

Understanding the Difference Between Complex Post-Traumatic Stress Disorder (CPTSD) and Post-Traumatic Stress Disorder (PTSD) to Better Inform Healing Approaches

by

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Abstract

This dissertation investigated the validity of Complex Post-Traumatic Stress Disorder (CPTSD) as a separate diagnosis to Post-Traumatic Stress Disorder (PTSD) specifically in the case of childhood interpersonal trauma. The current Diagnostic and Statistical Manual for Mental Disorders (DSM-5) does not recognise CPTSD as a separate diagnosis to PTSD and the limitation to this exclusion is examined in this review. Specifically, this dissertation investigates the impact of exposure to early childhood interpersonal trauma in the context of deficiencies in the stress response systems, cognitive control, emotion regulation, and dissociation. Childhood trauma is shown to interrupt delicate neurosequential brain development, leading to developmental deficits in the neurobiology. Early adverse experiences are also regarded as the most dependable risk factor of adult psychopathology where the long-term impacts of adverse childhood experiences are closely linked to mental health and physical problems in adulthood. A traditional critical literature review was used to investigate the differences between CPTSD and PTSD and to explore the impacts of current practices. Current research supports the validity of the CPTSD diagnosis, where individuals who experienced adverse childhood experiences showed greater impairments compared to those with PTSD. This review includes 142 articles, books, reports and other pieces of literature, to gather current and seminal information about the topic. The limitations of PTSD interventions currently used on those with CPTSD have been analysed, where findings show that current PTSD treatments are not effective for addressing the extra interpersonal and emotion control issues seen in those with CPTSD. Working with complex trauma necessitates addressing the symptomology of CPTSD, which requires different approach methods to assist symptom reduction to facilitate recovery. Therefore, it is important to consider a CPTSD diagnosis to effectively evaluate and determine broader treatment interventions for adult survivors of childhood trauma.

Keywords: CPTSD, PTSD, childhood trauma, bottom-up approaches, yoga, EMDR

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1. Introduction

When the American Psychological Association (APA) first released the Post-Traumatic Stress Disorder (PTSD) diagnosis in the 1980s, there was finally a way to diagnose the symptoms of post-traumatic stress such as; re-experiencing trauma, insomnia, anxiety, avoidance of reminders related to stimuli and hypervigilance. It sparked decades of research on how to properly help individuals with PTSD and it has received widespread acceptance globally (Cloitre, 2020). The PTSD diagnosis has been revolutionary and there are now efficient ways of treating individuals with the disorder. However, the PTSD diagnosis was created for survivors of comparatively circumscribed traumatic events, such as war, accidents, rape, and natural disasters (van der Kolk, 2015). In light of this, there has been a growing body of concern regarding the APA's diagnostic criteria for PTSD in the Diagnostic and Statistical Manual for mental disorders (DSM). It may insufficiently portray the complex long-term consequences of recurrent trauma specifically occurring during childhood which is a delicate period for development (Herman, 1992; van der Kolk, 2015). Arguably one of the greater moral and clinical flaws in the current mental health system is the failure to recognise the reality of childhood maltreatment and the impact that follows into adulthood. Childhood trauma disrupts brain development in the early years of life, making people more prone to a variety of mental and physical health concerns (Kezelman & Stavropoulos, 2012). Since it occurs at the most vulnerable stages of neural development, childhood trauma can have a tremendous influence on multiple aspects of neurobiological function. This occurs due to the increased malleability of a developing brain, which implies that trauma in these stages of life can have a major impact on neurogenesis, synapse development, and neural circuit structure (Cross et al., 2017). As a result, toxic stress exposure during these formative years might permanently change the neurobiological landscape (Knudsen, 2004). Such changes to the brain's neurobiological function have been linked to an increased likelihood of developing neurocognitive, behavioural, and psychiatric issues later in life, as well as interfering with adaptive stress responses and emotional control (Cross et al., 2017).

To address these shortfalls, trauma experts have come up with the diagnosis of Complex Post-Traumatic Stress Disorder (CPTSD) to characterise the complex long-term consequences of recurring trauma (Cloitre, 2020; Herman, 1992). Those who were exposed to chronic, repetitive, and persistent traumas, such as childhood sexual abuse or domestic violence showed more complicated reactions that went beyond those seen in PTSD, including

consequences in three critical domains: emotional regulation, relational capabilities, and self-identity (Cloitre, 2020). As a result, The World Health Organisation included CPTSD in the 11th edition of the International Classification of Diseases and Related Health Problems (ICD-11). Similar to the original DSM definition of PTSD, the ICD-11 version of CPTSD comprises three PTSD symptom clusters: re-experiencing of the traumatic event(s) in the present, avoidance of reminders, and a sense of threat in the present. CPTSD combines these three main aspects of PTSD with three specific aspects of disturbances in self-organisation difficulties in regulating emotions, negative feelings about self and struggles with relationships (Cloitre, 2020). CPTSD stressors are mostly interpersonal and often occur during an individual's development. In addition to the normal symptoms of PTSD, CPTSD is characterised by more persistent long-term deficits in emotional, self, and relational functioning (Brewin, 2019).

To this day, the current DSM (DSM-5) does not acknowledge CPTSD as its own diagnosis (American Psychological Association, 2013). Individuals with CPTSD are disadvantaged by the diagnostic system, where they are misdiagnosed with comorbid conditions like borderline personality disorder, bipolar disorder, depression, and PTSD. Although several of these diagnoses correspond to CPTSD symptoms as a result of the individual's traumatic background, it risks confining treatment and intervention to a minor part of the individual's psychopathology instead of encouraging a comprehensive treatment approach. While managing these symptoms, that come to light in the current realm of diagnostic tools, might be helpful, it may be more advantageous to find and treat the overlying cause rather than treating symptoms as they come up. It's vital to take a comprehensive approach to their problems and handle them thoroughly (van der Kolk, 2015). Also, possibly due to the absence of diagnostic acknowledgement, there have been no comprehensive studies regarding CPTSD interventions. Since the standard PTSD interventions do not acknowledge typical CPTSD characteristics like disturbances in self-organisation symptomatology and dissociation, they are ineffective in treating CPTSD where high drop-out rates and worsening of symptoms are prevalent (Jowett et al., 2020; Gerge, 2020; Cloitre et al., 2010). This is because psychotherapy has long held the belief that change happens from the top-down through expression and formulation. Top-down strategies, often known as "logic-first" approaches, begin by investigating how the brain processes various sorts of information. The goal of these interventions centres on changing an individual's thoughts, with an emphasis on rational thinking (Kezelman & Stavropoulos, 2012). However, because the parts of the brain

responsible for logical reasoning may be inactive among individuals with CPTSD, a logic-first approach may not be suitable. These individuals may be suffering from dissociative symptoms or have overstimulated alarm systems. Thinking, as a preliminary approach, is ineffective in combating the effects of faulty stress-response systems and a deficient autonomic nervous system (Kezelman & Stavropoulos, 2012). Treating complex trauma demands addressing CPTSD symptomology, which emphasises the necessity for a differentiated treatment technique to promote recovery and symptom reduction (Schwartz, 2017; van der Kolk, 2015). Bottom-up approaches in comparison to top-bottom approaches are more bodily conforming, and it addresses the somatic dimensions that logic-first approaches do not immediately address (Kezelman & Stavropoulos, 2012). This dissertation will expand more on this, as well as the therapeutic utility of yoga and Eye Movement Desensitisation and Reprocessing (EMDR) therapy.

To highlight the limitations of current practices, a research question has been formulated: *What are the important differences between CPTSD and PTSD when considering healing approaches for adult survivors of childhood trauma?*

To answer the research question, the methodology utilised a traditional literature review to critique and analyse previous studies on the topic. This paper aims to acknowledge CPTSD as a condition separate from PTSD, to point out the shortcomings of current practices in the treatment of CPTSD, and to explore what research sets forth as the best trauma-informed way of treating CPTSD.

2. Methodology

2.1 Literature review

In this dissertation, the methodology chosen is a literature review. Jesson et al. (2011), defines literature review as a “secondary source, desk-based research method which critically describes and appraises a topic” (p.163). A literature review is a re-examination of previously published material, or, in other words, a retrospective account of previous studies on a specific subject (Jesson et al., 2011; Li & Wang, 2018). It is a narrative account of knowledge that is already available, public, and distributed, and it may be written from a variety of different paradigms or perspectives, depending on the writer’s viewpoint (Jesson & Lacey, 2006). In research, the goal is to be original and create an original addition to knowledge. In the context of literature reviews, that means to give a fresh perspective or make a new dimension that makes a distinct input. The reviewer contributes an informative, analytical, and unique evaluation of previously published information (Jesson et al., 2011; Jesson & Lacey, 2006). The main aim of a literature review is to build on the ideas of others that have studied the field and it requires the reviewer to describe the research that has been done and to organise the information in a relevant and critical way (Jesson et al., 2011). The objectives of a literature review may for that reason be to summarise current knowledge and to present a critical review that displays descriptive skills “awareness of current state of knowledge in the subject area” (Jesson & Lacey, 2006 p. 140). Critical skills are “a synthesis of resources showing the strengths and limitations, omissions and bias” (Jesson & Lacey, 2006 p. 140), and analytical skills are “how research fits into this wider context” (Jesson & Lacey, 2006 p. 140). Utilising this method regarding the topic highlights the importance of acknowledging CPTSD as a separate diagnosis from PTSD. Also, it is a good medium to summarise the current research surrounding both the diagnosis as well as the healing approaches used today.

The format of literature review utilised in this dissertation is what Jesson et al. (2011), describe as a traditional critical literature review. According to Jesson et al. (2011), critical literature reviews “usually adopts a critical approach, which might assess theories or hypothesis by critically examining the methods and results of single primary studies, with an emphasis on background and contextual material” (p.15). When critically comparing and contrasting the ideas and evidence, it leads us to find the gaps that need to be researched in the future (Jesson et al., 2011). Jesson et al. (2011), describe traditional literature review as “a written appraisal of what is already known ... with no prescribed methodology” (p. 10). This

implies that literature reviews are not just a description of previous research, but it supplies an evaluation of the research. This also means that a traditional review differs from a systematic literature review, which is carried out by a set of clear procedures (Li & Wang, 2018). Traditional reviews are included both as introductory chapters in dissertations and theses as well as stand-alone reviews. As an introductory chapter to a thesis or dissertation, the purpose of the literature review is “to set the stage for a new study” (Li & Wang, 2018 p.125). In contrast, stand-alone reviews, which is utilised in this paper, are more diverse which provide a unique review of previous research on a topic, clarifying central issues, and finding gaps in research. When contextualising the current analysis, the researcher must first define what is known about the subject by addressing relevant hypotheses, research, and practices (Li & Wang, 2018).

There are three types of content in a traditional literature review: conceptual, empirical, and practical. Conceptual knowledge includes theories, arguments, statements, claims and terminology. Empirical knowledge concerns the findings from empirical studies as well as their methodological aspects. Practical knowledge can be divided into two. One points out the knowledge that is contributed by practitioners, like data from action research and guidelines and principles for effective practice. The other form of practical knowledge concerns government policies and guidelines that guide the practice of the area in which the study is undertaken (Li & Wang, 2018). These three types of knowledge coincide with the three features of a research topic: theory (conceptual), research (empirical), and practice (practical). While it is not required to be comprehensive, a literature review should at the very least include theories and studies on the research subject. However, given the practical nature of our field, a review of the literature that excludes the practical dimension would appear incomplete (Li & Wang, 2018).

The reason behind choosing a traditional critical literature review – instead of choosing the systematic literature approach – is that traditional critical reviews allow for more flexibility to explore ideas and can be undertaken by one person at a post-graduate level. Systematic reviews on the other hand are normally undertaken by more than one person and are often a team effort (Jesson et al., 2011; Uttley & Montgomery, 2017). As an individual conducting this research project on their own, there is limited time to complete all scanning, screening, and quality assessment. The method of conducting a systematic literature review would be

too time-consuming and costly for a single person, particularly for a 60-point paper (Jesson et al., 2011). Good critical literature reviews have progressed our understanding of what is already known, although the arising systematic reviews or meta-analyses have been favoured in research (Jesson & Lacey, 2006). However, in most academic journals, limitations of space may prompt a “stringing” approach in reviewing past research. Stringing is about “making a short summary statement and then listing authors”, which does not give room for critical analysis (Jesson & Lacey, 2006 p. 139). When selecting a traditional critical review, there are also limitations to consider. There is no systematic methodology for conducting this form of literature review, which may lead to a lack of consistency and methodological rigour. There is also a greater risk of choosing literature based on bias, which the reviewer would work hard to prevent. Lastly, given the lack of a methodological audit trail, there is a greater risk that the review could not be repeated by others (Jesson et al., 2011).

2.2 How studies were selected

AUT’s library is the main resource during the search for literature in this project. When searching for literature, it is essential to use sources with no intentional bias (Jesson & Lacey, 2006). This review included studies from the last five years, as well as those from earlier years that have had a measurable impact. It also included books and reports that held important information about the topic (Harden, 2010). The objective of this dissertation was to focus primarily on interpersonal childhood violence and neglect, excluding childhood soldiering, genocide, and slavery. It was also critical that the analysis was not based solely on one viewpoint, but rather explore opposing viewpoints. The reviewer should provide a balanced and in-depth review and not only seek information that favours the complex PTSD diagnosis but also look for sources that critique and go deeper into the critiques of the CPTSD diagnosis. To a large extent, the consistency of the analysis is determined by the effort put forth during the critical review process. A thorough and informed analysis cannot be produced without a wide range of data (Jesson & Lacey, 2006). In this chapter, inclusion and exclusion criteria will be included (see figure 1). According to Patino and Ferreira (2018), when designing high-quality research methods, defining inclusion and exclusion criteria for the data chosen is a fundamental and essential process. The inclusion criteria specify the main qualities of the data selected that is best suited to address the study questions. Exclusion criteria, on the other hand, are characteristics of data that may fulfil the inclusion criteria but may have extra traits that might jeopardise the literature review’s

effectiveness or raise the chance of a negative outcome (Patino & Ferreira, 2018). Choosing a traditional critical literature review enabled the opportunity to identify key inclusion criteria as they relate more specifically to the breadth of the research topic. This aided exploration of the literature within set parameters and provided practical dimensions within the scope of the study. This approach helped to keep the research investigation manageable and mitigate against the more in-depth tradition of a systematic literature review.

A traditional critical literature review allowed for greater flexibility to explore ideas and key themes from different paradigms or perspectives. To gather current and seminal material regarding the topic, the review includes 142 articles, books, reports, and other pieces of literature.

Figure 1.

Inclusion and exclusion criteria

Inclusion criteria	Example/s and/or explanation
PTSD sample and Complex PTSD samples	Studies will include a PTSD sample so the reviewer can compare the Complex PTSD sample to the PTSD sample to find the differences between the two.
Studies to include male and female early interpersonal childhood-onset trauma.	In this context, interpersonal child abuse means abuse that happens in interpersonal relationships within the family environment.
Neurobiology of complex PTSD	To better explain and see the differences between complex PTSD and PTSD on a biological level.
Bottom-up or bodily informed approaches in the treatment of Complex PTSD	For example, somatic psychotherapy, EMDR and trauma-informed yoga,
Peer-reviewed journal articles	Studies must be peer-reviewed.
Reports and books	Books and official reports that are informative
Studies that have been done in the past 5 years, with an exception for seminal pieces of work and other studies with great significance to the topic.	The years include literature from 2016 to 2021, in addition to seminal literature.
Exclusion criteria	Example/s and/or explanation
Factors that are not interpersonal childhood trauma	Studies of children with complex PTSD who were exposed to for example childhood soldiering, genocide, refugee and slavery.
Adult-onset complex PTSD	The study will exclude adult onset-PTSD and adult complex PTSD
Approaches that use medication as a sole treatment for complex PTSD	However, this can be included if it is used in the context to compare with other complex PTSD approaches.
Non-English literature	Literature in any other language than the English language.

2.3 Search strategy

When using the library resources and various databases in the literature search, it is highly beneficial to use specific keywords (Jesson et al., 2011). Choose words from the research question and define keywords and topic terms. Use synonyms to identify similar and related words, or use wider or narrower terminology. It is also useful to use the Boolean operators; “AND/OR/NOT” (Jesson et al., 2011). These are some keywords that are used in finding literature:

- PTSD AND “complex PTSD” OR “complex trauma” OR “CPTSD” OR neglect OR “child abuse” OR “child maltreatment”
- “Complex PTSD” OR CPTSD AND PTSD AND DSM AND ICD
- neurobiology AND “complex PTSD” OR “Complex trauma” OR CPTSD AND PTSD
- EMDR AND “Complex PTSD” OR “Complex trauma” OR “CPTSD”
- Yoga AND “Complex PTSD” OR “CPTSD”
- “bottom-up” AND “complex PTSD” OR CPTSD AND PTSD

2.4 Analysis

The next step is to put the review together. It is in this stage the analysis begins. Figure 2 shows the standard analytical process; that is, the stages to go through when critically evaluating the literature identified by the search. What do these different pieces of literature have in common and how are they different? Formulate an analytical framework utilising the key issues, debates, concepts and questions. The framework may consist of all or some of these: theories, conceptual variations, policy, empirical findings, and the methodology used (Jesson & Lacey, 2006).

Figure 2.

The analytical process

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Note. From “How to do (or not to do) a critical literature review” by J. Jesson and F. Lacey, 2006, *Pharmacy Education*, 6(2), p. 123. (<https://doi.org/10.1080/15602210600616218>).

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The reviewer must determine whether the key issues and challenges have been answered to date, as well as how answers to these questions have improved the understanding and expertise. An important note to keep in mind while performing a literature review is that it needs to flow, and is not just a description of unlinked theories and ideas. It is crucial during this process to reflect on what the reviewer wants to communicate to the reader. What are the points and arguments made and are these valid and reliable according to the evidence? Also, any gaps in knowledge found during the analytical stage are important to point out in the review (Jesson & Lacey, 2006).

2.5 Ethical concerns

Since this dissertation is a stand-alone literature review, ethical approval is not needed. However, other ethical considerations, such as bias, must be taken into account. The reviewer must be capable of critical reflection to be aware of any bias they have or that might occur in the process (Salmons, 2020). Bias, according to Jahan et al. (2016), is a:

... systematic error (or deviation from the truth) in results or inferences. Biases can change the results of any study and lead to an underestimation or overestimation of the true intervention effect. Biases can impact any aspect of a review, including selecting studies, collecting and extracting data, and making a conclusion. Biases can vary in magnitude; some are small, with negligible effect, but some are substantial to a degree where an apparent finding may be entirely due to bias. (p.6)

It is important to read literature that represents a diverse range of opinions and points of view, not just those with which the reviewer personally agrees. It is also critical to carefully read the researchers' work, capturing what they want to portray in their study, and to understand the points they present and the foundations on which they are based (Jahan et al., 2016).

3. Findings

This chapter presents findings in the literature. The chapter is divided into six sub-headings to distinguish key findings. Firstly, it will cover the phenomenology and conceptualisation of PTSD and CPTSD, then it will cover the neurobiology of CPTSD, followed by the psychopathology of childhood trauma. Thereafter refractions and critiques of CPTSD diagnosis are presented followed by effective interventions in the healing of CPTSD, focusing on the importance of bodily approaches. Lastly, yoga and EMDR as bottom-up approaches are presented and discussed.

3.1 Phenomenology and Conceptualisation of Post-Traumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD)

Until the early 1980s, there was no way to categorise the wide range of symptoms experienced by hundreds of thousands of returning Vietnam veterans, until the American Psychiatric Association (APA) codified PTSD as a distinct diagnosis in the third version of the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-3) (van der Kolk, 2015). Prior to this acknowledgement, individuals experiencing issues following accidents, catastrophic events, or war, were likely to be diagnosed with nostalgia or melancholia which are characterised by withdrawal and “excessive emotionality”. Many soldiers have been diagnosed with exhaustion, effort syndrome, or heart problems referred to as “irritable heart”, “soldier’s heart”, and “cardiac muscular exhaustion” (Institute of Medicine, 2012). Shell shock and disordered action of the heart were typical diagnoses in combat veterans during World War I. Tremors, tics, fatigue, memory loss, trouble sleeping, nightmares, and poor concentration were among the symptoms of shell shock, which were comparable to many of the symptoms associated with PTSD (Institute of Medicine, 2012). Other common diagnoses of soldiers during World War II included combat fatigue, flying syndrome, war neurosis, cardiac neurosis, and psychoneurosis, all of which stemmed from the World War I concept of shell shock. Due to the high fatality rates from illness, infection, and accidental injuries during combat, psychological disorders and impairments of military personnel were not given high medical priority for most of the twentieth century. After the Vietnam War, studies and methodical documentation of what was then known as battle fatigue and shell shock started to intensify in response to the many veterans suffering from persistent psychological issues that culminated in social and occupational instability (Institute of Medicine, 2012). The DSM-3’s implementation of the PTSD diagnosis resulted in extensive clinical research and the creation

of effective treatments that proved to be applicable not only to war veterans but also to victims of various traumatic incidents such as abuse, assault, and motor vehicle accidents (van der Kolk, 2015). Also, the DSM acknowledged for the first time that the experience of post-traumatic stress is not a sign of personal weakness, but a natural response to adversities (Gersons & Carlier, 1992).

Van der Kolk (2015), states that the definition of PTSD is largely clear: It is a person that has been exposed to a horrible event associated with “actual or threatened death”, severe injury, or having their own or others' physical integrity threatened, that leads to “intense fear, helplessness, or horror”, whereas the individual might experience consequences in a range of manifestations (p.157). These manifestations include intrusive re-experiencing of events through flashbacks, nightmares and anxiety. They also may feel constant and crippling avoidance of places, people, thoughts and feelings connected to the trauma, and increased arousal like insomnia, hypervigilance, or irritability (van der Kolk, 2015). This description implies a clear plot: An individual is suddenly and unexpectedly shattered by a heinous incident and is never the same again. The trauma may have passed yet is still being replayed in the form of constantly recycling memories in a realigned nervous system. In the case of children, even if they live in healthy and loving homes, they can experience PTSD symptoms similar to adults after a single traumatic event, such as a dog bite, an accident, or experiencing a school shooting (van der Kolk, 2015). As a result of years of research and work that has been done for individuals with PTSD, there are now effective ways of treating them (van der Kolk, 2015).

Re-experiencing the trauma (like nightmares, flashbacks), avoidance of reminders of trauma-related stimuli (such as places that reminded the person of the event, talking about the experience), and hypervigilance (for instance, easy startle, excessive attention to potential threat) were the three symptom clusters in the first iteration of the PTSD diagnosis (Cloitre, 2020). The diagnosis sparked decades of research aimed at developing and testing PTSD treatments, with the most effective being trauma-focused cognitive behavioural therapies (CBTs), eye movement desensitisation and reprocessing (EMDR), and, to a smaller degree, pharmacological treatments, particularly selective serotonin reuptake inhibitors (SSRIs). Given the clinical benefits and widespread acceptance of the PTSD diagnosis, there was also a debate on whether the DSM formulation is good enough (Cloitre, 2020). The current and

fifth edition of the DSM (DSM-5), published in 2013, has expanded the symptom profile to include 20 symptoms, four symptom clusters, and a dissociation subtype. The adjustments were made in an attempt to recognise the wide range of symptoms seen in different trauma populations. The DSM-5 introduced a symptom cluster of negative mood and cognition changes, broadened hypervigilance to include difficulties with anger and risky behaviour, and classified dissociative experiences (derealisation, depersonalisation) as a subtype. As a result of this extension, there are now 636 120 different ways to be diagnosed with DSM-5 PTSD, potentially complicating assessment and treatment planning (Cloitre, 2020). This has proven to be difficult for non-trauma specialists to assuredly identify or diagnose PTSD. This could explain why non-psychiatric physicians have a low degree of recognition for psychiatric disorders (Brewin et al., 2017; Brewin et al., 2010; de Bont et al., 2015).

Importantly, how relevant is the DSM's PTSD diagnosis for adults and children that have suffered abuse and/or neglect for years in their early development? For the most part of humanity, child maltreatment was viewed to be a private issue instead of a collective one. Not before 1889, when the British Parliament passed the first ever statute to protect children from abuse. Eventually, Kempe et al. (1962), established clinical evidence of child maltreatment in their contemporary study on "the battered child syndrome", and stressed the need for a medical diagnosis in the context of children's welfare. As a result, there was a greater awareness of the predicament which coordinated a push among the medical community to interfere in the cases of child maltreatment (Fegert & Stötzel, 2016). Numerous efforts have been done to develop a conceptual framework of child maltreatment and coherent terminology for the various forms of child maltreatment (Butler et al., 2017; American Psychological Association, 2017a; Leeb et al., 2008; World Health Organisation, 2015). As supported by WHO, Butler et al. (2017), defined child maltreatment as

the abuse and neglect of people under 18 years of age. It includes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power (p.3).

Butler et al (2017), also differentiated sexual, physical, and psychological/emotional abuse and neglect. Physical abuse is defined as “intentional use of physical force against a child that results in, or has a high likelihood of resulting in, harm for the child’s health, survival, development or dignity” (p.3). Sexual abuse is characterised as “the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared, or else that violates the laws or social taboos of society” (p.3). Psychological abuse is described as “the failure of a caregiver to provide an appropriate and supportive environment, including acts that have an adverse effect on the emotional health and development of a child” (p.4). Lastly, neglect is defined as the “failure of a caregiver to provide for the development of the child – where the caregiver is in a position to do so – in one or more of the following areas: health, education, emotional development, nutrition, shelter and safe living conditions” (p.4).

In 2005, Spinazolla et al. (2005), found that 82 % of the maltreated children met by the National Child Traumatic Stress Network (NCTSN) did not meet the diagnostic criteria for PTSD, where their symptoms were more complex than those who fit in the PTSD diagnosis. NCTSN also conducted a survey that examined the different NCTSN agencies across the United States where they analysed the records of around two thousand children and adolescents. They found that the vast majority came from severely dysfunctional homes. More than half have been emotionally abused and/or had caregivers who were unable to meet their needs. Approximately half of those assessed had observed domestic violence, and a quarter had also been victims of sexual and/or physical abuse (Spinazzola et al., 2005). Several studies have shown that prolonged and chronic exposure to toxic stress and traumatic events as a child may produce significant negative consequences for an individual’s physical and mental health (Cross et al., 2017; Perry et al., 1995; Schneiderman et al., 2005; van der Kolk, 2015), especially when it happens early in development by someone you trust (Lupien et al., 2016). Perry (2009), demonstrates that adversities in childhood disrupt normal patterns of experience-guided neurodevelopment through creating highly abnormal patterns of neural and neurohormonal activity. The accumulation of exposure to toxic stress during childhood had resulted in maladaptive neurobiological changes throughout development which intervene with adaptive stress responses to events in the future (Dunn et al., 2017; Teicher et al., 2016), the sequelae of childhood abuse and neglect may also lead to chronic and severe

problems with “emotion regulation, impulse control, attention and cognition, dissociation, interpersonal relationships, and relational schemas” (van der Kolk, 2015 p. 159).

In 1992, Judith Herman introduced the term Complex Post-Traumatic Stress Disorder (CPTSD). She argued that the diagnostic formulation of PTSD is largely based on findings of survivors of comparatively circumscribed traumatic incidents such as war, disaster, and rape. It has been proposed that the PTSD formulation falls short of capturing the complex residual effects of prolonged, recurrent trauma. In comparison to circumscribed traumatic experiences, persistent or repetitive trauma may occur when an individual is held captive, unable to escape, and under the perpetrator’s power (Herman, 1992). Herman (1992) identified CPTSD as a clinical syndrome resulting from precipitating traumatic events that are typically prolonged in duration and primarily of early life onset, particularly of an interpersonal nature and more specifically comprised of traumatic events occurring during early life stages. Though CPTSD responses may occur after traumatic events in adulthood, like being exposed to war combat, being a prisoner of war, and torture, it is proposed that exposure to repeated, prolonged, and multiple forms of interpersonal trauma during early developmental periods are among those most strongly associated with a CPTSD response (Hyland et al., 2017).

This paper will focus on trauma that occurs in interpersonal relationships within the family sphere. This is based on a large body of research suggesting that early exposure to substantial interpersonal trauma can hinder the normal development of emotional regulating abilities, promote dysfunctional views about oneself, and result in poor interpersonal functioning, and it may cause long-term consequences in adulthood (Cross et al., 2017; Dvir et al., 2014; Hyland, 2017; Perry, 2009; Pratchett & Yehuda, 2011; Shipman et al., 2005). Childhood abuse is a clear indication of a risk factor for CPTSD since it is usually chronic, recurrent, and often consists of many types of interpersonal trauma that are verbal, emotional, physical and sexual (Finkelhor et al., 2013). Furthermore, childhood maltreatment is impossible to escape which attributes to developmental, psychological, social, and environmental factors (Hyland, 2017). Childhood traumatic events, according to Hogdon et al. (2013), occurs most frequently in interpersonal relationships since it often occurs in a family setting. According to the most recent National Incidence Study of Child Abuse, conducted in the United States,

biological parents are responsible for 81% of abuse and neglect cases, while caregivers and other relatives are responsible for 16% of these cases (Sedlak et al., 2010).

Based on assessments of national surveys in Europe and globally, WHO released statistics that show an occurrence rate of 9,6% for childhood sexual abuse, 22% for childhood physical abuse, 29,1% for childhood emotional abuse, 16,3% for childhood physical neglect, and 18,4% for childhood emotional neglect (World Health Organisation, 2015). In the case of New Zealand, nearly half of all abused children are under the age of five, which is especially impactful to their development. From the beginning of 2020 until the 30th of June the same year, there were 7298 reported cases of physical assault and 1488 cases of aggravated sexual assault on children (Oranga Tamariki, 2020). Oranga Tamariki (2020), reports that one out of 5 children are sexually abused in New Zealand. Also, New Zealand ranks 35th out of 41 developed countries when it comes to outcomes in children's well-being, pointing out that there is a major issue when it comes to the scope of child maltreatment (Oranga Tamariki, 2020). Furthermore, calculations differ significantly based on child maltreatment definitions, age, the type of child maltreatment studied, the coverage and reliability of government statistics, and research methods – limiting cross-disciplinary communication and impacting initiatives to effectively identify, treat, and prevent child maltreatment (Haugaard, 2000).

A single traumatic event may be devastating to a child or an adult. For circumscribed trauma, however, there is a sense of “before” and “after” and the transition from pre-trauma to post-trauma is clear (Danylchuk et al., 2016). On the other hand, as childhood traumas accumulate, the effect becomes more complex, and there may not be a ‘before’ sense of self that can be established. Consider what happens if the trauma lasts for years. Consider that the abuse begins when the child is most vulnerable and is about to reach a critical phase of their psychosocial growth. Consider what happens when the abuser is someone with whom the individual has a near personal and emotionally intimate relationship with (Danylchuk et al., 2016). What effect does this have on the child's developing sense of self? How could this teach the child about the essence and sense of interpersonal relationships, as well as the importance of being emotionally accessible, vulnerable, and trusting? What intrapsychic defences could be required to deal with feelings of overwhelm? The resulting cacophony of discordant emotions, extreme, unmitigated emotional reactions, manipulative attitudes, and a

persistent sense of distrust, shame, and feelings of helplessness is the hallmark appearance of individuals with CPTSD (Danylchuk et al., 2016).

3.2 The Neurobiology of CPTSD

To understand the importance of the CPTSD diagnosis, we need to understand the maladaptive developments of different parts of the neurobiology. According to Cozolino (2014), the human brain is a “social organ”, where neglect, lack of emotional nourishment, and abuse in early development can cause catastrophic damage to the growing brain. Early childhood trauma, according to DeBellis et al. (2005), is more harmful than trauma encountered later in life because of the neurological and psychological developmental processes that are taking place. In comparison to a mature adult brain, an infant or child’s brain is more malleable to input. While adults’ behaviour may be altered due to their experiences, a child’s entire organising framework is provided by experience, making them extremely vulnerable (Cross et al., 2017). To properly comprehend the influence of childhood maltreatment on neurobiological development, the timing of the trauma exposure, as well as its chronicity across the process of development, must be considered. The observation in human and non-human studies of critical stages of brain development characterised by increased plasticity where inputs are inordinately influential to neurogenesis, synaptic growth, and neural circuit organisation which are fundamental to the notion that childhood trauma can impact neurobiological development (Cross et al., 2017). Hence exposure to toxic stress in these critical periods can in the long term alter the neurobiological landscape (Knudsen, 2004). When trauma happens in early and sensitive periods of development, there is a higher risk of developing neurocognitive, behavioural and psychological problems later in life. These changes interfere with adaptive stress responses to adverse events in the future and can affect individuals’ ability to regulate their emotions (Cross et al., 2017).

3.2.1 Neurosequential model

Development is a complex and dynamic phenomenon that involves numerous interactions in both micro and macro domains. These exchanges provide a one-of-a-kind manifestation of a person’s genetic potential and result in a marvel of dynamic organisation in the billions of components that make up the human brain (Perry, 2009). Maltreatment interrupts this delicate process. By causing severe and atypical patterns of neural and neurohormonal functioning, these traumatic experiences disrupt normal patterns of experience-guided neurodevelopment.

Developmental trauma increases the chance of malfunction in a variety of areas, including speech, motor function, and social, emotional, and behavioural regulation (Cross et al., 2017; Perry 2009; van der Kolk, 2015). Perry (2009), states that the human brain develops in a sequential matter, which means that the brain is divided into four anatomically separate regions: the brainstem, diencephalon, limbic system, and cortex. The brain arranges itself from the bottom-up during development, from the simplest (brainstem) to the most sophisticated (limbic, cortical) parts. Every area of the brain has its distinct development schedule. Although areas of the brain develop at different rates, regional development is far from independent. Since the brain regions are physically and functionally interrelated, one region can help or hinder activity in another (Cross et al., 2017). All through sensitive periods, the external stimulus will not only disrupt the normal development of one brain region but also with the nature of its relationships with other brain regions (Knudsen, 2004).

3.2.2 Disruptions in the micro-neurodevelopmental processes

Perry (2009), studied the micro-neurodevelopmental processes such as synaptogenesis which are mostly active in brain regions at various times, making these areas more responsive to organising or disrupting inputs. As the brain matures from the bottom to the top, a variety of neurotransmitters, neurohormones, and neuromodulator signals regulate the process. These signals aid in the migration, differentiation, dendritic tree sprouting, and formation of synaptic connections of target cells (Perry, 2009). Monoamine brain systems produce some of the most essential of these signals. Examples of these are norepinephrine, dopamine, and serotonin. These critical systems of widespread neural networks originate in the lowest parts of the developing brain and transmit to every other region of brain development. Because of this nature, these systems have the distinct ability to communicate throughout many regions at the same time, allowing them to play an organising and coordinating function during development and in adulthood (Perry, 2009; Perry, 2001). Due to their widespread distribution across the brain and their role in moderating and regulating a wide range of functions, dysfunction in the organisation and functioning of these monoamine neurotransmitter systems may result in a cataract of impairments from lower regions to specified regions higher brain areas (Perry, 2001). In other words, the upper areas of the brain rely on information from the lower parts of the brain to function. The higher areas will organise in constructive manners if the structures or incoming neural activity in these monoamine systems is controlled, synchronous, structured, and of healthy intensity (Perry,

2009). However, higher areas will reorganise to mirror abnormal patterns if they are severe, dysregulated, and inconsistent. The monoamine systems are important parts of the brain's stress-response neural networks where neuropsychiatric symptoms linked to threat, fear, chaos, stress, and trauma are caused by use-dependent alterations in the brain. When a child is threatened and triggers the stress response for an extended period or repeatedly, the brain networks that control this adaptive mechanism undergo a “use-dependent” change (Perry, 2009; Perry, 2001). Individual neurons’ molecular properties, synaptic patterns, dendritic trees, amongst other microstructural and microchemical elements of these critical brain networks will all change. Resulting in a shift in the traumatised individual’s stress response systems’ baseline activity and sensitivity (Perry, 2009). According to Perry (2009), this leads to a “reset” in the brain, which in turn leads to the individual constantly feeling endangered. Because of the brain’s sequential development and neurodevelopment’s activity reliance, there are periods through development when a particular neural system is more receptive to stimulus than others (Perry, 2009). That receptibility enables the brain to quickly and productively organise, responding to the specific requirements of a particular environment. The same neurodevelopmental sensitivity that enables extraordinary improvements, like how quickly children acquire new languages, behaviours and skills, in accordance with predictable, caring and enriching environments also make a developing individual more vulnerable to adversities (Perry, 2009).

3.2.3 Developmental deficiencies in the hypothalamic-pituitary-adrenal (HPA) axis

Changes to the physiological stress response system, the hypothalamic-pituitary-adrenal (HPA) axis, is one of the outcomes of maladaptive development induced by childhood trauma (Cross et al., 2017; Hornor, 2017). The HPA axis regulates the neuroendocrine adaption component of the biological stress response. In a cascade of events following stressful stimuli, the hypothalamus releases corticotropin-releasing hormone (CRH) that interacts with the pituitary gland causing a release of adrenocorticotrophic hormone (ACTH) which in turn stimulates the adrenal cortex to produce and release the stress hormone cortisol. During toxic stress, cortisol is produced for hours at a time until a specific blood intensity is achieved (Nungent et al., 2016).

Chronic fear, whether in reaction to a real or perceived danger, can cause the HPA axis to become overactive, disrupting the control of glucocorticoids or stress hormones like cortisol.

Trauma throughout the early phase of life is connected to HPA axis activation, which increases baseline cortisol levels. The individual's cortisol levels rise dramatically under hazardous stress and then slowly decline when the stressor is removed. Cortisol has been shown to have neurotoxic effects in early development when exposed to toxic stress on a regular basis and have long-lasting effects in the areas of the brain that releases glucocorticoids (Cross et al., 2017). Considering the notion that stress or high cortisol levels harm brain development, these alterations are expected to be more pronounced in brain areas with a high density of glucocorticoid receptors and lengthier maturation processes. Parts of the prefrontal cortex (PFC), the hippocampus, and the limbic system like the amygdala are among the most significant components in this category, which play a key role in the pathophysiology of CPTSD and are responsible for adult emotional and cognitive functioning and behaviour (Hornor, 2017). As a result of the persistently high levels of cortisol and continuous stimulation of the HPA axis during childhood, these individuals may be more susceptible to different triggers. Events, dates, sights, tastes, noises, thoughts, and behaviours can all serve as triggers. However, these reflexes may have been necessary for their survival in the past and aided them in dangerous situations. In return, as fully developed individuals, these factors may hinder many aspects of their personal and social life (Iacona & Johnson, 2018).

3.2.4 Maladaptive brain development

Traumatic childhood events influence brain development over time, resulting in changes in the structure and function of several stress-sensitive regions (Cross et al., 2017). The hippocampus, prefrontal cortex (PFC), and amygdala are all part of these stress-sensitive regions. The hippocampus is the memory and learning centre of the brain (Perry, 2003). The hippocampus gets perceptual information about “who and what”, as well as contextual information about “when and where”, under “normal” neurobiological settings. The PFC, on the other hand, helps with future memory and attribution of that data. Cognitive control is also related to the functions of the PFC, where any damage or decrease in performance to this area could directly impact one's cognitive control. Multiple studies have shown that people with a history of child maltreatment, both with and without a diagnosis, have deficits with many elements of cognitive control (Bomyea et al., 2020; Cowell et al., 2015; Kavanaugh et al., 2017; Masson et al., 2016; McCrory et al., 2017; Scott et al., 2015). According to Miyake et al. (2000), and Banich et al. (2009), maintaining and updating working memory, cognitive

flexibility, monitoring error, shifting attention, and attention maintenance are all examples of cognitive control. These functions are required for flexible deployment of cognitive resources in the pursuit of achieving a goal, which entails inhibiting instinctive and dominating responses to a circumstance to act in a goal-driven manner (Mackie et al., 2013; Song et al., 2017). Cognitive deficits are paralleled in functional and structural brain changes induced by childhood abuse (Cross et al., 2017). Deficits in cognitive control, particularly in inhibiting automatic responses and regulating distraction, appear to be particularly significant in individuals with childhood trauma (Vasterling & Hall, 2018).

Multiple studies have shown that toxic stress can lead to structural impairments to the neurons of the hippocampus due to elevated levels of cortisol (Cross et al., 2017; Perry, 2003). CPTSD can cause a reduction in hippocampus volume as well as deficiencies in PFC development (Cross et al., 2017). Developmental deficits in the hippocampus can result in a variety of issues, including learning difficulties and difficulties integrating new events into memory networks (van der Kolk, 2015; Perry, 2003). CPTSD may also cause deficiencies in the amygdala, causing it to become overly sensitive to a small number of stimuli (Perry, 2003). The primary purpose of the amygdala is to decide whether or not incoming input is threatening. The amygdala collaborates with the hippocampus to connect new information to prior experiences. Furthermore, the amygdala transmits danger signals to the HPA axis, causing it to produce cortisol. As a result, heart rate and breathing rate accelerate, activating the fight-or-flight systems, where eventually the body returns to its normal condition after the danger has passed (van der Kolk, 2015). The accumulation of developmental trauma, on the other hand, lead to dysfunctions in the amygdala, causing it to misunderstand whether the situation is threatening or safe. When the mind defends itself from previous danger, it jeopardises relationships, as well as an individual's ability to pay attention to the needs of others (van der Kolk, 2015). Deficits in these parts of the brain impact "perceptual, contextual, and attributional information about traumatic experiences, as well as the ability for consciously regulating recollections of the events and modulating anxiety reactions to the recollections" (Cross et al., 2017, p. 3). Since the amygdala is so crucial in emotional processes like salience detection (particularly stimuli linked with threat), hyperactivity in this region may put someone at risk of developing maladaptive behaviours (McCrorry et al., 2017).

3.2.5 Deficits in the Autonomic Nervous system

Trauma is frequently portrayed as something that a person is continually suffering via traumatic memories. Nevertheless, according to Porges (2009), the physiological reactions that occur in the autonomic nervous system are more important than the recollection of the traumas. During times of stress, the sympathetic nervous system is activated, resulting in a hyperaroused state, which is natural. The parasympathetic nervous system, on the other hand, may be engaged in situations where the child is under a great deal of stress, resulting in a state of seeming calm (Perry, 2003). Despite high levels of stress hormones, increased activity in the vagus nerve lowers heart rate and blood pressure. When a child is in a state where the parasympathetic nervous system dominates, they become disengaged from their surroundings and experience emotional numbness and a freeze reaction. This maladaptation may develop into a psychological defence system, causing the individual to detach from their bodily feelings and reality. Which may become a child's primary stress adaptation (Perry, 2003). Hence, the reason why adults with CPTSD may also suffer from dissociative disorders like; dissociative amnesia, dissociative identity disorders, and depersonalisation-derealisation disorder (Longo et al, 2019).

Dissociative processes have a different neurobiology than a typical fear reaction. In contrast to the "fight or flight" reaction that is typically associated with PTSD, dissociative people frequently exhibit a pattern of autonomic responses where they "freeze" in response to threats. They lose their ability to move, become paralysed, and become separated from their bodies (Cross et al., 2017). A weakened physiological reaction to stress is a neurobiological sign of dissociation. Individuals who are highly detached do not experience the expected increase in psychological arousal in reaction to trauma-related stressors. To manage distressful emotional states, the fear processing areas such as the amygdala, are also muted by the autonomic nervous system (Cross et al., 2017).

3.3 Psychopathology of Childhood Trauma

Childhood trauma is regarded as the most dependable risk factor for psychopathology. The first ever study that managed to link the impacts of childhood trauma to the outcomes of adult physical and psychological health was the Adverse Childhood Experiences (ACE) study (Felitti et al., 1998). Approximately 9500 adults participated in the study where the participants filled a questionnaire that comprised of seven categories of adverse childhood

experiences: psychological, physical or sexual abuse; violence against mother; or living in a household where caregiver(s) had substance abuse problems, mental illness, suicidal behaviours or incarcerated. Thereafter, the number of types of these adverse childhood experiences were correlated to adult risk behaviour, health status, and disease. Their study found a dose-response relationship between the number of ACEs and adult health risk behaviours and diseases they studied. Those who had four or more categories of childhood exposure had 4- to 12-fold increased health risks for alcohol dependency, drug addiction, depression, and attempted suicide, as well as a 2- to 4-fold increase in smoking, poor self-rated health, having multiple intercourse partners (≥ 50), and sexually transmitted disease. There was also a 1,4- to 1,6-fold increase in physical inactivity and extreme obesity, especially in comparison to those who had none. The occurrence of adult illnesses such as ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease was found to have a graded link with the number of categories of adverse childhood experiences. The seven types of adverse childhood experiences were closely linked, and those who had several types of childhood exposure were more likely to have several health risk factors later in life (Felitti et al., 1998).

According to Teicher et al. (2016), 45% of childhood-onset disorders and 26-32% of later-onset disorders are linked to childhood trauma. In adult psychopathology like severe depression, addiction, personality disorders and anxiety disorders are all linked to childhood maltreatment (Battle et al., 2004; Gerke et al., 2018; Gilbert et al., 2009; Rasmussen et al., 2018). Numerous studies examined the frequency of mental illnesses in those who had been abused as children versus individuals who had not been abused as children. A study by Fergusson et al. (2008), found that those who were exposed to sexual abuse in their childhood were 2,4 times more likely to develop psychopathological symptoms in comparison to those who had not been subjected to it. When it comes to physical abuse in childhood, Cutajar et al. (2010), found in a longitudinal study done in Australia that the ratio was calculated at around 1,5. They also found that individuals with documented experiences of childhood sexual abuse were 3,1 times more probable to meet the criteria for mental health disorders. This group was also 5,47 times more likely to meet the requirements for personality disorders compared to those who have not experienced childhood sexual abuse. Also, this group had the highest risk of developing Borderline Personality Disorder (BPD) and disorders associated with substance abuse (Cutajar et al., 2010). Perez-Fuentes et al. (2013), found in a general sample of the

United States population that childhood sexual abuse survivors had a three-fold likelihood of developing almost all mental health disorders in comparison to those who were not exposed to the same abuse. Additionally, according to Koenen et al. (2017), and Steine et al. (2017), a cumulative or dose-response relationship link between the more severe forms of childhood maltreatment, a high repetitive recurrence, and the combination of multiple types of childhood maltreatment increase the chance of developing a mental illness. Lastly, van der Kolk (2015), saw child abuse as the largest public health issue in the United States. He mentions that the cost of child abuse surpasses that of cancer or heart disease and that eliminating child abuse in the United States will drastically reduce the levels of depression by half, alcoholism by two-thirds, suicide, IV drug use, and domestic violence by three-quarters.

3.4 The Validity of CPTSD

A psychiatric diagnosis, according to van der Kolk (2015), has significant consequences. Treatment is guided by a diagnosis, and any incorrect treatment might have dire effects. A diagnostic label is also likely to stay with individuals for the remainder of their life, influencing how they perceive themselves (van der Kolk, 2015). Contrary to the recommendations of those in support of the CPTSD diagnosis, the fifth and latest edition of the Diagnostic and Statistical Manual (DSM-5) does not include CPTSD as a separate diagnosis to PTSD (Cloitre et al., 2011, Powers et al., 2017). The DSM-5 is a handbook widely utilised in major areas of the world as the definitive guidebook in diagnosing mental disorders by doctors, researchers, public health officials, and health insurance companies (American Psychological Association, n.d.; Cloitre et al., 2011). Individuals with CPTSD are disadvantaged by the existing diagnostic system, which focuses primarily on behavioural control and symptoms while disregarding their maladaptive development (van der Kolk, 2015). According to Van der Kolk (2015), many people with CPTSD are misdiagnosed with comorbidities such as borderline personality disorder, bipolar disorder, panic disorder, and depression, although many of these diagnoses correspond to symptoms of CPTSD as a result of their traumatic upbringing. He further justifies the position as “it defies parsimony, obscures etiological clarity and runs the danger of relegating treatment and intervention to a small aspect of the child’s psychopathology rather than promoting a comprehensive treatment approach” (van der Kolk, 2015, p.159). Managing these symptoms may be beneficial, but it is critical to provide the assistance people require in order to get to the foundations of the issue, rather than simply addressing the particular symptoms that arise. It is critical to fully address

and view their problems via a holistic lens (van der Kolk, 2015). Just before the DSM-5 was released in 2013, it was critiqued due to lacking scientific validity and diagnostic reliability (Kraemer et al., 2012; van der Kolk, 2015). Also, the world's largest funding for mental health research, the National Institute for Mental Health (NIMH), announced that they would no longer support research that relies solely on DSM-criteria (Lane, 2013; Insel, 2013). The NIMH director, Thomas Insel, states that the DSM lacks validity and that patients deserve better. In his statement, he quotes "symptom-based diagnosis, once common in other areas of medicine, has been largely replaced in the past half-century as we have understood that symptoms alone rarely indicate the best choice of treatment" (Insel, 2013, para. 2). The validity of the DSM criteria is fiercely contested by leading trauma experts and Mental Health organisations, challenging the scientific rigour of the DSM standards.

WHO published the 11th version of its diagnostic system, the ICD-11, in June 2018 (World Health Organisation, 2018). Along with a revised version of PTSD, this release contained a new diagnosis of CPTSD which was accepted by WHO member countries in May 2019. This was a significant advancement in the study of psychotraumatology because ICD diagnoses are used to track disorders worldwide and serve as the foundation for the discovery of successful treatment and the global deployment of resources (Cloitre et al., 2020). In the ICD-11, PTSD and CPTSD are two disorders that have been identified as a result of the symptom heterogeneity observed among trauma survivors. Each disorder is made up of a small number of symptom clusters and a conceptual organisation that seems to be easy for clinicians to use (Maercker et al., 2013). These two diagnoses are siblings under the parent diagnostic group of "Disorders specifically related to stress". In terms of the formulation of PTSD, this is a considerable departure from the DSM, with an emphasis on the core symptoms and the addition of CPTSD as a new diagnosis (Maercker et al., 2013). A person can have either PTSD or CPTSD, but never both; if a person has CPTSD, they cannot be diagnosed with PTSD as it is a separate diagnosis (Brewin, 2019; Cloitre, 2020). As previously mentioned, individuals who experienced chronic, repeated, and prolonged traumas, such as childhood sexual abuse or domestic violence, tended to have more complex reactions extending beyond those typically observed in PTSD, including effects in three key domains: emotional regulation, relational capabilities and self-identity. In the ICD-11 the CPTSD diagnosis has three core elements or clusters, similar to the original DSM version of PTSD: re-experiencing of the traumatic event(s) in the present, avoidance of reminders, and a

sense of threat in the present. The re-experiencing and avoidance symptoms are particularly linked to the traumatic experience in this formulation, which sees PTSD as largely a conditioned fear response (Cloitre, 2020). CPTSD combines the three main aspects of PTSD, as well as three specific aspects of disturbances in self-organisation, which are widespread and occur in a variety of settings: difficulties in regulating emotions (for instance problems calming down), negative feelings about self (such as feelings of worthlessness or failure), and difficulties with relationships (like an evasion of relationships) (Cloitre, 2020). The stressors related to CPTSD are primarily interpersonal, resulting from human mistreatment rather than natural disasters (earthquakes, tornadoes, tsunamis) or accidents (train wrecks, motor vehicle accidents). CPTSD is distinguished by more persistent long-term impairments in affective, self, and relational functioning, in addition to the common symptoms of PTSD. Difficulties in all three categories frequently co-occur (Brewin, 2019). As a result, it has an explicit focus on specific, identifiable traumatic experiences that are salient in consciousness with PTSD, rather than being a non-specific response to extreme stress. There is an acknowledgement that there is no definite link between extreme trauma and the diagnosis, which means that it can be diagnosed after a single traumatic event, however, this is less likely (Cloitre, 2020).

Several studies were done in preparation for the ICD-11 to see if the participants diagnosed with PTSD and other forms of trauma might be categorised into different groups, meaning a PTSD group or CPTSD group, based on their symptoms and psychological deficits (Resick et al., 2012). Cloitre et al. (2013), were among the first to investigate if distinct types of PTSD and CPTSD symptoms might be distinguished. They identified three different groups of individuals based on their latent profile analysis (LPA). Weller et al. (2020), describes LPA as “a statistical procedure used to identify qualitatively different subgroups within populations who often share certain outward characteristics” (p.287). Firstly, a low symptom group which consists of 32% of the sample, scored low on all symptoms. Secondly, a PTSD group consists of 32% of the sample, who scored high on core PTSD symptoms but low on symptoms displaying deficits in self-organisation. Lastly, a CPTSD group consisting of 36% of the sample with high scores on both core PTSD symptoms and had high deficits in self-organisation. Several research projects involving clinical and community samples of traumatised groups with various trauma types showed comparable outcomes utilising LPA. In the early phases of the ICD-11, these findings support the conceptual integrity and reliability of the CPTSD diagnosis (Cloitre et al., 2014; Folke et al., 2019; Haselgruber et al., 2019;

Hyland et al., 2017; Powers et al., 2017; Karatzias et al., 2019; Kazlauskas et al., 2018; Kazlauskas et al., 2020; Knefel et al., 2018; Liddell et al., 2019; Murphy et al., 2016). The presence of both PTSD and CPTSD as separate diagnoses might provide a more refined organisation of the psychological outcomes that can result from trauma and is intended to guide more tailored and effective treatment planning (Cloitre, 2020).

As a response to the limitations of the DSM-5, the ICD-11 has taken a public health approach that focuses on therapeutic efficacy, such as diagnostic framework simplicity and transparent treatment planning (Cloitre, 2020). The guiding concepts for ICD-11 amendments to mental disorders were that they should be clinically useful, centred on a restricted number of core symptoms, and have an international application (Cloitre et al., 2018). Unlike the DSM, the ICD does not require a precise list of symptoms to be present to make a diagnosis of a given condition. Instead, the ICD gives a narrative description of a disorder's definition, as well as a list of the disorder's essential and required characteristics (First et al., 2015). According to Cloitre et al. (2018), this broad definition establishes a foundation for a disorder's overall comprehension. The lack of precise symptoms and diagnostic criteria, on the other hand, produces confusion and potential challenges in creating a universal understanding of a disorder's nature and manifestation among clinicians and researchers (Cloitre et al., 2018). To implement WHO narrative descriptions of ICD-11 PTSD and CPTSD, researchers from the "Working Group for Disorders Specifically Associated with Stress" constructed the International Trauma Questionnaire (ITQ), a preliminary self-report measure with a specified set of diagnostic criteria to be used by clinicians and researchers (Cloitre et al., 2018). The ITQ is a short, straightforward assessment of the basic symptoms of PTSD and CPTSD. It follows the ICD-11's organising principles of focusing on a small but core group of symptoms to enhance clinical utility and worldwide applicability (Cloitre et al., 2018). The ITQ is the instrument used in many of the studies reviewed in this paper and has proven to be a trustworthy tool according to studies utilising preliminary versions with subjects exposed to various types of traumas (Bondjers et al., 2019; Ho et al., 2019; Facer-Irwin et al., 2021; Choi et al., 2021; Cloitre et al., 2019). However, Palgi et al. (2020), states that there might be cultural disparities in subjective traumatic outlooks and that more integrated approaches to PTSD and CPTSD assessment are needed. In some studies, childhood adversity was also assessed using ACE. The ACE is a 10-item self-report measure with a "Yes" (1) or "No" (0)

response format. ACE items were used to assess emotional neglect and physical neglect and verbal, sexual and physical abuse (Felitti et al., 1998).

3.4.1 CPTSD and negative sense of self and affect dysregulation

Cozolino (2014), found that as a result of their childhood trauma, individuals with CPTSD may develop deficits in their personality due to the maladaptive survival strategy they developed, which interferes with the body's capacity to self-regulate dynamically. With the body frequently remaining in a state of hyperarousal to preserve the feelings of safety and be sensitive to nonverbal signs that may suggest to threat. Due to deficiencies in parasympathetic nervous system activation, increased cortisol levels, and deficits in the regions of the brain, this continued hypervigilance takes a toll on the individual's ability to self-regulate, potentially preventing the ability to support daily life activities required for functioning (Cozolino, 2014). According to Hyland et al. (2017), early interpersonal trauma and abuse can encourage and facilitate the formation of negative self-concept. Considering the context and reality of childhood maltreatment, CPTSD can encapsulate the unique self-evaluative characteristics that influence trauma-induced shame, feelings of guilt, depression and disgust which are typically linked to early types of interpersonal trauma (Hyland et al., 2017). Avoidance, social anxiety, and social phobia are examples of social inhibitors and restrictions that may worsen and exacerbate post-traumatic responses, facilitating and promoting a more "complex" expression of PTSD (Hyland et al., 2017). Condly (2006), states that "traumatic events affect great damage not so much because of the immediate harm they cause but because of the lingering need to re-evaluate one's view of oneself and the world" (p. 211). This trauma-induced self-criticism has been documented across several studies. Childhood trauma, for example, has been linked to self-denigration, self-harm, a distorted perception of oneself, and suicidality (Badour & Adams, 2015; Gilbert, 2015; Hyland et al., 2017; Park et al., 2015).

Many children who have been subjected to adversities experience emotional, cognitive, and behavioural anomalies. According to Dye (2018), trauma survivors may experience sadness, anxiety, sensitivity to rejection, insecure relationships, abandonment difficulties, mood disorders, attachment issues, aggressiveness, criminality, drug addiction, and trouble trusting others. They may also have reckless or destructive behaviour, aggressiveness, sleep difficulties, hypervigilance, and memory issues as a result of their trauma. In terms of affect

dysregulation symptoms, several research papers show that childhood trauma survivors have a reduced ability to regulate and/or tolerate undesirable emotional states. Elklit et al. (2014), and Cloitre et al. (2013), found that individuals in the CPTSD group of their studies demonstrated the highest level of social functional impairment, where the CPTSD group had considerably worse symptoms than the PTSD group. They conclude that early forms of interpersonal threat, violation, and harm may attribute to the severe and negative consequences in these individual's social life (Cloitre et al., 2013; Elklit et al., 2014). Childhood interpersonal trauma, particularly repeated and prolonged traumatic exposures that are believed to increase the risk of CPTSD, can obstruct the acquisition and development of "adequate" affective regulatory skills. This disturbance of emotional regulation might be a direct result of the trauma's psychological impacts, but it could also be a reflection of the neurobiological repercussions of early interpersonal trauma, as discussed previously in this paper (Cloitre et al., 2013; Cozolino, 2014; Cross et al., 2017; Elklit et al., 2014).

3.4.2 CPTSD and Re-victimisation

When it comes to re-victimisation in adulthood, survivors of childhood maltreatment are at high risk (Knefel et al., 2018). Tapia (2014), found that childhood sexual abuse survivors are 35 times more likely to be sexually assaulted than non-victims, and Walker et al. (2017), found that almost half of childhood sexual abuse survivors are re-victimised as adults. Widom et al. (2008), discovered that adults who suffered from child maltreatment are more prone to re-victimising events like physical or sexual assault, but not more likely to encounter other traumatic events like catastrophes or accidents than non-maltreated people. Thus, re-victimisation reflects the shift from childhood to adulthood interpersonal trauma where the psychosocial and psychopathological components of the routes from child abuse to re-victimisation are present (Miron & Orcutt, 2014). This is linked with the fact that individuals with CPTSD, as mentioned earlier, may experience a distorted view of themselves where they feel shame, guilt, and disgust for their childhood maltreatment (Hyland et al., 2017). Also due to other aspects, CPTSD psychopathology like substance abuse and depression makes re-traumatisation more likely (Knefel et al., 2018). This highlights a problem that individuals with CPTSD have, that may not be a problem to those with PTSD or adult-onset trauma. However, Knefel et al. (2018), states that it is uncertain whether adult psychopathology is related to childhood maltreatment, re-victimisation, or both kinds of interpersonal trauma.

3.4.3 CPTSD vs. PTSD

A Danish cohort study (age 24) by Hyland et al. (2017), supports that exposure to interpersonal traumas, that is prolonged and repeated or consisting of various forms under circumstances where escape is difficult or even impossible, is more likely to enhance the risk of ICD-11 CPTSD in comparison to PTSD. Especially, trauma of the interpersonal type that occurs during the early stages of development is thought to be the typical form of trauma that are likely to enhance the risk of disturbances in self-organisation symptomatology as well as PTSD symptomatology. Also, their study showed that the accumulation of exposure to traumatic events in childhood increased the risk of CPTSD in comparison to PTSD. Cloitre et al. (2019), did a study on an adult population sample in the United States and found that CPTSD was linked to higher levels of symptom co-morbidity and poorer rates of psychological well-being in comparison to those in the PTSD group. In their study CPTSD is also clearly identified as a more significant and disabling condition with a higher psychological load. Bondjers et al. (2019), found that CPTSD is strongly linked to disturbances in self-organisation symptoms and “functional impairment”, as well as poorer quality of life compared to PTSD. According to Cloitre et al. (2019), clinical implications for the therapy of CPTSD include the possibility that, in comparison to PTSD, this condition will necessitate longer and differing treatments to attain optimal results. In a dose-response relationship, cumulative adulthood trauma was linked to both PTSD and CPTSD. Cumulative childhood trauma, on the other hand, was much more strongly associated with CPTSD, evidence that one major route to CPTSD may be trauma’s adverse impact on crucial developmental aspects linked to emotion regulation, self-concept, and relational capabilities that continues into adulthood that may be caused by the deficits in the development of their neurobiology (Cloitre et al., 2019; Cloitre et al., 2006).

A study on African American women, by Powers et al. (2019), found that there are clinically significant distinctions between DSM-5 PTSD and CPTSD, that might influence treatment. They also support in their study that exposure to child abuse increased the risk of developing CPTSD. Individuals with CPTSD also had a lower probability of having a secure attachment and more comorbidity with other psychiatric conditions. Compared to those with adult-onset traumas, those in the CPTSD group had higher psychiatric symptoms such as emotion dysregulation and dissociation, which could be seen as risk factors for various comorbid

psychiatric conditions or constitute more complications with day-to-day functioning. They validated in their study that the differences between PTSD and CPTSD were big enough to view CPTSD as an independent construct (Powers et al., 2017). Emotion dysregulation was also considerably greater in the DSM-5 PTSD group compared to other traumatised controls, confirming the notion that emotion dysregulation is a crucial component of PTSD. However, the emotion dysregulation was even higher in the CPTSD group which shows that emotion dysregulation is a key inhibiting factor for these individuals that goes far beyond DSM-5 PTSD alone (Powers et al., 2017). Furthermore, affect dysregulation, whether through hyperactivation or deactivation, is one of the hallmarks of CPTSD, and their findings suggest a more widespread deficiency in emotion dysregulation when compared to the DSM PTSD group. These discrepancies emphasise how people with CPTSD fail to comprehend their emotional responses and apply methods to deal with them, making it challenging to handle day-to-day responsibilities and commit to treatment. Individuals with CPTSD had greater levels of general dissociation as well as the symptoms criteria for a diagnosis of the DSM-5 dissociative PTSD subtype. However, not all the participants with CPTSD met the criteria for the DSM-5 PTSD dissociative subtype, which strengthens the validity and relevant distinctiveness of CPTSD (Powers et al., 2017). This would be otherwise missed using the current DSM-5 diagnostic approach. It is essential to highlight that they did not find an overall difference in trauma exposure, other than childhood abuse, between the PTSD and CPTSD groups, lending credence to previous studies demonstrating the specific influence of childhood trauma on the development of CPTSD (Bondjers et al., 2019; Choi et al., 2021; Cloitre et al., 2014; Cloitre et al., 2018; Cloitre et al., 2019; Facer-Irwin et al., 2021; Haselgruber et al., 2019; Hyland et al., 2017; Hyland et al., 2018; Karatzias et al., 2019; Knefel et al., 2018; Powers et al., 2017).

Haselgruber et al. (2019), studied a sample of Austrian foster children and concluded the construct validity of CPTSD for the first time in children. They found that children in the CPTSD class presented higher rates of childhood trauma, depression, dissociation, anxiety, emotion regulation difficulties, and functional impairment. Often, children end up in foster care because they have been subjected to substantial physical, sexual, or emotional abuse and neglect, or maybe because their caregiver's capacity to care for them has been significantly harmed by circumstances such as mental illness, substance dependency, or family violence (Gatwiri et al., 2019). Haselburger et al. (2019), found that 31% of the foster children they

studied fell into the CPTSD category where they showed the greatest levels of accumulated childhood trauma in comparison to the PTSD category of the same study. Their findings supported that vulnerable children entering foster care systems should be routinely screened for CPTSD to provide them with the help they need. Interestingly, when compared to other traumas in a multifactorial context, childhood sexual and physical abuse conducted by a caregiver or guardian was very highly connected to risk for CPTSD (Cloitre et al., 2019). Sexual assault in childhood that was not perpetrated by a parent or guardian, on the other hand, was linked to PTSD, and so was kidnapping or abduction. This finding is consistent with attachment theory, which emphasises the importance of caregivers throughout childhood in self-organisation processes. Furthermore, childhood abuse can be viewed as a type of betrayal trauma; where trust and well-being are abused by the very people they rely on for survival (Cloitre et al., 2019). According to research on betrayal trauma, interpersonal traumas conducted by someone known to the child cause more harm than those done by a stranger or a non-caregiver (Goldberg & Freyd, 2006). These observations emphasise the significance of using distinct terms and classifications for victimisation, as well as specifying the perpetrator's relations to the victim. The majority of epidemiological research and many community studies analyse sexual violence in children utilising a single umbrella term, generally "sexual assault" or "sexual abuse". It will be critical to describe events by not just the life stage but also the nature of the relationship in research that aims to distinguish between risk factors for PTSD versus CPTSD outcomes (Cloitre et al., 2019).

A study based on male prisoners in the United Kingdom found that individuals who had encountered their traumatic experiences within the previous year were nearly six times more likely to meet PTSD criteria (Facer-Irwin et al., 2021). Individuals who experienced cumulative traumatisation as a child or throughout their lives were not statistically more probable to meet PTSD criteria. Other types of childhood trauma, interpersonal and/or sexual violence, or recurrent exposures were not found to be linked with PTSD. However, exposure to all these traumatic exposures increased the likelihood to meet the criteria of CPTSD significantly. These characteristics included childhood verbal, physical and sexual abuse, and childhood physical and emotional neglect after adjusting for covariates like their living situation and past anxiety and/or depression history (Facer-Irwin et al., 2021). The CPTSD group was also highly linked to exposure to various other markers of complex trauma throughout one's life. Individuals whose trauma included direct interpersonal violence, sexual victimisation, or numerous exposures were considerably more prone to meet CPTSD criteria.

Poly-victimisation was also found to be closely linked to CPTSD status. CPTSD was associated with the cumulative experience of more than five adverse childhood experiences or more than eight different types of trauma during their lives. Those who reported childhood physical neglect were nearly six times more likely to fall into the CPTSD category than the PTSD category (Facer-Irwin et al., 2021).

Karatzias et al. (2019), supports the distinction of CPTSD in their study on a trauma-exposed population in the United Kingdom. They discovered that having undergone a greater number of childhood interpersonal traumas was significantly linked with CPTSD and that CPTSD had higher rates of comorbidity and the highest rates of depression and anxiety. However, they found a higher prevalence of CPTSD in their study in comparison to PTSD. This is higher than the other studies reviewed in this paper (Bondjers et al., 2019; Choi et al., 2021; Cloitre et al., 2014; Cloitre et al., 2018; Cloitre et al., 2019; Facer-Irwin et al., 2021; Haselgruber et al., 2019; Hyland et al., 2017; Hyland et al., 2018; Karatzias et al., 2019; Knefel et al., 2018; Powers et al., 2017). This could be due to the trauma-exposed inclusion criteria where the selected participants are the distressed/traumatised individuals of the general population. As a result, the current data imply that CPTSD is a more common diagnosis than PTSD, among traumatised individuals of the general population, even though previous research states that the prevalence of PTSD is the same as, if not more than, CPTSD (Karatzias et al., 2019). This is a significant finding, considering that 70% of the world's population has endured at least one traumatic experience in their lives (Benjet et al., 2016; Kessler et al., 2017). A Korean ACE study by Choi et al. (2021), supports the statement that CPTSD is more prevalent than PTSD, however, their sample group showed a greater prevalence of PTSD in general compared to other broad community samples that used the ITQ (Ben-Ezra et al., 2017; Cloitre et al., 2019; Ho et al., 2019; Hyland et al., 2021). This can be explained by a high rate of ACE exposure within the sample, with 32.5% having scored over 5 ACEs. This shows a direct link between childhood trauma and CPTSD (Cloitre, 2019). According to Choi et al. (2021), the CPTSD class was characterised by higher ACE scores and cumulative lifetime trauma, having experienced more childhood emotional, physical and sexual abuse, and a higher likelihood of having an abusive household member. The CPTSD group had the highest scores when it came to depression, probable panic disorder, depersonalisation-derealisation, cognitive-behavioural reexperiences, trauma memory disintegration and dissociative self-harm, corroborating prior research that found CPTSD to be the most disruptive disorder (Cloitre et al., 2019; Hyland et al., 2018; Karatzias et al.,

2019). However, the PTSD class was not far off when it came to ACE patterns, yet, showed less likelihood of childhood emotional abuse and comparatively lower exposure to lifetime trauma (Choi et al., 2021).

3.4.4 Reflections and critiques of the CPTSD diagnosis

Although several studies to date (Powers et al., 2017; Hyland et al., 2017; Bondjers et al., 2019; Cloitre et al., 2018; Cloitre et al., 2019, Cloitre et al., 2014, Haselgruber et al., 2019; Facer-Irwin et al., 2021; Karatzias et al., 2019; Choi et al., 2021; Hyland et al., 2018; Knefel et al., 2018) indicate that CPTSD typically develops from repeated traumatic experiences, some have discovered that individuals with chronic traumas, such as childhood abuse, appear to develop PTSD rather than CPTSD, and that individuals with single incident traumas develop CPTSD (Cloitre, 2020). These findings prompted researchers to investigate the role of dispositional (such as genetic make-up) or environmental (support systems or absence of the latter) variables in the development of the disorders so that trauma history is now regarded as a risk factor rather than a prerequisite for either diagnosis. Vulnerable people who experience a single event of trauma may develop CPTSD, whereas robust or well-supported people who have a history of continuous trauma may develop PTSD or neither disorder (Cloitre, 2020).

Achterhof et al. (2019), and Ford (2020), published two noteworthy papers that raised issues regarding methodological reliability in most studies regarding the construct validity of CPTSD. Both studies found little evidence to support a clear difference between PTSD and CPTSD populations (Achterhof et al., 2019; Ford, 2020). Issues have also been expressed concerning the possibility of CPTSD overlapping with other disorders for which chronic or recurrent trauma is known to be a risk factor, such as borderline personality disorder (BPD). It has been suggested that CPTSD is flawed and that PTSD with comorbidities or a form of BPD is more appropriate terms (Resick et al., 2012). In fact, etiological risk factors such as child maltreatment and overlapping symptoms like issues with emotion regulation are common in both CPTSD and BPD, resulting in increased comorbidity levels of CPTSD and BPD (McLean & Gallop, 2003; Pagura et al., 2010; Resick et al., 2012). Although research is still in its early stages, a few studies regarding the history of childhood abuse have suggested that the two disorders can be differentiated substantially (Cloitre et al; 2014; Frost et al., 2018; Knefel et al., 2016). The first point to mention is that a CPTSD diagnosis requires

trauma exposure and PTSD symptoms, but a BPD diagnosis does not. Furthermore, being anxious about being abandoned, having an unstable sense of self, having unstable relationships, impulsiveness, and self-harm and suicidal behaviour are more typical of BPD than CPTSD (Brewin, 2019). On the other hand, a severely negative sense of self and avoidance of interactions with no major changes in identity are more typical of CPTSD than BPD symptoms. However, many individuals who experience chronic or recurrent trauma may develop comorbid BPD and CPTSD. The CPTSD diagnosis is useful for certain individuals to recognise active trauma symptoms that are impacting their psychological state and behaviour. While the BPD diagnosis is helpful to evaluate that safety concerns are prominent, and likely to become more so if trauma symptoms are challenged directly without adequate preparatory work (Brewin, 2019).

3.5 Mind and body in the healing of CPTSD

According to Jowett et al. (2020), there have been no comprehensive studies investigating CPTSD interventions. This is partially attributable to, as mentioned earlier, CPTSD's absence of diagnostic acknowledgement by the DSM-5. As van der Kolk (2015), states, "you cannot develop a treatment for a condition that does not exist" (p.145). Furthermore, several well-established interventions that help treat PTSD are ineffective in treating CPTSD or other complex trauma presentations (Gerge, 2020; Jowett et al., 2020; van der Kolk, 2015). As an example, Cloitre et al. (2010), pointed out that trauma-focused cognitive behavioural therapy (CBT) was created explicitly to alleviate PTSD symptoms. They don't contain any therapies that specifically address the extra interpersonal and emotion control issues seen in people with CPTSD (Cloitre et al., 2010).

This is mirrored by the fact that psychotherapy traditionally believes that change occurs in a top-down fashion through a "process of narrative expression and formulation", however, Kezelman and Stavropoulos (2012), points out that there should be a greater emphasis on incorporating the body in psychotherapy to treat people with CPTSD (p.68). A top-down approach starts with the regions of the brain associated with current awareness, cognitive control and thinking, which are the functioning of the top brain. This includes the cerebral cortex and the frontal lobes, of which the prefrontal cortex is a part of (Bomyea et al., 2020; Cowell et al., 2015). A top-down approach starts by looking into how the brain processes different types of information. The intervention approach frequently focuses on altering an

individual's ideas, where the focus is on "thinking rationally" in order to make better decisions. However, starting with a top-down intervention has the disadvantage of being a logic-first strategy (Kezelman & Stavropoulos, 2012). This is because the areas of the brain responsible for logical reasoning, like the PFC, may be deactivated in those with CPTSD, a logic-first approach would be less suitable. These individuals may be experiencing dissociative symptoms or their alarm systems are overstimulated. Thinking, as a preliminary intervention, cannot counter the reaction from the defective stress-response systems and insufficient autonomic nervous system, which undermines the capacity to think matters through in people with CPTSD (Brickel, 2019, Cross et al., 2017). Van der Kolk et al. (2007), states that treatment outcome studies indicated that top-down therapies are less successful for persons with complex childhood maltreatment in comparison to adult-onset trauma. Studies have found that many symptoms associated with CPTSD may cause significant problems when using top-down approaches, such as early dropout and a worsening of symptoms (Cloitre et al., 2010; Jaycox & Foa 1996; Lanius et al., 2010). With that in mind, Carapezza et al. (2011), and Corrigan and Hull (2014), states that current management and treatment techniques for CPTSD have significant failure and drop-out rates. There is a 22,9 % drop-out rate for PTSD therapy and as high as 63% for CPTSD treatment, indicating a substantial difference between the two disorders (Corrigan & Hull, 2015; Ehring et al., 2014). Although studies have established a clear link between CPTSD and adverse experiences in childhood, the need to study the benefits of treating CPTSD symptoms other than the usual PTSD has largely gone unheeded (Bondjers et al., 2019; Choi et al., 2021; Cloitre et al., 2014; Cloitre et al., 2018; Cloitre et al., 2019; Facer-Irwin et al., 2021; Haselgruber et al., 2019; Herzog & Schmahl, 2018; Hyland et al., 2017; Hyland et al., 2018; Karatzias et al., 2019; Knefel et al., 2018; Powers et al., 2017). Several PTSD treatments are mostly effective based on years of empirical investigations, however, the exclusion of typical CPTSD characteristics like disturbances in self-organisation symptomatology and dissociation decreases the reliability of these studies for individuals with CPTSD (Corrigan & Hull, 2015; Ehring et al., 2014; van Dijke et al., 2015). Forgash (2019), points out that people with CPTSD seldom attribute their present therapeutic challenges to their previous trauma. This frequently leads to greater traumatisation in hospital settings, particularly when they are forced to talk about their trauma before being stabilised (Forgash, 2019). During therapy, they may disassociate and/or experience flashbacks, and they may have problems trusting authority figures such as psychologists, physicians, and other healthcare professionals. This is worsened by their

inability to ask for assistance and their bewilderment and/or disorientation while attempting to focus logically on the situation (Forgash, 2019).

According to Kezelman and Stavropoulos (2012), talking about a traumatic event does not necessarily aid in its processing; in fact, it might lead to re-traumatisation and overwhelm. Top-down, cognitive, therapeutic strategies and the use of pharmaceutical measures to decrease symptomology are presently used in CPTSD interventions (van der Kolk et al., 2014). Working with complex trauma necessitates addressing the symptomology of CPTSD, which in turn highlights the need for a differential approach method to facilitate recovery and assist symptom reduction (Schwartz, 2017; van der Kolk, 2015). Body-conforming treatments, on the other hand, are “bottom-up” and “address the somatic dimensions of experience not directly addressed by traditional psychotherapeutic approaches” (Kezelman & Stavropoulos, 2012, p. 68). Standard PTSD interventions have been shown to fall short of adequately conveying the complex symptom presentation of childhood trauma. Somatic complaints, a general lack of integration in both the self and the body, and a loss of awareness of one’s physical and emotional existence in the present (West et al., 2017). As a defence mechanism to keep themselves safe, those with CPTSD adjust parasympathetic nervous system activity and decrease vagal reactivity to the environment (Cross et al., 2017; van der Kolk et al., 2014; West et al., 2017). Traumatic memories are stored as “sensory perceptions, obsessive thoughts, and behaviour re-enactments”, where verbal recall of the past traumatic experiences is difficult, leaving the individual vulnerable to stimuli that take the power of the limbic system, triggering a trauma response (Ogden et al., 2006, p. 234). When utilising a bottom-up approach, the limbic system is employed to facilitate connections to the emotional and sensory aspects of trauma, and the autonomic nervous system is engaged to help with self-regulation (Caldwell, 2018; Cross et al., 2017; Schwartz, 2017). Focusing on body language and motions, as well as emotion, changes the body’s behaviour and physical state, increasing feelings of safety and security and lowering the symptoms of CPTSD (Caldwell, 2018; Ogden & Fisher, 2015; Schwartz, 2017). Researchers have been investigating the use of mind-body techniques to treat the physiological dysregulations and physical symptoms that persons with CPTSD suffer from (Minton et al., 2006; Salmon et al., 2009). Approaches that promote a heightened understanding of internal states and physiological reactions to stimuli have shown promising results in pointing out how trauma is stored in the body (Follette et al., 2006; Ware, 2007). Mindfulness-based treatments have also been shown to reduce symptoms and enhance recovery by improving the individual’s ability

to endure, identify, and use internal states. Furthermore, these approaches reduce the physical comorbidities that are frequently associated with CPTSD (Boden et al., 2012; Thompson et al., 2011; Vujanovic et al., 2009). Childhood trauma causes repeated and unwelcome bodily sensations, movement inhibitions, and somatosensory invasions, which can be addressed via bottom-up methods (Kezelman & Stavropoulos, 2012). The regions of the brain and body responsible for autonomic reactions, reflexes, memories, and automatic survival responses are the focus of a bottom-up approach to therapy. This kind of treatment begins with information gathered from bodily sensations and addresses the somatic aspects of the individual's experiences. In order to recover, one must first feel comfortable and learn how to control and reconstruct the body's and brain's processes.

3.6 Yoga and EMDR as bottom-up interventions for CPTSD

3.6.1 Yoga

A rapidly growing bottom-up approach in treating CPTSD is trauma-informed yoga (van der Kolk, 2015). Yoga is a mindfulness-based technique that has shown promise as an intervention for symptom reduction and personal improvement (West et al., 2017; West, 2011). Through yoga, the participants' physical awareness, breath, mind, and connections develop as a result of a mix of "asana" (postures), breathing techniques, and "dharana" (concentration). Yoga teaches the participant to be present in their experiences via dhyana (meditation) and asana. Dhyana leads to the experience of greater consciousness and awareness, and yoga enables the person to be present in their experiences through dhyana and asana (West, 2011). The objective of using yoga as a therapeutic technique is to be able to achieve absolute relaxation and safe surrender (van der Kolk 2015). Yoga is based on the notion of physical awareness and allowing oneself to open up to the momentary aspect of one's experiences (NICABM, 2020). The participants learn to confront their bodies with openness instead of fear. Rather than avoiding painful memories, participants learn to confront them in a non-threatening manner by identifying the sensations associated with them in order to improve emotional control (NICABM, 2020). Yoga changes a person's perception of time by increasing their bodily awareness. As previously stated, individuals who have experienced childhood trauma have alarm system deficiencies, and their bodies frequently do not distinguish between prior trauma and current events. With yoga, the participants discover that these emotional states rise and fall (van der Kolk, 2015). To illustrate, van der Kolk (2015), provides a scenario; the instructor instructs the participant to do a demanding position

which the participant may feel defeated or resistant. Then the instructor instructs the participants to become aware of their physical tensions while synchronising their sensations with the rhythm of their breaths, for instance, “we will maintain this position for 10 breaths”. This exercise helps participants predict when they will feel better and improves their capacity to cope with physical and emotional distress (van der Kolk, 2015). West (2011), created a table that offers a visual explanation of the benefits of yoga for those with CPTSD.

Figure 3.

Symptoms of CPTSD and therapeutic benefits of trauma-informed yoga

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Note. From “Moving to Heal: Women's Experiences of Therapeutic Yoga after Complex Trauma” by J.I. West, 2011. p. 47. (<http://hdl.handle.net/2345/2460>). Copyright 2011 by Jeniffer I. West.

Bessel van der Kolk (2015), is a pioneer in the use of yoga as a therapeutic tool. He and his colleagues at the Justice Resource Institute discovered beneficial connections between yoga and the regions of the brain involved in psychological self-regulation. In their most recent study, they found that the activation of numerous regions of the brain, such as the insula and prefrontal cortex, was enhanced throughout the first 20 weeks of yoga. This demonstrates that practices such as recognising and befriending the body may result in deep changes in both the mind and the physical brain, leading to trauma recovery (van der Kolk, 2015). In a previous study, 34 women with significant trauma histories were studied to see the effects of yoga as a bottom-up approach. For years, these individuals had tried top-down interventions without success. Study outcomes found that yoga had helped them overcome their arousal issues and develop a healthier relationship with their bodies (van der Kolk, 2015). Only one of the 34 participants in this trial dropped out, indicating tremendous success.

Emerson et al. (2009), also piloted a study utilising yoga as an approach to healing where they assigned 16 women aged 22 to 55 to eight 60-minute weekly sessions of either Dialectical Behaviour Therapy or light hatha yoga. According to early findings, only the yoga group saw substantial reductions in the degree of intrusions and arousal symptoms, as well as decreased negative affect and increased mood control (Emerson, et al., 2009). Another study (Franzblau et al., 2006), found that yoga can lower arousal, anxiety, and over-reactivity, allowing people to remember and discuss traumatic events without feeling overwhelmed. A

four-day randomised controlled trial with 40 women evaluated the effects of two 45-minute yoga sessions, testimony (telling a story to a trained listener), combined yoga and testimony, and a wait-list control. They found that self-efficacy, which includes emotions of control, security, and confidence, improved the most in the combined yoga and testimony group (Franzblau et al., 2006).

It is evident from previous studies and literature that yoga has several advantages. However, it's equally vital to think about the limitations of yoga as an intervention for individuals with CPTSD. Dissociation, hypervigilance, hyperarousal symptoms and other consequences of CPTSD become the default response to intense emotions, bodily sensations, and feelings of discomfort or lack of safety. As a result, the bodily stimulation of yoga practice might stimulate or bring memories, anxieties, suffering, and other feelings related to the trauma to the forefront (West, 2011). West (2011) pointed out that yoga may thus elicit anxiety, hypervigilance, flashbacks, or dissociation, comparable to top-bottom approaches. Such triggering can occur in a variety of situations, but it appears to be the most prevalent when participants are inquired to focus on one particular, often vulnerable, part of the body like the pelvis; hold a vulnerable position, or hear certain words like “binding”, “dead man pose” or “happy boy” that could be linked with their traumatic experiences. Furthermore, since individuals with CPTSD may have a poor body image, being asked to be aware of their bodies might induce pain, humiliation, shame, or self-criticism (van der Kolk, 2006). As with any physical activity, there is the danger of physiological pain as a result of exertion, as well as injury if a position is strained. Despite the potential concerns limited research on safety concerns or limitations has been studied (West, 2011).

3.6.2 Eye Movement Desensitisation and Reprocessing (EMDR)

The Eye Movement Desensitisation and Reprocessing (EMDR) approach, which is a type of psychotherapy, is another method for bottom-up therapy. Unlike talk therapy, the effectiveness of EMDR treatment lies in its capacity to help your brain-body information processing system create the automatic connections required for successfully resolving traumatic disruptions (Knipe, 2018). EMDR was developed to immediately address the symptoms caused by traumatic memories, where it modifies the way traumatic memories are kept in the brain to reduce or eliminate trauma symptoms. While the individual concentrates on their painful memory and undergoes bilateral stimulation (BLS), EMDR employs eye

movements or various forms of rhythmic stimulations (American Psychological Association, 2017b). A successful EMDR intervention results in a restructuring of the individual's self-perception, a reduction in emotional distress, and a reduction in psychological arousal (EMDR Institute, 2020). For patients with PTSD or Acute Stress Disorder (ASD), EMDR has been shown to be highly beneficial; nevertheless, for those with CPTSD, traditional EMDR methods need to be modified to serve their needs (Knipe, 2018). By combining somatic techniques, EMDR therapists must be able to work with preverbal and nonverbal memories. This is because traumatic childhood events are frequently retained in the bodies of individuals with CPTSD as feelings, psychological and physiological arousal, motor patterns, and emotional states (Forgash, 2019). This is reflected in a study done by van der Kolk et al. (2007), where they compared the effectiveness of EMDR versus drug treatment. The study included 88 adults in the age of 18-65 where half had adult-onset PTSD and the other half experienced childhood trauma. 46,2% of EMDR patients with adult-onset PTSD were symptom-free after the 8-week study, and 100% were no longer diagnosable with PTSD. Only 9,1% of those who had experienced trauma as a child were symptom-free, and 7,2% were no longer diagnosable (van der Kolk et al., 2007). In comparison to fluoxetine or placebo, EMDR participants showed lower symptomatology. During follow-up, EMDR patients also showed a higher rate of remission than those on fluoxetine in both childhood-onset trauma and adult-onset trauma. However, due to the lower success rate of EMDR on childhood related trauma, those with complex childhood trauma may require additional sessions and modifications to conventional protocols to address the dissociative and dysregulated symptoms that frequently accompany early developmental deficiencies caused by traumatic childhood experiences (Knipe, 2018; Forgash, 2019, Schwartz, 2017).

The findings of their study suggest that effective therapy for those with CPTSD should go longer than the usual EMDR program of eight weeks (van der Kolk et al, 2007). They also recommend a more tailored solution, as each person suffering from CPTSD has different symptoms and personality patterns as a result of their traumatic experiences (van der Kolk et al., 2007). These findings have extended the scope of BLS for therapists to encompass not just defective memories, but also pathological responses to the individual's developmental deficiencies (Knipe, 2018). Individuals with CPTSD may not require assistance with particular stored memory since they may not recall the events due to dissociative amnesia. Alternatively, the intervention could focus on pieces of memory that are stored in a

dysfunctional state (DSE). Pathological defences, dysfunctional attachment patterns, a weak sense of self, and dissociative symptoms are all part of these DSEs (Gonzales & Mosquera, 2012; Gonzales et al., 2012). According to some authors, at least 12 or 20 sessions are required to achieve more lasting progress beyond PTSD symptom reduction, though this is probable to vary depending on the degree and significance of the trauma as well as an individual's protective and risk factors (Carlson et al., 1998; Brown & Shapiro, 2006). Adolescents and adults who have been exposed to trauma over a longer period are more likely to require more EMDR sessions to address the psychological changes that come with trauma.

Forgash (2019), illustrates the eight phases of EMDR therapy specifically regarding individuals with CPTSD: History Taking, Preparation, Assessment, Desensitisation, Installation, Body Scan, Closure, and Re-evaluation. The therapist obtains a detailed history of the patient's life during the history-taking phase (Forgash, 2019). This phase allows the EMDR therapist to determine if the individual is dissociative and monitor their ability for somatic awareness in CPTSD patients. The second step is the preparation phase, in which the therapist helps the client develop the necessary tools to help them face difficult memories without becoming overwhelmed. They also aid the individual in recognising the portions of oneself that stores the trauma memories (Forgash, 2019). The evaluation phase follows, and it focuses on identifying the specific traumatic memory that will be worked on in the following stage. This is followed by the desensitisation phase, which incorporates the use of a state of dual consciousness, in which the patient is aware of the present experiences while recalling recollections of traumatic experiences. Bilateral eye movement or other rhythmic stimulations that alternate between the left and right sides of the body are used to improve dual attention stimulation (DAS). When treating patients with CPTSD, it's crucial to keep them regulated inside the tolerance window (Figure 4) and be attentive to their dissociative symptoms. The installation phase, which follows the desensitisation phase, focuses on reinforcing the positive ideas that have been established (Forgash, 2019, Knipe, 2018). During the body scan phase, the therapist determines whether there are any remaining tensions or discomfort, as well as reinforcing the desensitisation and installation phases' results. The seventh phase is the closing phase, which is critical for a successful treatment since it ensures that the patient is stable before the EMDR therapy is concluded and that the trauma processing is finished (Forgash, 2019). Finally, during the re-evaluation step, they

resume processing from previous sessions to ensure that all initial processing has been accomplished (Knipe, 2018). For those with CPTSD, the objective of EMDR is to help them build an embodied self that can manage their emotions, sensations, and past selves in a healthy way. When tailored to meet the requirements of people with CPTSD, EMDR may have numerous implications for dealing with individuals who have experienced childhood trauma. Patients have a lot more control over the therapy process, including the option to determine the amount of time and intensity of exposure to unpleasant emotional experiences including sensations, thoughts, and mental pictures. These can be encountered in brief bursts rather than over long periods as with exposure treatment. Patients with persistent trauma can use EMDR's unique reprocessing approach to avoid verbalising their experience, which may help with desensitisation and processing of traumatic memories (Korn, 2009).

Figure 4.

Window of tolerance

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Note. From "EMDR for Complex PTSD - Arielle Schwartz" by A. Schwartz, 2017b, (<https://drarielleschwartz.com/emdr-therapy-for-complex-ptsd-dr-arielle-schwartz/#.YiBXARPP1QK>).

Unfortunately, there are limited studies that have explored EMDR in the context of CPTSD and childhood abuse, however, the studies that have been undertaken have shown that EMDR is an effective approach for CPTSD. Jaberghaderi (2004), researched 14 Iranian girls aged 12 to 13 who had been sexually abused. They were assigned to either EMDR or CBT at random. The number of sessions in each condition varied depending on the participants' self-reported reductions in distress. They were tested two weeks after therapy, and there were no statistically significant changes between the groups right away, most likely due to a statistical deficit. Even so, EMDR had a larger effect size for reducing CPTSD symptoms in the long term, and the authors stated that EMDR had a higher treatment efficiency, with participants assigned to EMDR requiring an average of 6,1 sessions whereas for participants assigned to CBT requiring an average of 11,6 sessions to obtain comparable results (Jaberghaderi, 2004). Another study investigated 59 adult females aged 18 to 35 who were survivors of prolonged and repeated childhood sexual abuse as well as physical abuse and adult re-traumatisation (Edmond et al., 1999). The participants were allocated to one of three groups: EMDR intervention for six sessions, standard individual therapy, or delayed EMDR intervention (control group). PTSD symptoms were assessed after treatment and at three months; their anxiety and depression levels were also assessed. According to Edmond et al. (1999), EMDR was considerably greater than the control group at reducing trauma symptoms at post-intervention assessment, but there was no

great disparity between EMDR and standard individual therapy. However, during the 3-month follow-up, the overall disparity between EMDR and standard individual therapy for trauma symptoms had a modest effect size, and individuals who had undergone EMDR had considerably lower depression and anxiety ratings compared to individuals who had undergone routine individual therapy. Additionally, according to a 2004 study (Edmond & Rubin, 2004), these advantages were sustained during an 18-month follow-up of 42 individuals from this group. Another study undertaken by Scheck et al. (1999), studied 60 women in the age bracket 16 to 25 who had lately displayed dysfunctional behaviour and had endured numerous types of childhood trauma, with 90% having experienced physical or sexual abuse. They were randomly assigned to either two 90-minute EMDR sessions or two 90-minute active listening sessions, and their trauma symptoms were assessed after three months. The EMDR group improved considerably on all measures after treatment than the active listening group, with moderate to high outcome measures and maintained progress at follow-up despite just having two sessions (Scheck et al., 1999). EMDR therapy was also found to be beneficial in a more recent study evaluating the effectiveness of trauma-focused treatment of comorbid PTSD in individuals with schizophrenia or psychosis (Van den Berg et al., 2015). 67% of the participants in the study said they had been sexually abused as children, whereas 36,4% of those said they had been sexually abused numerous times before the age of 12. 60% of those in the EMDR group lost their PTSD diagnosis after the eight therapy sessions. At a 12-month follow-up, these effects were still present (Van den Berg et al., 2018).

4. Conclusion

Through the utilisation of a traditional literature review, the acknowledgement and discriminant validity of CPTSD has been explored. The long-term sequela of interpersonal childhood maltreatment and its effects on neurobiology have been examined. Alterations of various parts of the brain, caused by traumatic events in childhood, may lead to developmental deficits and negatively impacted health in the future. Childhood maltreatment interrupts the delicate neurosequential development of the brain, in both micro and macro domains, leading to disruptions in micro-neurodevelopmental processes, alterations in the HPA-axis and causing deficits in the development of the amygdala, hippocampus, PFC and the autonomic nervous system. Early adverse experiences are also regarded as the most dependable risk factor of psychopathology, where ACEs are closely linked to both mental and physical health problems like dissociation, depression, addiction, personality disorders, and anxiety disorders. Studies reviewed in this paper support the validity of the CPTSD diagnosis, where individuals who experienced adverse childhood experiences showed greater impairments compared to those with PTSD. These impairments include a greater negative sense of self, affect dysregulation, dissociation, functional impairment, depression, anxiety and difficulties in relationships. The limitations of PTSD interventions currently used on those with CPTSD have been analysed, where findings show that current PTSD treatments are not effective in addressing the extra interpersonal and emotion control issues seen in those with CPTSD. Research shows that current top-down treatment approaches for CPTSD lead to higher drop-out rates and worsening of symptoms. This is attributable to the absence of CPTSD diagnostic acknowledgement by the DSM-5. This review also highlights some benefits of utilising bottom-up approaches to address the somatic dimensions of experiences that are not addressed by top-down or standard PTSD interventions. Due to the neurobiological impairments that occur during development, it can be difficult for an individual to verbalise traumatic experiences, which can lead to re-traumatisation and overwhelm. It is essential to treat the physiological dysregulations and somatic symptoms to educate these individuals on how to feel comfortable in their bodies and reintegrate stress responses in both body and brain. An example of a bottom-up approach included in this review is yoga which has demonstrated considerable effectiveness in teaching people how to accept their bodily sensations and develop physiological awareness. Another bottom-up technique is EMDR therapy, which employs eye movements and other rhythmic stimulations to create a physical bond with challenging memories and emotions. To make EMDR as successful as possible for patients with CPTSD, standard procedures must be tailored to the

specific requirements of the individual. Unfortunately, there are currently limited studies that have explored EMDR in the context of CPTSD. Hopefully, in the near future, there will be more studies on the efficacy of EMDR for individuals with CPTSD to improve this therapeutical approach.

In conclusion, the current landscape of diagnostic criteria and treatment options, regarding CPTSD, seem to cause inconsistency in common healthcare practice. The major concern surrounding the issue is a missing differentiation between PTSD and CPTSD. There is some overlap in our current understanding of the two disorders, but there is a large enough difference to call for a distinct differentiation in diagnosis and treatment. A proper diagnosis can make a significant impact on treatment approaches and the lives of individuals with CPTSD. Not only regarding the accuracy of diagnosis and treatment, but also for future funding, treatment options, and research. The complex symptom profiles seen in CPTSD, along with the neuropathological factors involved, fundamentally call for a more thorough emphasis on the affected individual own experiences and symptoms. This might be the reason for such good results seen in bottom-up interventions, as it allows the person to connect to the core of their reality, as opposed to aligning with the current best-practice body of knowledge within PTSD interventions. These claims would, of course, require further investigation both of CPTSD itself and of the efficacy of treatment options currently available.

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