PSYCHOMETRIC ASSESSMENTS USED AS SCREENING TOOLS FOR COMPLEX POST-TRAUMATIC STRESS DISORDER: A SCOPING REVIEW

Nina Ann Striglia

222116639

Supervisor

Dr Sachet Valjee

Submitted in partial fulfilment of the requirements for the degree:

Master of Social Science (Clinical Psychology)

Department of Psychology School of Applied Human Sciences

College of Humanities

University of KwaZulu-Natal, Howard College

April 2023

DECLARATION

I, Nina Ann Striglia (222116639), hereby declare that the work of the following Dissertation with the title:

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was solely undertaken by myself, with no help from sources other than those allowed. All sections of the paper that use quotes or describe an argument or concept developed by another author have been referenced, including all secondary literature used, to show that this material has been adopted to support my dissertation. This dissertation has not been previously submitted for assessment to another institution or for another qualification.

Date: 18/4/2022

Signature: 

ACKNOWLEDGEMENTS

First and foremost, I thank God for his never-ending faithfulness and provision shown to me throughout my psychology career and studies. I am so thankful to Him for providing me with this opportunity and the required skills and experience needed to master it. My journey has equipped me with the strongest faith in His plan and he has guided me by grace, through faith.

To my supervisor, Sachet. Thank you showing me how to trust in my own abilities as a researcher and clinician. Your initial guidance propelled and framed the direction of my research which was at times challenging to work through. Your insight into the field of complex trauma was an invaluable asset to this scoping review.

To my mother and my fiancé, Wesley; you are the entire foundation upon which I have the ability to face all of life's adversities and achievements. Your relentless support, both emotionally and financially, made this degree possible. It is truly a culmination of all of your efforts- picking me up after every rejection, your belief in my potential as a psychologist and encouraging me to lean on God, that we are here today. Wes, thank you for your love and unconditional support. Thank you for sacrificing time away from me in the pursuit of my dreams for our family. Mama, I dedicate this research to you. A single mother who instilled a passion and curiosity so fiercely in her child. Giving up was not an option, but if it was, you would still love me regardless. We did it.

ABSTRACT

Introduction: The *International Classification of Diseases version 11* (ICD-11) saw the inclusion of Post-Traumatic Stress Disorder (PTSD) and a newly conceptualized addition of Complex Post-Traumatic Stress Disorder (CPTSD) as an independent diagnosis. Recent literature supports the inclusion and distinction of CPTSD. However, with the development of new psychological constructs, contemporary psychometric instruments are required to assess such novel constructs. This study aims to synthesise and map studies that examine various psychometric instruments used as screening tools for CPTSD. **Methods and Analysis:** A scoping review was conducted to "scope" the breadth of the available literature within this research topic. This was achieved by providing an overview and map of available literature published on various online databases. The data underwent intensive screening processes using the PRISMA-ScR flow diagram in accordance with the chosen inclusion and exclusion criteria. Identified databases were searched, and a total of 15 studies were eligible for final review. **Results and Discussion:** The data yielded from the searches were charted in table format and summarised by: Author(s) and Year and Validation Study and synthesised into a comprehensive report. Gaps and trends evident in the literature base were identified and analysed thematically to provide a narrative interpretation of existing literature. Studies that investigated and assessed various screening assessments for CPTSD were categorised in relation to four overarching themes: construct validity of ICD-11 PTSD and CPTSD, evidence of existing psychometric measures used to screen for CPTSD, the measures' psychometric properties, the prevalence of PTSD/CPTSD and severe psychopathology, and study design. **Conclusion and Recommendations:** Four specific themes emerged in relation to the evidence of various screening assessments for CPTSD. Future research could aim to incorporate qualitative studies that serve to understand the lived experiences of individuals diagnosed with complex trauma disorders, particularly in developing and under-resourced contexts. Further research could drive potential opportunities to

develop culturally sensitive standardised measures to reduce and remediate generalisability issues.

Keywords: Post-traumatic Stress Disorder (PTSD), Complex Post-traumatic Stress Disorder (CPTSD), Disturbances in Self-organization (DSO), psychometric assessment, International Classification of Diseases, 11th edition (ICD-11), Confirmatory Factor Analyses (CFA), Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5)

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CHAPTER ONE: INTRODUCTION

1.1. INTRODUCTION

Complex Post-Traumatic Stress Disorder

In 1992, Dr Judith Herman observed a unique and distinct syndrome present in a sample of survivors exposed to prolonged and repeated trauma. Such observable symptomology was not accurately captured by the diagnostic criterion of the well-known trauma diagnosis, Post-traumatic stress disorder (PTSD) (Resick et al., 2012). In fact, symptoms extended beyond those endorsed by PTSD in severity, frequency and dimensionality. This syndrome became known as Complex Post-traumatic Stress Disorder (CPTSD) and is known to affect various population and age groups. CPTSD is understood to manifest in pervasive and debilitating symptoms that severely disrupt an individual's psychological functioning, placing them at risk for developing secondary pathology as indicated by prevalence rates (Brewin et al., 2011). While PTSD has been widely researched and recognised, CPTSD remains a relatively juvenile area of clinical research (Chu, 2011). There is, however, evidence that psychometric screening measures to identify symptoms of CPTSD have been developed, particularly during the past ten years, which support the construct validity of the CPTSD conceptualisation (Karatzias et al., 2017).

Psychometric Screening Measures

Psychometric measures have existed within the field of psychiatry and psychology spanning decades and have provided clinicians and researchers with a scientific, objective and quantifiable means through which psychological constructs become measurable (Laher & Foxcroft, 2014). Developing and utilising reliable, valid and standardised psychometric tools increase confidence and support for clinical and research hypotheses and have provided the

social sciences with invaluable information. Psychometric screening measures are a form of psychometric assessment specifically designed to 'screen' for certain predetermined criteria before utilising a larger, more robust measure. Screening tools are conceptualised as the first point of departure in assisting the professional and are often broad enough to tap into symptoms evident across various disorders (Laher & Foxcroft, 2014). Screening tools are often brief measures designed to provide the clinician or researcher with information regarding which hypothetical trajectory to follow when formulating a diagnosis or treatment plan. They provide vital evidence when new constructs arise, as they provide a reasonable means to test the new construct.

Complex Trauma within the South African Context

According to published evidence, the South African population has high prevalence rates of mental disorders. It is noteworthy that trauma is considered a compounding feature (Schonteich & Louw, 2001), which is understood to be due to South Africa's unique history, particularly the era of Apartheid. The socio-political and systemic influence remains intact 29 years after its abolishment. High crime rates within South Africa are also prevalent, where encounters with various criminal activities, such as burglary, hijacking, physical and sexual assault and rape, are regularly experienced by its citizens (Schonteich & Louw, 2001). Moreover, The World Bank Group (2020) estimated that 55.5 percent of South Africans live at or below the poverty line and further stated that South Africa has one of the highest inequality rates in the world, which has increased since 1994. The negative effects of South Africa's socio-economic and socio-political difficulties threaten to span multiple generations, placing South Africans in a vulnerable position towards developing CPTSD due to pervasive, repeated and sustained personal and systemic trauma.

Screening Assessments for CPTSD

Despite various contentions surrounding the construct validity of CPTSD, the evidence and prevalence of its existence remains undoubted and are predicted to become more readily identified and treated in the near future (Karatzias et al., 2017). Due to the far-reaching reported negative psychological effects of complex trauma, future developments in the screening and identification of it must be refined to ultimately prevent it from recurring. This could be achieved through improving research and adequately treating CPTSD. Early identification, screening and intervention of CPTSD following traumatic exposure has shown promising prognostic rates. All interventions should be supported using valid and reliable psychometric screening measures (Litvin et al., 2016).

Operational Definitions

1. Psychometric Assessments/Screening Tools

Psychometric assessments are tests that objectively aim to measure a psychological construct pertaining to an individual, such as their intellectual ability, personality traits and presence of psychopathology (Laher & Foxcroft, 2014). This is achieved by comparing an individual's performance on an assessment to a normative standardised sample of a population to identify their relative position. Screening assessments are briefer, more condensed psychometric tools that allow for a broader identification of the presence or absence of a particular construct – such as a trait, e.g. assertiveness, openness, or a more significant syndrome or disorder such as Attention Deficit Hyperactivity Disorder, Depression, Anxiety, PTSD etc. Screening tools provide professionals with an idea of whether an individual presents with certain strengths and weaknesses, or the presence or absence of pathology.

2. Complex Post Traumatic Stress Disorder (CPTSD)

Complex Post Traumatic Stress Disorder (CPTSD) is currently defined as a disorder that mostly occurs following repeated traumatic exposure. It presents with symptoms extending beyond the diagnostic criterion of PTSD. According to the ICD-11, CPTSD meets the PTSD diagnostic criteria, which include three core symptom clusters:(1) re-experiencing trauma in the present (Re), (2) avoidance of reminders of the trauma (Av), and (3) an ongoing sense of current threat that is manifested by symptoms of arousal and hypervigilance (Th); plus an additional cluster of symptoms known as disturbances in self-organization (DSO) (World Health Organisation, 2019).

CHAPTER TWO

LITERATURE REVIEW AND PROBLEM STATEMENT

2.1. LITERATURE REVIEW

2.1.1. Introduction

This chapter will review existing literature on psychometric assessments used to screen for Complex PTSD (CPTSD) and illustrate the scope and nature of the problem. It will conclude with the rationale for this study. Relevant literature will be reviewed, particularly relating to the conceptualisation and clinical assessment of CPTSD. This chapter will be guided by a review of specific areas that this study aims to investigate. Firstly, identifying and exploring the nature and scope of existing studies that developed or used psychometric screening assessments for CPTSD. Secondly, understanding the relevant literature available on CPTSD and contemporary discussions evident in the literature, and thirdly, concluding with a focus on the various assessment instruments and their properties used to screen for CPTSD.

It was discovered that while there is a paucity of literature about this specific area of study, this scoping review aims to investigate and map the available existing literature in this particular research area. This scoping review will provide an opportunity to elicit key concepts relevant to the study, gaps evident in the literature and the breadth of the evidence base available to inform practice and future research. Although the literature on this topic is still in its infancy, the scope of available research will be illustrated in line with the aims of a scoping review which will be illustrated as themes in chapter 4, section 4.3 (discussion).

2.1.2. Nature and Scope of the Problem

Post-traumatic Stress Disorder (PTSD) is a psychological disorder characterised by extreme adverse distress following exposure to a traumatic event (American Psychiatric

Association, 2013). In 1992, Dr Judith Herman introduced the term Complex Post-traumatic Stress Disorder (CPTSD) after it was noted that survivors of childhood sexual trauma displayed a unique and distinct set of symptoms that were arguably not fully encompassed in the section of Trauma-Related Psychopathologies in the Diagnostic and Statistical Manual of Mental Disorders (Herman, 1992). Herman argued that when individuals are exposed to repeated or multiple traumas throughout their lifetime, their symptoms vary from those who experience a single, acute episode of trauma and are thus differentiated from PTSD (Herman, 1992).

The 11th revision of the World Health Organization's *International Classification of Diseases* (ICD-11) is awaiting release and will include CPTSD as a distinct diagnosis. The three main themes emerging in literature surrounding CPTSD have been identified as: 1) diagnostic classification of CPTSD and psychometric assessment, 2) robust refinement and evaluation in treatment interventions developed or adapted for CPTSD, and 3) the epidemiology of CPTSD globally (Ford, 2015). Of particular interest in point 1 above is establishing the empirical integrity of CPTSD as a distinct and discrete form of psychopathology.

CPTSD has been conceptualised as a broader diagnosis that serves to recognise the pervasive psychological sequelae of repeated and sustained forms of traumatic exposure such as domestic violence, childhood abuse and political imprisonment (Brewin et al., 2017). Researchers have categorised psychiatric symptom and syndrome responses to early traumas as being either primary or secondary responses. Primary responses include the direct effects of the traumatisation, while secondary responses develop as the individual attempts to cope with the primary effect's accompanying dysphoria (Chu & Firm, 2011). Primary responses include PTSD, dissociative disorders and personality disorders within the borderline spectrum. Secondary responses develop as a result of primary responses and can include substance abuse,

eating disorders, somatisation disorders and obsessive-compulsive disorders (Chu and Firm, 2011).

Although exposure to traumatic events is considered common, only a small percentage of individuals will develop PTSD. Those with adult-onset of PTSD from a single-event episode usually have their symptoms resolved relatively quickly and easily. This is in contrast to those traumatised during childhood or those exposed to chronic traumatic events who develop PTSD with other comorbid symptoms, which has come to be known as CPTSD. Chu & Firm (2011) expand upon the complications that emerge in those who develop CPTSD: "Sufferers from complex PTSD are frequently overwhelmed with intense feelings, such as deep sadness, suicidal thoughts, explosive or bottled-up anger, aloneness, shame, guilt, hopelessness, and despair" (para. 2). These intense affects are often intolerable and are regularly experienced in isolation due to the individual's mistrust in others post-trauma, which results in further dysfunctional behaviours such as substance abuse, repetitive self-harm and destructive acts and risk taking in an attempt to release discomfort and tension (Chu and Firm, 2011).

Relational deficits have been observed as a result of polytraumatic experiences. Extensively traumatised individuals often endure a complex and chronic course of illness that influences how they are able to relate to others. Common patterns of a sense of loss of freedom and self-will cause these individuals to stop acting in a way that asserts control and autonomy of their lives (Chu, 2011). This has become known as 'Chronic Disempowerment' and individuals with CPTSD often display the inability to relate to others in an empowering fashion because they repeatedly relate to others in a manner that recapitulates earlier abusive or exploitative past relationships. The alternative is that they flee to dysfunctional isolation (Chu, 2011). These long-standing difficulties make these patients prone to regression in treatment due to their psychological distress, compounded by what Chu (2011) refers to as " a truly entrenched and unchanging sense of despair, hopelessness, and helplessness" (para. 1).

Caregivers of individuals with CPTSD also experience difficulty as most chronically disempowered individuals often elicit strong and negative reactions from their caregivers, exacerbating their distress. Patients often repetitively re-enact past abusive relationships in a rigid and inflexible manner, many of which are pre-scripted schemas resistant to change, extending into all of their relationships (Chu, 2011).

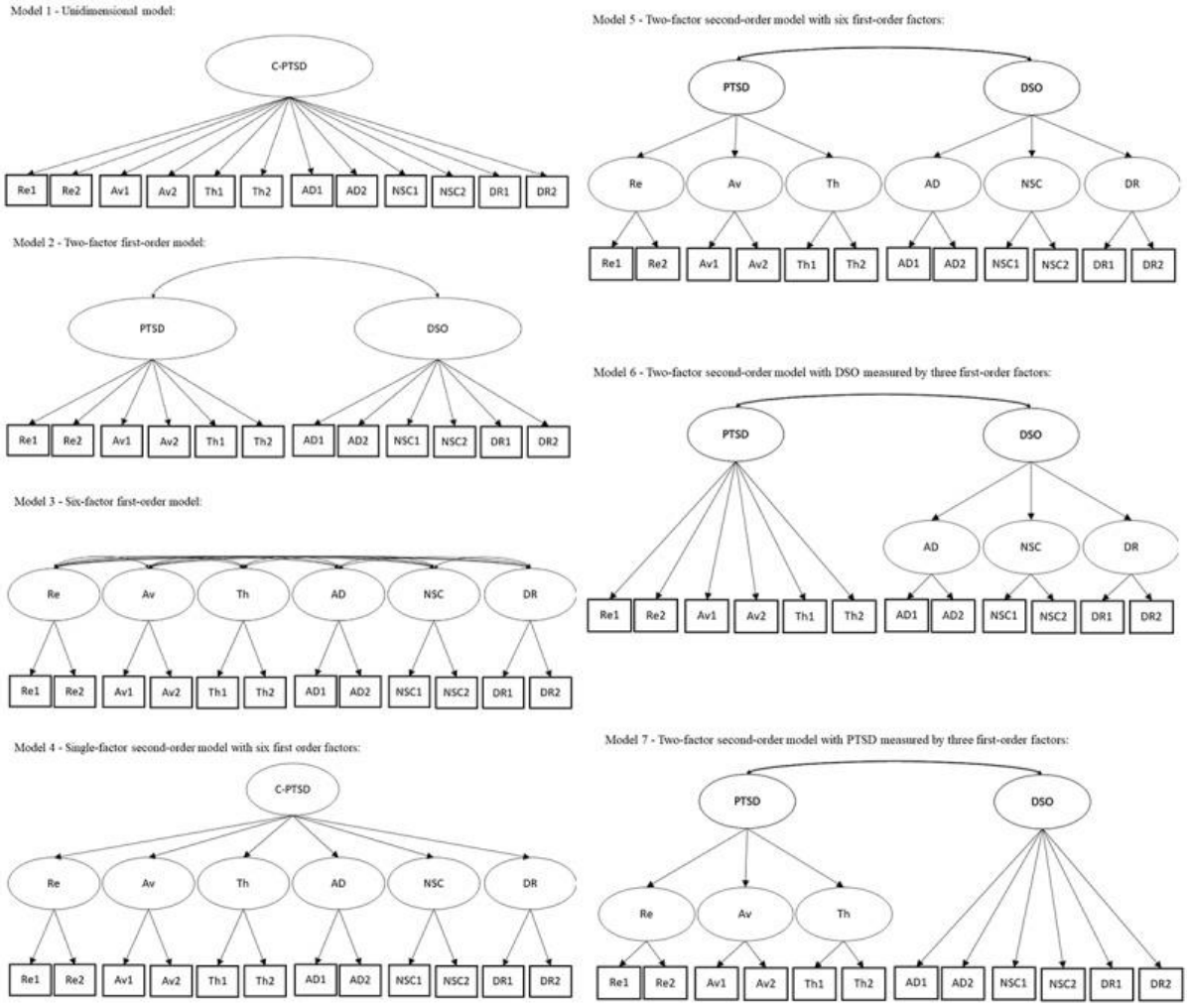
The complexity of the myriad of symptoms and behaviours experienced by those with CPTSD often has poor implications for treatment, as the disorder presents with challenges for both the patient and clinician. The treatment process is often difficult, long and confusing. It highlights the need for a well-informed understanding of the patient's difficulties and a treatment plan that is thoughtful, skilful and measured (Chu & Firm, 2011). Measurement would require clinicians and researchers to develop sophisticated psychometric assessments to accurately screen individuals at risk for developing CPTSD. This issue forms the basis for this study.

In the ICD-11, PTSD and CPTSD are proposed as 'sister' disorders and are included under the parent category, traumatic stress disorders (Maercker et al., 2013). The main feature differentiating each condition is the assessment of symptoms or risk factors. The ICD-11 PTSD diagnosis is proposed to require the presence of three symptom clusters that result from stimuli related to the traumatic event: (1) re-experiencing trauma in the present (Re), (2) avoidance of reminders of the trauma (Av), and (3) an ongoing sense of current threat that is manifested by symptoms of arousal and hypervigilance (Th). However, CPTSD requires the three symptom clusters of PTSD, as noted above, with an additional group of core clusters known as 'disturbances in self-organisation (DSO)' (Ben-Ezra et al., 2018). Karatzias et al. (2017) elaborates:

> The DSO component of the ICD-11 model is consistent with the plethora of research findings that indicate how prolonged interpersonal trauma, particularly of an early relational type, can result in the development and maintenance of negative and denigrating view of self, and fearful and threatening interpretation of others (p. 184).

The preceding study by Karatzias et al. (2016) described that there are three categories of DSO, namely, i) affect dysregulation, ii) negative self-concept and iii) disturbances in relationships. Therefore, the ICD-11 proposals contain two distinctive elements: a structural description of PTSD and CPTSD involving two groups of three factors and new content concerning the key symptoms (Karatzias et al., 2016). Support for the three-factor structure of PTSD was necessary to ensure the validity of the CPTSD conceptual model. Therefore, CPTSD, as proposed by the ICD-11, is both hierarchal and multidimensional, meaning the three symptom clusters defining PTSD can be explained by a higher-order 'PTSD' factor, and that affective dysregulation, negative self-concept and relationship disturbances are explained by a higher-order DSO factor. These superordinate factors are further expected to be positively correlated (Karatzias et al., 2016). The findings of this study are summarised:"Emerging evidence assessing the factorial validity of ICD-11 proposals for CPTSD has provided support for both a six-factor correlated model and second-order hierarchical model" (p. 426, 2016). The six-order model (re-experiencing, avoidance of traumatic reminders, sense of threat, affective dysregulation, negative self-concept and disturbances in relationships) and two second-order factors (PTSD and DSO) was the best fitting. The study explored alternative models, as illustrated by figure 1 below.

Figure 1. A representation of alternative models hypothesised to resemble possible configurations of PTSD and CPTSD according to ICD-11 proposals (Karatzias et al., 2016)



This chapter of the study aims to disseminate research in a similar pattern to the arguments posed by researchers surrounding the topic of CPTSD, as outlined by Kerig et al. (2021). These main arguments will be expanded upon and have been illustrated and grouped below:

1. The presence vs absence of a distinct diagnostic category for Complex PTSD (CPTSD)
2. The addition of a diagnostic classification of CPTSD to the DSM-5 and ICD-11
3. Empirical work devoted to basic research and validation of the CPTSD construct
4. Psychometric Assessments developed to identify CPTSD

2.1.3. The Presence vs Absence of a Distinct Diagnostic Category for Complex PTSD (CPTSD)

The following sections in this study will introduce the reader to the literature on the changing conceptualisation of complex trauma over time. This will be imperative for unpacking the developments in screening assessments for CPTSD and developing screening measures that encapsulate the contentious topic of complex trauma.

The Emergence and Changing Model of Complex Trauma

The end of the Vietnam War signified the time within psychology when trauma became recognised as an etiological agent in psychopathology. Prior to this, during World War I and World War II, trauma-based psychiatric symptoms were trivialised (van der Kolk, 2001). The diagnosis of PTSD became problematic as the majority of traumatised patients seeking treatment were exhibiting symptoms not included within the DSM symptom profile of PTSD. These included depression and self-hatred, dissociation and depersonalisation, aggressive behaviour towards self and others, intimacy problems, and impairment in capacity to experience pleasure and satisfaction (van der Kolk, 2001). A ground-breaking publication by Herman (1992) challenged the narrative of how society negatively perceives trauma victims and how this has ultimately impeded, instead of aid, treatment. Herman (1992) was the first researcher to articulate the formal distinction between PTSD and CPTSD. Established diagnostic categories were also challenged after evidence found that survivors of extreme abuse simply did not fit the generic symptom profiles of various trauma disorders. Herman (1992) also provided a new conceptual framework for a psychotherapeutic model for working with traumatised individuals that could be applied to both spheres of trauma experienced by both men and women. Herman's work was pioneering in that it was one of the first to challenge the

'one-size-fits-all' conceptualisation of trauma and to illustrate the value of adding a complex trauma category in terms of research and intervention (2002).

At the time of this contention, various researchers sought to highlight issues of the all-encompassing PTSD diagnosis. Previous DSM versions included symptoms extending beyond the PTSD criteria as outliers. The outlying symptoms that did not fall under the PTSD diagnosis were recognised as comorbid symptoms instead of a spectrum of trauma, as explained by van der Kolk (2001):

> …rather than being recognized as a spectrum of trauma-related problems that occur as a function of the developmental level at which the trauma occurred, the relationship between the victim and agent responsible for the trauma, the duration of the traumatic experience(s) and the availability of social support. (p. 2)

The DSM IV Field Trial by Roth et al. (1997) evaluated 234 participants who reported sexual and/or physical abuse and further categorised the participants according to the type of abuse (physical, sexual or both), duration of abuse (acute or chronic) and onset of abuse (early vs late). The relationships between the various categories and the lifetime diagnosis of CPTSD/PTSD were analysed using separate logistic regression analysis. Findings indicated that sexually abused women, particularly those who also experienced physical abuse, had a higher risk of developing CPTSD. Proportionately, CPTSD symptoms occurred in a high base rate of physically abused women (Roth et al., 1997). The DSM-IV Field Trial also found that most trauma-related treatment-seeking patients had histories of multiple trauma-related incidents. Noticeably, the long-term psychiatric impact of sustained trauma was classified under the same rubric as PTSD, which is defined as a single-event trauma, with no distinction evident. Van der Kolk (2001) describes the difficulty caused by the absence of a definition for

CPTSD: "…we have no formal way of describing how convoluted the psychiatric presentations of these patients are, and how complex their treatment is" (p.22).

Despite the large body of evidence supporting the idea of an additional diagnostic category of CPTSD, various studies have been published contesting this idea. A study by Resick et al. (2012) provides an argument against the current classification process of a new category:

> The introduction of a new diagnosis requires a high standard of evidence, including a clear definition of the disorder, reliable and valid assessment measures, support for convergent and discriminant validity, and incremental validity added to the implications for treatment planning and outcomes. (p. 244)

Therefore it remains clear that despite researchers' contentious findings and arguments regarding CPTSD's conceptualisation and diagnostic classification, the correct measurement tools of the construct are a necessary element to assist in shaping and defining future research of complex trauma. The work by Resick et al. (2012) provided a suggestion that CPTSD should be viewed as part of a spectrum of adaptation to traumatic exposure. It was further postulated that integrative conceptualisation would allow for a clinical symptomology overlap between PTSD and CPTSD while still recognising the distinctiveness of CPTSD. Resick et al. (2012) correctly noted the absence of a precedent in psychiatry in cases where one disorder is split off from another based on severity, as is the situation with PTSD and CPTSD. Complex Post-traumatic Stress Disorder (CPTSD) is considered a more severe, complex form of PTSD and therefore requires a distinct definition. There is evidence in other fields of medicine, such as neurology and orthopaedics, of differentiation, for instance, between a simple and complex

seizure or fracture (Goodman, 2012), which has implications for treatment interventions. It is argued that the same should apply to psychiatric mental disorders.

The differentiation between PTSD and CPTSD was highlighted in a study by Cloitre et al. (2013), who used latent profile analysis (LPA) to determine variation in symptom profiles of 302 individuals who sought treatment for various interpersonal trauma types, including chronic and single-event traumas. The findings of the LPA revealed three distinct classes of individuals. The first type (1) was identified as a complex PTSD class defined by elevations in PTSD symptoms in addition to disturbances in three domains of self-organisation: affective dysregulation, negative self-concept and interpersonal problems (Cloitre et al., 2013). The second type (2) was identified as elevated PTSD symptoms but with low scores on the three self-organisation domains. The third type (3) included a low symptom class with low scores across all symptoms (Cloitre et al., 2013). Findings further indicated that the strongest predictor for chronic trauma was CPTSD and not PTSD, and conversely, single-event trauma was more predictive for PTSD. Complex PTSD also exhibited greater functional impairment than PTSD (Cloitre et al., 2013).

A prominent area of research within trauma and complex trauma focuses on the underlying biological processes. Currently, research on brain imaging abnormalities and neuroendocrine descriptions has focused on PTSD, with a lack of research indicated for CPTSD (Goodman, 2012). Although this area pertaining to CPTSD biological processes is still in its infancy, recent studies by Thomaes et al., (2009, 2011) have shown an altered hippocampal activation to negative stimuli and differences in ventral anterior cingulate activity when compared to normal controls. This important finding has begun to describe declarative memory and emotional processing deficits in CPTSD. However, in the limitation of the above mentioned study a problem was highlighted. Regrettably, the testing subjects met the criteria for both PTSD and CPTSD (Goodman, 2012). Ford (2009) highlighted the developmental

influence of brain changes and hormonal alterations that occur during childhood, when most cases of complex trauma occur. Ford (2009) recognised the impact of trauma on learning, memory, and emotional regulation processes; and highlighted how traumas occurring during childhood have a differential impact on these biological processes when compared to those who experience trauma later, after key developmental phases have occurred. There was also a differential impact noted on biological processes that occurred with limited exposure. These differences will require further demonstration as an important step in delineating PTSD and CPTSD (Goodman, 2012).

2.1.4. The Addition of a Diagnostic Classification of CPTSD to the DSM-5 and ICD-11

Proposed Diagnostic Taxonomy Changes

At the time of Herman's (2002) studies, The International Classification of Diseases, 10th version, introduced a new category of disorder called 'Enduring Personality Change After Catastrophic Experience' (EPCACE) (Reed et al., 2022). This has since undergone many changes, after the DSM-IV included 'Disorders of Extreme Stress Not Otherwise Specified' (DESNOS), for individuals whose symptoms extended beyond the PTSD criteria, as PTSD did not adequately represent the entire spectrum of psychophysiological problems they experienced after repeated trauma (Błaż-Kapusta, 2008).

The 11th version of the *International Classification of Diseases* (ICD-11) has proposed the new inclusion of the two 'sister diagnoses' of PTSD and CPTSD (Karatzias et al., 2017). The ICD guidelines for the development of diagnoses indicate that they should have clinical utility and should be consistent with mental taxonomies, and provide ease of use (Keeley et al., 2016). The addition of CPTSD as a disorder has allowed for increased diagnostic accuracy as clinicians have been readily able to distinguish between PTSD and CPTSD, more so than other conditions (Keeley et al., 2016). Furthermore, this has subsequently required the development

of scientifically sound psychometric assessments that are able to effectively screen for CPTSD, thereby effectively differentiating CPTSD from PTSD. A scientifically sound psychometric assessment requires extensive evaluation to prove the test is both scientifically valid and reliable (Asunta et al., 2019). Psychometric screening assessments are assessment tools used to make broad categorisations of subjects as a first step in selection decisions and diagnostic processes (American Psychiatric Association, 2013). Screening assessments allow for inferences and decisions in clinical practice to be well supported when used in conjunction with other clinical practices such as clinical interviews (Christ & Nelson, 2014).

The fields of psychiatry and psychology have relied on the DSM to cluster together symptoms in a common language to describe clinical phenomenology. However, the DSM 5 has not existed without criticism and arguments, as indicated by Goodman (2012), who asserted that the DSM 5's diagnostic labels are not based on treatment responses and do not inform the users about the underlying aetiology. Goodman's (2012) criticism extends towards the indication that psychiatry is developmentally behind other branches of medicine: "Psychiatry lags behind other branches of medicine in its understanding of the basic pathological processes of mental disorders, and this is reflected in our descriptive diagnostic process" (Goodman, para. 2, 2012).

2.1.5. Empirical Work Devoted to Basic Research and Validation of the CPTSD Construct

Construct Definitions and Construct Validity of CPTSD

The assessment and treatment of CPTSD has remained a contentious and cumbersome issue, ultimately making the development of screening assessments for CPTSD an arduous task. Debates surrounding the issue of the construct of CPTSD are evident, including articles of empirical work devoted to basic research and validation of the CPTSD construct. More

recently, Resick et al. (2012, as cited in Ford, 2015, para.3.) found that: "the construct validity and diagnostic credibility of CPTSD have been challenged as not being grounded in a clear definition of the disorder." Resick et al. (2012) further detailed the process for developing a psychometrically sound instrument to support the addition of a new disorder "… which requires reliable and valid psychometric assessment measures, support for convergent and discriminant validity and incremental validity with respect to implications for treatment planning and outcome." Resick et al. (2012) further conclude that at the present time of the article, there was insufficient data to include CPTSD in the DSM 5 simply because of the limitations in instrumentation and definition measuring the construct, and differential response to treatment. Goodman (2012) reviewed Resick et al. (2012) article and reiterated that these conclusions do not allude to the idea that CPTSD does not exist but rather should propel the field to refine the definition and measurement of CPTSD and to precisely clarify its relationship with PTSD.

This highlights the importance of understanding what constitutes CPTSD, and subsequently how researchers and clinicians identify patients who may be at risk for developing the condition. The addition of a mental disorder in the ICD-11 has potentially exciting and pioneering prospects; however, the importance of effectively understanding the factors that contribute towards the condition and how these factors are screened as part of the diagnostic process is required. This study aims to address the addition of psychometric assessments used to screen for CPTSD by investigating broad literature on this topic, and by further collating and synthesizing data which will foster understanding into identifying and screening for CPTSD.

2.1.6. Psychometric Assessments for CPTSD

This section will outline the general utilisation of psychometric assessments used to inform clinical practice, and conclude with a discussion of three assessments currently in use for identifying CPTSD.

Psychometric assessments have been used widely as a starting-point to assist clinicians in providing an objective, standardised evaluation of a patient (Allen et al., 2003). Talent (1992) found that pre-treatment assessments are understood to have a primarily diagnostic function when utilised to gain insight into the client's information, including the conceptualisation and diagnosis of a client's problems, and informing a treatment plan. This idea is well supported throughout research, psychological assessment plays an important part in achieving accurate diagnosis, prognosis, and recurring evaluation of victims of trauma. If the tests are carefully selected, the clinician should be able to determine the symptom severity, possible treatments, and the underlying problems that might not emerge quickly in a given setting. One of the key tasks for researchers and evaluators is the development and interpretation of reliable and valid tests for children and adults, many of whom have significant trauma histories and complex psychological outcomes (Dalenberg & Briere, 2017).

Research has clearly supported the use of psychometric assessments to screen for PTSD and, more recently, CPTSD. Keane et al. (2007) explain:

> As advances are made in the field of trauma, consistent use of standardised psychological measures will allow for cross-study comparisons, meaningful meta-analyses, specification of conclusions regarding public policy and quicker use of evidence-based clinical protocols for treatment (p.279).

Although multiple psychometric measures have been developed to assist in diagnostic screening for PTSD, this study will focus on the development and availability of screening measures for CPTSD. Because CPTSD is a relatively newly categorised disorder, most psychometric screening assessments for the symptoms of CPTSD are still in the development phase. This study will focus on the few assessments that are currently available. Although CPTSD symptoms are included as associated features of PTSD in the DSM 5, the complexity of developing a screening assessment for CPTSD lies in the nature and extent of the trauma, which includes factors such as locus, mode, poly victimisation, recurring trauma, structural trauma, direct, indirect and vicarious trauma exposure.

2.1.6.1. The History of Psychometric Assessments and Complex Trauma

The observed advances in identifying CPTSD as a distinct disorder have far-reaching implications for assessment. The proposed changes in diagnostic taxonomy require new assessment instruments to assess these novel constructs (Litvin et al., 2017). For the purpose of this scoping review, it is relevant to explore the progress of earlier psychometric instruments that were used to assess various traumatic conditions. Luxenberg et al. (2001) reported that two assessments were made available for a comprehensive assessment of Disorders of Extreme Stress Not Otherwise Specified (DESNOS), namely *Structured Interview of Disorders of Extreme Stress* (SIDES) and the *Self-Report Inventory for Disorders of Extreme Stress* (SIDES-SR). Furthermore, researchers and clinicians found it useful to make use of other psychometric assessment measures that tapped into constructs of DESNOS, such as the *Traumatic Antecedents Questionnaire* (TAQ), *Dissociative Experiences Scale* (DES), *Inventory of Altered Self-Capacities* (IASC), and a careful review of health service utilisation (Luxenberg et al., 2001). The above assessments were all found to have high rates of internal consistency – Cronbach's alpha- a.74-a.93. More recently, clinical interviews and self-report instruments for

assessing ICD-11 PTSD and CPTSD have been developed to align with ICD-11 criteria (Litvin et al., 2017).

2.1.6.2. The Complex Trauma Inventory

In 2017, the *Complex Trauma Inventory* (CTI) was developed by Litvin and colleagues, which consisted of a measure of PTSD and CPTSD according to the proposed domains. The CTI maintained excellent psychometric properties, as shown by Litvin et al. (2017):

> We examined the factor structure of the CTI in two separate samples of diverse college students (n1=391; n2=391) who reported exposure to at least one traumatic event and at least occasional functional impairment. After reducing the original 50 items in the item pool to 20 items, confirmatory factor analyses supported two highly correlated second-order factors — PTSD and disturbances in self-organization (DSO)—with PTSD (i.e., reexperiencing, avoidance, sense of threat) and DSO (i.e., affect dysregulation, negative self-concept, and disturbances in relationships), each loading on three of the six ICD-11-consistent first-order factors, root mean square error of approximation (RMSEA)=.056, 95% confidence interval (CI) [.048, .064], comparative fit index (CFI)=.956, Tucker-Lewis index (TLI=.948, standardised root mean square residual (SRMR)=.043, Bayesian information criterion (BIC) = 641.55, $\chi 2(163)=361.02$, $p < .001$. Internal consistencies for PTSD and DSO were good to excellent (Cronbach's αs=.89 to .92). Supplementary analyses supported the gender invariance of the CFA model, as well as convergent and discriminant validity of the CTI. The validity of the CTI supports the distinction between

CPTSD and PTSD. Moreover, the CTI will assist clinicians with diagnosis, symptom tracking, treatment planning, and assessing outcomes (p.610).

2.1.6.3. The International Trauma Questionnaire (ITQ)

Extant research supports the construct validity of PTSD and CPTSD in the ICD-11's proposals to add CPTSD and PTSD to the ICD-11. However, previous studies on developing assessments for measuring CPTSD symptoms produced some salient limitations, according to Ben-Ezra et al. (2018). Such limitations include the use of ad hoc items from other measurement instruments as proxy indicators of the proposed symptoms of CPTSD by the ICD-11. *The International Trauma Questionnaire* addresses these unavoidable limitations and takes the form of a self-report measure that captures the symptoms of PTSD and Disturbances in Self Organisation (DSO).

A second limitation identified in previous instrument measures is that, to date, no study has been conducted that examined the latent symptom structure of CPTSD, as well as the distinguishability of CPTSD and PTSD symptom presentations (Ben-Ezra et al., 2018). Therefore, while the factorial and discriminant validity of CPTSD and PTSD is well-established among clinical populations, it remains unclear whether these constructs are supported among community or non-clinical populations (Ben-Ezra et al., 2018). Cloitre et al. (2021) conducted a study using the *International Trauma Questionnaire* (ITQ), the first of its kind to demonstrate that the ITQ measures reliable and clinically significant treatment-related change in ICD-11 PTSD and Complex PTSD. The ITQ measures and identifies changes in symptom scores and probable diagnostic rates and is administered at pre, mid and post-treatment intervals. This resulted in a Reliable Change Index (RCI) score, which is a valuable indicator for clinicians to monitor treatment interventions and their efficacy.

2.1.6.4. The ICD-11 Trauma Questionnaire (ICD-TQ)

In order to address concerns regarding the distinguishability of PTSD and CPTSD, Karatzias et al. (2017) sought to explore whether the newly-developed ICD-TQ can distinguish between classes of individuals according to the PTSD and CPTSD symptom profiles as per the ICD-11 proposals based on latent class analysis (para.1). The findings from this study indicated two important groups of information: firstly, that the ICD-TQ can adequately distinguish between CPTSD and PTSD; secondly, that CPTSD is strongly associated with childhood trauma and poor functional impairment (Karatzias et al., 2017). In addition, findings indicated that the prevalence of CPTSD is high in treatment-seeking populations

2.1.7 Current Treatment Approaches for CPTSD

Literature indicates that the last 20 years have been an evolutionary time for the development of standard care for CPTSD. The conceptualisation of a sequence of treatment approaches has been designed to address specific issues in a manner that maximises helpfulness for patients (Chu, 1992). The preferred approach for treating CPTSD includes phase-oriented treatment models in response to the clinical experience that indicates many survivors of severe childhood abuse require a lengthy, initial period of fundamental skills development, including maintaining supportive relationships, self-care strategy development, symptom coping skills development, functioning improvement and the establishment of a positive self-identity. These are included as a prerequisite for active work on trauma memories (Chu, 1992).

According to Chu (1992), most phase-oriented treatment models generally consist of three phases. The first phase is aimed at establishing safety, stabilisation, control of symptoms and increasing ego functioning. Chu (1992) further emphasises how this phase is often the most turbulent and difficult for patients and clinicians: “the early phase model employs the acronym *SAFER* which describes the early difficult tasks of safety and symptom control,

acknowledgement of the role of trauma, functioning, expression of affect and impulses in a productive manner, and relational work" (para. 1). The second phase involves the integration of traumatic memories and working through them through confrontation. The final phase is concerned with continued integration, rehabilitation and personal growth.

2.2. PROBLEM STATEMENT AND RATIONALE FOR THE CURRENT STUDY

Globally, research studies have maintained a wide focus on CPTSD, in particular, relating to the addition of CPTSD as a separate diagnostic category as well as understanding how CPTSD is conceptualised, ultimately leading to discussions on the construct validity of this syndrome. Another area of observed literature has been on establishing predictive factors of CPTSD, and its relationship to PTSD. Trends in literature indicated a further focus on the relationship between PTSD and CPTSD and have been specifically centred around the predictive factors of developing CPTSD, such as severe PTSD symptoms, the nature of the trauma experienced and premorbid conditions (Difede & Barocas, 1999).

The nature of the effects of complex trauma has been identified as a pervasive and distressing experience for individuals that further contribute towards dysfunctional behaviour. (Chu & Firm, 2011). CPTSD is an area that requires clinical and research attention in further refining diagnosis, assessment and treatment, which this study aims to illustrate by identifying evident literature on the assessment of CPTSD. Although researchers differ in opinions about CPTSD, the majority of findings demonstrate the presence of the disorder as a distinct phenomenon that is differentiated from PTSD. Researchers further agree that the disorder needs to be refined through research that includes the development and utilisation of standardised psychometric assessments (Resick et al., 2012). However, few psychometric instruments have been developed for the screening of CPTSD; this area of research remains limited and in its infancy. Wolf et al. (2015) support this argument, stating that a thorough

empirical assessment of the ICD-11 models of trauma-based disorders is necessary, given the potential for ICD-11 formulations to become the primary diagnostic classification system used in the field of psychotraumatology. Given the changing model of complex trauma, a further refinement of this diagnosis is required to assist in both the identification and treatment of patients with complex trauma.

The purpose of this scoping review is to investigate and map existing literature on the psychometric screening assessments used to identify and diagnose CPTSD and CPTSD symptoms. Given the increase in prevalence and identification of CPTSD in both clinical and non-clinical populations, it is important to consider the current standard of care for individuals experiencing CPTSD. This would involve future refinement and clarification of diagnostic, assessment and treatment processes, much of which includes screening for the disorder through the use of standardised psychometric measures (Resick et al., 2012).

CHAPTER THREE: METHODOLOGY

3.1. INTRODUCTION

This chapter includes a discussion of the research methodology utilised in the current study. It also includes an explanation of the procedure followed in a scoping review and concludes with ethical considerations regarding the chosen methodology. The current scoping study is reinforced by the protocol followed by various advocates for systematic review studies, which emphasises that the methods utilised in the discrete steps employed throughout the study are rigidly and transparently followed and managed (Pham et al., 2014). This requires an authentic detailed account of procedural steps to permit future heterogenous replication of such studies. The present study critically assessed and combined numerous studies detailing various screening assessments used for the identification of Complex Posttraumatic Stress Disorder to:

- disseminate the existing evidence of screening assessments for CPTSD in a new and thorough analysis
- identify the degree of construct equivalence across studies assessing CPTSD outcomes
- explore the efficacy and psychometric properties of such assessments and
- identify gaps and limitations of existing studies on assessments for CPTSD.

This will aid researchers and clinicians in the early detection of CPTSD and subsequently mitigate the negative experiences of individuals with CPTSD by improving treatment outcomes. This has the potential to be achieved by the generation of knowledge through a study that is able to capture and encapsulate contemporary findings in the existing theoretical debates surrounding the new distinct diagnosis of CPTSD.

3.2 METHODOLOGICAL APPROACH

The present study made use of a scoping review methodological approach restricted to published journal articles that included psychometric screening assessments for CPTSD. This is illustrated in the inclusion criteria located in section 3.3.2. The scoping review framework of Arksey and O'Malley (2005) guided the study. Broadly, a scoping review permits a structured and comprehensive mapping of the available literature on a specific topic area of study (Arksey & O'Malley, 2005). The procedure entailed in a scoping review according to this framework is discussed in detail in chapter 3.3.

3.2.1. Main Characteristics

With the increase in necessity for evidence-based practice in healthcare specifically, a rapid growth within literature-based review research formats has led to identified approaches that share similar characteristics, such as collecting, evaluating and presenting available research on a topic (Arksey & O'Malley, 2005). The scoping review, although not as well-studied or utilised as other literature review styles of research such as systematic reviews, meta-analyses, rapid reviews, narrative reviews, structured reviews or research syntheses, provides an exciting approach to reviewing literature (Arksey & O'Malley, 2005). This study will make use of a scoping study/review due to its ability to rapidly map the key concepts underpinning a research area and types available, while also providing a great depth of coverage (Mays et al., 2001, as cited in Arksey & O'Malley, 2005).

The purpose of a scoping review is to provide an overview of existing published and unpublished literature, to map a given field of research and to synthesise this information into a collated report (Peters et al., 2015). A scoping method is a specific technique utilised during research to identify and achieve in-depth and broad results detailing or mapping out existing literature. A scoping review aims to map and synthesise existing available literature on a topic,

and summarise and disseminate the findings. Scoping reviews examine the extent, range and nature of a particular area of study. A specific question is not asked, and quality checks are not executed as in a systematic review. Instead the focus is on methodically displaying the range of available. Depending on the research questions and objectives, existing gaps in the literature and limitations can also be identified. Although this research area is still in the stage of infancy, sufficient emerging studies are available to justify the need for a scoping review. Scoping reviews often act as a precedent for further Systematic Reviews and can be either qualitative or quantitative. Specific protocols, frameworks (usually Arksey and O'Malley) and methods are intricately followed to search for and eliminate data as part of the charting and collating process.

Munn et al. (2018) summarised the indications for when a scoping review could be chosen as a methodological framework in research. They can also be understood as the purpose of scoping reviews:

- To identify the types of available evidence in a given field and to gain clarification of key concepts or definitions in the literature.
- To examine how research is conducted within a certain field or topic.
- To identify key characteristics or factors relating to a concept.
- As a precursor to a systematic review, however, may be conducted in its own right.
- To identify and analyse knowledge gaps and limitations within a body of research.

The multi-step descriptive analytic process by Arksey and O'Malley (2005) guides the inclusion of each document incorporated in the review. The purpose of this scoping review technique was to establish a wide research question from a broad breadth of literature. The steps are outlined below.

The Arksey and O'Malley (2005) methodology framework will be followed for this research project. This framework provides six steps that serve as guidelines for an iterative process conducted in scoping reviews. According to Arksey and O'Malley (2005), these stages are:

(1) identifying the research question,

(2) identifying relevant studies,

(3) study selection,

(4) charting the data,

(5) collating, summarising and reporting the results, and

(6) consultation exercise

Step 1: Identifying the research question

A strong and clarified research question is the first necessary step in conducting a scoping review, as this question will guide the entire review and search strategies. This study's broad research question is: *what psychometric assessment instruments have been developed to screen for Complex PTSD?* This study's aims and objectives are included in sections 3.3.1 and 3.3.2, respectively. The reason for conducting the study is to map out and synthesise the available literature that has investigated the availability of psychological screening assessment measures for CPTSD. This clinical area of research has gained support in the past years but has been identified as an area still requiring further research due to the limitations in available literature surrounding CPTSD.

3.3.1. Study Aim

This study aims to map out and synthesise the available literature that has investigated the various screening assessment measures for CPTSD.

3.3.2. Study Objectives

- To explore existing evidence of psychometric assessments developed as a screening tool for CPTSD;
- To identify the degree of construct equivalence across studies assessing CPTSD outcomes
- To explore the psychometric properties of assessments used in the screening of CPTSD;
- To identify and explore gaps and limitations in existing studies focusing on assessments for CPTSD;

Step 2: Identifying relevant studies

A major aim of a scoping review is to be as comprehensive as possible. This aim is achieved by the identification of published primary studies that appropriately answer the research question. Arksey and O'Malley (2005) devised a strategy involving searching various electronic databases, reference lists, and key journals and searching existing networks, relevant organizations, and conferences to obtain relevant research evidence.

A broad search of numerous databases was accessed through the online research platform Ebscohost, made available through the UKZN online library, which was utilised to identify and analyse literature that was relevant to this scoping review. The database search included: Academic Search Complete, APA PsycINFO, MEDLINE and PubMed.

The *inclusion* criteria for this scoping review were:

- Quantitative research
- Study samples of patients assessed for CPTSD and other relevant clinical samples
- Studies focusing on the assessment and treatment of CPTSD

- Psychometric Assessment Screening Tests for CPTSD, Clinical Assessment of CPTSD, Diagnostic Assessments for CPTSD
- English articles and articles which have been translated into English
- Full text studies published in English or translated to English
- Peer Reviewed Articles
- Studies published within last 15 years (2007-2022)

The *exclusion* criteria for this scoping review were:

- Systematic reviews
- Qualitative studies
- Mixed methods studies
- Abstracts only
- Therapeutic work for CPTSD
- Disorders other than CPTSD
- Articles not translated into English

This study will only include articles with quantitative study designs in order to maintain alignment with the study's specific research objectives as outlined in section 3.3.2. Due to the nature of psychometric assessment research, quantitative studies such as validation studies are more suitable to demonstrate a measure's psychometric properties. Furthermore, the majority of published research concerning various developments of psychometric measures is quantitative in design, in keeping with a positivist paradigm. For the purpose of this study, only psychological assessments used to screen for Complex PTSD will be referenced in order to maintain a particular focus. However, given the nature of the changing model of trauma, as

indicated in the literature review, and CPTSD being a relatively new diagnostic category, studies evaluating assessments for prior complex trauma definitions will be included.

The following search term was initially tested using Boolean search terms in order to obtain a preliminary search strategy yield related to this study:

(Psychological Screening Assessment)* AND *(Complex PTSD)* OR (Complex Trauma) *OR (CPTSD)* OR (Complex Post-traumatic Stress Disorder)**

Table 1

Key search terms using PCC elements

Population	Concept	Context
Treatment-seeking patients	Complex Post-traumatic Stress Disorder	Clinical Assessment
Psychiatrists, Psychologists	Psychometric Screening Assessment	

Table 2

Secondary search terms using PCC elements

Population	Concept	Context
Clients	Complex Trauma	Mental healthcare assessment
Psychotherapists	DESNOS	
	DTD	
	Psychometric Instruments, Psychometric Assessment Tools	

Step 3: Study Selection

The process of reviewing the literature was achieved by screening the abstracts and full texts of articles guided by the inclusion criteria outlined above. Screening results were reported

using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses-ScR (PRISMA-ScR) flow diagram as illustrated in section 3.5, figure 2.

Step 4: Charting the data

The fourth step of the Arksey and O'Malley (2005) scoping review approach requires that key information obtained from the reviewed articles is charted. The data charting process was guided by the narrative review approach detailed in Pawson (2002). This involved charting the obtained information from the database search according to the author(s), the year of publication, the study aims and objectives, the methodology used, and the results that were found. However, this approach may be customised to suit the study articles reviewed. The approach followed is illustrated in Table 3 below:

Table 3

Charting of Data Using a Narrative Review Approach (Pawson, 2022)

Author(s), Year
Study Title
Aims and Objectives
Intervention type
Methodology
Results

Step 5: Collating, summarising and reporting the results

The final stage requires a summary of the reviewed studies to be presented. A thematic and descriptive analysis of the studies will be followed to illustrate the existing literature in a narrative interpretation (Arksey & O'Malley, 2005). This is done procedurally by collating, summarising and reporting the results.

Thematic analysis is a data analysis approach mainly used in qualitative research. The chief purpose of thematic analysis is to analyse and synthesise information according to prominent themes that emerge from the data (Braun & Clarke, 2012). Thematic analysis makes provision for researchers to better interpret and understand data according to the research question posed. Thematic analysis also allows researchers to compare data with emerging themes and concepts and relate them to the research question (Alhojailan, 2012). In this study, thematic analysis will guide the researcher to form conclusions about screening assessments used for the identification of CPTSD and its construct validity. Thereafter data from literature will be synthesised to assess for common themes and understandings. The validity, reliability and generalisability of the findings of the study will be commented on and assessed.

The six-step thematic analysis model from Braun and Clarke (2012) will be used to analyse the data. The various steps are outlined below:

Step 1 requires the researcher to become familiar with the data, which often requires the researcher to immerse themselves in the data they have recorded by reading and re-reading transcripts.

Step 2 requires the generation of initial codes where the researcher has assigned specific codes for the various surfacing patterns from the data.

Step 3 would be to search for and generalise themes according to the newly coded information from Step 2.

Step 4 involves the assessment of the themes for appropriate fit and relevance to what the data has indicated.

Step 5 includes defining the themes to succinctly encapsulate what the overall data describes.

Step 6 requires theme transcription and presenting them in an organised manner to align with the study's entire profile (Braun & Clarke, 2012). The themes will be confirmed and then analysed and compared to the literature review. It will then be established whether they relate to current or limited existing literature.

Arksey and O'Malley (2005) considered it imperative to include a descriptive summary of the characteristics of the studies included in the final review. The summary will provide a rich and nuanced account of the findings that will be presented clearly and concisely. Information pertaining to the total number of studies analysed, the study design, publication year, study populations, and study location will be included.

This summary will be presented in Table 5 (p.55-69) and will include the following: Author(s), Year, and Validation Study. Levac et al. (2010) describe steps worth following in order to apply Arksey and O'Malley's (2005) fifth step. These include (1) analysis, (2) reporting the results and (3) elaboration of how the findings relate to the overall review topic.

3.4. SEARCH STRATEGY

The existing research published regarding psychometric screening assessments for CPTSD has been disseminated in various journals (psychiatric, psychological, and medical). A search of multiple online databases was undertaken to ensure the topic was thoroughly researched,. These included: Academic Search Complete, APA PsycINFO, Medline, and PubMed, all accessed through the UKZN electronic library.

The searches were limited to English or English-translated full studies and articles published in the last 15 years (2007-2022). The database search was completed in April-July 2022. See Table 4 below.

Table 4

Search Strategies and Yields for Electronic Databases (Dates Accessed: April-August 2022)

Database	**Search strategy**	**Yield**	**Total relevant to study**
Academic Search Complete (Ebscohost)	(Psychological Screening Assessment*) AND (Complex PTSD* OR Complex Trauma * OR DESNOS*	803	5
APA PsycINFO (Ebscohost)	*(Psychological Screening Assessment*)* AND *(Complex PTSD* OR Complex Trauma*	295	2
MEDLINE (Ebscohost)	*(Psychological Screening Assessment*)* AND *(Complex PTSD* OR Complex Trauma **	0	0
PubMed	*(Psychological Screening Assessment*)* AND *(Complex PTSD* OR Complex Trauma **	28	8
TOTAL YIELD		1,126	15

3.5. CRITERIA FOR INCLUSION

Table 5 (below) illustrates the inclusion and exclusion criteria applied for this study with regard to study design, population, concept, context, language, and time period.

Table 5

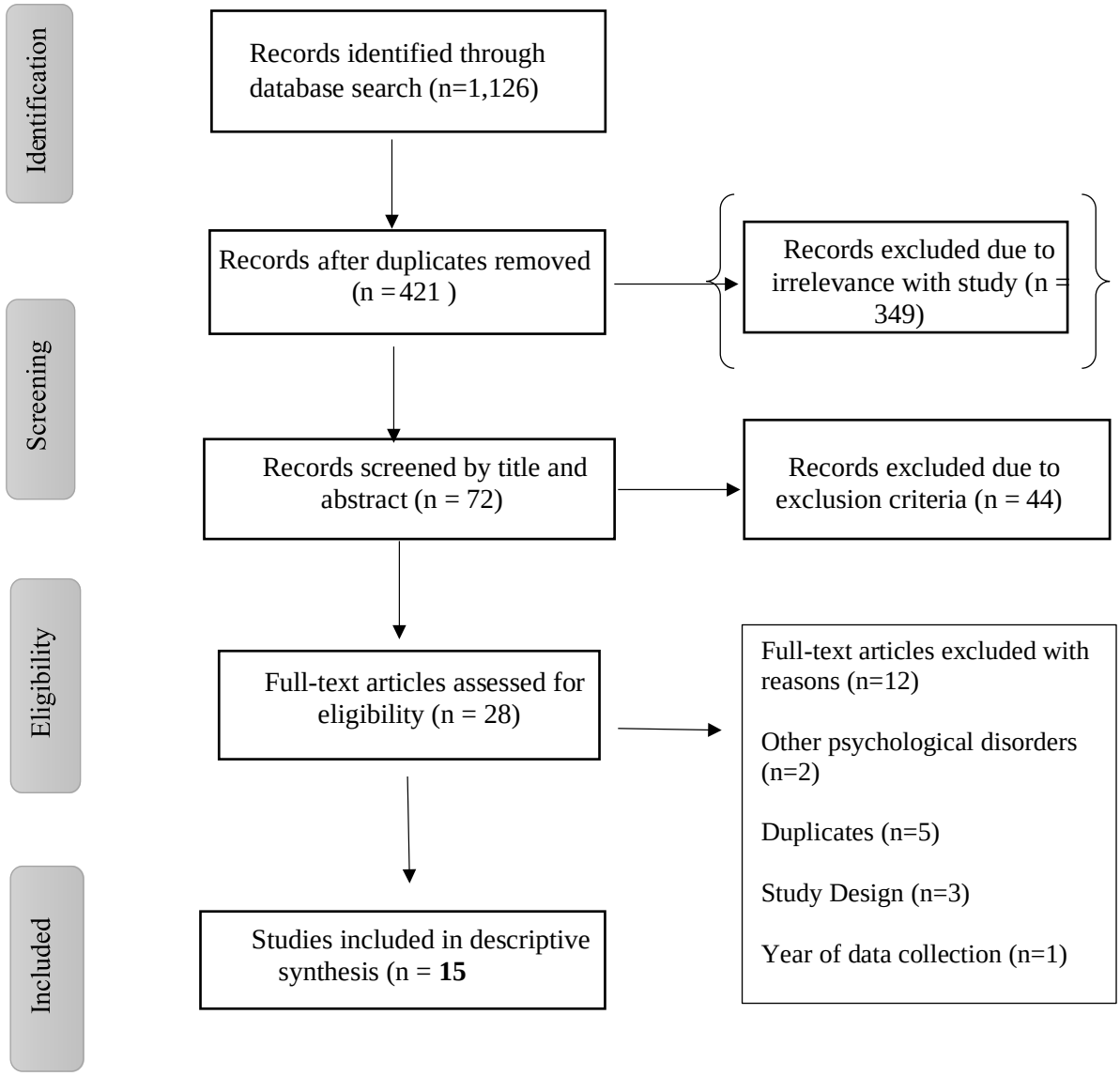
Criteria for Inclusion and Exclusion of Studies

Criteria	Inclusion Criteria	Exclusion Criteria
Study Design	Quantitative	Systematic Reviews, Scoping Reviews
Population	Study samples of treatment-seeking patients	Non-treatment seeking patients
Concept	Screening Assessments for Complex PTSD/complex trauma/CPTSD	Therapy, Prevalence studies, other disorders not related to CPTSD
Context	Treatment seeking contexts	Non-treatment seeking contexts
Language	English or English Translated	Non-English
Time Period	2007-2022	Outside of 2007-2022

3.6. SELECTION OF STUDIES

The titles and abstracts were yielded during the initial search and thereafter read and analysed against the criteria. The included articles were then assessed by full text, and the final results included studies that were considered eligible for inclusion according to the stipulated criteria illustrated above.

Figure 2: PRISMA-ScR flow diagram of the selection process



The PRISMA -ScR diagram is shown in Figure 2. The PRISMA-ScR flow diagram displays the summarised review process. Figure 2 shows a PRISMA-ScR flow diagram illustrating that 1,126 studies were initially identified through electronic database searches, of which 705 were duplicates. The next step required title screening, after which 277 articles were excluded. Abstract screening followed title screening, after which 205 articles were excluded due to not meeting the inclusion criteria for this study. The full texts of 72 studies were assessed

for eligibility, and of these studies, 57 were excluded. As a result, 15 articles were included for the charting of the data process.

The reasons for exclusion were as follows: Other psychological disorders (*n*=2), duplicates across databases (*n*=7), year of publication fell outside of inclusion criteria (*n*=1), and study designs that were systematic reviews (*n*=3).

3.7. CHARTING THE DATA

Each article included in the study was reviewed to assist in the data extraction process. Thereafter, data was charted according to step four of Arksey and O'Malley's (2005) five-stage approach. Lastly, the important data from each included article was extracted and charted. See Table 6 in the results section in chapter 4 (4.2).

3.8. RIGOUR

Scoping reviews have had questions raised concerning the rigour they are able to demonstrate (Levac, Colquhon & O' Brian, 2010). Because a scoping review is still considered a relatively contemporary approach, Levac et al. (2010) made various suggestions to enhance the rigour of scoping reviews, as outlined below:

a) Decisions concerning the inclusion and exclusion criteria for the scoping review be explicitly incorporated during the initial phases of the scoping process
b) The analysis of the search strategy remains contingent on the abstracts yielded from the search and
c) The employment of a minimum of two independent researchers for the examination of full articles for study inclusion during the initial, middle and final phases of the abstract review process

As a result, two independent reviewers at a master's level of education were utilised to examine included studies. In addition, a research supervisor acted as a third examiner to ensure rigour by addressing this requirement of the study.

3.9. ISSUES OF VALIDITY, RELIABILITY AND GENERALISABILITY

The literature was hand-searched to ensure practical validity. Because scoping reviews by nature are broad and initially generalisable, a specific structure strategy was followed to mitigate this. Content validity of the utilised studies was verified by incorporating verbatim employment of original data by using italicised text and direct quotations where necessary (Finfgeld, 2003). Reliability of the study is challenging to ensure because the study relies on the collection and extraction of secondary published studies. Their findings demonstrated accuracy insofar as the representative sample of the population utilised.

3.10. ETHICAL CONSIDERATIONS

The current study utilised a scoping review method, which required the collection and analysis of electronically published information across online databases. Therefore, the study did not make use of human participants and relied on secondary data. Due to this, the study was granted exemption from ethical approval by the University of KwaZulu-Natal Research Ethics Committee (REC). There is a copy of the ethical exemption for the dissertation *Psychometric assessments used as screening tools for Complex Post-traumatic Stress Disorder: A scoping review* see Appendix A. The REC indicated that the study does not require ethical approval because the literature is legally attainable and accessible to the public. Therefore it is justly protected by the law, and there are no expectations of privacy. The study utilised a scoping review method so that other researchers could replicate and authenticate

knowledgeable claims, and assure accuracy should they intend to conduct a similar study (Arksey & O'Malley, 2005).

3.11. CONCLUSION

The present chapter provided an account and discussion of the procedures and research design used in the present study to gain the necessary information to answer the research question. Data were analysed using descriptive statistics pertaining to the various study characteristics and content thematic analysis. Items pertaining to ethical consideration were addressed, including a discussion of reliability, validity and generalisability. The following chapter will discuss the key findings that emerged from the analysis of the data in this study.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1. INTRODUCTION

The identification of a more complex and problematic 'sister' disorder to Post-traumatic stress disorder has emerged within the past two decades (Ben-Ezra et al., 2018). Complex Post-traumatic stress disorder (CPTSD) symptoms often have severe and debilitating effects on individuals' lives, most often prevalent in individuals who have been victims of complex, repeated and sustained trauma, dating back to their childhood (Herman, 1992).

The *International Classification of Diseases version 11* (ICD-11) has proposed the formal recognition of this syndrome. The processes of formally adding it as a distinct disorder have been a topic of clinical and research interest (Brewin et al., 2017). Psychometric tools have recently been developed to support the addition of a novel psychological construct, screen for CPTSD, and assess various properties of the CPTSD construct. Psychometric assessments provide objective and quantifiable results that can advocate for a construct's validity and reliability and are thus a necessary step in ensuring that the addition of a new disorder has met rigorous standards.

Thus, the present study aimed to synthesise and map studies that have investigated various psychometric instruments used as screening measures for CPTSD. The objectives of this study were to: explore existing evidence of psychometric assessments developed as a screening tool for CPTSD; identify the degree of construct equivalence across studies assessing CPTSD outcomes; explore the efficacy and psychometric properties of assessments used in the screening of CPTSD; and identify and explore gaps and limitations in existing studies focusing on assessments for CPTSD. This was achieved by conducting a scoping review of published research relevant to the area of study.

The following chapter consists of two sections, the results, and the discussion. The results section outlines the data obtained in the study by providing both narrative and descriptive

statistics (see section 4.2, Tables 6 and 7, and Figures 3 – 11), (see section 4.3, Tables 8-10).

A critical discussion, including the identified themes that were identified in the scoping review, will be provided in the following section, with particular reference to the construct, concept, and context of the research. As outlined in the methodology section (chapter 3), the data collected in the present scoping review will be presented to give a clear and consistent report of the results. According to Braun and Clarke (2006), including thematic content analyses ensures that a rich, detailed, and nuanced account of the data is provided in the discussion and that there is a clear illustration of how the findings relate to the research question and purpose of the study.

4.2. RESULTS

Table 6

Charting of the Extracted Data

1. The International Trauma Questionnaire (ITQ)	1.1. **Cloitre, Shevlin, Brewin, Bisson, Roberts, Maercker, Karatzias & Hyland, 2018** The International Trauma Questionnaire: development of a self-report measure of ICD-11 PTSD and complex PTSD
	1.2. **Hyland, Shevlin, Brewin, Cloitre, Downs, Jumbe, Karatzias, Bisson & Roberts, 2017** Validation of post-traumatic stress disorder (PTSD) and complex PTSD using the International Trauma Questionnaire
	1.3. **Tian, Wu, Wang, Zhang, Yu & Zhao, 2020** Complex posttraumatic stress disorder in Chinese young adults using the International Trauma Questionnaire (ITQ): A latent profile analysis
	1.4. **Haselgruber, Sölva & Lueger-Schulster, 2019** Validation of ICD-11 PTSD and complex PTSD in foster children using the International Trauma Questionnaire
	1.5**. Haselgruber, Solva & Lueger-Schuster, 2020** Symptom structure of ICD-11 Complex Posttraumatic Stress Disorder (CPTSD) in trauma-exposed foster children: Examining the International Trauma Questionnaire—Child and Adolescent Version (ITQ-CA)
	1.6. **Murphy, Shevlin, Pearson, Greenberg, Wessely, Busittil & Karatzias, 2020** A validation study of the International Trauma Questionnaire to assess post-traumatic stress disorder in treatment-seeking veterans
	1.5. **Haselgruber, Solva & Lueger-Schuster, 2020** Symptom structure of ICD-11 Complex Posttraumatic Stress Disorder (CPTSD) in trauma-exposed foster children: Examining the International Trauma Questionnaire—Child and Adolescent Version (ITQ-CA)
	1.6. **Murphy, Shevlin, Pearson, Greenberg, Wessely, Busittil & Karatzias, 2020** A validation study of the International Trauma Questionnaire to assess post-traumatic stress disorder in treatment-seeking veterans

	1.7. **Vallières, Ceannt, Daccache, Abou Daher, Slayman, Gilmore, Byrne, Shevlin, Murphy & Hyland, 2018** ICD-11 PTSD and complex PTSD amongst Syrian refugees in Lebanon: the factor structure and the clinical utility of the International Trauma Questionnaire
	1.8. **Armour, Robinson & Ross, 2021** Factor structure of the International Trauma Questionnaire in UK Armed Forces veterans residing in Northern Ireland
	1.9. **Karatzias, Shevlin, Fyvie, Hyland, Efthymiadou, Wilson, Roberts, Bisson, Brewin & Cloitre,** 2016 An initial psychometric assessment of an ICD-11 based measure of PTSD and complex PTSD (ICD-TQ): Evidence of construct validity
	1.10. **Frost, Vang, Hyland, Shevlin, McCarthy & Murphy, 2022** Assessing the factorial validity and the internal reliability of the International Trauma Questionnaire (ITQ); PTSD and complex PTSD among survivors of sexual violence in Ireland
	1.11. **Shevlin, Hyland, Roberts, Bisson, Brewin & Cloitre, 2018** Psychometric assessment of Disturbances in Self-Organization symptom indicators for ICD-11 Complex PTSD using the International Trauma Questionnaire.
	1.12. **Sele, Hoffart, Bækkelund & Øktedalen, 2020** Psychometric properties of the International Trauma Questionnaire (ITQ) examined in a Norwegian trauma-exposed clinical sample.
	1.13. **Ho, Karatzias, Cloitre, Chan, Bressington, Chien, Hyland & Shevlin, 2019** Translation and validation of the Chinese ICD-11 International Trauma Questionnaire (ITQ) for the assessment of Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD)
2. International Trauma Interview (ITI)	2.1. **Gelezelyte, Roberts, Kvederaite, Bisson, Brewin, Cloitre, Kairyte, Karatzias, Shevlin & Kazlauskas, 2022** Validation of the International Trauma Interview (ITI) for the Clinical Assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian Sample
3. The Complex Trauma Inventory (CTI)	3.1. **Litvin, Kaminski & Riggs, 2017** The Complex Trauma Inventory: A self-report measure of posttraumatic stress disorder and complex posttraumatic stress disorder

Table 7

Thematic Analysis Coding of Reviewed Articles

Study Title	Author(s); Year	Code	Explanation
The International Trauma Questionnaire: development of a self-report measure of ICD-11 PTSD and complex PTSD	Cloitre, Shevlin, Brewin, Bisson, Roberts, Maercker, Karatzias & Hyland, 2018	ITQ 1	International Trauma Questionnaire validation study 1
Validation of post-traumatic stress disorder (PTSD) and complex PTSD using the International Trauma Questionnaire	Hyland, Shevlin, Brewin, Cloitre, Downs, Jumbe, Karatzias, Bisson & Roberts, 2017	ITQ 2	International Trauma Questionnaire validation study 2
Complex posttraumatic stress disorder in Chinese young adults using the International Trauma Questionnaire (ITQ): A latent profile analysis	Tian, Wu, Wang, Zhang, Yu & Zhao, 2020	ITQ3	International Trauma Questionnaire validation study 3
Validation of ICD-11 PTSD and complex PTSD in foster children using the International Trauma Questionnaire	Haselgruber, Solva & Lueger-Schuster, 2020	ITQ4	International Trauma Questionnaire validation study 4
Symptom structure of ICD-11 Complex Posttraumatic Stress Disorder (CPTSD) in trauma-exposed foster children: Examining the International Trauma Questionnaire—Child and Adolescent Version (ITQ-CA)	Haselgruber, Solva & Lueger-Schuster, 2020	ITQ5	International Trauma Questionnaire validation study 5
A validation study of the International Trauma Questionnaire to assess post-traumatic stress disorder in treatment-seeking veterans	Murphy, Shevlin, Pearson, Greenberg, Wessely, Busittil & Karatzias, 2020	ITQ6	International Trauma Questionnaire validation study 6

ICD-11 PTSD and complex PTSD amongst Syrian refugees in Lebanon: the factor structure and the clinical utility of the International Trauma Questionnaire	Vallières, Ceannt, Daccache, Abou Daher, Slayman, Gilmore, Byrne, Shevlin, Murphy & Hyland, 2018	ITQ7	International Trauma Questionnaire validation study 7
Factor structure of the International Trauma Questionnaire in UK Armed Forces veterans residing in Northern Ireland	Armour, Robinson & Ross, 2021	ITQ8	International Trauma Questionnaire validation study 8
An initial psychometric assessment of an ICD-11 based measure of PTSD and complex PTSD (ICD-TQ): Evidence of construct validity	Karatzias, Shevlin, Fyvie, Hyland, Efthymiadou, Wilson, Roberts, Bisson, Brewin & Cloitre, 2016	ITQ9	International Trauma Questionnaire validation study 9
Assessing the factorial validity and the internal reliability of the International Trauma Questionnaire (ITQ); PTSD and complex PTSD among survivors of sexual violence in Ireland	Frost, Vang, Hyland, Shevlin, McCarthy & Murphy, 2022	ITQ10	International Trauma Questionnaire validation study 10
Psychometric assessment of Disturbances in Self-Organization symptom indicators for ICD-11 Complex PTSD using the International Trauma Questionnaire.	Shevlin, Hyland, Roberts, Bisson, Brewin & Cloitre, 2018	ITQ11	International Trauma Questionnaire validation study 11
Psychometric properties of the International Trauma Questionnaire (ITQ) examined in a Norwegian trauma-exposed clinical sample.	Sele, Hoffart, Bækkelund & Øktedalen, 2020	ITQ12	International Trauma Questionnaire validation study 12
Translation and validation of the Chinese ICD-11 International Trauma Questionnaire (ITQ) for the assessment of Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD)	Ho, Karatzias, Cloitre, Chan, Bressington, Chien, Hyland & Shevlin, 2019	ITQ13	International Trauma Questionnaire validation study 13

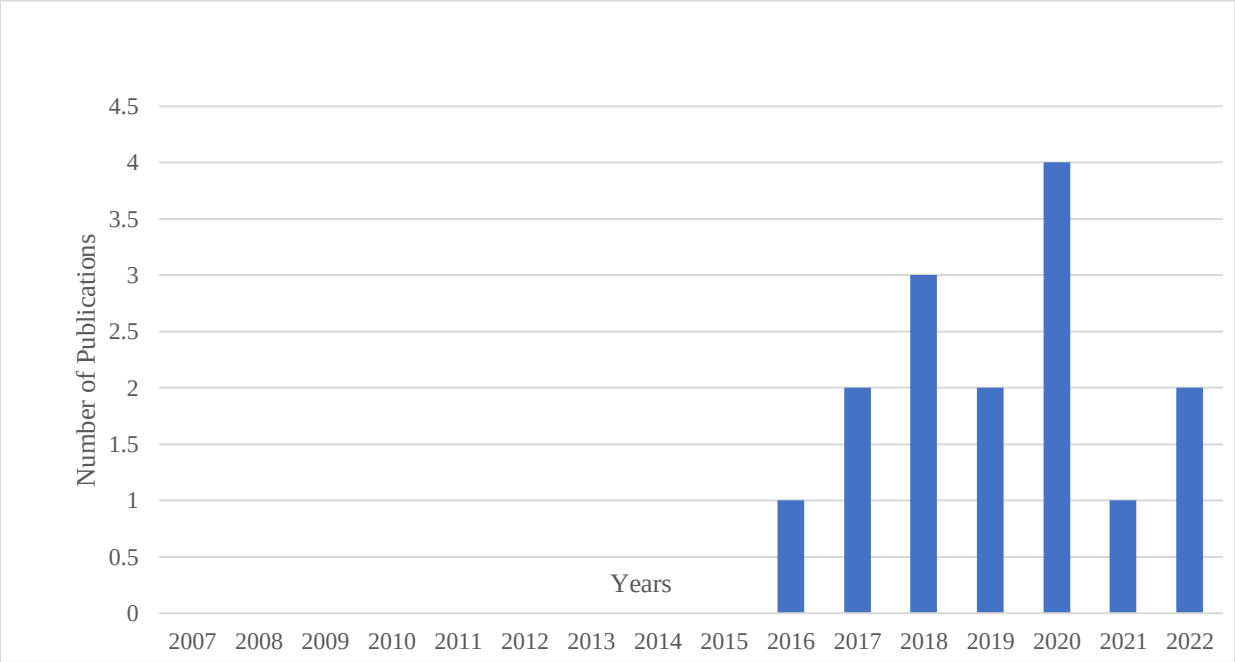
Validation of the International Trauma Inventory (ITI) for the Clinical Assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian Sample	Gelezelyte, Roberts, Kvederaite, Bisson, Brewin, Cloitre, Kairyte, Karatzias, Shevlin & Kazlauskas, 2022	ITI1	International Trauma Interview validation study 1
The Complex Trauma Inventory: A self-report measure of posttraumatic stress disorder and complex posttraumatic stress disorder	Litvin, Kaminski & Riggs, 2017	CTI1	Complex Trauma Interview validation study 1

Based on an extensive search of the identified electronic databases, a total of 15 studies were identified that met the outlined inclusion criteria (illustrated in Table 6 above). All of the studies had a quantitative methodological design and made use of a range of measures to determine the risk towards developing CPTSD. The participating population varied across all studies, with the exception of a duplicated study based on the same sample (see studies 5 and 6). The scoping review identified the studies examining the validity of various assessment instruments to assess PTSD and CPTSD across varying populations, most of which were explicitly trauma-exposed samples (n=11). The predominant ages sampled in the studies were between the ages of 18 and 45 years.

4.2.1. Number of Publications Per Year

The number of publications from 2007 to 2022 is illustrated in Figure 3 below. The majority of the studies were published in the last five years, with the highest number of publications occurring in 2020 (n=4). No articles met the inclusion criteria for the present study between the period 2007 to 2015, indicating an observed increase in the research of CPTSD in recent years.

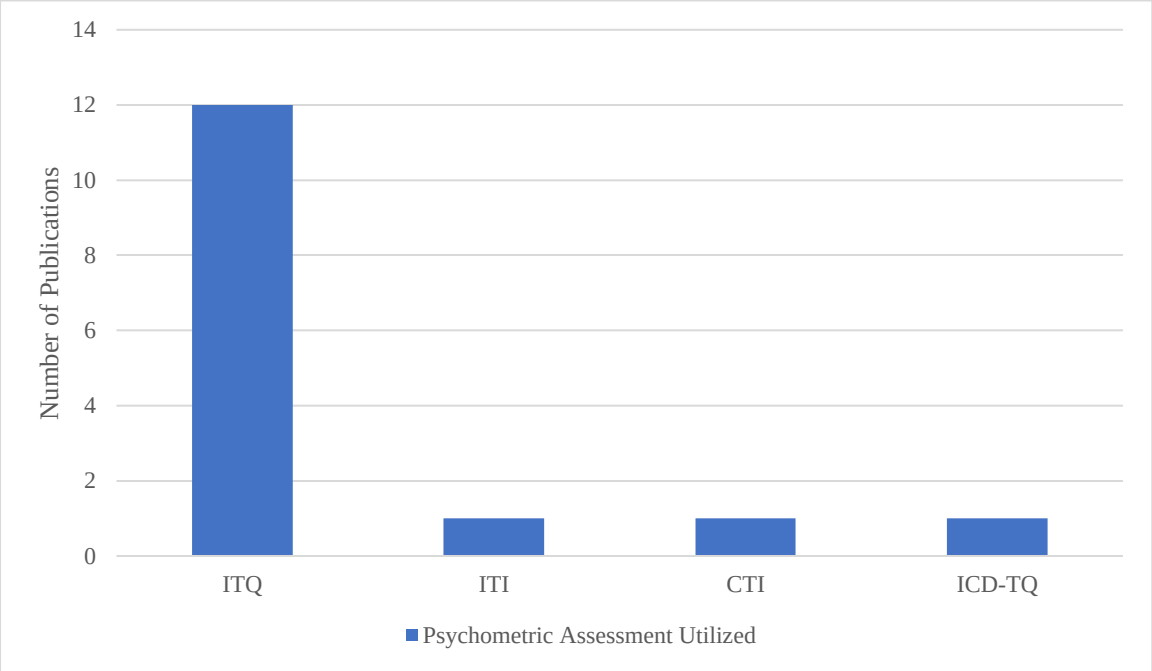
Figure 3: Number of Publications per year



4.2.2 Titles/Aims and Objectives of Reviewed Studies

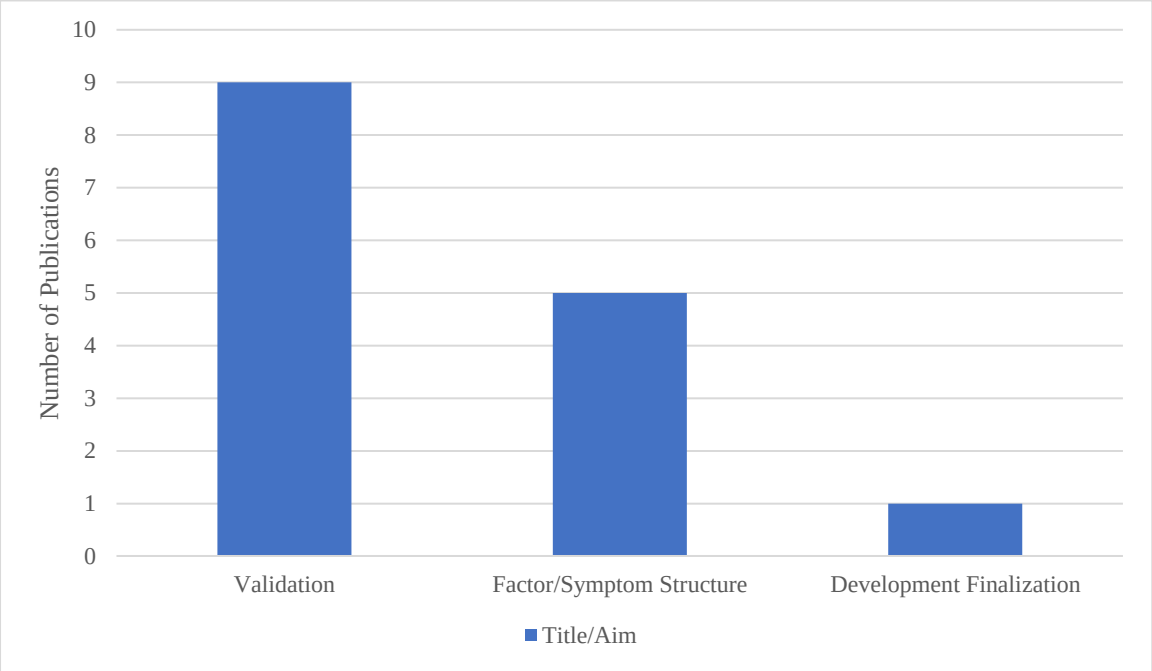
Amongst the most commonly encountered title term was the name of the assessment being examined, which in (n=12) studies was the *International Trauma Questionnaire (ITQ).* The remaining studies (n=1) included the title *International Trauma Interview (ITI), The ICD-11 Trauma Questionnaire (ICD-TQ) and The Complex Trauma Inventory (CTI).* The terms *assessment/assessing* and *examination/examining* were included in the titles of (n=6) studies. Another popular title term observed was *validation*, occurring in four (n=4) publications. Studies including the terms *factor structure/symptom structure* in their titles amounted to three (n=3).

Figure 4: Titles of Reviewed Publications



Most of the studies (n=9) sought to assess the psychometric properties of measures used to screen for CPTSD and took the format of validation studies. Studies aiming to provide a qualitative distinction between PTSD and CPTSD equated to (n=5) and listed examining and assessing the factor/symptom structure of CPTSD in the utilised assessment measure. Only one study focused on the finalisation of the development of the ITQ.

Figure 5: Aims of Reviewed Studies



4.2.3 Gender and Age of Participants

Female participants were more frequently utilised in samples, with (n=10) studies having a majority female distribution ranging from 52%-88.6% of the sample size. This is illustrated in Figure 5 below. The studies incorporating a larger male sample distribution were primarily observed in studies on veterans. Thirteen studies had participants above 18 years of age, while (n=2) studies made use of a child population. The overall included studies had participants ranging from 10 to 74 years of age. The mean age observed across studies included middle-aged participants, where the mean age of participants ranged from 32.6 years to 55.88 years. In the child participant studies, the mean age of children was 14.28 years (illustrated in Figure 6). No significant links were identified between PTSD/CPTSD, gender and age (Gelezelyte, 2022).

Figure 6: Gender of Participants

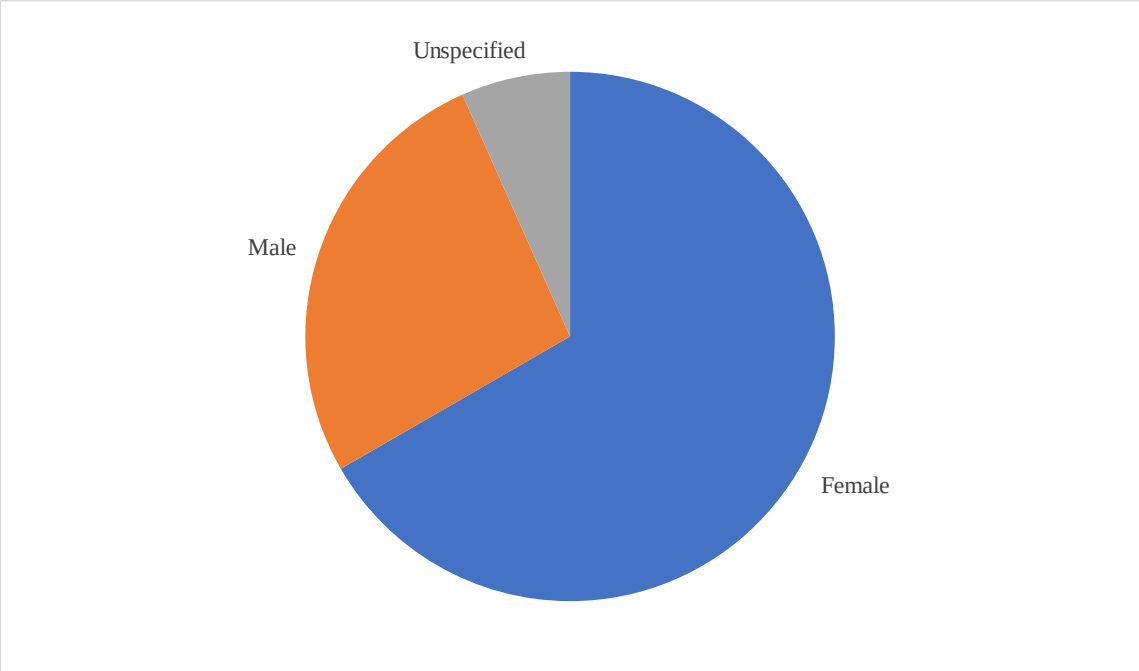
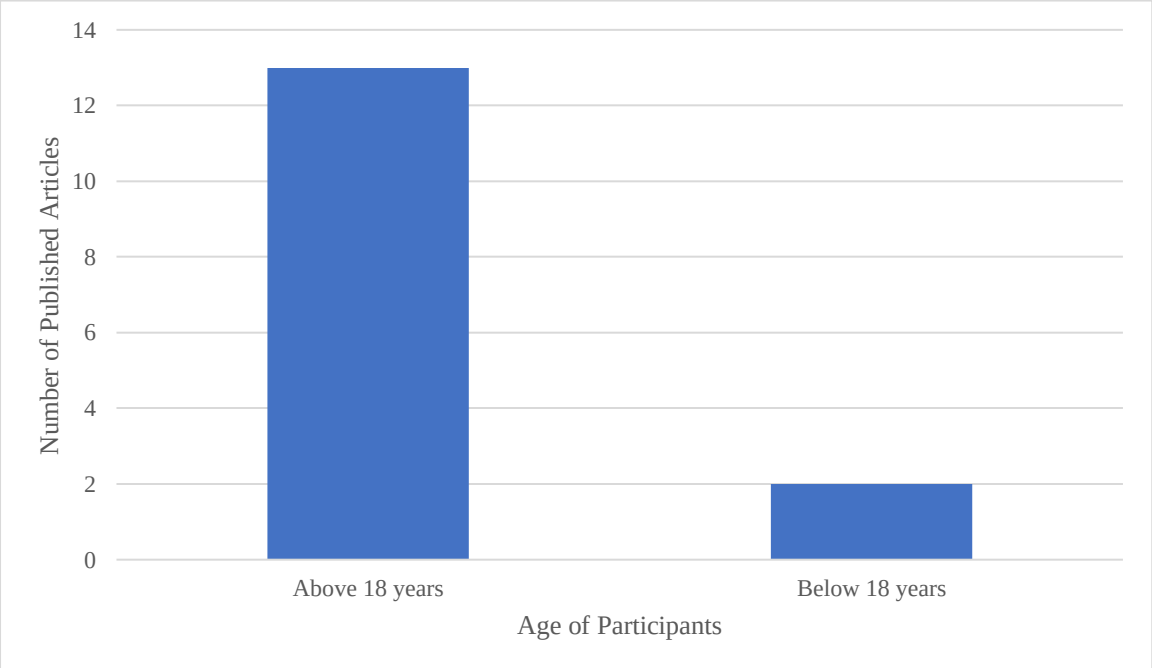


Figure 7: Age of Participants

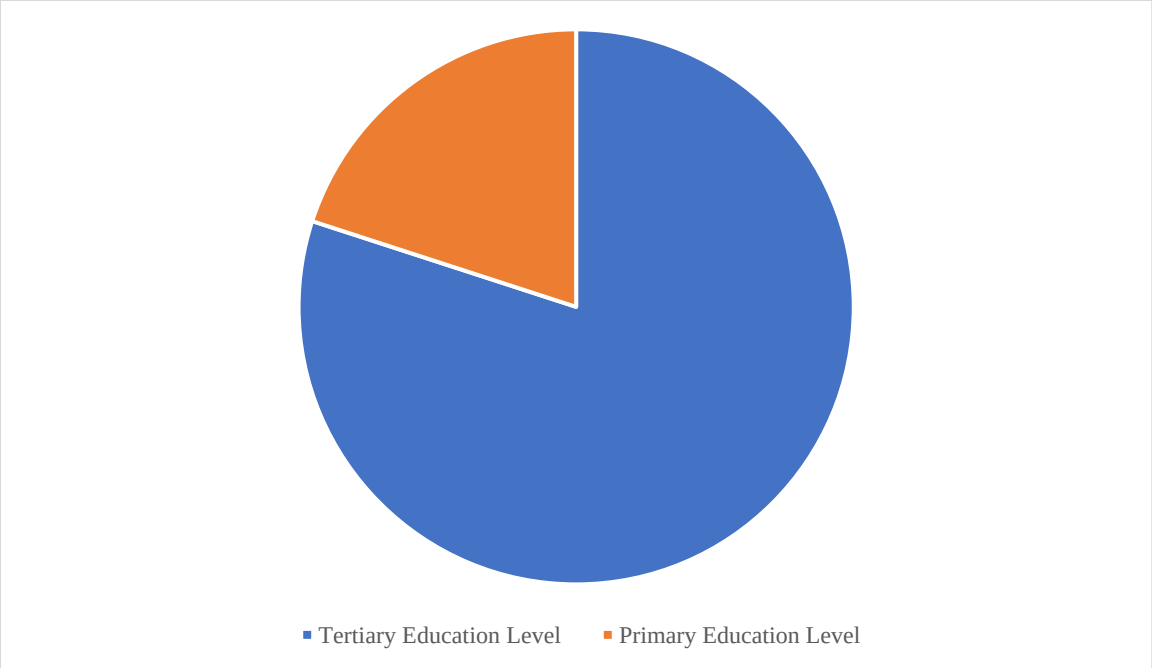


4.2.4 Education and Socioeconomic Characteristics of Participants

The majority of studies included participants living in urban areas (70% to 94%) who possessed a university degree (40-77%). Across the study participants, half were employed (58%), some were students in universities (33.7%- 52.8%), and some were working part-time

and studying (14%). Some studies (n=3) included participants who received financial aid and had migration experiences (Tian et al., 2020). The study by Vallières et al. (2018) was a unique outlier; its participants were specifically Syrian refugees. The majority were unemployed (75.5%) and reported a mean duration of 5.71 years in primary education. Studies including participants at primary education levels = three (n=3), and (n=9) studies included participants at tertiary education levels. This is illustrated in Figure 9 below.

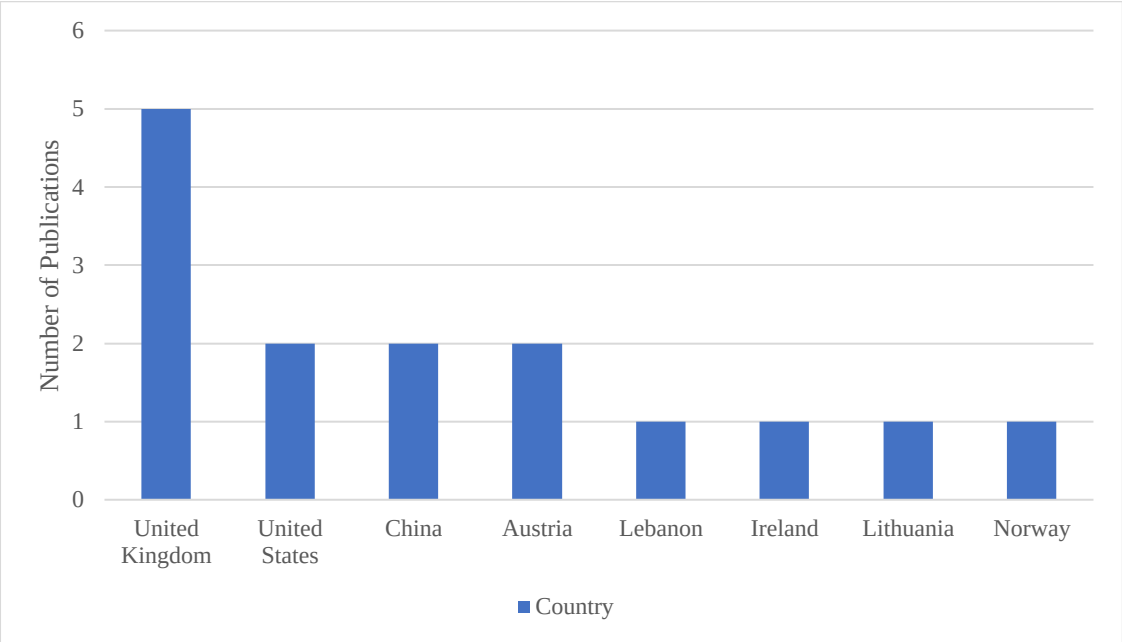
Figure 8: Education Level of Participants



4.2.5 Location of Published Studies

Most of the studies were conducted globally, with the majority occurring in the United Kingdom (n=5). Two studies (n=2) were conducted in the United States of America, Austria and China, respectively. The remaining studies were conducted in Lithuania, Lebanon, Norway and Ireland. This is illustrated in Figure 10 below.

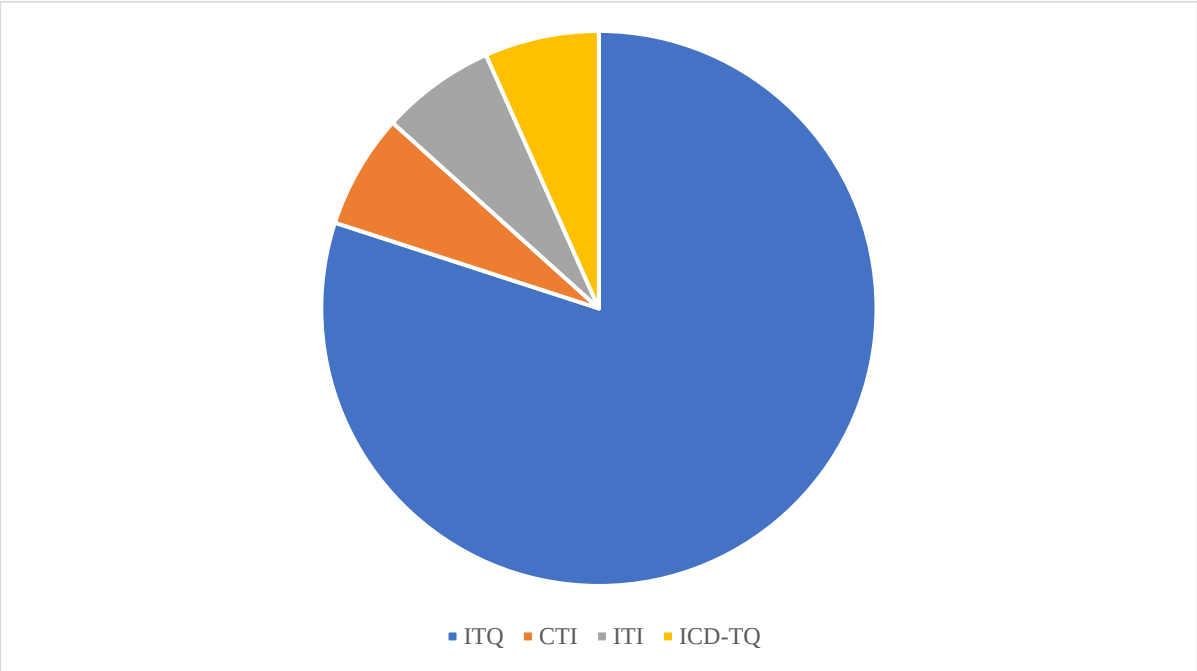
Figure 9: Location of Published Studies



4.2.6 Psychometric Instruments Assessed by Studies

The following subsection includes themes that were identified in the scoping review. These themes will be illustrated according to the research objectives of the study. All of the reviewed studies in question assessed the psychometric properties of a chosen psychometric instrument used to screen for PTSD and CPTSD. This is in line with this study's objective. The most popular assessment included in the studies was the International Trauma Questionnaire (ITQ), with twelve (n=12) studies reviewing its psychometric properties. The remaining three studies assessed the Complex Trauma Inventory (CTI) and International Trauma Interview (ITI). This is illustrated in Figure 7 below. All of the studies were quantitative in nature and had a similar study design and methodology. They all incorporated various quantitative analyses using IBM's Statistical Package for the Social Sciences (SPSS) for most statistical analyses, including Exploratory Factor Analysis (EFA), internal consistency and Pearson's *R* correlation. For Confirmatory factor analysis and invariance testing, most made use of AMOS (Version 22).

Figure 10: Psychometric Assessment Utilised in Studies



4.2.7 Study Designs and Outcomes

All of the publications (n=15) used a quantitative methodological study design which made use of one of four newly developed psychometric assessments, namely *The International Trauma Questionnaire (ITQ), The International Trauma Interview (ITI), The ICD-11 Trauma Questionnaire (ICD-TQ)* and *The Complex Trauma Inventory (CTI)* to determine their psychometric properties and general applicability to ICD 11 PTSD and CPTSD. The studies mostly indicated the prevalence of ICD 11 PTSD and CPTSD to be lower than that of DSM5 PTSD, suggesting the ICD-11 endorses a stricter diagnostic criterion (Cloitre et al., 2018). All of the studies demonstrated the distinction between PTSD and CPTSD as separate disorders, however, different assessments supported various factor models of CPTSD, from *the seven alternative models of CPTSD using the ITQ* as outlined by Karatzias et al. (2016) as illustrated in Figure 9 below.

Some of the reviewed studies also yielded qualitative outcomes about the mean number of traumatic events encountered by the sample, as well as the type of traumatic event. This was assessed using a battery of identified psychometric measures, including *The Life Events*

Checklist (LEC), The Childhood Trauma Questionnaire (CTQ), and The Child and Adolescent Trauma Screen (CATS). The participants in the studies reported exposure to multiple traumatic events, with a small minority reporting exposure to a single event. The number of traumatic events ranged from 1 to 12 across studies, with the median number of events being six. The most commonly encountered type of traumatic event included physical and sexual assault, followed by transportation accidents and apprehension with a weapon. Most of the studies included participants who experienced high levels of childhood trauma, which primarily included emotional abuse and neglect, followed by physical and sexual abuse. Multiple exposures to traumatic events were positively associated with meeting the diagnostic criteria for CPTSD over PTSD across studies.

Further psychometric assessments were utilised to determine participants' morbid health profiles and problematic symptoms to determine those frequently encountered by traumatised individuals. These assessments were also further analysed to determine the psychometric properties of the ITQ, ITI, ICD-TQ and CTI. These included *The Patient Health Questionnaire (PHQ-9)* (Haselgruber et al., 2020), *Traumatic Life Events Questionnaire (TLEQ)* (Vallières et al., 2018), *Dissociative Experiences Scale-Taxon (DES-T)* (Tian et al., 2020), *Posttraumatic Growth Inventory (PTGI)* (Tian et al., 2020), *The Centre of Epidemiological Studies Depression Scale (CES-D)* (Tian et al., 2020), (Litvin et al., 2022)*The Hospital Depression and Anxiety Scale (HADS)* (Ho et al., 2019), The *World Health Organization ACE International Questionnaire (ACE-IQ)* (Ho et al., 2019), *Life Events Checklist for DSM-5 (LEC-5)* (Cloitre et al., 2018), (Litvin et al., 2017) (Hyland et al., 2017) *Post Traumatic Stress Disorder Checklist (PCL-5)* Cloitre et al., 2018) (Karatzias et al., 2016) (Hyland et al., 2017)*Generalized Anxiety Disorder-7 (GAD)* (Gelezelyte et al.,2020) (Haselgruber et al., 2020) (Hyland et al., 2017) *Life Events Checklist Revised (LEC-R)* (Gelezelyte et al., 2022) (Karatzias et al., 2016), (Murphy et al., 2020) (Armour et al., 2020)

(Haselgruber et al., 2019) *Patient Health Questionnaire-9 (PHQ-9)* (Gelezelyte et al., 2022) (Haselgruber et al., 2020) (Haselgruber et al., 2019) (Hyland et al., 2017) , *Difficulties in Emotional Regulation Scale (DERS)* (Gelezelyte et al., 2020), (Karatzias et al., 2016) *Experience in Close Relationship Scale-Short Form (ECR-S)* (Gelezelyte et al., 2020) , *Rosenberg Self-Esteem Scale (RSES)* (Karatzias et al., 2016), *Borderline Pattern Scale (BPS)* (Gelezelyte et al., 2022), *Borderline Symptom List (BSL-23)* (Litvin et al., 2017) *Inventory of Interpersonal Problems (IIP)* (Karatzias et al., 2016), *The Adolescent Dissociative Experiences Scale-8 (ADES-8)*(Haselgruber et al., 2020) (Haselgruber et al., 2019) *The Child Behaviour Checklist Youth Self-Report Form (YSR-11-18R)* (Haselgruber et al., 2019) *The Child and Adolescent Trauma Screen (CATS)* (Haselgruber et al., 2020) *Childhood Trauma Questionnaire (CTQ)* (Karatzias et al., 2016) (Murphy et al., 2020) *The Questionnaire to Assess Children's and Adolescent's Emotion Regulation (FEEL-KJ)* (Haselgruber et al., 2019), *The Questionnaire of Resources in Children and Adolescents (FRKJ)* (Haselgruber et al., 2019) *The Altman Self-Rating Mania Scale (ASRM)* (Litvin et al., 2017)

4.2.7.1 Study Outcomes using the ITQ

All of the outcomes of the published articles examining the ITQ (n=13) indicated promising evidence for its validity and reliability, ultimately endorsing the ITQ as a reliable and valid assessment that is consistent with ICD-11 PTSD and CPTSD. Furthermore, they indicated factorial, convergent and discriminant validity of ICD-11 PTSD and CPTSD, supporting i) that PTSD and CPTSD are two distinct disorders and ii) consistency between the newly proposed ICD-11 diagnostic classification of CPTSD. The prevalence of PTSD in the participants was between 22.8% to 31.6%, and the prevalence of CPTSD was between 13.5% to 56.7 % according to the ITQ. The most significant outcome included support for the ITQ's clinical utility, as well as identifying diagnostic rates of PTSD and CPTSD. Additional

correlational analyses across some studies demonstrated significant correlations between the six ITQ symptom clusters and anxiety, depression, borderline personality disorder and the number of *ACES* (Adverse Childhood Experiences) (Haselgruber et al., 2019).

4.2.7.2 Study Outcomes using the ITI

The study by Gelezelyte et al.,(2022) found the ITI to be a reliable and valid tool for the assessment and diagnosis of ICD-11 PTSD and CPTSD, demonstrating good convergent and discriminant validity for associations with various mental health indicators. The ITI was further argued to be a more robust and thorough clinical research-based evaluation in comparison to the self-administered ITQ. The number of participants meeting the diagnostic criteria for PTSD was 18.4%, and 21.4% for CPTSD based on the ITI. A second-order two-factor CFA model of the ITI PTSD disturbances in self-organisation (DSO) symptoms demonstrated a good fit. However, the ITI and ITQ have poor to moderate diagnostic agreement across various symptom clusters (Gelezeltye et al., 2022)

4.2.7.3 Study Outcomes using the CTI

Litvin et al. (2017) developed the CTI to assess various complex trauma constructs, arguing the CTI has some advantages over the widely studied ITQ, including the ability to study associations among latent trauma constructs and using scaling to measure respondent's intensity and frequency to assessment statement responses. The prevalence of PTSD and CPTSD amongst participants was not explicitly stated in the study results, however, the recruitment process required participants to have experienced at least one traumatic event and report at least one functional impairment (Litvin et al., 2017).

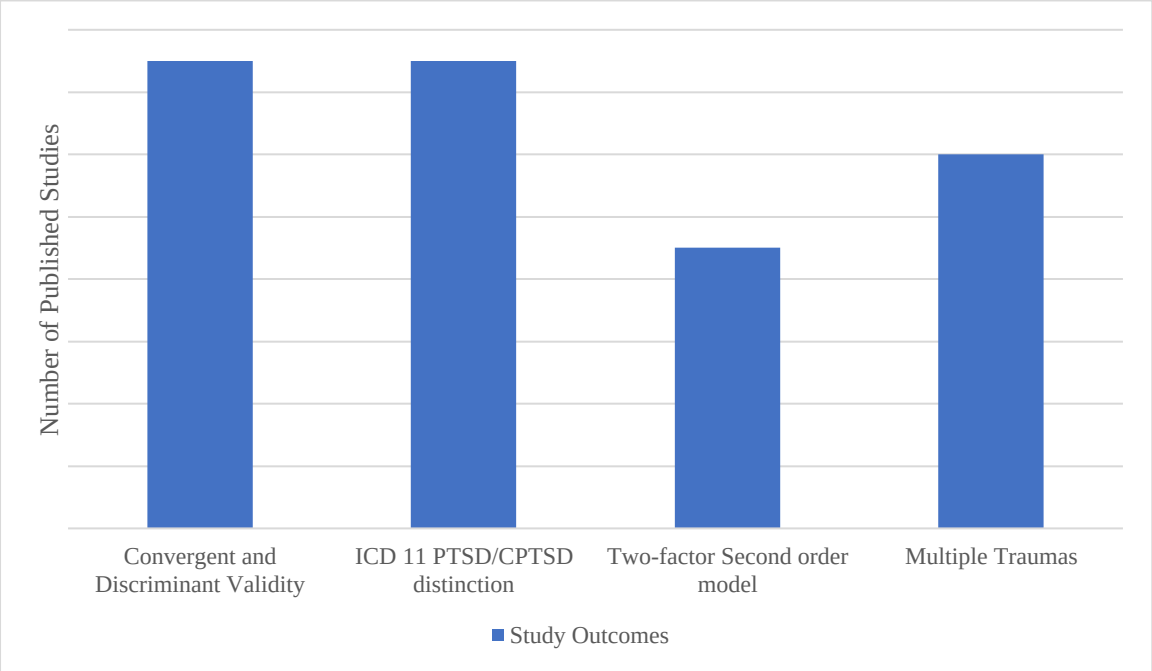
Their findings included CFA that supported two highly correlated second-order factors, namely PTSD and disturbances in self-organisation (DSO). PTSD and DSO each loaded on

three of the six ICD-11 consistent first-order factors. Internal consistency for PTSD and DSO were good to excellent, with Cronbach's αs =.89 to .92. Additional analyses supported the gender invariance of the CFA model, as well as discriminant and convergent validity of the CTI. Discriminant validity was found to be adequate with Borderline Personality Disorder, Major Depressive Disorder and mania. The CTI further supported the distinction between CPTSD and PTSD.

4.2.8 Summary of Study Outcomes

All of the reviewed studies (n=15) demonstrated adequate convergent and discriminant validity through correlational analysis for their utilised instruments, indicating promising future clinical utility for identifying PTSD and CPTSD in line with ICD-11 proposals. The studies further provided support consistent with the distinction of ICD-11 PTSD and CPTSD as two distinct disorders requiring more stringent diagnostic criteria when compared to the DSM 5 PTSD criterion. Most studies identified CPTSD as more prevalent in participants with a history of multiple trauma exposures, further identifying more problematic comorbid psychopathology. Another link identified was the specific experience of childhood trauma and the diagnosis of CPTSD. The most prominent CPTSD model identified across studies favoured the two-factor second-order model outlined by the study by Karatzias et al. (2016.)

Figure 11: Summary of Study Outcomes



4.2.9 Identified Gaps in Literature

All of the studies included in this scoping review were conducted globally (Europe, United Kingdom, United States, Ireland, Middle East and China). Therefore, a clearly identified limitation was in studies conducted locally within Africa/South Africa. This shortage was already noted during the preliminary database searches and subsequent application of the exclusion criteria as outlined in the methodology chapter. It is understood that the published studies were located in developed countries, with the exception of the study by Vallières et al. (2018). Reasons may be implied for the shortage of studies occurring in the South African/African context. For instance, South Africa is still a developing country; resources may be strained and allocated to requirements such as food, fuel and shelter instead, taking precedence over researching psychological trauma. The study by Docrat et al. (2019) supports this hypothesis by exploring the expenditure of funds towards mental healthcare in South Africa: “The study found that South Africa’s public mental health expenditure in the 2016/17

financial year was USD615.3 million, representing 5.0% of the total public health budget (provincial range: 2.1–7.7% of provincial health budgets)" (p.706).

South Africa's unique, controversial and contentious past relationship with psychometric assessments during the Apartheid era can also not be ignored. During Apartheid, psychometric measures were administered to support a sinister agenda to act as tools to further oppress minority groups. Such tests were conducted to observe the difference across racial groups in terms of ability levels and cognition (Laher & Cockcroft, 2014). However, these differences were later identified to be due to unfair and irrelevant norm group standardisation, subsequently leading to the ban of psychological assessments in South Africa.

Since the beginning of the democratic republic of South Africa in 1994, after much debate amongst labour organisations, psychometric assessment use was reinstated on the condition that stringent rules were set in place. The Employment Equity Act, No 55 of 1998 includes specific rules regarding the use of psychometric instruments, including use only if the assessment process is fair, reliable and valid for all employees. The Health Professions Act 56 of 1974 also included additional requirements and regulation of psychometric measures for practitioners, ensuring ethical and standardised usage. However, this may also impact funding opportunities to conduct research on further developing assessment measures in South Africa, leading to a lack of literature on this topic. Location of the study was therefore identified as a limitation. The irony is that a need for this kind of study is evident, considering the literature published describing the psychosocial issues many South Africans face, and identifying trauma as a leading mental health problem. A study by Swain et al. (2017) found that the lifetime prevalence of PTSD in South Africa is 2.3%, compared to 1-2% in Western Europe, suggesting clinical relevance in South Africa.

The education level and socioeconomic status represented in the number of study samples comprised 75% from an educated, employed and urban background. Only 25% of the

studies included participants from disadvantaged backgrounds who were unemployed and only had a primary level of education. This is a clear limitation, and thus the generalisability of the studies may be compromised.

Another gap identified in the literature was the study design. Only quantitative studies met the inclusion criteria for this scoping review, with a shortage of qualitative studies noted during the study selection phase of the scoping review. However, this could be due to the title and focus of the scoping review; most studies included psychometric assessments, which are mostly quantitative and statistical in nature.

The enlisted studies all offered various strengths and outcomes that will undoubtedly contribute to this research area's existing body of knowledge. While this is promising, the respective authors/researchers also identified various limitations within their studies. Such limitations included concerns regarding sample representation, size, and data collection methods that included psychometric assessment items of trauma overlap that may have inflated convergent validity with other measures of trauma (Litvin et al., 2017, Cloitre et al., 2018, Ho et al., 2019, Hyland et al., 2017, Tian et al., 2020, Vallières et al., (2018). Some studies did not screen participants for comorbid diagnoses, which may have skewed some results. Data was further primarily collected using self-report measures, possibly resulting in participant response variety e.g. self-report biases (Litvin et al., 2017, Armour et al., 2021, Sele et al., 2020, Gelezelyte et al., 2022). A limitation of underreporting of childhood trauma was considered by various studies, particularly those utilising foster children and military veterans (Haselgruber et al., 2019, Armour et al., 2021, Murphy et al., 2020). Furthermore, the cultural applicability of some assessment items was questioned by the authors/researchers in some studies (Vallières et al., 2018, Tian et al., 2020, Ho et al., 2019).

In line with this, the various limitations posed by the various authors/researchers may be addressed in several ways. In terms of issues related to self-report measures, the further

development of clinician-administered assessments is encouraged, as indicated in the study by Gelezelyte et al. (2022). This may reduce the potential towards self-response biases. An additional sampling method, such as random sampling, may be useful in order to increase the generalisability of the study findings, specifically with regard to lifetime prevalence rates of PTSD and CPTSD across various population groups. Future studies could also employ qualitative study designs to explore the lived experience of individuals with PTSD and CPTSD in order to address the tendency of underreporting of these conditions. Qualitative studies may assist researchers in identifying patterns of help-seeking behaviour and the impact thereof in particular populations (Haselgruber et al., 2019, Armour et al., 2021, Murphy et al., 2020).

4.3. DISCUSSION

4.3.1 Introduction

The discussion section will begin by discussing the study findings following the PCC (Participants, Context and Concepts) Table format as indicated in section 3.5, Table 5. Thereafter, the construct validity of ICD-11 CPTSD will be discussed, followed by a discussion of the psychometric studies incorporated in the various articles. The reader will then be oriented to a discussion of the prevalence of PTSD, CPTSD and other severe psychopathology. The chapter will conclude with a discussion of the study designs of the articles included in the scoping review.

4.3.1.1 Participants of Reviewed Studies

The reviewed studies incorporated a wide and varied pool of participants in terms of their age, gender, socioeconomic status and level of education. The participants were located globally, and their ages ranged from 10 to 74 years of age. Female participants appeared more frequently in participant samples, with (n=10) studies having a majority female distribution

ranging from 52%-88.6% of the sample size. This factor is described in a study by Oliver et al. (2005) demonstrating that females are more likely to form part of the help-seeking population for mental healthcare.

The studies that incorporated a larger male sample distribution were primarily observed in studies on veterans. The participants were mainly recruited from clinical settings, such as trauma centres, that comprised both a trauma-exposed clinical sample and a community sample. Because the studies included in the review utilised screening assessments that were initially normed for adults, the majority of studies had participants above 18 years of age (n=13), while only two (n=2) studies made use of a child population. A varied trend was noted in terms of participants' education level and socioeconomic status, whereby most participants were enrolled in tertiary education or employed. Only one study evaluated unemployed refugees (Vallières et al., 2018). This observation is in line with the location of most studies that utilised participants in developing countries, who are more likely to come from areas with higher employment rates than underdeveloped countries. This will be discussed in more detail in section 4.3.1.3.

4.3.1.2. Concept of Reviewed Studies

The 15 reviewed articles included in the present study all had similar titles, aims and objectives and study designs. Complex Posttraumatic Stress Disorder conceptualised according to ICD-11 proposals by all studies. It is worth noting that the ICD-11 CPTSD proposal is a fairly new concept, with the ICD-11 publication only occurring in 2019 (World Health Organisation, 2019), despite Herman's formal introduction of complex trauma in 1992. Most studies focused on validating the specific measure used to identify CPTSD, while some (n=3) explicitly sought to identify the differentiation between PTSD and CPTSD.

4.3.1.3. Context and Limitations of Reviewed Studies

All reviewed studies were located globally, in primarily developed countries, including Europe, the United States of America, Ireland and China. During the scoping stage of the study, the researcher noted a shortage of local studies relating to the South African context. Various reasons were posed, such as poor socioeconomic status and consequent lack of funding and access to resources required to conduct such research. Additionally, psychometric assessments have a distinctly contentious history in South Africa, which may have contributed to the lack of studies focusing on or requiring the application of psychometric assessments to the public (Laher & Cockcroft, 2014). Such factors need to be considered for future research in a developing country that is likely to be under-resourced, with an added entrenched socio-political, and historical dimension.

Furthermore, it was noted that the studies included in this review made use of only quantitative study designs in accordance with the inclusion criteria. Only quantitative studies were considered appropriate and relevant to answer the overarching research question and meet the current study objectives. It is pertinent that the researchers of the included studies used both ontological and epistemological approaches. In traditional research, ontology refers to the branch of philosophy that explores existence and reality, whereas epistemology is the branch of philosophy concerned with the nature of knowledge (Creswell, 2015). Therefore, if a positivist paradigm is followed, the ontology behind such a paradigm asserts that there is only one objective reality.

The epistemological assumption of positivist approaches further asserts that this objective reality is measurable and that observable phenomena can provide credible facts (Maarouf, 2019). According to Creswell (2015), the quantitative methodology leans on the principles of objectivism and positivism. According to this paradigm, only one objective reality remains separated from the researcher's perceptions. This observation supports the framework

followed by the researchers in the various articles included in the scoping review, as evidenced by their approach to validating and assessing measures developed to screen for CPTSD.

Therefore, the present study identified a single major gap in the existing literature: a limited number of studies that developed/validated psychometric assessments as screening tools for CPTSD.

Such research would be beneficial in further exploring and understanding CPTSD, as an earlier limitation of the studies identified in section 4.2 was the tendency to underreport symptoms consistent with PTSD and CPTSD. An understanding of why this happens, in addition to understanding problematic help-seeking behaviour, will be vital to improving mental healthcare utility and outcomes, which may be viable through the addition of qualitative designs. Mixed study designs utilising both quantitative and qualitative study designs could assist in bridging this gap by allowing researchers to demonstrate the nature of the relationship between trauma-related disorders and help-seeking behaviours. Simultaneously an understanding of the individual and how the social and contextual factors respond to or influence associated outcomes can be developed (Byrne & Humble, 2007).

While literature extending across the global context is applicable, working with specific population groups and demographics might make the findings not generalisable across samples and population groups due to observed cultural disparities. The absence of literature in the South African context may be disadvantageous. One reason is that while specific traumas may be exclusive to particular population groups, trauma is a relatively widely encountered phenomenon. The South African population cohort is no exception to this rule. A study by Rink & Lipinska (2020) indicated that individuals from low-to-middle-income countries (LMIC) have a higher prevalence of trauma experience associated with PTSD and CPTSD. However, it was noted that studies of this nature mainly originate in high-income countries (HIC). In keeping with more recent understandings (Collings et al., 2013) of trauma exposure (e.g.,

poverty & institutionalised racism as forms of structural trauma) and their associated outcomes, further studies accessing vulnerable populations such as in South Africa can assist in establishing the nature and extent of trauma experiences and outcomes in developing countries.

This impact may be far-reaching, as South Africa has been included as the third most dangerous country in the world, according to the Numbeo 2021 Crime Index. Exposure to violence, crime, gender-based violence and political unrest are a few traumatic incidents South Africans encounter (Schonteich & Louw, 2001). The rationale for including an understanding of South Africans' experiences of trauma is, therefore, relevant and needed.

Furthermore, it is important to understand how cultures vary globally, as the cultural conceptualisation and manifestation of adverse trauma reactions may differ vastly. Culture centres around a population's characteristics, including language, beliefs, behaviours, understanding of society, and constructs based on socialisation (Hofstede, 2003). Of particular relevance is how culture is observed to inform individuals about how they experience and react to mental illness and well-being (Swartz, 1998). For this reason, the standardisation and adaptation of psychometric measures should be encouraged, as well as the development of culturally appropriate norms for the South African population. This would be beneficial for future study outcomes to ensure accurate data collection, demonstrating valid and reliable results. The study by Ho et al. (2019) is an example of an attempt whereby the adapted ITQ for the Chinese population was assessed for relevance and appropriateness.

The present study was conducted after a thorough search of multiple online databases, of which 15 studies met the inclusion criteria. The studies all presented similar results/outcomes, supporting the findings of the studies presented in the literature review (chapter 2). While reviewing these studies, four overarching themes were identified: 1) construct validity of ICD-11 PTSD and CPTSD, 2) psychometric measures, 3) the prevalence of PTSD/CPTSD and severe psychopathology, and 4) study design. These themes are illustrated

in Tables 6, 7, 8, and 9 followed by a discussion below.

4.3.2. Construct Validity of ICD-11 PTSD and CPTSD

Table 8

Construct Validity of ICD-11 PTSD and CPTSD

Construct Validity of ICD 11 PTSD and CPTSD	**Source Author(s)**
First-order six-factor model	Ho et al., 2019, Karatzias et al., 2016, Murphy et al., 2020, Armour et al., 2021, Frost et al., 2022,
Second-order two factor model (ICD 11 CPTSD)	Ho et al., 2019, Litvin et al., 2017, (Vallières et al., 2018, Karatzias et al., 2016, Haselgruber et al., 2020, Murphy et al., 2020, Gelezelyte et al., 2022, Frost et al., 2022, Sele et al., 2020, Hyland et al., 2017, Shevlin et al., 2018, Haselgruber et al., 2019

The first prominent theme identified across the studies was which conceptual model of CPTSD was supported by the study's findings. The *seven alternative models of ICD-11 CPTSD using the ITQ* was introduced by Karatzias and colleagues in 2016. The various studies sought to assess symptom structure and factorial validity of ICD-11 CPTSD through a series of confirmatory factor analysis (CFA). According to Haselgruber et al. (2019)and Karatzias et al. (2016) "models were hypothesized to resemble possible representations of PTSD and CPTSD according to ICD-11" (p.63). Haselgruber et al. (2019) elaborates on each model:

> Model 1 is a single-factor model with all symptoms loading on a single latent variable (CPTSD). The second model is a six-factor model with six correlated first-order factors (Av, Re, AD, NSC and DR) (see Literature Review, Section

> 2.1.2, for a description of these acronoyms). Model 3 includes six first-order factors and one single second-order factor (CPTSD). The fourth model comprises of six first-order factors and two correlated second-order factors (PTSD and DSO). Av, Re and Rh load on the second-order factor PTSD, and AD, NSC and DR load on the second-order factor DSO. In model 5, PTSD symptoms load directly on the PTSD factor, while DSO symptoms load on their respective first-order factors (AD, NSC, DR), which load on their respective first-order factors (Av, Re, Th), which load on the PTSD factor, while DSO symptoms load directly on the DSO factor. In model 7, all PTSD and DSO symptoms load directly on their respective factor (PTSD, DSO) (p.65).

Most of the studies' findings demonstrated support for the second-order two-factor model of CPTSD, which is conceptually consistent with ICD-11 proposals of CPTSD as described in chapter 2. The theoretical structure of ICD-11 CPTSD was represented as the best-fitting description among participants who met the criterion for CPTSD using various measures (ITQ, CTI, ITI and ICD-TQ). As indicated in Table 7, some of the studies also found the first-order six-factor model fitting when considering their results.

These findings further support literature that advocates for the distinction of PTSD and CPTSD as two separate disorders that are mutually exclusive. An individual may be diagnosed with either PTSD or CPTSD, but not both (Gelezelyte, 2022). The existence of two distinct symptom profiles of PTSD and CPTSD has been supported in a number of studies, including various samples (Brewin et al., 2017).

4.3.3. Psychometric Measures

Table 9

Psychometric Measures

Psychometric Measures	**Author Source(s)**
Studies that made use of one psychometric measure	Frost et al., 2020, Sele et al., 2020, Shevlin et al., 2018
Studies that made use of multiple measures or questionnaires	Hyland et al., 2017, Haselgruber et al., 2020, Haselgruber et al., 2019, Armour et al., 2021, Murphy et al., 2020, Cloitre et al., 2018, Ho et al., 2019, Tian et al., Gelezelyte et al., 2022, Litvin et al., 2017, Karatzias et al., 2016
Studies that made use of the International Trauma Questionnaire (ITQ)	Shevlin et al., 2018, Hyland et al., 2017, Haselgruber et al., 2020, Haselgruber et al., 2019, Sele et al., 2020, Frost et al., 2020, Armour et al., 2021, Murphy et al., 2020, Cloitre et al., 2018, Ho et al., 2019, Tian et al., 2020, Vallières et al., 2018, Karatzias et al., 2016
Studies that made use of the International Trauma Interview (ITI)	Gelezelyte et al., 2022
Studies that made use of the Complex Trauma Inventory (CTI)	Litvin et al., 2017

The second theme that emerged across the studies was the number of psychometric

measures included. Out of a total of 15 studies, the majority (n=12) included more than one psychometric instrument and utilised a wider test battery to measure additional comorbid conditions and environmental factors related to trauma exposure. Additional psychometric measures were also used as pre-screening measures to select participants who met prerequisite conditions for the various studies.

4.3.3.1. Studies That Made Use of a Single Measure

The studies by Frost et al. (2020) (ITQ10), Sele et al. (2020) (ITQ12), and Shevlin et al. (2018) (ITQ11) only utilised an individual instrument for their study, namely the ITQ. The study by Sele et al. (2020) relied on additional ongoing Norwegian trauma treatment studies by Bernstein & Fink (1998) and Dovran et al. (2013) to be used in addition to the ITQ to assess the participants for study suitability. These previous studies assessed exposure to interpersonal trauma in childhood using the Childhood Trauma Questionnaire (CTQ) and Stressful Life Events Screening Questionnaire (Sele et al., 2020). The purpose for including the ITQ in the authors' studies was to assess its psychometric properties, which have found the ITQ to be a valid and reliable instrument for screening for CPTSD.

4.3.3.2. Studies That Made Use of an Assessment Battery

The remaining studies, (ITQ1), (ITQ2), (ITQ3), (ITQ4), (ITQ5), (ITQ6), (ITQ7), (ITQ8), (ITQ9), (ITQ10), (ITI1) and (CTI1) included multiple psychometric assessments or questionnaires in their study. The studies by Tian et al. (2020) (ITQ3), Cloitre et al. (2018) (ITQ1), Gelezelyte et al. (2022) (ITI1), Litvin et al. (2017) (CTI1), Karatzias et al. 2016 (ITQ9), Murphy et al. (2020) (ITQ6), Armour et al. (2021) (ITQ8), and Hyland et al.,(2017) (ITQ2) used the Life Events Checklist for DSM-5 (LEC-5) to assess lifetime exposure to traumatic events. This was the most frequently used assessment among the reviewed studies. It is able to measure the number of traumatic events an individual was exposed to and is in line with the aims of the various studies (Hyland et al., 2017). The PTSD Checklist for DSM-5 (PCL-5) was

another measure using the DSM-5 criteria as a guideline for screening trauma reactions and symptoms (Hyland et al., 2017). Three studies, Litvin et al. (2017) (CTI1), Karatzias et al. (2016) (ITQ9) and Hyland et al. (2017) (ITQ2) included the PCL-5 as an assessment in their study. The PCL-5 included a Likert scale response format, allowing respondents to answer each question about how bothered they are by a particular symptom. The reliability of this measure is considered satisfactory (Litvin et al., 2017). Depressive symptoms were assessed using the Centre for Epidemiologic Studies Depression Scale (CES-D) in the studies by Tian et al. (2020) (ITQ3) and Litvin et al. (2017) (CTI1). The CES-D demonstrated good reliability (Chronbach's α=.83), and the Chinese-translated CES-D also demonstrated good reliability and construct validity (Tian et al., 2020). Some studies by Hyland et al.(2017) (IQ2), Gelezelyte et al. (2022) (ITI1), Haselgruber et al.(2019) (ITQ4) and Haselgruber et al. (2020) (ITQ5) assessed depressive symptomology using the PHQ-9, which is a measure of DSM-IV Major Depressive Disorder (Hyland et al., 2017).

Four studies by Haselgruber et al. (2019) (ITQ4), Haselgruber et al.(2020) (ITQ5), Gelezelyte et al. (2022) (ITI1) and Hyland et al.(2017) (ITQ2) used the GAD-7 to assess anxiety symptomology consistent with DSM-IV Generalized Anxiety Disorder (GAD). Similarly to the PCL-5, the GAD-7 is a Likert scale assigned a value based on how bothered respondents are by a particular symptom in the last two weeks. It also demonstrated good psychometric properties among clinical populations. The reliability of the assessment in the present sample was satisfactory (α= .86) (Hyland et al., 2017). Self-esteem was tapped using the Rosenberg Self-Esteem Scale (RSES) in the study by Gelezelyte et al.(2022) (ITI1) and Karatzias et al. (2016) (ITQ9). The RSES uses Likert type items to assess positive and negative evaluations of the self, and the scale scores demonstrate high reliability in the study sample (α =.89)

Overall, regarding this theme, the majority of the studies that were reviewed made use of valid and reliable psychometric instruments to measure symptoms associated with ICD-11

PTSD and CPTSD, as well as common comorbid conditions such as anxiety, depression, and borderline personality disorder. Furthermore, related constructs relevant to the DSO element of CPTSD were also screened for, including self-esteem, emotional regulation, and interpersonal problems. This was found to apply to the reliability and consistency of the outcomes and conclusions reached in this study area. Using valid psychometric measures and scales to collect data strengthened the scientific rigour with which these studies were assessed and further increased confidence of the findings and results of such studies.

However, while there are various benefits of using psychometric measures when collecting data, there are also various limitations when using such scales. When psychometric measures, in the form of Likert-style surveys, are utilised, the reliability of the data often depends on the quality of the participant's responses (Chukwuemeka, 2021). When response items are structured specifically, participant responses may not be accurate. This is often observed in closed-ended questions whereby participants are not allowed to elaborate on their responses or when questions include confounding statements. Therefore, questionnaire structure is a moderating variable in the quality of participant responses and, ultimately, the findings (Chukwuemeka, 2021).

Furthermore, participants may respond inaccurately in psychometric measures due to fluctuating levels of psychological functioning, such as test-taking anxieties (Srivastav, 2018). For example, in diverse populations, these anxieties may result from cultural differences or language barriers, disadvantaging some participants more than others. Because not all psychometric measures are applicable across populations, the test results may be somewhat skewed and not entirely accurate and representative of the population sample.

4.3.4. The Prevalence of PTSD, CPTSD and Associated Psychopathology

Table 10

The Prevalence of PTSD, CPTSD and Associated Psychopathology

The Prevalence of PTSD, CPTSD and Associated Psychopathology	**Author Source(s)**
Borderline Personality Pattern	Gelezelyte et al., 2022, Haselgruber et al., 2019, Hyland et al., 2017, Litvin et al., 2017
Dissociation Symptoms	Gelezelyte et al., 2022, Haselgruber et al., 2019, Haselgruber et al., 2020
Generalized Anxiety	Gelezelyte et al., 2022, Hyland et al., 2017, Haselgruber et al., 2020
Major Depressive Disorder	Haselgruber et al., 2019, Litvin et al., 2017
Mania	Litvin et al., 2017
Functional Impairment	Haselgruber et al., 2019, Shevlin et al.,2018

The prevalence rates for PTSD and CPTSD were the third theme identified across reviewed studies, as was the link between CPTSD and severe psychopathology. Among clinical sample populations, the majority of participants met the criteria for a diagnosis of either PTSD or CPTSD, with most studies indicating a higher prevalence of CPTSD than PTSD (Shevlin et al., 2018). For example, the study by Cloitre et al. (2021) found that: “In total, 18.3% (n = 192) of the community sample met the criteria for a diagnosis of either PTSD or CPTSD. More specifically, 5.3% (n = 56) met the criteria for a PTSD diagnosis, and 12.9% (n = 136) met the criteria for a CPTSD diagnosis” (p.543).

This was a consistent finding across most studies, with some reporting higher prevalence rates for PTSD and CPTSD: "The prevalence of ICD-11 PTSD and C-PTSD using the ITQ were 37% and 53.1% respectively" (Karatzias et al., 2016, p.77). Significant differences were also noted in the mean interpersonal traumas recorded between those who met the criteria for PTSD and CPTSD versus those who did not. Furthermore, those with a CPTSD diagnosis generally experienced significantly more interpersonal traumas than those with a PTSD diagnosis. This is reflected in the study by Karatzias et al. (2016): "The mean number of traumas reported using the Life Events Checklist was 5.00 (SD = 2.48), with only a small number (4.6%) reporting exposure to a single traumatic event"(p.78).

This is consistent with the literature outlined in Chapter 2, which described how multiple, repeated, and sustained trauma is associated with CPTSD (Herman, 1992). This further agrees with researchers' theories that postulate the manifestation of complex trauma as disturbances across multiple domains of functioning (Karatzias et al., 2016). The study by Gelezelyte et al. (2020) conducted further analyses to determine the convergent and discriminant validity of the ITI, and in doing so, was able to determine correlations between PTSD and other psychopathology: "The ITI DSO factor was significantly positively associated with depression, borderline personality pattern symptoms, difficulties in emotion regulation as well as anxiety and avoidance in relationships. It was also negatively associated with self-esteem and general well-being" (p.8).

However, no significant links were identified between PTSD and gender nor between DSO and gender or age. A subtheme that emerged within the prevalence of PTSD and CPTSD was the type of trauma experienced. Childhood trauma was specifically identified as having a positive correlation with CPTSD, which was screened for using popular childhood trauma measures such as the *Adverse Childhood Experiences (ACE) checklist* (Ho et al., 2019). Additionally, the younger an individual was when they experienced trauma, the higher the

levels of PTSD that were reported later. Other kinds of traumas reported included unwanted sexual abuse/experience, childhood physical abuse, transport accidents, physical assault with a weapon, the violent death of a close loved one and natural disasters. Sexual abuse occurring in childhood, in particular, produced a positive correlation with PTSD, DSO symptoms and Borderline Personality Organization (Gelezelyte et al., 2022). This finding supports the ongoing debate amongst researchers that Borderline Personality Disorder may be conceptualised as either CPTSD or an extreme form of CPTSD.

Further problematic symptoms associated with CPTSD symptom clusters of re-experiencing, affective dysregulation, and disturbed relationships were independently related to dissociative experiences (Hyland et al., 2020). The discriminant and convergent validity across all instruments found that the latent PTSD factor was associated with generalised anxiety, depression, dissociative symptoms, and borderline personality organization. This may explain why individuals often seek mental healthcare treatment for reporting a comorbid condition associated with traumatic histories. Therefore, therapeutic guidelines emphasise thorough clinical history taking to screen for possible underlying trauma (van der Kolk, 2001).

Across the reviewed studies, the prevalence of PTSD ranged from 22.8% to 31.6%, and the prevalence of CPTSD was between 13.5% to 70.1%. More individuals met the diagnostic criteria for DSM-5 PTSD than for ICD-11 PTSD and CPTSD, endorsing the ICD-11's more stringent criteria. Underreporting also remains an issue, which may have resulted in lower results in terms of prevalence.

4.3.5. Analysis of Study Design

Table 11

Analysis of Study Design

Analysis of Study Design	**Source Author(s)**
Quantitative Methodological Designs (Validation studies)	Cloitre et al., 2018, Shevlin et al., 2018, Gelezelyte et al., 2022, Haselgruber et al., 2019, Haselgruber et al., 2020, Litvin et al., 2017, Hyland et al., 2017, Ho et al., 2019, Karatzias et al., 2016, Murphy et al., 2020, Armour et al., 2021, Frost et al., 2022, Sele et al., 2020, Vallières et al., 2018, Tian et al., 2020,
Benefits and limitations of study designs	Cloitre et al., 2018, Shevlin et al., 2018, Gelezelyte et al., 2022, Haselgruber et al., 2019, Haselgruber et al., 2020, Litvin et al., 2017, Hyland et al., 2017, Ho et al., 2019, Karatzias et al., 2016, Murphy et al., 2020, Armour et al., 2021, Frost et al., 2022, Sele et al., 2020, Vallières et al., 2018, Tian et al., 2020
Reliability and validity of reviewed studies	Cloitre et al., 2018, Shevlin et al., 2018, Gelezelyte et al., 2022, Haselgruber et al., 2019, Haselgruber et al., 2020, Litvin et al., 2017, Hyland et al., 2017, Ho et al., 2019, Karatzias et al., 2016, Murphy et al., 2020, Armour et al., 2021, Frost et al., 2022, Sele et al., 2020, Vallières et al., 2018, Tian et al., 2020,
Limitations of reviewed studies	Litvin et al., 2017, Cloitre et al., 2018, Ho et al., 2019, Hyland et al., 2017, Haselgruber et al., 2019, Armour et al., 2021, Murphy et al., Tian et al., 2020, Vallières et al., 2018,

Of the various studies reviewed for this research, the present study used only one type of methodological design to reach its intended outcomes and conclusions. These are reflected in the third and final identified theme. All of the present studies (n=15) used a quantitative methodological design. Based on the inclusion criteria (quantitative study designs), the reviewed studies demonstrated sound psychometric properties for screening tools for CPTSD, which further supported the addition of CPTSD as a separate disorder and valid construct. The nature of the present study required a focus on studies that only utilised a quantitative methodological design due to the topic of assessing the psychometric properties of screening tools for CPTSD. The quantitative nature of assessing psychometric instruments requires advanced statistical analyses best reflected in quantitative designs.

4.3.6. Benefits and Limitations of Study Designs

The studies reviewed met the present study's inclusion criteria, and specific benefits and limitations will be addressed concerning quantitative study designs. This methodology presents respective benefits and limitations that may impact the results and subsequent outcomes of the study.

Using a quantitative design allows researchers to collect primary data from a population sample using psychometrically sound measures. Therefore, it is assumed the outcomes and results of such studies possess a heightened degree of accuracy due to the rigorous scientific methods the data undergoes (Tian et al., 2020). Based on the inclusion criteria for the current study, the research questions and hypotheses of reviewed studies were investigating psychometric measures used to screen for CPTSD. Therefore, the psychometric instruments used in these studies were selected specifically for their criterion validity regarding the dependent variables (i.e., the presence of complex trauma). The psychometric scales/measures used are discussed in section 4.2.7.

An additional benefit of quantitative designs lies in their analytical nature, which makes use of constructs that hold validity to specific contexts and participants. As noted before, the use of psychometric measures improves validity across diverse sample groups. However, this may result in various limitations. The samples accessed to collect primary data are often small and homogenous, resulting in results that may not be generalisable to wider populations. The studies that identified this as a limitation included sample sizes of 103-1839 participants. While this may not necessarily disadvantage or invalidate the study, it may be understood as a limitation in terms of the generalisability of the study findings, whereby attempting to replicate the studies with larger populations may not yield similar results (Armour et al., 2021). A further limitation of using quantitative data methods is the reliance on self-report measures, which, while useful in assessing subjective experiences, may pose potential self-report errors based on social desirability bias and inaccuracy in estimates regarding time frames as seen in some cross-sectional studies (Shevlin et al., 2018).

On the general level, quantitative study designs have further observed limitations. Future research could utilise qualitative or mixed-method approaches to address the shortcomings identified in quantitative study designs. This will assist researchers in supplementing the observed scores across various psychometric measures, and further understanding the correlational outcomes of some of the studies regarding trauma and other comorbid conditions. Mixed-method designs could provide a way to explore the nature and extent of such relationships and ultimately contribute towards a broader conceptualisation of assessments designed to measure and screen for presenting CPTSD symptoms.

4.3.7. Reliability and Validity of Reviewed Studies

Regarding the reliability and validity of the reviewed studies, the following was found:

- ITQ1 reported that the ITQ was the first assessment designed to capture the ICD-11

PTSD and CPTSD diagnoses. Furthermore, they stated the preliminary-stage studies assessing the ITQ indicated that it is a reliable and valid measure of PTSD and DSO symptoms (Cloitre et al., 2018).

- ITQ2 found that the prevalence of proposed ICD-11 PTSD and CPTSD combined was lower than that of DSM-5 PTSD indicating stricter criteria. While the two systems are often in high agreement regarding which diagnosis is appointed, a meaningful subset of outliers was identified. Individuals who qualified for a DSM-5 PTSD diagnosis did not qualify for an ICD-11 diagnosis of PTSD or CPTSD. Contrastingly, only one participant qualified for a diagnosis of ICD-11 PTSD and CPTSD but not for DSM-5 PTSD (Hyland et al., 2017). This suggests weakness due to possible overlap and mutual inclusivity in criterion validity.
- Study ITI1 examined the properties of the ITI, demonstrating high convergent and discriminant validity. The assessment of the ITI indicated consistent findings when compared to the ITQ, suggesting good cross-assessment construct and criterion validity in terms of ICD 11 PTSD and CPTSD. However, when only PTSD cases were analysed, the diagnostic agreement between the ITI and ITQ was poor (Gelezelyte et al., 2022).
- Various studies included a discussion regarding associations between PTSD/CPTSD and anxiety, depression and borderline personality disorder (study ITQ1, ITQ2, CTI1, ITQ3, ITQ4, ITQ6, ITQ8, ITQ10, ITI1, ITQ12, ITQ13) (Hyland et al., 2021). Study CTI1 found an added negative association between DSO symptoms and general well-being, and contrary to the hypotheses, the analysis revealed that dissociative symptoms were significantly related to the PTSD factor and not the DSO factor (Gelezelyte, 2022). However, correlation cannot imply causation. Therefore, the link between fear and trauma-based disorders and

comorbidities requires further investigation.

- CTI1 found that the CTI demonstrated adequate convergent validity with other PTSD measures and discriminant validity with MDD, BPD and mania. The CTI was further found to have good construct validity and gender invariance (Litvin et al., 2017).
- ITQ 13 examined the translated ITQ in a sample of young Chinese adults. It demonstrated adequate test-retest reliability. However, it indicated further correlational studies between PTSD and DSO variables would be required to fully encapsulate how complex trauma is presented in Chinese populations (Ho et al., 2019).

4.3.8. Limitations of Reviewed Studies

With regard to significant limitations, a few appeared to be prevalent in most of the studies reviewed. All reviewed studies included a section outlining several limitations, with the most commonly observed to be small sample sizes which may have led to limited representation (homogenous representation). Some studies (ITQ1, ITQ2, ITQ7, ITQ9, ITQ10, ITI1) specifically used a clinical population of both in and out-patients at trauma centres, which may have limited the generalizability of the findings. Generalisability to non-English speaking countries was also an observed limitation (Cloitre et al., 2018). Additionally, most of the psychometric assessments utilised across studies were in the format of self-report measures, except the ITI (ITI1), which may have potentially led to reporting bias in participants' responses (Cloitre et al., 2018, Shevlin et al., 2019, Hyland et al., 2017, Karatzias et al., 2016, Murphy et al., 2020, Armour et al., 2021). Two studies (ITQ3 and ITQ13) examined the translation and validation of the Chinese ITQ. They indicated semantic equivalence of the endorsed ITQ items to be potentially limiting (Ho et al., 2019, Tian et al., 2020).

An additional observed limitation included a shortage of studies conducted in developing countries, specifically South Africa. However, a study by Collings et al. (2013) sought to address research's developmental gap in this topic within the South African context. The article comprises a preliminary validation study of the Developmental Trauma Inventory (DTI), a self-administered screener administered retrospectively to participants to screen for interpersonal childhood trauma experiences explicitly developed for use within the South African Context (Collings et al., 2013). The study's findings supported the validity of the DTI in the South African context. The aforementioned study could not be included as part of the present study due to it not meeting the various pilot search criteria. However, it is justified to be included in this section due to its relevance in addressing the shortage of studies conducted in South Africa.

To conclude the discussion section, all studies reviewed endorsed acceptable psychometric properties for their respective psychometric measures used to screen for CPTSD after various statistical analyses were performed. Multiple themes were identified and outlined throughout this section, with the inclusion of a critical discussion regarding the various factors contributing to these findings. The present study's findings demonstrated greater evidence for supporting newly developed screening assessments for CPTSD, furthering their clinical and research relevance in terms of the ICD-11 construct of PTSD and CPTSD. This builds on the existing body of knowledge and agrees with the ICD-11 model of CPTSD, which may assist researchers in understanding and treating CPTSD more effectively. The data found in the present study also contributes to a clearer understanding of how the various screening measures can tap into various constructs that contribute towards the conceptual model of CPTSD.

Moreover, the construct of CPTSD is relatively new, and most of the existing research has been conducted recently; therefore, this study will help contribute to the growing body of research. The study's findings may further help identify appropriate assessments for CPTSD

based on their scientific properties, ultimately assisting in identifying patients at risk for developing CPTSD while increasing awareness of this debilitating condition. The findings further illustrate that CPTSD has negative implications, mainly how itis complex to treat and will require further research and assessment to improve treatment interventions and preventative identification.

CHAPTER FIVE: CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

5.1. CONCLUSION

The present study aimed to map and synthesise studies that demonstrated the evidence of psychometric assessments used as screening tools for CPTSD. This was achieved through the analysis of the following:

- Construct validity of ICD-11 PTSD and CPTSD
- Evidence of existing psychometric measures developed to screen for CPTSD, as well as their psychometric properties
- The prevalence of PTSD/CPTSD and associated psychopathology
- Analysis of Study Designs
- Key gaps and limitations in existing literature regarding assessments used as screening tools for CPTSD

Fifteen articles met the inclusion criteria for the present study, and these were included in the scoping review. These studies demonstrated similar focus areas (i.e., similar titles, aims, objectives and study designs). The studies took the form of validation studies of three screening measures, namely: The International Trauma Questionnaire (ITQ), The International Trauma Interview (ITI) and the Complex Trauma Inventory (CTI). Specific themes concerning the current study objectives were identified:

1) Construct validity of ICD-11 PTSD and CPTSD

The first theme addressed the second outlined objective. The studies reviewed assisted in conceptualising ICD-11 PTSD and CPTSD. It is broadly accepted that CPTSD is a distinct and separate disorder from PTSD after many patients began presenting with symptoms extending beyond the DSM5 PTSD criterion. The accepted ICD-11 PTSD diagnosis requires the presence of three symptom clusters: (1) re-experiencing trauma in the present (Re), (2)

avoidance of reminders of the trauma (Av), and (3) an ongoing sense of current threat that is manifested by symptoms of arousal and hypervigilance (Th). Although some researchers disagree regarding the various conceptualised models of CPTSD, the ICD-11 has defined CPTSD as a responsive syndrome that may occur after an individual has sustained complex, pervasive and recurring trauma. However, CPTSD requires the three symptom clusters of PTSD with an additional group of core clusters known as disturbances in self-organisation (DSO). Therefore, after analysis of the studies included in this review, it may be assumed that researchers have reached an overarching degree of construct validity regarding the conceptual understanding of CPTSD.

2) Psychometric measures

The second theme addressed the first outlined objective, which further acts as the broader research question for the present study as outlined in section 3.3.2. Three screening measures were identified and reviewed out of the fifteen reviewed articles that met the criteria for the scoping review. The majority of the studies (n=13) (ITQ1-ITQ13) were validation studies examining the International Trauma Questionnaire (ITQ). The remaining two studies, by Gelezelyte et al. 2020 (ITI1) and Litvin et al. 2017 (CTI1), assessed the International Trauma Interview (ITI) and Complex Trauma Inventory (CTI), respectively. The majority of the studies (n=12) used more than one psychometric instrument to capture the prevalence of comorbid conditions and their relation to CPTSD.

Furthermore, the existing studies were also analysed to determine their psychometric properties, which addresses the third outlined study objective. All articles in the scoping review utilised psychometric measures that demonstrated acceptable validity and reliability scores. However, it was noted that the screening measures developed for identifying CPTSD are still in their preliminary stages and will require further refinement to improve such properties.

3) The prevalence of PTSD/CPTSD and severe psychopathology

Although this third theme identified did not directly correspond to an outlined research objective, it was included due to its contribution towards supporting the endorsement of the severity of CPTSD and the corresponding research in the construct validity of CPTSD (objective 2). The conceptual model of CPTSD emphasises the pervasiveness and debilitating nature of CPTSD and its likelihood to manifest in disturbances across various domains of functioning (Herman, 1992). Although this is encapsulated in the DSO symptom cluster, individuals positively screened for PTSD and CPTSD also screened positively for additional symptoms and disorders such as Generalized Anxiety Disorder (Gelezelyte et al., 2022, Hyland et al., 2017, Haselgruber et al., 2020), Major Depressive Disorder (Haselgruber et al., 2019, Litvin et al., 2017), Borderline Personality Pattern (Gelezelyte et al., 2022, Haselgruber et al., 2019, Hyland et al., 2017, Litvin et al., 2017), Dissociative Symptoms (Gelezelyte et al., 2022, Haselgruber et al., 2019, Haselgruber et al., 2020) Mania (Litvin et al., 2017) and Functional Impairment (Haselgruber et al., 2019, Shevlin et al.,2018).

4) Analysis of Study Designs

The fourth theme identified was study design. A review of the research methodologies used in the selected studies was conducted. It was discovered that all of the studies reviewed used quantitative designs, specifically validation studies of psychometric measures, to draw outcomes/results. While this was the most appropriate methodology for the articles, it was also noted that the inclusion criteria for the present study limited the search to quantitative study designs to encapsulate the research question best and outlined objectives. Including studies used psychometric measures with demonstrated sound psychometric properties was identified as a strength of the present study as it increased confidence in the subsequent results and findings. However, certain disadvantages of psychometric measures in study designs were also discussed, including response bias and cultural and contextual differences. Furthermore, this

theme addressed the potential future inclusion of alternative study methods to enhance research within the area of complex trauma whilst addressing identified gaps and limitations in the literature. The benefits and limitations of such designs were discussed in detail in section 4.3.4.

The fourth objective of the present study was to identify key gaps in the existing literature base surrounding psychometric screening assessments for CPTSD. The first gap noted within the pilot search, as per the inclusion criteria, was that the studies were located globally, with a shortage or absence of studies conducted within Africa. Significantly no studies that met the inclusion criteria were conducted in South Africa, the location of the present scoping review. The study by Collings et al. (2013) was the exception, as it entails a South African study on the Developmental Trauma Inventory (DTI). However, it did not meet the inclusion criteria.

Possible explanations for the shortage of studies in Africa within the topic area may include the resource-dependent complexities associated with developing psychometric measures, especially the development of culturally appropriate tests that meet stringent psychometric standards. According to Foxcroft & Roodt (2013), South Africa faces multiple challenges regarding psychological test use, development and adaptation. Of particular difficulty is the adaptation and translation of test material to ensure the employment of fair testing standards to suit the multilingual population of South Africa. This requires intensive, large-scale test development and revision projects, which pose logistical and financial challenges to the test developer (Foxcroft & Roodt, 2013).

Furthermore, national financial constraints may lead to the prioritisation of financing basic needs and healthcare over mental healthcare, as indicated by the small percentage of funds allocated to mental health expenditure (Docrat et al., 2019), as well as South Africa's contentious history regarding the use of psychometric assessments (Laher & Cockcroft, 2014). The second major gap noted was that all of the articles included in the present study, as per the inclusion criteria, subscribed to quantitative methodological designs. This was indirectly

observed during the PRISMA process level when it was noted that very few studies included methodological designs beyond quantitative designs. Despite these studies not forming part of the inclusion criteria, the researcher was privy to this observation as part of the process of elimination. It was observed that there was a lack of studies in this research area that used other methodological designs, such as qualitative, systematic reviews or mixed-method designs. The benefits and limitations of quantitative methodological designs were discussed in section 4.3.4.

5.2. LIMITATIONS

The final yield of studies eligible for inclusion in this scoping review was relatively limited, most likely due to the specific inclusion criteria, which subsequently presented limitations about the generalisability of the outcomes. The very nature of the framework that guides scoping reviews requires applying a specific set of inclusion and exclusion criteria, which may have posed some constraints regarding the final number of studies selected for the scoping review (Arksey & O'Malley, 2005). However, this limitation is regularly encountered by most researchers who conduct scoping reviews and is not unique or discriminant to the present study.

Furthermore, the main variable explored in this study is a relatively recent construct (CPTSD). It may attest to why there is not an abundance of literature available, not only concerning the construct itself but further assessing and screening for the condition in the clinical context. While it is clear that CPTSD is an existing disorder and that researchers have developed measures to screen for its presence, it is unclear whether the condition will present in universally similar symptoms across various cultural, racial and language contexts. It is further unclear whether CPTSD will be included in diagnostic manuals beyond the ICD-11 or whether clinicians can adequately apply screening measures to guide their treatment plans and outcomes.

It was beyond the scope of this study to assess further implications and long-term effects of CPTSD, as well as the treatment approaches for it, as the present study maintained a focus on the identification and screening of the disorder through the use of psychometric measures. Furthermore, screening measures developed for other disorders, such as anxiety disorders, mood disorders and personality pathology, could not be explored due to the focus on complex trauma. The study also did not assess risk factors towards developing CPTSD or relevant premorbid functioning, as screening measures are usually utilised when an individual begins presenting with active symptoms of the disorder.

5.3. RECOMMENDATIONS

Specific themes were identified as the major outcome of this scoping review. Such themes allude to the nature and extent of investigations within this topic. Based on the conclusions, it would be invaluable to consider that the presence of CPTSD is evident but undeniably warrants further concern and attention within the research and clinical contexts. The pervasive and debilitating nature of CPTSD is further considered an area of clinical interest, given the more recent theoretical advancements in our understanding of trauma types and outcomes contributing to an individual's victimisation profile. The number of individuals exposed to ongoing and pervasive trauma is understood to be at a higher rate than currently reported and at a higher rate than within previous years (Herman, 2002).

It was found that treatments aimed at early intervention after traumatic events results in an improved prognostic rate. The most viable way this can be alleviated would be by using and including screening measures for CPTSD. A better understanding of individuals' experience of complex trauma would help refine current screening measures and develop future measures that can adequately screen for complex trauma symptoms. Future research could further assist in raising awareness of the condition in public and professional contexts.

Moreover, to further understand and counter these implications, studies could address the prevalence of traumatic exposure and the prevention of such exposure. Enhancing the understanding of these challenges may warrant further attention and opportunities to remediate and reduce these occurrences. It may be useful to further understand the type of trauma encountered and the specific effects of such trauma, such as developmental trauma, systemic trauma etc.

With regard to developing context-specific interventions, future studies could be conducted more inclusively. For example, the study design issue identified in section 4.3 could be addressed by implementing alternative study design methods when executing such studies. Such alternative approaches could use samples that are more globally representative concerning the context and location of the studies. This may require the development and use of culturally and language-specific measures, as seen in the study by Tian et al. (2020) and Ho et al. (2019), to incorporate variations in which different participants may respond to and experience complex trauma, ultimately affecting their symptomatic presentation. This would involve acquiring data from diverse samples, beyond the current etic perspective (the assumption that psychological mechanisms of behaviour are universal across cultures), towards an emic perspective (the assumption that the meaning given to certain behaviours and experiences is culturally specific). This is especially important within South Africa, which hosts a large diversity of cultures, as ultimately, it would be expected that the responses and experiences to trauma may vary significantly.

South Africa is a country facing various social, political, and financial challenges. Therefore, understanding trauma and the psychological effects thereof will be of paramount importance and could be achieved through further research. If more representative samples are utilised, it could provide a useful way to compare the results of different studies (e.g., comparing the findings and outcomes of studies using clinical vs non-clinical samples and

comparing the outcomes of studies using global vs local populations). The paucity of studies available in the South African context may further be disadvantageous with regard to the relatability and generalisability of studies within this topic area. Furthermore, using qualitative or mixed methods studies can be beneficial in assisting researchers in further investigating the nature and extent of the relationship between variables.

Lastly, in terms of the potential reach of mental healthcare, it will be invaluable for future research to determine how practitioners in certain fields, such as psychology, social work, psychiatry, and medicine, could identify complex trauma experiences through simple yet sophisticated and robust screening measures of trauma to improve treatment approaches, interventions, and outcomes by utilising an evidence-based research body.

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APPENDICES

APPENDIX A: EXEMPTION FROM ETHICS REVIEW LETTER

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

14 September 2022

Miss Nina Ann Striglia (222116639)
School Of Applied Human Sc
Howard College

Dear Miss Nina Ann Striglia,

Original application number: 00018150
Project title: A study investigating psychometric assessments used as screening tools for Complex Post-traumatic Stress Disorder: A scoping review.

Exemption from Ethics Review

In response to your application received on 08 July 2022 , your school has indicated that the protocol has been granted **EXEMPTION FROM ETHICS REVIEW.**

Any alteration/s to the exempted research protocol, e.g., Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through an amendment/modification prior to its implementation. The original exemption number must be cited.

For any changes that could result in potential risk, an ethics application including the proposed amendments must be submitted to the relevant UKZN Research Ethics Committee. The original exemption number must be cited.

In case you have further queries, please quote the above reference number.

PLEASE NOTE:
Research data should be securely stored in the discipline/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours sincerely,

[redacted]

Prof Johanna Hendrina Buitendach
Academic Leader Research
School Of Applied Human Sc

UKZN Research Ethics Office
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Website: http://research.ukzn.ac.za/Research-Ethics/

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

INSPIRING GREATNESS

APPENDIX B: TURNITIN SIMILARITY REPORT

Nina Striglia Scoping Review- Dissertation

ORIGINALITY REPORT

13%	12%	10%	0%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	researchspace.ukzn.ac.za Internet Source	3%
2	www.researchgate.net Internet Source	1%
3	pure.bond.edu.au Internet Source	1%
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7	www.regionsjaelland.dk Internet Source	<1%
8	Goodman, Marianne. "Complex PTSD is on the trauma spectrum: Comment on Resick et al. (2012)", Journal of Traumatic Stress, 2012. Publication	<1%
	www.tandfonline.com	