing number allocated.

Sincerely,

Dr Janet Hayward

Chair: Rhodes University Human Research Ethics Committee, RU-HREC

cc: Ethics Coordinator

Appendix D

Approval from Registrar



Office of the Registrar
Eden Grove Building, Lucas Avenue, Makhanda, 6139, South Africa
PO Box 94, Makhanda, 6140, South Africa
t: +27 (0) 46 603 8101
f: +27 (0) 46 603 7561
e: registrar@ru.ac.za
www.ru.ac.za

15 August 2022

Dr D Booysen
Department of Psychology

Dear Dr Booysen

REQUEST FOR GATEKEEPERS PERMISSION TO CONDUCT RESEARCH WITH RHODES UNIVERSITY STUDENTS

Name of research proposal: Massed-Prolonged Exposure (M-PE) Therapy for PTSD in a semi-rural setting in the Eastern Cape: An effectiveness and feasibility trial.

This serves to confirm that you have been granted permission to conduct your proposed research at Rhodes University as requested.

Kindly be advised that the University is not obliged to make any arrangements in terms of this research, and that the onus is on the researcher. It is also your responsibility to protect the integrity of the University in the manner in which you collate and engage the data.

Please note that where necessary, permission must be sort from the HR Director for staff-related matters.

This letter is valid from 15 August 2022 to 14 August 2024.

Yours sincerely

Professor A.L Moodly
REGISTRAR

Appendix E

AUDIT

AUDIT questionnaire

Please circle the answer that is correct for you

1. How often do you have a drink containing alcohol?

- Never
- Monthly or less
- 2-4 times a month
- 2-3 times a week
- 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day when drinking?

- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

3. How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

4. During the past year, how often have you found that you were not able to stop drinking once you had started?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

5. During the past year, how often have you failed to do what was normally expected of you because of drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

6. During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

7. During the past year, how often have you had a feeling of guilt or remorse after drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

8. During the past year, have you been unable to remember what happened the night before because you had been drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

- No
- Yes, but not in the past year
- Yes, during the past year

10. Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?

- No
- Yes, but not in the past year
- Yes, during the past year

Scoring the AUDIT

Scores for each question range from 0 to 4, with the first response for each question (eg never) scoring 0, the second (eg less than monthly) scoring 1, the third (eg monthly) scoring 2, the fourth (eg weekly) scoring 3, and the last response (eg. daily or almost daily) scoring 4. For questions 9 and 10, which only have three responses, the scoring is 0, 2 and 4 (from left to right).

A score of 8 or more is associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, is likely to indicate alcohol dependence.

Saunders JB, Aasland OG, Babor TF et al. Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption — II. *Addiction* 1993; 88: 791–803.

Appendix F

CAPS-5

CAPS-5 Page 1

National Center for PTSD
CLINICIAN-ADMINISTERED PTSD SCALE FOR DSM-5
PAST MONTH / WORST MONTH VERSION

Name: _____ ID#: _____
Interviewer: _____ Date: _____
Study: _____

Frank W. Weathers, Dudley D. Blake, Paula P. Schnurr,
Danny G. Kaloupek, Brian P. Marx, & Terence M. Keane

National Center for Posttraumatic Stress Disorder
May 1, 2015

Instructions

Standard administration and scoring of the CAPS-5 are essential for producing reliable and valid scores and diagnostic decisions. The CAPS-5 should be administered only by qualified interviewers who have formal training in structured clinical interviewing and differential diagnosis, a thorough understanding of the conceptual basis of PTSD and its various symptoms, and detailed knowledge of the features and conventions of the CAPS-5 itself.

Administration

1. Identify an index traumatic event to serve as the basis for symptom inquiry. Administer the Life Events Checklist and Criterion A inquiry provided on p. 5, or use some other structured, evidence-based method. The index event may involve either a single incident (e.g., "the accident") or multiple, closely related incidents (e.g., "the worst parts of your combat experiences").
2. When assessing both past month (current) and worst month (lifetime):
 - a. First, administer the time frame prompt which appears under the Criterion A assessment box. If the respondent reports that her/his symptoms have been as bad in the past month as they have been at any point since the index event, then the past month can also be considered the worst month. In that case there is no need to assess worst month; past month ratings will serve as the basis for both current and lifetime diagnostic status.
 - b. Second, administer all items with respect to the past month and establish current diagnostic status.
 - c. Third, if necessary, re-orient the respondent to the worst month time frame, and then re-administer all items with respect to worst month and establish lifetime diagnostic status. Rephrase prompts into past tense. For example, "have you had any unwanted memories" becomes "did you have any unwanted memories."
 - d. Note: To assure comparability between past month ratings obtained from this version of the CAPS-5 and past month ratings obtained from the past month version of the CAPS-5, it is important to assess past month first, followed by worst month in a separate pass through the symptoms. It is recommended NOT to assess past month and worst month symptom by symptom in a single pass.
3. Read prompts verbatim, one at a time, and in the order presented, EXCEPT:
 - a. Use the respondent's own words for labeling the index event or describing specific symptoms.
 - b. Rephrase standard prompts to acknowledge previously reported information, but return to verbatim phrasing as soon as possible. For example, inquiry for item 20 might begin: "You already mentioned having problems sleeping. What kinds of problems?"
 - c. If you don't have sufficient information after exhausting all standard prompts, follow up ad lib. In this situation, repeating the initial prompt often helps refocus the respondent.
 - d. As needed, ask for specific examples or direct the respondent to elaborate even when such prompts are not provided explicitly.
4. In general, DO NOT suggest responses. If a respondent has pronounced difficulty understanding a prompt it may be necessary to offer a brief example to clarify and illustrate. However, this should be done rarely and only after the respondent has been given ample opportunity to answer spontaneously.
5. DO NOT read rating scale anchors to the respondent. They are intended only for you, the interviewer, because appropriate use requires clinical judgment and a thorough understanding of CAPS-5 scoring conventions.

6. Move through the interview as efficiently as possible to minimize respondent burden. Some useful strategies:
 - a. Be thoroughly familiar with the CAPS-5 so that prompts flow smoothly.
 - b. Ask the fewest number of prompts needed to obtain sufficient information to support a valid rating.
 - c. Minimize note-taking and write while the respondent is talking to avoid long pauses.
 - d. Take charge of the interview. Be respectful but firm in keeping the respondent on task, transitioning between questions, pressing for examples, or pointing out contradictions.

Scoring

1. As with previous versions of the CAPS, CAPS-5 symptom severity ratings are based on symptom frequency and intensity, except for items 8 (amnesia) and 12 (diminished interest), which are based on amount and intensity. However, CAPS-5 items are rated with a single severity score, in contrast to previous versions of the CAPS which required separate frequency and intensity scores for each item that were either summed to create a symptom severity score or combined in various scoring rules to create a dichotomous (present/absent) symptom score. Thus, on the CAPS-5 the clinician combines information about frequency and intensity before making a single severity rating. Depending on the item, frequency is rated as either the number of occurrences (how often in the past month) or percent of time (how much of the time in the past month). Intensity is rated on a four-point ordinal scale with ratings of *Minimal*, *Clearly Present*, *Pronounced*, and *Extreme*. Intensity and severity are related but distinct. Intensity refers to the strength of a typical occurrence of a symptom. Severity refers to the total symptom load over a given time period, and is a combination of intensity and frequency. This is similar to the quantity/frequency assessment approach to alcohol consumption. In general, intensity rating anchors correspond to severity scale anchors described below and should be interpreted and used in the same way, except that severity ratings require joint consideration of intensity and frequency. Thus, before taking frequency into account, an intensity rating of *Minimal* corresponds to a severity rating of *Mild / subthreshold*, *Clearly Present* corresponds with *Moderate / threshold*, *Pronounced* corresponds with *Severe / markedly elevated*, and *Extreme* corresponds with *Extreme / incapacitating*.
2. The five-point CAPS-5 symptom severity rating scale is used for all symptoms. Rating scale anchors should be interpreted and used as follows:
 - 0 Absent** The respondent denied the problem or the respondent's report doesn't fit the DSM-5 symptom criterion.
 - 1 Mild / subthreshold** The respondent described a problem that is consistent with the symptom criterion but isn't severe enough to be considered clinically significant. The problem doesn't satisfy the DSM-5 symptom criterion and thus doesn't count toward a PTSD diagnosis.
 - 2 Moderate / threshold** The respondent described a clinically significant problem. The problem satisfies the DSM-5 symptom criterion and thus counts toward a PTSD diagnosis. The problem would be a target for intervention. This rating requires a minimum frequency of *2 X month* or *some of the time (20-30%)* PLUS a minimum intensity of *Clearly Present*.
 - 3 Severe / markedly elevated** The respondent described a problem that is well above threshold. The problem is difficult to manage and at times overwhelming, and would be a prominent target for intervention. This rating requires a minimum frequency of *2 X week* or *much of the time (50-60%)* PLUS a minimum intensity of *Pronounced*.
 - 4 Extreme / incapacitating** The respondent described a dramatic symptom, far above threshold. The problem is pervasive, unmanageable, and overwhelming, and would be a high-priority target for intervention.

3. In general, make a given severity rating only if the minimum frequency and intensity for that rating are both met. However, you may exercise clinical judgment in making a given severity rating if the reported frequency is somewhat lower than required, but the intensity is higher. For example, you may make a severity rating of *Moderate / threshold* if a symptom occurs *1 X month* (instead of the required *2 X month*) as long as intensity is rated *Pronounced or Extreme* (instead of the required *Clearly Present*). Similarly, you may make a severity rating of *Severe / markedly elevated* if a symptom occurs *1 X week* (instead of the required *2 X week*) as long as the intensity is rated *Extreme* (instead of the required *Pronounced*). If you are unable to decide between two severity ratings, make the lower rating.
4. You need to establish that a symptom not only meets the DSM-5 criterion phenomenologically, but is also functionally related to the index traumatic event, i.e., started or got worse as a result of the event. CAPS-5 items 1-8 and 10 (reexperiencing, effortful avoidance, amnesia, and blame) are inherently linked to the event. Evaluate the remaining items for trauma-relatedness (TR) using the TR inquiry and rating scale. The three TR ratings are:
 - a. **Definite** = the symptom can clearly be attributed to the index trauma, because (1) there is an obvious change from the pre-trauma level of functioning and/or (2) the respondent makes the attribution to the index trauma with confidence.
 - b. **Probable** = the symptom is likely related to the index trauma, but an unequivocal connection can't be made. Situations in which this rating would be given include the following: (1) there seems to be a change from the pre-trauma level of functioning, but it isn't as clear and explicit as it would be for a "definite;" (2) the respondent attributes a causal link between the symptom and the index trauma, but with less confidence than for a rating of *Definite*; (3) there appears to be a functional relationship between the symptom and inherently trauma-linked symptoms such as reexperiencing symptoms (e.g., numbing or withdrawal increases when reexperiencing increases).
 - c. **Unlikely** = the symptom can be attributed to a cause other than the index trauma because (1) there is an obvious functional link with this other cause and/or (2) the respondent makes a confident attribution to this other cause and denies a link to the index trauma. Because it can be difficult to rule out a functional link between a symptom and the index trauma, a rating of *Unlikely* should be used only when the available evidence strongly points to a cause other than the index trauma. NOTE: Symptoms with a TR rating of *Unlikely* should not be counted toward a PTSD diagnosis or included in the total CAPS-5 symptom severity score.
5. **CAPS-5 total symptom severity score** is calculated by summing severity scores for items 1-20. NOTE: Severity scores for the two dissociation items (29 and 30) should NOT be included in the calculation of the total CAPS-5 severity score.
6. **CAPS-5 symptom cluster severity scores** are calculated by summing the individual item severity scores for symptoms contained in a given DSM-5 cluster. Thus, the Criterion B (reexperiencing) severity score is the sum of the individual severity scores for items 1-5; the Criterion C (avoidance) severity score is the sum of items 6 and 7; the Criterion D (negative alterations in cognitions and mood) severity score is the sum of items 8-14; and the Criterion E (hyperarousal) severity score is the sum of items 15-20. A symptom cluster score may also be calculated for dissociation by summing items 29 and 30.
7. **PTSD diagnostic status** is determined by first dichotomizing individual symptoms as "present" or "absent," then following the DSM-5 diagnostic rule. A symptom is considered present only if the corresponding item severity score is rated *2=Moderate/threshold* or higher. Items 9 and 11-20 have the additional requirement of a trauma-relatedness rating of *Definite* or *Probable*. Otherwise a symptom is considered absent. The DSM-5 diagnostic rule requires the presence of at least one Criterion B symptom, one Criterion C symptom, two Criterion D symptoms, and two Criterion E symptoms. In addition, Criteria F and G must be met. Criterion F requires that the disturbance has lasted at least one month. Criterion G requires that the disturbance cause either clinically significant distress or functional impairment, as indicated by a rating of *2=moderate* or higher on items 23-25.

Criterion A: Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:

1. Directly experiencing the traumatic event(s).
2. Witnessing, in person, the event(s) as it occurred to others.
3. Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.
4. Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse). Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related.

[Administer Life Events Checklist or other structured trauma screen]

I'm going to ask you about the stressful experiences questionnaire you filled out. First I'll ask you to tell me a little bit about the event you said was the worst for you. Then I'll ask how that event may have affected you. In general I don't need a lot of information – just enough so I can understand any problems you may have had. Please let me know if you find yourself becoming upset as we go through the questions so we can slow down and talk about it. Also, let me know if you have any questions or don't understand something. Do you have any questions before we start?

The event you said was the worst was (EVENT). What I'd like for you to do is briefly describe what happened.

Index event (specify):

What happened? (How old were you? How were you involved? Who else was involved? Was anyone seriously injured or killed? Was anyone's life in danger? How many times did this happen?)	Exposure type: Experienced ____ Witnessed ____ Learned about ____ Exposed to aversive details ____ Life threat? NO YES [self ____ other ____] Serious injury? NO YES [self ____ other ____] Sexual violence? NO YES [self ____ other ____] Criterion A met? NO PROBABLE YES
---	---

Since (EVENT) has there been a time when it was causing you more problems than it has over the past month? [if yes:] **When was (EVENT) causing you the most problems?** [if not clear:] **Did it last at least a month?**

For the rest of the interview, I want you to keep (EVENT) in mind as I ask you about different problems it may have caused you. For this interview we're going to focus on the [past month / worst month]. For each problem I'll ask if you had it at all, and if so, how often and how much it bothered you.

Criterion B: Presence of one (or more) of the following intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred:

1. (B1) Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s). Note: In children older than 6 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.

In the [past month / worst month], have you had any <u>unwanted memories</u> of (EVENT) while you were awake, so not counting dreams? [Rate 0=Absent if only during dreams] How does it happen that you start remembering (EVENT)? [If not clear:] (Are these <u>unwanted memories</u>, or are you thinking about [EVENT] on purpose?) [Rate 0=Absent unless perceived as involuntary and intrusive] How much do these memories bother you? Are you able to put them out of your mind and think about something else? [If not clear:] (Overall, how much of a problem is this for you? How so?) Circle: Distress = Minimal Clearly Present Pronounced Extreme How often have you had these memories in the [past month / worst month]? # times _____ Key rating dimensions = frequency / intensity of distress Moderate = at least 2 X month / distress clearly present, some difficulty dismissing memories Severe = at least 2 X week / pronounced distress, considerable difficulty dismissing memories	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	---

2. (B2) Recurrent distressing dreams in which the content and/or affect of the dream are related to the event(s). Note: In children, there may be frightening dreams without recognizable content.

In the [past month / worst month], have you had any <u>unpleasant dreams</u> about (EVENT)? Describe a typical dream. (What happens?) [If not clear:] (Do they wake you up?) [If yes:] (What do you experience when you wake up? How long does it take you to get back to sleep?) [If reports not returning to sleep:] (How much sleep do you lose?) How much do these dreams bother you? Circle: Distress = Minimal Clearly Present Pronounced Extreme How often have you had these dreams in the [past month / worst month]? # of times _____ Key rating dimensions = frequency / intensity of distress Moderate = at least 2 X month / distress clearly present, less than 1 hour sleep loss Severe = at least 2 X week / pronounced distress, more than 1 hour sleep loss	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	---

3. (B3) Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings.) Note: In children, trauma-specific reenactment may occur in play.

In the [past month / worst month], have there been times when you <u>suddenly acted or felt as if (EVENT) were actually happening</u> again? <i>[If not clear:] (This is different than thinking about it or dreaming about it – now I'm asking about flashbacks, when you feel like you're actually back at the time of [EVENT], actually reliving it.)</i> How much does it seem as if (EVENT) were happening again? (Are you confused about where you actually are?) What do you do while this is happening? (Do other people notice your behavior? What do they say?) How long does it last? <i>Circle: Dissociation = Minimal Clearly Present Pronounced Extreme</i> How often has this happened in the [past month / worst month]? # of times _____	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
Key rating dimensions = frequency / intensity of dissociation Moderate = at least 2 X month / dissociative quality clearly present, may retain some awareness of surroundings but relives event in a manner clearly distinct from thoughts and memories Severe = at least 2 X week / pronounced dissociative quality, reports vivid reliving, e.g., with images, sounds, smells	

4. (B4) Intense or prolonged psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

In the [past month / worst month], have you gotten <u>emotionally upset</u> when <u>something reminded you</u> of (EVENT)? What kinds of reminders make you upset? How much do these reminders bother you? Are you able to calm yourself down when this happens? (How long does it take?) <i>[If not clear:] (Overall, how much of a problem is this for you? How so?)</i> <i>Circle: Distress = Minimal Clearly Present Pronounced Extreme</i> How often has this happened in the [past month / worst month]? # of times _____	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
Key rating dimensions = frequency / intensity of distress Moderate = at least 2 X month / distress clearly present, some difficulty recovering Severe = at least 2 X week / pronounced distress, considerable difficulty recovering	

5. (B5) Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

In the [past month / worst month], have you had any <u>physical reactions</u> when <u>something reminded you</u> of (EVENT)? Can you give me some examples? <i>(Does your heart race or your breathing change? What about sweating or feeling really tense or shaky?)</i> What kinds of reminders trigger these reactions? How long does it take you to recover? <u>Circle:</u> Physiological reactivity = <i>Minimal Clearly Present Pronounced Extreme</i> How often has this happened in the [past month / worst month]? # of times _____ Key rating dimensions = frequency / intensity of physiological arousal Moderate = at least 2 X month / reactivity clearly present, some difficulty recovering Severe = at least 2 X week / pronounced reactivity, sustained arousal, considerable difficulty recovering	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	---

Criterion C: Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred, as evidenced by one or both of the following:

6. (C1) Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

In the [past month / worst month], have you tried to <u>avoid thoughts</u> or <u>feelings</u> about (EVENT)? What kinds of thoughts or feelings do you avoid? How hard do you try to avoid these thoughts or feelings? <i>(What kinds of things do you do?)</i> [If not clear:] <i>(Overall, how much of a problem is this for you? How would things be different if you didn't have to avoid these thoughts or feelings?)</i> <u>Circle:</u> Avoidance = <i>Minimal Clearly Present Pronounced Extreme</i> How often in the [past month / worst month]? # of times _____ Key rating dimensions = frequency / intensity of avoidance Moderate = at least 2 X month / avoidance clearly present Severe = at least 2 X week / pronounced avoidance	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	---

7. (C2) Avoidance of or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

In the [past month / worst month], have you tried to <u>avoid things</u> that <u>remind you of</u> (EVENT), like certain people, places, or situations? What kinds of things do you avoid? How much effort do you make to avoid these reminders? (Do you have to make a plan or change your activities to avoid them?) [If not clear:] (Overall, how much of a problem is this for you? How would things be different if you didn't have to avoid these reminders?) Circle: Avoidance = Minimal Clearly Present Pronounced Extreme How often in the [past month / worst month]? # of times _____ Key rating dimensions = frequency / intensity of avoidance Moderate = at least 2 X month / avoidance clearly present Severe = at least 2 X week / pronounced avoidance	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

Criterion D: Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

8. (D1) Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs).

In the [past month / worst month], have you had <u>difficulty remembering</u> some <u>important parts</u> of (EVENT)? (Do you feel there are gaps in your memory of [EVENT]?) What parts have you had difficulty remembering? Do you feel you should be able to remember these things? [If not clear:] (Why do you think you can't? Did you have a head injury during [EVENT]? Were you knocked unconscious? Were you intoxicated from alcohol or drugs?) [Rate 0=Absent if due to head injury or loss of consciousness or intoxication during event] [If still not clear:] (Is this just normal forgetting? Or do you think you may have blocked it out because it would be too painful to remember?) [Rate 0=Absent if due only to normal forgetting] Circle: Difficulty remembering = Minimal Clearly Present Pronounced Extreme In the [past month / worst month], how many of the important parts of (EVENT) have you had difficulty remembering? (What parts do you still remember?) # of aspects _____ Would you be able to recall these things if you tried? Key rating dimensions = amount of event not recalled / intensity of inability to recall Moderate = at least one important aspect / difficulty remembering clearly present, some recall possible with effort Severe = several important aspects / pronounced difficulty remembering, little recall even with effort	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

9. (D2) Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., "I am bad," "No one can be trusted," "The world is completely dangerous," "My whole nervous system is permanently ruined").

In the [past month / worst month], have you had <u>strong negative beliefs</u> about yourself, other people, or the world? Can you give me some examples? (What about believing things like "I am bad," "there is something seriously wrong with me," "no one can be trusted," "the world is completely dangerous"?) How strong are these beliefs? (How convinced are you that these beliefs are actually true? Can you see other ways of thinking about it?) Circle: Conviction = Minimal Clearly Present Pronounced Extreme How much of the time in the [past month / worst month] have you felt that way, as a percentage? % of time _____ Did these beliefs start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) Circle: Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = frequency / intensity of beliefs Moderate = some of the time (20-30%) / exaggerated negative expectations clearly present, some difficulty considering more realistic beliefs Severe = much of the time (50-60%) / pronounced exaggerated negative expectations, considerable difficulty considering more realistic beliefs	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

10. (D3) Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.

In the [past month / worst month], have you <u>blamed yourself</u> for (EVENT) or what happened as a result of it? Tell me more about that. (In what sense do you see yourself as having caused [EVENT]? Is it because of something you did? Or something you think you should have done but didn't? Is it because of something about you in general?) What about <u>blaming someone else</u> for (EVENT) or what happened as a result of it? Tell me more about that. (In what sense do you see [OTHERS] as having caused [EVENT]? Is it because of something they did? Or something you think they should have done but didn't?) How much do you blame (YOURSELF OR OTHERS)? How convinced are you that [YOU OR OTHERS] are truly to blame for what happened? (Do other people agree with you? Can you see other ways of thinking about it?) [Rate 0=Absent if only blames perpetrator, i.e., someone who deliberately caused the event and intended harm] Circle: Conviction = Minimal Clearly Present Pronounced Extreme How much of the time in the [past month / worst month] have you felt that way, as a percentage? % of time _____ Key rating dimensions = frequency / intensity of blame Moderate = some of the time (20-30%) / distorted blame clearly present, some difficulty considering more realistic beliefs Severe = much of the time (50-60%) / pronounced distorted blame, considerable difficulty considering more realistic beliefs	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

11. (D4) Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).

In the [past month / worst month], have you had any <u>strong negative feelings</u> such as fear, horror, anger, guilt, or shame? Can you give me some examples? (What negative feelings do you experience?) How strong are these negative feelings? How well are you able to manage them? [If not clear:] (Overall, how much of a problem is this for you? How so?) <u>Circle:</u> Negative emotions = Minimal Clearly Present Pronounced Extreme How much of the time in the [past month / worst month] have you felt that way, as a percentage? % of time _____ Did these negative feelings start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = frequency / intensity of negative emotions Moderate = some of the time (20-30%) / negative emotions clearly present, some difficulty managing Severe = much of the time (50-60%) / pronounced negative emotions, considerable difficulty managing	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

12. (D5) Markedly diminished interest or participation in significant activities.

In the [past month / worst month], have you been <u>less interested in activities</u> that you used to enjoy? What kinds of things have you lost interest in or don't do as much as you used to? (Anything else?) Why is that? [Rate 0=Absent if diminished participation is due to lack of opportunity, physical inability, or developmentally appropriate change in preferred activities] How strong is your loss of interest? (Would you still enjoy [ACTIVITIES] once you got started?) <u>Circle:</u> Loss of interest= Minimal Clearly Present Pronounced Extreme Overall, in the [past month / worst month], how many of your usual activities have you been less interested in, as a percentage? % of activities _____ What kinds of things do you still enjoy doing? Did this loss of interest start or get worse after (EVENT)? (Do you think it's related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = percent of activities affected / intensity of loss of interest Moderate = some activities (20-30%) / loss of interest clearly present but still has some enjoyment of activities Severe = many activities (50-60%) / pronounced loss of interest, little interest or participation in activities	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

13. (D6) Feelings of detachment or estrangement from others.

In the [past month / worst month], have you felt <u>distant</u> or <u>cut off</u> from other people? Tell me more about that. How strong are your feelings of being distant or cut off from others? <i>(Who do you feel closest to? How many people do you feel comfortable talking with about personal things?)</i> <u>Circle:</u> Detachment or estrangement = <i>Minimal Clearly Present Pronounced Extreme</i> How much of the time in the [past month / worst month] have you felt that way, as a percentage? % of time _____ Did this feeling of being distant or cut off start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite Probable Unlikely</i> Key rating dimensions = frequency / intensity of detachment or estrangement Moderate = some of the time (20-30%) / feelings of detachment clearly present but still feels some interpersonal connection Severe = much of the time (50-60%) / pronounced feelings of detachment or estrangement from most people, may feel close to only one or two people	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

14. (D7) Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).

In the [past month / worst month], have there been times when you had <u>difficulty experiencing positive feelings</u> like love or happiness? Tell me more about that. <i>(What feelings are difficult to experience?)</i> How much difficulty do you have experiencing positive feelings? <i>(Are you still able to experience any positive feelings?)</i> <u>Circle:</u> Reduction of positive emotions = <i>Minimal Clearly Present Pronounced Extreme</i> How much of the time in the [past month / worst month] have you felt that way, as a percentage? % of time _____ Did this trouble experiencing positive feelings start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite Probable Unlikely</i> Key rating dimensions = frequency / intensity of reduction in positive emotions Moderate = some of the time (20-30%) / reduction of positive emotional experience clearly present but still able to experience some positive emotions Severe = much of the time (50-60%) / pronounced reduction of experience across range of positive emotions	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

Criterion E: Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

15. (E1) Irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects.

In the [past month / worst month], have there been times when you felt especially irritable or angry and showed it in your behavior? Can you give me some examples? <i>(How do you show it? Do you raise your voice or yell? Throw or hit things? Push or hit other people?)</i> <u>Circle:</u> Aggression = Minimal Clearly Present Pronounced Extreme How often in the [past month / worst month]? # of times _____ Did this behavior start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = frequency / intensity of aggressive behavior Moderate = at least 2 X month / aggression clearly present, primarily verbal Severe = at least 2 X week / pronounced aggression, at least some physical aggression	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

16. (E2) Reckless or self-destructive behavior.

In the [past month / worst month], have there been times when you were taking more risks or doing things that might have caused you harm? Can you give me some examples? How much of a risk do you take? <i>(How dangerous are these behaviors? Were you injured or harmed in some way?)</i> <u>Circle:</u> Risk = Minimal Clearly Present Pronounced Extreme How often have you taken these kinds of risks in the [past month / worst month]? # of times _____ Did this behavior start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = frequency / degree of risk Moderate = at least 2 X month / risk clearly present, may have been harmed Severe = at least 2 X week / pronounced risk, actual harm or high probability of harm	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

17. (E3) Hypervigilance.

In the [past month / worst month], have you been especially <u>alert</u> or <u>watchful</u>, even when there was no specific threat or danger? (Have you felt as if you had to be on guard?) Can you give me some examples? (What kinds of things do you do when you're alert or watchful?) [If not clear:] (What causes you to react this way? Do you feel like you're in danger or threatened in some way? Do you feel that way more than most people would in the same situation?) <u>Circle:</u> Hypervigilance = Minimal Clearly Present Pronounced Extreme How much of the time in the [past month / worst month] have you felt that way, as a percentage? % of time _____ Did being especially alert or watchful start or get worse after (EVENT)? (Do you think it's related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = frequency / intensity of hypervigilance Moderate = some of the time (20-30%) / hypervigilance clearly present, e.g., watchful in public, heightened awareness of threat Severe = much of the time (50-60%) / pronounced hypervigilance, e.g., scans environment for danger, may have safety rituals, exaggerated concern for safety of self/family/home	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

18. (E4) Exaggerated startle response.

In the [past month / worst month], have you had any <u>strong startle</u> reactions? What kinds of things made you startle? How strong are these startle reactions? (How strong are they compared to how most people would respond? Do you do anything other people would notice?) How long does it take you to recover? <u>Circle:</u> Startle = Minimal Clearly Present Pronounced Extreme How often has this happened in the [past month / worst month]? # of times _____ Did these startle reactions start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = Definite Probable Unlikely Key rating dimensions = frequency / intensity of startle Moderate = at least 2 X month / startle clearly present, some difficulty recovering Severe = at least 2 X week / pronounced startle, sustained arousal, considerable difficulty recovering	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

19. (E5) Problems with concentration.

In the [past month / worst month], have you had any <u>problems with concentration</u>? Can you give me some examples? Are you able to concentrate if you really try? [If not clear:] (Overall, how much of a problem is this for you? How would things be different if you didn't have problems with concentration?) Circle: Problem concentrating = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How much of the time in the [past month / worst month] have you had problems with concentration, as a percentage? % of time _____ Did these problems with concentration start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) Circle: Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / intensity of concentration problems Moderate = some of the time (20-30%) / problem concentrating clearly present, some difficulty but can concentrate with effort Severe = much of the time (50-60%) / pronounced problem concentrating, considerable difficulty even with effort	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

20. (E6) Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).

In the [past month / worst month], have you had any problems <u>falling</u> or <u>staying</u> asleep? What kinds of problems? (How long does it take you to fall asleep? How often do you wake up in the night? Do you wake up earlier than you want to?) How many total hours do you sleep each night? How many hours do you think you should be sleeping? Circle: Problem sleeping = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often in the [past month / worst month] have you had these sleep problems? # of times _____ Did these sleep problems start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) Circle: Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / intensity of sleep problems Moderate = at least 2 X month / sleep disturbance clearly present, clearly longer latency or clear difficulty staying asleep, 30-90 minutes loss of sleep Severe = at least 2 X week / pronounced sleep disturbance, considerably longer latency or marked difficulty staying asleep, 90 min to 3 hrs loss of sleep	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
--	--

Criterion F: Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month.

21. Onset of symptoms

[[If not clear:] When did you first start having (PTSD SYMPTOMS) you've told me about? <i>(How long after the trauma did they start? More than six months?)</i>	Total # months delay in onset _____ With delayed onset (≥ 6 months)? NO YES
--	--

22. Duration of symptoms

[[If not clear:] How long have these (PTSD SYMPTOMS) lasted altogether?	Total # months duration _____ Duration more than 1 month? NO YES
--	---

Criterion G: The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

23. Subjective distress

Overall, in the [past month / worst month], how much have you been bothered by these (PTSD SYMPTOMS) you've told me about? <i>[Consider distress reported on earlier items]</i>	0 None 1 Mild, minimal distress 2 Moderate, distress clearly present but still manageable 3 Severe, considerable distress 4 Extreme, incapacitating distress Past month _____ Worst month _____
--	---

24. Impairment in social functioning

In the [past month / worst month], have these (PTSD SYMPTOMS) affected your relationships with other people? How so? <i>[Consider impairment in social functioning reported on earlier items]</i>	0 No adverse impact 1 Mild impact, minimal impairment in social functioning 2 Moderate impact, definite impairment but many aspects of social functioning still intact 3 Severe impact, marked impairment, few aspects of social functioning still intact 4 Extreme impact, little or no social functioning Past month _____ Worst month _____
--	--

25. Impairment in occupational or other important area of functioning

[If not clear:] Are you working now? [If yes:] In the [past month / worst month], have these (PTSD SYMPTOMS) affected your work or your ability to work? How so? [If no:] Why is that? (Do you feel that your [PTSD SYMPTOMS] are related to you not working in the [past month / worst month]? How so?) [If unable to work because of PTSD symptoms, rate at least 3=Severe. If unemployment is not due to PTSD symptoms, or if the link is not clear, base rating only on impairment in other important areas of functioning] Have these (PTSD SYMPTOMS) affected any other important part of your life? [As appropriate, suggest examples such as parenting, housework, schoolwork, volunteer work, etc.] How so?	0 <i>No adverse impact</i> 1 <i>Mild impact, minimal impairment in occupational/other important functioning</i> 2 <i>Moderate impact, definite impairment but many aspects of occupational/other important functioning still intact</i> 3 <i>Severe impact, marked impairment, few aspects of occupational/other important functioning still intact</i> 4 <i>Extreme impact, little or no occupational/other important functioning</i> Past month _____ Worst month _____
--	---

Global Ratings

26. Global validity

Estimate the overall validity of responses. Consider factors such as compliance with the interview, mental status (e.g., problems with concentration, comprehension of items, dissociation), and evidence of efforts to exaggerate or minimize symptoms.	0 <i>Excellent, no reason to suspect invalid responses</i> 1 <i>Good, factors present that may adversely affect validity</i> 2 <i>Fair, factors present that definitely reduce validity</i> 3 <i>Poor, substantially reduced validity</i> 4 <i>Invalid responses, severely impaired mental status or possible deliberate "faking bad" or "faking good"</i> Past month _____ Worst month _____
---	---

27. Global severity

Estimate the overall severity of PTSD symptoms. Consider degree of subjective distress, degree of functional impairment, observations of behaviors in interview, and judgment regarding reporting style.	0 <i>No clinically significant symptoms, no distress and no functional impairment</i> 1 <i>Mild, minimal distress or functional impairment</i> 2 <i>Moderate, definite distress or functional impairment but functions satisfactorily with effort</i> 3 <i>Severe, considerable distress or functional impairment, limited functioning even with effort</i> 4 <i>Extreme, marked distress or marked impairment in two or more major areas of functioning</i>
	Past month _____ Worst month _____

28. Global improvement

Rate total overall improvement since the previous rating. Rate the degree of change, whether or not, in your judgment, it is due to treatment.	0 <i>Asymptomatic</i> 1 <i>Considerable improvement</i> 2 <i>Moderate improvement</i> 3 <i>Slight improvement</i> 4 <i>No improvement</i> 5 <i>Insufficient information</i>

Specify whether with dissociative symptoms: The individual's symptoms meet the criteria for posttraumatic stress disorder, and in addition, in response to the stressor, the individual experiences persistent or recurrent symptoms of either of the following:

29. (1) Depersonalization: Persistent or recurrent experiences of feeling detached from, and as if one were an outside observer of, one's mental processes or body (e.g., feeling as though one were in a dream; feeling a sense of unreality of self or body or of time moving slowly).

In the [past month / worst month], have there been times when you felt as if you were separated from yourself, like you were watching yourself from the outside or observing your thoughts and feelings as if you were another person? [If no:] (What about feeling as if you were in a dream, even though you were awake? Feeling as if something about you wasn't real? Feeling as if time was moving more slowly?) Tell me more about that. How strong is this feeling? (Do you lose track of where you actually are or what's actually going on?) What do you do while this is happening? (Do other people notice your behavior? What do they say?) How long does it last? <u>Circle:</u> Dissociation = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> [If not clear:] (Was this due to the effects of alcohol or drugs? What about a medical condition like seizures?) [Rate 0=Absent if due to the effects of a substance or another medical condition] How often has this happened in the [past month / worst month]? # of times _____ Did this feeling start or get worse after (EVENT)? (Do you think it's related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / intensity of dissociation Moderate = at least 2 X month / dissociative quality clearly present but transient, retains some realistic sense of self and awareness of environment Severe = at least 2 X week / pronounced dissociative quality, marked sense of detachment and unreality	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating Past month _____ Worst month _____
---	--

30. (2) Derealization: Persistent or recurrent experiences of unreality of surroundings (e.g., the world around the individual is experienced as unreal, dreamlike, distant, or distorted).

In the <i>[past month / worst month]</i>, have there been times when things going on around you seemed unreal or very strange and unfamiliar? [If no:] (Do things going on around you seem like a dream or like a scene from a movie? Do they seem distant or distorted?) Tell me more about that. How strong is this feeling? <i>(Do you lose track of where you actually are or what's actually going on?)</i> What do you do while this is happening? <i>(Do other people notice your behavior? What do they say?)</i> How long does it last? <u>Circle:</u> Dissociation = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> [If not clear:] (Was this due to the effects of alcohol or drugs? What about a medical condition like seizures?) [Rate 0=Absent if due to the effects of a substance or another medical condition] How often has this happened in the <i>[past month / worst month]</i>? # of times _____ Did this feeling start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / intensity of dissociation Moderate = at least 2 X month / dissociative quality clearly present but transient, retains some realistic sense of environment Severe = at least 2 X week / pronounced dissociative quality, marked sense of unreality	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i> Past month _____ Worst month _____
---	--

CAPS-5 SUMMARY SHEET

Name: _____ ID#: _____ Interviewer: _____ Study: _____ Date: _____

<i>A. Exposure to actual or threatened death, serious injury, or sexual violence</i>		
Criterion A met?	0 = NO	1 = YES

PAST MONTH RATINGS:

<i>B. Intrusion symptoms (need 1 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(1) B1 – Intrusive memories		0 = NO 1 = YES
(2) B2 – Distressing dreams		0 = NO 1 = YES
(3) B3 – Dissociative reactions		0 = NO 1 = YES
(4) B4 – Cued psychological distress		0 = NO 1 = YES
(5) B5 – Cued physiological reactions		0 = NO 1 = YES
<i>B subtotals</i>	<i>B Sev =</i>	<i># B Sx =</i>

<i>C. Avoidance symptoms (need 1 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(6) C1 – Avoidance of memories, thoughts, feelings		0 = NO 1 = YES
(7) C2 – Avoidance of external reminders		0 = NO 1 = YES
<i>C subtotals</i>	<i>C Sev =</i>	<i># C Sx =</i>

<i>D. Cognitions and mood symptoms (need 2 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(8) D1 – Inability to recall important aspect of event		0 = NO 1 = YES
(9) D2 – Exaggerated negative beliefs or expectations		0 = NO 1 = YES
(10) D3 – Distorted cognitions leading to blame		0 = NO 1 = YES
(11) D4 – Persistent negative emotional state		0 = NO 1 = YES
(12) D5 – Diminished interest or participation in activities		0 = NO 1 = YES
(13) D6 – Detachment or estrangement from others		0 = NO 1 = YES
(14) D7 – Persistent inability to experience positive emotions		0 = NO 1 = YES
<i>D subtotals</i>	<i>D Sev =</i>	<i># D Sx =</i>

<i>E. Arousal and reactivity symptoms (need 2 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(15) E1 – Irritable behavior and angry outbursts		0 = NO 1 = YES
(16) E2 – Reckless or self-destructive behavior		0 = NO 1 = YES
(17) E3 – Hypervigilance		0 = NO 1 = YES
(18) E4 – Exaggerated startle response		0 = NO 1 = YES
(19) E5 – Problems with concentration		0 = NO 1 = YES
(20) E6 – Sleep disturbance		0 = NO 1 = YES
<i>E subtotals</i>	<i>E Sev =</i>	<i># E Sx =</i>

PTSD totals	Past Month	
	Total Sev	Total # Sx
Sum of subtotals (B+C+D+E)		

F. Duration of disturbance	Current
(22) Duration of disturbance $\geq$ 1 month?	0 = NO 1 = YES

G. Distress or impairment (need 1 for diagnosis)	Past Month	
	Sev	Cx (Sev $\geq$ 2) ?
(23) Subjective distress		0 = NO 1 = YES
(24) Impairment in social functioning		0 = NO 1 = YES
(25) Impairment in occupational functioning		0 = NO 1 = YES
G subtotals	G Sev =	# G Cx =

Global ratings	Past Month
(26) Global validity	
(27) Global severity	
(28) Global improvement	

Dissociative symptoms (need 1 for subtype)	Past Month	
	Sev	Sx (Sev $\geq$ 2) ?
(29) 1 -- Depersonalization		0 = NO 1 = YES
(30) 2 -- Derealization		0 = NO 1 = YES
Dissociative subtotals	Diss Sev =	# Diss Sx =

PTSD diagnosis	Past Month	
PTSD PRESENT -- ALL CRITERIA (A-G) MET?	0 = NO 1 = YES	
With dissociative symptoms	0 = NO 1 = YES	
(21) With delayed onset ($\geq$ 6 months)	0 = NO 1 = YES	

WORST MONTH RATINGS:

B. Intrusion symptoms (need 1 for diagnosis)	Worst Month	
	Sev	Sx (Sev $\geq$ 2) ?
(1) B1 -- Intrusive memories		0 = NO 1 = YES
(2) B2 -- Distressing dreams		0 = NO 1 = YES
(3) B3 -- Dissociative reactions		0 = NO 1 = YES
(4) B4 -- Cued psychological distress		0 = NO 1 = YES
(5) B5 -- Cued physiological reactions		0 = NO 1 = YES
B subtotals	B Sev =	# B Sx =

<i>C. Avoidance symptoms (need 1 for diagnosis)</i>	<i>Worst Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(6) C1 – Avoidance of memories, thoughts, feelings		0 = NO 1 = YES
(7) C2 – Avoidance of external reminders		0 = NO 1 = YES
<i>C subtotals</i>	<i>C Sev =</i>	<i># C Sx =</i>

<i>D. Cognitions and mood symptoms (need 2 for diagnosis)</i>	<i>Worst Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(8) D1 – Inability to recall important aspect of event		0 = NO 1 = YES
(9) D2 – Exaggerated negative beliefs or expectations		0 = NO 1 = YES
(10) D3 – Distorted cognitions leading to blame		0 = NO 1 = YES
(11) D4 – Persistent negative emotional state		0 = NO 1 = YES
(12) D5 – Diminished interest or participation in activities		0 = NO 1 = YES
(13) D6 – Detachment or estrangement from others		0 = NO 1 = YES
(14) D7 – Persistent inability to experience positive emotions		0 = NO 1 = YES
<i>D subtotals</i>	<i>D Sev =</i>	<i># D Sx =</i>

<i>E. Arousal and reactivity symptoms (need 2 for diagnosis)</i>	<i>Worst Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(15) E1 – Irritable behavior and angry outbursts		0 = NO 1 = YES
(16) E2 – Reckless or self-destructive behavior		0 = NO 1 = YES
(17) E3 – Hypervigilance		0 = NO 1 = YES
(18) E4 – Exaggerated startle response		0 = NO 1 = YES
(19) E5 – Problems with concentration		0 = NO 1 = YES
(20) E6 – Sleep disturbance		0 = NO 1 = YES
<i>E subtotals</i>	<i>E Sev =</i>	<i># E Sx =</i>

<i>PTSD totals</i>	<i>Worst Month</i>	
	<i>Total Sev</i>	<i>Total # Sx</i>
<i>Sum of subtotals (B+C+D+E)</i>		

<i>F. Duration of disturbance</i>	<i>Lifetime</i>
(22) Duration of disturbance ≥ 1 month?	0 = NO 1 = YES

<i>G. Distress or impairment (need 1 for diagnosis)</i>	<i>Worst Month</i>	
	<i>Sev</i>	<i>Cx (Sev ≥ 2)?</i>
(23) Subjective distress		0 = NO 1 = YES
(24) Impairment in social functioning		0 = NO 1 = YES
(25) Impairment in occupational functioning		0 = NO 1 = YES
<i>G subtotals</i>	<i>G Sev =</i>	<i># G Cx =</i>

<i>Global ratings</i>	<i>Worst Month</i>
(26) Global validity	
(27) Global severity	
(28) Global improvement	

<i>Dissociative symptoms (need 1 for subtype)</i>	<i>Worst Month</i>	
	<i>Sev</i>	<i>Sx (Sev $\geq$ 2)?</i>
(29) 1 -- Depersonalization		0 = NO 1 = YES
(30) 2 -- Derealization		0 = NO 1 = YES
<i>Dissociative subtotals</i>	<i>Diss Sev =</i>	<i># Diss Sx =</i>

<i>PTSD diagnosis</i>	<i>Worst Month</i>	
PTSD PRESENT – ALL CRITERIA (A-G) MET?	0 = NO	1 = YES
With dissociative symptoms	0 = NO	1 = YES
(21) With delayed onset ($\geq$ 6 months)	0 = NO	1 = YES

Appendix G

PTSD Checklist for DSM-5 (PCL-5)

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

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

Appendix H

Posttraumatic diagnostic scale (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):

Page 1

©2013 Edna B. Foa

All rights reserved. Reproduction or redistribution, in whole or in part, in any manner, without the prior written consent of the copyright holder, is a violation of copyright law.

Mental health researchers and clinicians may make copies of the measure for their own clinical and research use. Any other use is prohibited.

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 I
Implementation measure

Acceptability of Intervention Measure (AIM)

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
1. Massed- Prolonged exposure therapy meets my approval.	①	②	③	④	⑤
2. Massed- Prolonged exposure therapy is appealing to me.	①	②	③	④	⑤
3. I like Massed- Prolonged exposure therapy	①	②	③	④	⑤

4. I welcome Massed- prolonged Exposure therapy	①	②	③	④	⑤
---	---	---	---	---	---

Intervention Appropriateness Measure (IAM)

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
1. Massed- prolonged exposure therapy seems fitting.	①	②	③	④	⑤
2. Massed- prolonged exposure therapy seems suitable.	①	②	③	④	⑤

3. Massed- prolonged exposure therapy seems applicable.	①	②	③	④	⑤
4. Massed- prolonged exposure therapy seems like a good match.	①	②	③	④	⑤

Feasibility of Intervention Measure (FIM)

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
1. Massed- prolonged exposure therapy seems implementable.	①	②	③	④	⑤

2. Massed- prolonged exposure therapy seems possible.	①	②	③	④	⑤
3. Massed- prolonged exposure therapy seems doable.	①	②	③	④	⑤
4. Massed- prolonged exposure therapy seems easy to use.	①	②	③	④	⑤