ISSN: 2577 - 8005

Research Article

Medical & Clinical Research

Bridging the Divide: Neurophysiological Signatures and Holistic Treatment Models for PTSD and Complex PTSD

Julian Ungar-Sargon* MD PhD

Borra College of Health Sciences, Dominican University, River Forest IL USA

*Corresponding Author

Julian Ungar-Sargon, MD, PhD, Borra College of Health Science, Dominican University IL, USA,

Submitted: 30 June 2025; **Accepted**: 07 July 2025; **Published**: 20 July 2025

Citation: Ungar-Sargon, J. (2025). Bridging the Divide: Neurophysiological Signatures and Holistic Treatment Models for PTSD and Complex PTSD. *Med Clin Res, 10*(7), 01-14.

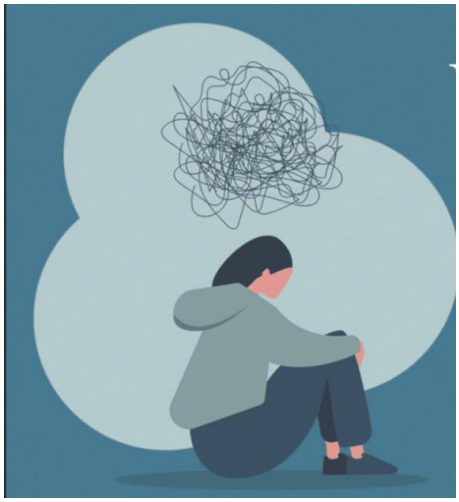
Abstract

This paper provides a comprehensive comparative analysis of Post-Traumatic Stress Disorder (PTSD) and Complex Post-Traumatic Stress Disorder (C-PTSD), examining their distinct etiologies, clinical presentations, neurobiological underpinnings, and treatment implications. While both conditions stem from traumatic experiences, C-PTSD emerges from prolonged or repeated trauma and presents with additional symptom clusters reflecting disturbances in self-organization, including emotional dysregulation, negative self-concept, and interpersonal difficulties.

Recent neuroimaging and neurophysiological research reveals differentiated patterns of neural disruption in these conditions. Functional MRI studies demonstrate alterations in three key networks: heightened amygdala reactivity, default mode network dysfunction, and salience network abnormalities, with potentially more extensive disruptions in C-PTSD. Quantitative electroencephalography (QEEG) findings indicate specific power spectral alterations, including alpha power reduction, increased beta activity, and theta changes, which may serve as biomarkers for diagnosis and treatment planning.

The paper also examines how healthcare bias, particularly the Cartesian dualism embedded in modern medicine, influences diagnostic practices and treatment approaches. This reductionist perspective can lead to fragmentation in trauma care and misdiagnosis, especially for complex trauma presentations. Integrating spiritually-oriented approaches with conventional treatments offers promising avenues for addressing the multidimensional impact of trauma, particularly for C-PTSD where disruptions extend beyond symptom clusters to fundamental aspects of identity, meaning, and connection.

The analysis concludes that a more integrated understanding of these conditions, incorporating neurobiological, psychological, social, and spiritual dimensions, is essential for accurate diagnosis and effective treatment. Future research priorities include further clarification of diagnostic boundaries, development of targeted treatment approaches, and exploration of how neurobiological markers might guide personalized interventions for trauma survivors [1-7].



Keywords: PTSD, Complex PTSD, Trauma, Diagnostic criteria, Physician bias, Spiritual healing, Neurophysiology, Treatment approaches, Mind-Body integration, Cultural competence, Differential diagnosis, Trauma assessment, ICD-11, DSM-5, Holistic medicine

1. Introduction

Trauma-related mental health conditions represent a significant global health burden, affecting millions of individuals across diverse populations and contexts. The understanding of how traumatic experiences shape psychological outcomes has evolved substantially over recent decades, moving from relatively simple conceptions of trauma responses to more nuanced models that recognize the heterogeneity of both traumatic experiences and their sequelae. This evolution is perhaps most clearly exemplified in the differentiation between Post-Traumatic Stress Disorder (PTSD) and Complex Post-Traumatic Stress Disorder (C-PTSD).

Since the initial formal recognition of PTSD in the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III) in 1980, clinicians and researchers have observed that the constellation of symptoms following discrete traumatic events differs qualitatively from the psychological consequences of prolonged, repeated, or inescapable trauma. This observation led to the conceptualization of C-PTSD as a distinct clinical entity—a perspective now formally recognized in the International Classification of Diseases 11th Revision (ICD-11), though not in the current DSM-5.

The distinction between PTSD and C-PTSD is not merely academic but has profound implications for diagnosis, treatment planning, and recovery trajectories. While PTSD is characterized primarily by intrusive memories, avoidance behaviors, and hyperarousal symptoms, C-PTSD encompasses these core features while adding disruptions in self-organization, including emotional dysregulation, negative self-concept, and interpersonal difficulties. This broader symptom profile reflects the pervasive impact of prolonged trauma, particularly when it occurs during developmentally sensitive periods or within attachment relationships.

Recent advances in neuroscience have begun to elucidate the distinct neurobiological signatures of these conditions. Sophisticated neuroimaging techniques, including functional magnetic resonance imaging (fMRI), have revealed differential patterns of activation and connectivity in key neural networks associated with fear processing, self-referential thinking, and salience detection. Complementary research using quantitative electroencephalography (QEEG) has identified specific alterations in neural oscillations that may serve as biomarkers for trauma-related disorders. These neurobiological findings not only support the clinical differentiation of PTSD and C-PTSD but also suggest potential targets for novel therapeutic interventions.

However, the accurate diagnosis and effective treatment of trauma-related disorders face significant challenges within contemporary healthcare systems. Physician biases, often rooted in Cartesian dualism and reductionist medical models, can lead to fragmented approaches that fail to capture the holistic nature of trauma responses. The conventional biomedical paradigm, with its emphasis on discrete, observable symptoms, may be particularly ill-suited to addressing complex trauma, where the impacts extend beyond symptom clusters to fundamental aspects of identity, meaning, and relational capacity.

In response to these limitations, integrative approaches that incorporate spiritual dimensions of healing alongside conventional treatments have shown promise. Moving beyond the Cartesian split toward models that acknowledge the interconnectedness of physical, psychological, social, and spiritual domains may be especially valuable for individuals with complex trauma histories.

Such approaches recognize that healing from trauma, particularly complex trauma, involves not merely symptom reduction but the restoration of a cohesive sense of self, meaningful connections with others, and engagement with existential questions about purpose and belonging.

This paper provides a comprehensive comparative analysis of PTSD and C-PTSD, examining their distinct etiologies, clinical presentations, neurobiological underpinnings, and treatment approaches. By integrating perspectives from clinical psychology, neuroscience, and spiritual healing traditions, we aim to contribute to a more nuanced understanding of trauma responses and their treatment. In doing so, we hope to advance clinical practice toward more personalized, integrated approaches that address the full spectrum of trauma-related suffering and support complete healing and recovery.

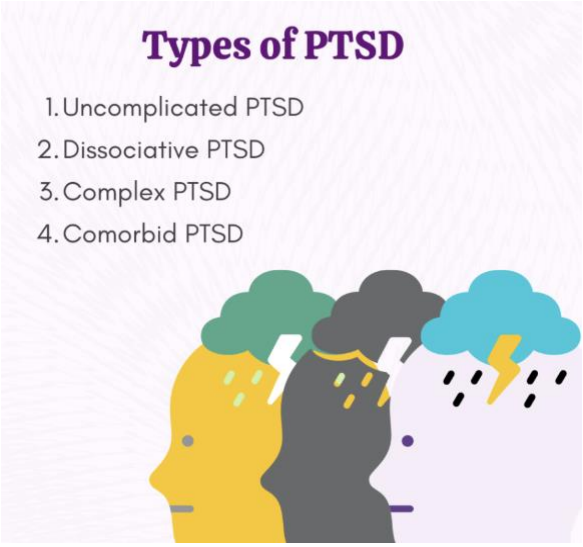
2. Historical Context

PTSD was first included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) in 1980, providing formal recognition of the psychological consequences that can follow traumatic experiences. Since then, the understanding of PTSD has evolved, with subsequent DSM revisions expanding the criteria to encompass a broader range of symptoms.

3. Emergence of Complex PTSD as a Concept

The concept of Complex PTSD was first proposed by Dr. Judith Herman in the late 1980s to describe the psychological impact of prolonged, repeated trauma, particularly in situations where escape is difficult or impossible. Despite clinical observations supporting its existence, C-PTSD faced challenges in gaining formal recognition.

The World Health Organization (WHO) has included C-PTSD in the International Classification of Diseases 11th Revision (ICD-11), published in 2018 and implemented in 2022 [3]. However, the American Psychiatric Association has not included C-PTSD in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [4]. Instead, the DSM-5 expanded the criteria for PTSD to capture a wider range of symptoms that might follow various types of trauma [1].



4. Nature and Duration of Traumatic Exposure

The primary distinction between PTSD and C-PTSD lies in the frequency and duration of trauma exposure. While PTSD typically develops following a single traumatic event, C-PTSD results from long-lasting trauma that continues or repeats for months or even years, commonly referred to as "complex trauma" [5,6]. These prolonged traumatic experiences often occur in situations where the victim is under another person's control with little opportunity to escape [8].

C-PTSD is now recognized as a condition where individuals experience the core symptoms of PTSD along with additional symptoms that distinguish it from standard PTSD [2,9]. This distinction acknowledges that different types of traumatic experiences can lead to varying psychological outcomes.

5. Types of Traumatic Events

PTSD can develop after exposure to various traumatic events, including:

- Natural disasters
- Serious accidents
- Violent assaults
- Combat experiences
- Single instances of abuse [5]

C-PTSD, in contrast, typically results from prolonged or repeated traumatic experiences such as:

- Childhood abuse or neglect
- Prolonged domestic violence
- Human trafficking
- Being a prisoner of war
- Living in conflict zones for extended periods [5,8]

A 2021 study of refugees and asylum seekers found that while 19.4% of participants met the criteria for PTSD, a much higher percentage (49.5%) met the criteria for C-PTSD, highlighting the prevalence of complex trauma in populations exposed to prolonged adversity [3].

6. Clinical Presentation and Symptomatology

Both PTSD and C-PTSD share three core symptom clusters:

Intrusions or re-experiencing the traumatic event (intrusive memories, nightmares, flashbacks, distress triggered by reminders)

Avoidance of thoughts, feelings, or memories of the event, or avoiding people, places, or situations associated with the trauma

Heightened arousal and reactivity or sense of current threat (irritability, hypervigilance, being easily startled, concentration problems, sleep disturbances) [6,10].

In addition to the core PTSD symptoms, C
-PTSD is characterized by three additional symptom clusters (sometimes referred to as 'disturbances in self-organization' or 'DSO'):

Problems in affect regulation (marked irritability or anger, feeling emotionally numb)

Negative self-concept (beliefs about oneself as diminished,

defeated, or worthless, accompanied by feelings of shame, guilt, or failure related to the traumatic event)

Difficulties in sustaining relationships and feeling close to others [6,9].

These additional symptoms in C-PTSD reflect more profound psychological and developmental impacts than those typically seen in PTSD alone [8]. The severity of these symptoms has led many experts to argue that standard PTSD diagnostic criteria inadequately describe the wide-ranging, long-lasting consequences of complex trauma [5,8].

Individuals with C-PTSD may also be particularly prone to experiencing "emotional flashbacks," wherein they experience intense feelings originally felt during the trauma, such as fear, shame, sadness, or despair [2]. They might react to present events as if they are causing these feelings, without realizing they are experiencing a flashback.

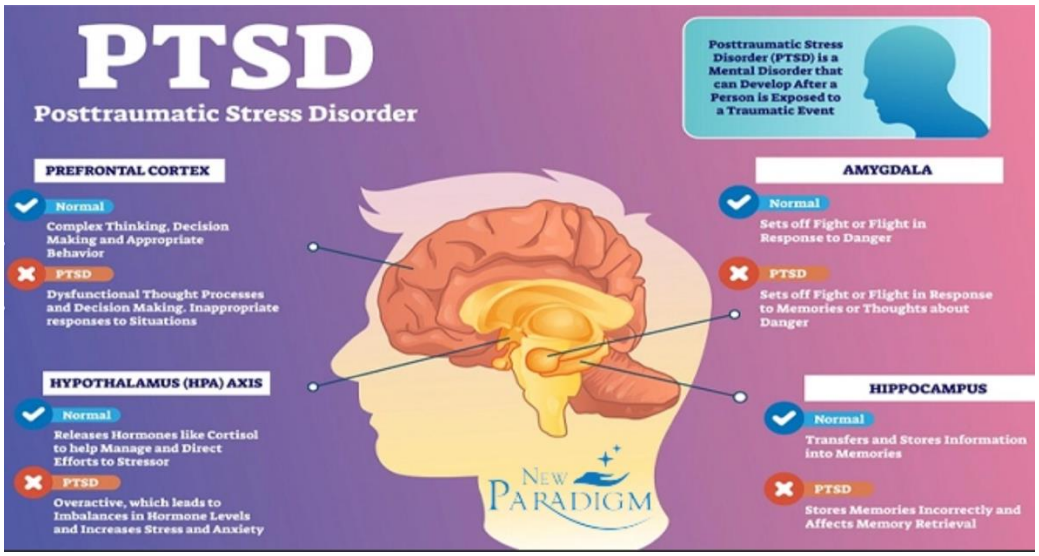
The diagnostic criteria for PTSD vary somewhat between the DSM-5 and ICD-11. The DSM-5 takes a broader approach with more symptoms across four clusters, while the ICD-11 uses a more restricted approach focusing on fewer symptoms across three core clusters [6].

7. C-PTSD Diagnostic Criteria

According to the ICD-11, a diagnosis of C-PTSD requires that a person meets all the criteria for PTSD (re-experiencing, avoidance, and perception of heightened threat) and additionally demonstrates: 1) difficulties in regulating emotions, 2) negative self-concept with significant shame or feelings of worthlessness, and 3) difficulties maintaining close relationships [6,9].

The diagnosis of C-PTSD presents several challenges. Since it is a relatively new diagnosis, some clinicians may not be aware of it, making it difficult for patients to receive an official diagnosis [3,5]. Moreover, because C-PTSD shares symptoms with other conditions such as Borderline Personality Disorder (BPD), misdiagnosis is possible [2,5].

Some experts have suggested that PTSD, C-PTSD, and Borderline Personality Disorder may exist on a spectrum of trauma-related mental health conditions that vary in the severity of their symptoms [5]. Research continues to refine the boundaries between these conditions.

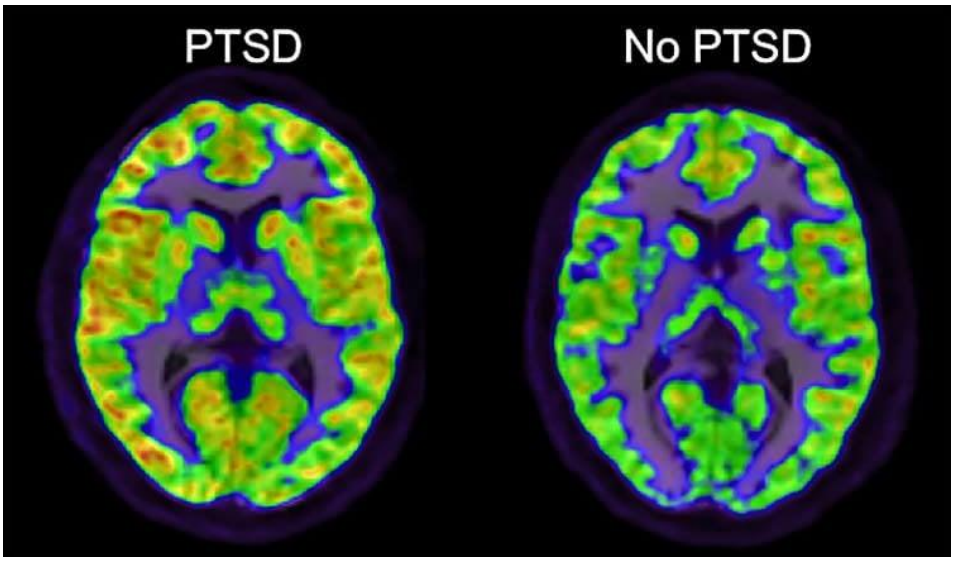


8. Neurobiological Underpinnings

Both PTSD and C-PTSD involve significant alterations in brain structure and function, particularly in regions involved in the stress response, emotion regulation, and memory processing. Recent advances in neuroimaging and neurophysiological research have provided increasingly detailed insights into the distinct neurobiological features of these conditions.

Neuroimaging studies consistently demonstrate volumetric changes in key brain regions in individuals with PTSD and C-PTSD. The hippocampus, a structure critical for contextual memory processing, often shows reduced volume in both conditions [3,5]. The amygdala, central to fear processing and emotional reactivity, has been found to have smaller volumes in some studies, though results are less consistent than hippocampal findings. Additionally, decreases in prefrontal cortex volumes have been repeatedly observed, potentially reflecting compromised regulatory capacity over limbic structures.

Some evidence suggests that these structural alterations may be more pronounced in C-PTSD compared to PTSD, particularly in cases of early life trauma or prolonged exposure to traumatic experiences. This aligns with developmental perspectives that emphasize the potential for trauma to interfere with critical periods of brain development when it occurs during childhood or adolescence.



9. Functional MRI Findings

Functional MRI (fMRI) studies have revealed distinctive patterns of neural activation and connectivity in trauma-related disorders. In PTSD, three key neural networks show altered functioning:

Heightened Amygdala Reactivity: Numerous studies demonstrate hyperreactivity of the amygdala in response to threat-related stimuli in PTSD [56]. This hyperreactivity may underlie the enhanced fear responses characteristic of the disorder. However, some research has found more complex patterns, with certain individuals showing decreased amygdala responsivity to negative stimuli, suggesting potential subtypes within the PTSD diagnosis [56].

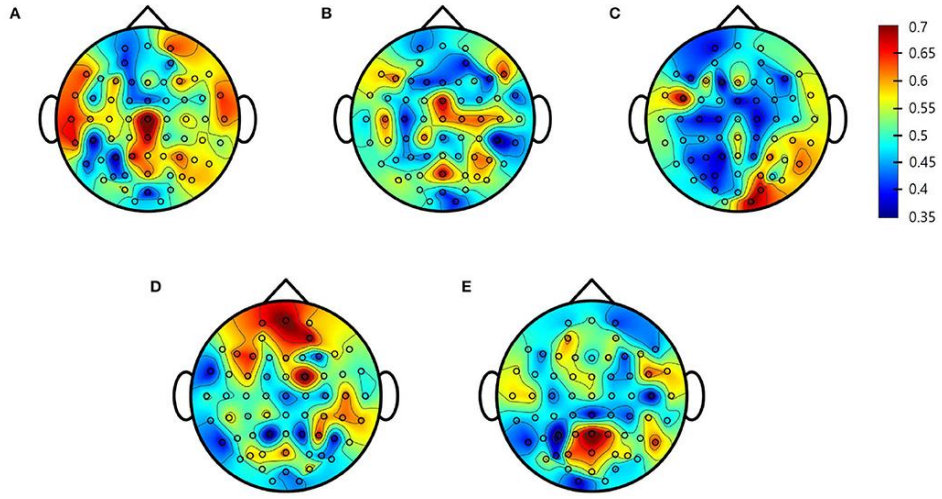
Default Mode Network (DMN) Dysfunction: The DMN, a network of brain regions active during rest and internal reflection, shows altered connectivity in trauma-exposed individuals [64]. This network plays a crucial role in self-referential processing and autobiographical memory, and its disruption may contribute to symptoms related to identity and self-concept that are particularly prominent in C-PTSD [58,64].

Salience Network Alterations: The salience network, which helps direct attention to significant stimuli, shows enhanced activity in PTSD, potentially contributing to hypervigilance and threat detection [64]. Studies demonstrate increased activation in the insula, a key component of this network, in response to both trauma-related and emotionally salient but trauma-unrelated stimuli [56].

Recent research has begun to use network-based approaches to conceptualize the brain as an interconnected system rather than focusing on isolated regions [58]. These approaches reveal widespread alterations in functional connectivity that may distinguish PTSD and C-PTSD. In neuroimaging studies of PTSD, a consistent neural network has been identified "including the bilateral insula and cingulate cortex as well as the parietal, frontal and limbic areas", with evidence suggesting that different traumatic events may produce different alterations in this neural network [61].

For C-PTSD specifically, a review of PTSD pathophysiology highlighted neuromarkers including "disruption of brain circuitry, dysregulation of neurotransmitters, and hypothalamic-pituitary-adrenal (HPA) axis dysfunction" [70]. These disruptions in neural circuitry may be more extensive in C-PTSD compared to PTSD, reflecting the broader impact of prolonged or repeated trauma on neural systems.

Emerging research using machine learning approaches with fMRI data shows promise for predicting PTSD symptom trajectories. One study developed "a novel end-to-end neural network that employs resting-state and task-based functional MRI (fMRI) datasets, obtained one month after trauma exposure, to predict PTSD symptoms" at various time points after exposure [63]. Such predictive biomarkers could eventually help identify individuals at highest risk for developing chronic PTSD or C-PTSD following trauma exposure.



10. Quantitative Electroencephalography (QEEG) Findings

QEEG provides a complementary perspective on brain function in trauma-related disorders by measuring electrical activity across the scalp. While fMRI offers excellent spatial resolution, QEEG provides superior temporal resolution and can detect subtle alterations in neural oscillations that may not be captured by other methods.

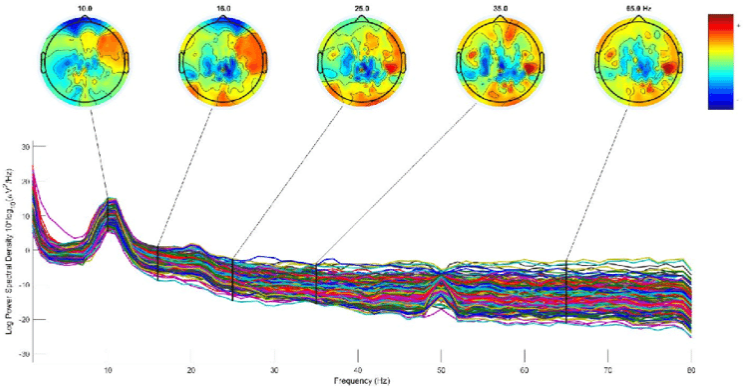
11. Power Spectral Alterations

Several consistent QEEG abnormalities have been documented in PTSD:

Alpha Power Reduction: A study examining combat veterans with PTSD found "decreased alpha power" compared to controls [65]. Alpha waves (8-12 Hz) are typically associated with relaxed wakefulness, and their reduction may reflect difficulty achieving a calm, relaxed state—a hallmark of PTSD.

Increased Beta Activity: The same study also observed "increased beta power" in PTSD veterans [65]. Beta waves (13-30 Hz) are associated with active, busy, or anxious thinking and concentration. More specifically, "beta 1 activity increased over frontal, central and left occipital regions; beta 2 activity increased over frontal regions" in veterans with PTSD compared to healthy controls [72]. This pattern of increased beta activity may reflect the hyperarousal and hypervigilance characteristic of trauma-related disorders.

Theta Activity Changes: PTSD patients showed "increased theta activity over central regions" [72]. Theta waves (4-8 Hz) are involved in emotional processing and memory functions, and alterations may reflect disruptions in these processes after trauma. While fewer studies have specifically examined QEEG patterns in C-PTSD as distinct from PTSD, the available evidence suggests potentially more pronounced disruptions in the same patterns. Some research indicates that "alpha blunting (reduced alpha power) is especially evident at EEG locations Cz and O1 in trauma exposed individuals" [70], which may be particularly relevant for complex trauma exposure.



12. Coherence and Connectivity Measures

QEEG coherence measures, which assess the synchronization between different brain regions, reveal disruptions in neural networks in trauma-related disorders. Evidence suggests "widespread beta over activation especially in the temporal and parietal lobes, may signal the presence of a comorbid anxiety condition or post-traumatic stress disorder" [70]. These connectivity alterations may reflect disruptions in the brain's ability

to integrate information across regions, potentially contributing to symptoms such as dissociation, emotional dysregulation, and memory fragmentation.

Recent research has begun to explore the use of QEEG-derived biomarkers for predicting treatment response and differentiating subtypes of trauma-related disorders. A proof-of-concept study explored "mobile EEG-derived biomarkers for PTSD" by measuring "Shannon entropy, as a measure of the randomness or unpredictability of the signal and spectral power for the fronto-temporal regions" [66]. These approaches may eventually help guide personalized treatment selection based on individual neurophysiological profiles.

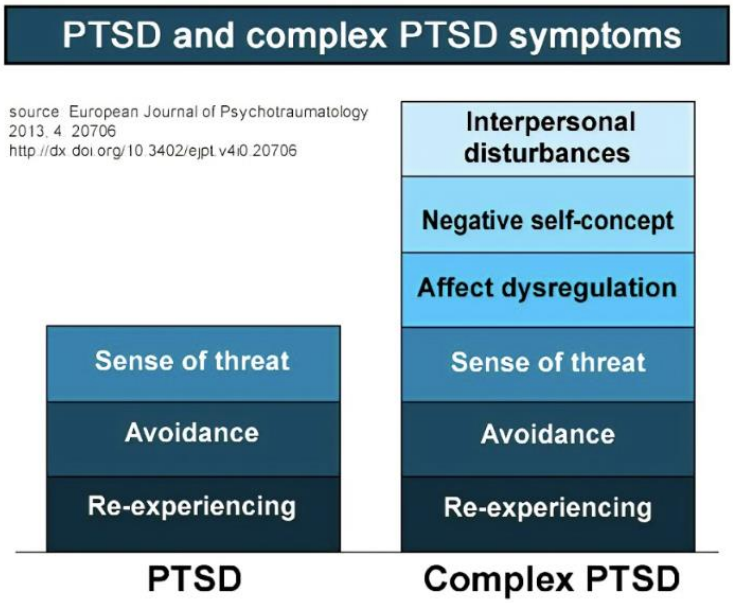
The neurobiological alterations observed in PTSD and C-PTSD likely result from complex interactions between genetic vulnerability factors and environmental exposures. Individual differences in neurobiological responses to trauma may help explain why not all trauma-exposed individuals develop PTSD or C-PTSD, and why symptom profiles can vary widely even among those who do develop these conditions.

Emerging research is exploring how epigenetic mechanisms—changes in gene expression that do not alter the underlying DNA sequence—may mediate the effects of trauma on brain structure and function. These epigenetic changes may represent a biological pathway through which environmental experiences become embedded in neurobiological systems, potentially contributing to the long-lasting nature of trauma-related symptoms.

13. Implications for Treatment

Understanding the neurobiological underpinnings of PTSD and C-PTSD has important implications for treatment development and selection. Therapeutic approaches that target specific neural mechanisms, such as medications that modulate the stress response system or psychotherapies that enhance prefrontal regulation of limbic structures, may be particularly effective.

Additionally, neuroimaging and neurophysiological measures may eventually serve as biomarkers to guide treatment selection and monitor treatment response. A bibliometric analysis of QEEG research in neuropsychiatric disorders found emerging trends in "cross-validate QEEG biomarkers, develop new biomarkers (e.g., functional connectivity and complexity), and extract compound biomarkers by machine learning" [73]. These approaches hold promise for developing more personalized treatment strategies for trauma-related disorders.



14. Evidence-Based Treatments for PTSD

Standard treatments for PTSD include trauma-focused cognitive behavioral therapy (CBT) and eye movement desensitization and reprocessing (EMDR) [4,8]. These approaches primarily target the core symptoms of PTSD and have substantial empirical support.

14.1 Treatment Considerations for C-PTSD

While standard PTSD treatments may be helpful for individuals with C-PTSD, many people with complex trauma require more long-term, intensive support to recover fully [2,4]. Treatment for C-PTSD typically needs to address additional problems such as depression, substance use disorders, or dissociation [2].

Recent research suggests that individuals with C-PTSD can benefit from existing PTSD treatments, though they may begin and end treatment with higher symptom levels compared to those with PTSD alone [7]. Studies of intensive PTSD treatment programs have found that patients with C-PTSD showed comparable decreases in symptoms to those with PTSD, suggesting that standard trauma-focused treatments can be effective [7].

The debate continues regarding whether phase-based treatments (which first address emotion regulation and stability before processing trauma) offer advantages over standard trauma-focused treatments for individuals with C-PTSD [7]. Future research specifically enrolling patients with C-PTSD to compare different treatment approaches will help clarify optimal intervention strategies.

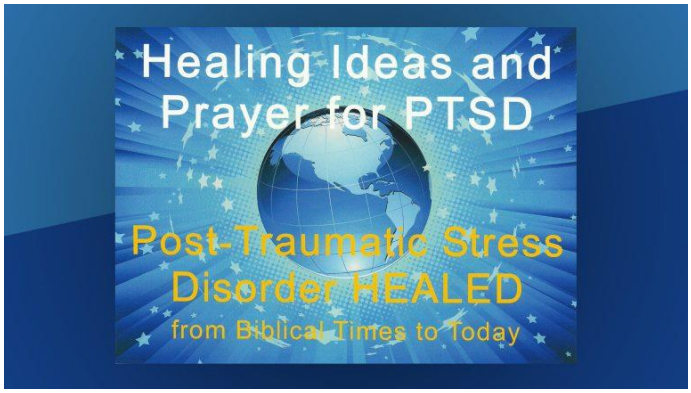
14.2 Spiritually-Integrated Approaches

Recent advances in trauma treatment have begun to recognize the importance of addressing spiritual dimensions of trauma recovery [25]. Trauma can profoundly impact an individual's spiritual beliefs and existential understanding, particularly in cases of complex trauma where one's fundamental trust in others and sense of meaning may be severely compromised [16,19].

We have emphasized the integration of spirituality with neurophysiological approaches to healing [12]. Including the notion that trauma healing involves not merely addressing psychological symptoms but engaging with deeper dimensions of human experience that touch on meaning, purpose, and connection [30,36].

Research in neuroscience has begun to elucidate the neurobiological mechanisms through which spiritual practices may aid trauma recovery. Spiritual practice "organically and fluidly aligns with music as a similarly indigenous facet of human expression" and when integrated, can amplify spiritual experiences to create new meaning that "transcends current modes of being". This observation aligns with emerging research on how trauma affects non-verbal, right-hemispheric brain functioning, which is particularly responsive to music, meditation, and other contemplative practices [28].

Recent studies demonstrate that spiritually-integrated approaches to trauma can address moral injury—a construct increasingly recognized as central to the experience of many trauma survivors [28]. Moral injury involves violations of core beliefs and values, either through one's own actions or through witnessing the actions of others and appears particularly relevant to complex trauma where ethical boundaries have been repeatedly crossed [25,28].



14.3 Holistic Models

We have advocated for a more comprehensive model of healthcare that moves beyond the traditional biomedical approach by "emphasizing collaborative decision-making, patient autonomy, and considering psychological and social factors in addition to biological ones in the therapeutic relationship". This holistic perspective is particularly relevant for C-PTSD, where trauma has affected multiple domains of functioning and created complex patterns of symptomatology that resist simple categorization or treatment [24].

A developmental-contextual perspective, as recommended by recent research, recognizes that trauma affects individuals differently depending on the developmental stage at which it occurs and acknowledges the importance of understanding the full context of a person's life, including their spiritual beliefs and practices [24,36].

14.4 Integrating Spirituality

Several promising approaches for integrating spirituality into trauma treatment have emerged in recent years:

Spiritually-Integrated Cognitive Processing Therapy, which adapts established trauma-focused protocols to explicitly incorporate a client's spiritual resources and address moral injury [28].

Mindfulness and compassion-based approaches that draw on contemplative traditions to foster self-regulation and self-acceptance [16,25]

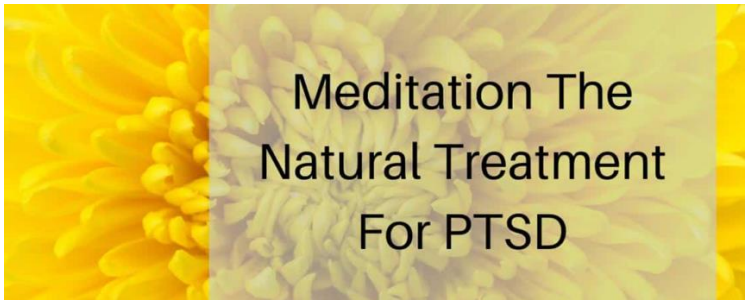
Music-based interventions that harness the connection between spirituality and music to access non-verbal, emotional processing pathways that may be particularly important in complex trauma [12].

Community and relationship-centered healing practices that recognize the importance of reconnection and belonging for

trauma survivors [20,24]

These approaches share a recognition that healing from complex trauma requires attention to the whole person, including their spiritual needs and resources. The therapeutic relationship itself can become a spiritual vehicle when the practitioner brings full presence and engaged listening to the encounter [12,36].

Understanding the distinctions between PTSD and C-PTSD is crucial for accurate diagnosis and treatment planning [1,5]. Clinicians should be aware of the additional symptom clusters associated with C-PTSD and assess for these when evaluating individuals with trauma histories, particularly those involving prolonged or repeated trauma [6,10].



15. Treatment Planning

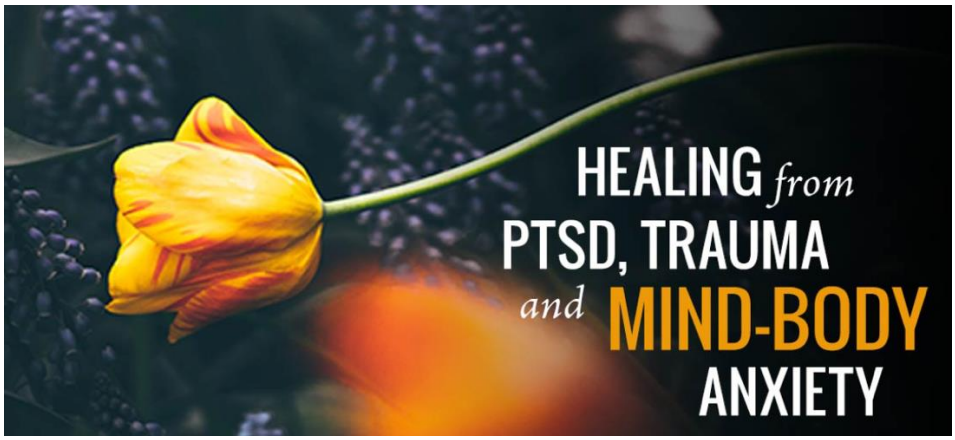
For individuals with C-PTSD, treatment plans should address not only the core symptoms of PTSD but also the additional areas of disturbance, including emotional regulation, self-concept, and interpersonal functioning [2,7]. While evidence suggests that standard trauma-focused treatments can be effective, these may need to be modified or extended to address the full range of symptoms [7].

Future research should continue to refine the diagnostic boundaries between PTSD and C-PTSD, as well as between C-PTSD and other conditions such as Borderline Personality Disorder [5,10]. Studies comparing different treatment approaches specifically for C-PTSD are needed to develop evidence-based guidelines for this population [7].

16. Integrating Spiritual Dimensions

The integration of spiritual approaches into trauma recovery represents a promising frontier in trauma treatment. Effective healing must address multiple dimensions of the human experience, including the spiritual aspects often neglected in conventional medical models [12,30,36].

Recent studies support the efficacy of spiritually-integrated interventions for trauma, showing they can enhance resilience, facilitate meaning-making, and promote post-traumatic growth [19,25,28]. As our understanding of trauma continues to evolve, developing holistic treatment models that incorporate spiritual dimensions alongside psychological and biological approaches may provide more comprehensive and effective care for individuals with complex trauma histories [16,24].



17. Addressing Healthcare Bias

Several approaches can help mitigate the impact of physician bias in PTSD and C-PTSD diagnosis and treatment:

The Cartesian dualism that separates mind and body has significantly influenced Western medicine's approach to trauma, often leading to fragmented care [44]. We advocate for a more integrated approach that acknowledges the interconnection between psychological and physiological dimensions of trauma [12]. For clinicians working with trauma survivors, this means adopting a perspective that recognizes how trauma affects the whole person—mind, body, spirit, and relational systems—rather than focusing exclusively on discrete symptom clusters [12,44].

18. Enhancing Patient Autonomy

Healthcare providers should move away from traditional biomedical approaches that position the physician as the sole authority toward models that "emphasize collaborative decision-making, patient autonomy, and considering psychological and social factors in addition to biological ones in the therapeutic relationship" [12]. In trauma treatment, this translates to engaging patients as active participants in their healing journey, respecting their subjective experience of symptoms, and developing treatment plans that align with their values and preferences.

In our essay "Effective Listening affects patient outcomes," we emphasized that true listening "requires presence, engagement and has therapeutic effect, through acknowledging the dignity and personhood of the person speaking" [12]. This perspective is particularly relevant for trauma assessment, where a patient's narrative of their experience may contain vital diagnostic information that could be missed in standardized assessments. Clinicians should cultivate deep listening skills that allow them to attune to the nuances of trauma presentations, particularly in complex cases that don't fit neatly into diagnostic categories.

19. Incorporating Multiple Approaches

To mitigate the bias inherent in any single assessment method, clinicians should utilize multiple approaches when evaluating trauma symptoms [48,53]. This might include combining standardized measures with clinical interviews, collateral information, and attention to cultural factors that may influence symptom presentation and reporting. A multi-method assessment strategy can provide a completer and more accurate picture of a patient's trauma response, leading to more appropriate diagnosis and treatment.

Given the cultural specificity of many trauma responses, clinicians should develop cultural competence and approach assessment with cultural humility [53]. This includes awareness of how cultural factors may influence not only the manifestation of trauma symptoms but also how patients understand and communicate their experiences. Trauma assessment and treatment should be adapted to acknowledge cultural differences in emotional expression, help-seeking behavior, and healing practices.

19. Universal Trauma Screening

Universal screening for trauma in healthcare settings can help reduce disparities in trauma diagnosis and treatment [53]. By implementing standardized screening processes for all patients, clinicians can identify trauma histories that might otherwise be missed due to biases or assumptions. This approach recognizes that trauma exposure is common across populations and that trauma-related symptoms may underlie or complicate various health conditions.

These strategies offer pathways for developing more equitable, patient-centered approaches to trauma assessment and treatment. By addressing the biases inherent in current diagnostic practices, clinicians can work toward more accurate identification and effective treatment of both PTSD and C-PTSD.

The field would benefit from additional research exploring how specific spiritual practices and beliefs may support healing from different types of trauma, and how these approaches can be effectively integrated with established evidence-based treatments [25,28]. This integration requires recognizing both the neurophysiological mechanisms of trauma and healing as well as the deeper existential and spiritual dimensions of the human experience [12,32,36].

20. Conclusion

PTSD and C-PTSD represent distinct but related trauma responses that differ in their etiology, symptomatology, and potentially in their optimal treatment approaches [1,8]. While both conditions share core symptoms related to re-experiencing, avoidance, and hyperarousal, C-PTSD is distinguished by additional difficulties in emotional regulation, self-concept, and interpersonal functioning, reflecting the profound impact of prolonged or repeated trauma [6,9].

The recent inclusion of C-PTSD in the ICD-11 represents an important step in recognizing the unique experiences and needs of individuals who have experienced complex trauma [3,9]. Continued research and clinical attention to these distinctions will help advance our understanding and improve outcomes for trauma survivors.

Emerging research on spiritually-integrated approaches to trauma healing offers promising avenues for addressing both PTSD and C-PTSD more holistically [12,25,28]. By recognizing the neurophysiological, psychological, social, and spiritual dimensions of trauma recovery, clinicians may be better equipped to facilitate healing across the full spectrum of human experience [16,19,24]. As our understanding of trauma continues to evolve, the integration of these diverse perspectives will likely play an increasingly important role in developing comprehensive and effective treatments for individuals affected by traumatic experiences.

References

1. Larsen SE. Complex PTSD: History and Definitions PTSD: National Center for PTSD. U.S. Department of Veterans Affairs.
2. Mind. What is complex PTSD?
3. Villines Z. Complex PTSD (CPTSD): Causes, symptoms, behaviors, recovery. Medical News Today. 2023
4. National Health Service. Complex PTSD - Post-traumatic stress disorderA
5. Cleveland Clinic. CPTSD (Complex PTSD): What It Is, Symptoms & Treatment.
6. UK Trauma Council. Post-traumatic stress disorder (PTSD) and Complex PTSD.
7. National Center for PTSD. Complex PTSD: Assessment and Treatment [Internet]. U.S. Department of Veterans Affairs.
8. Voicing, S. Complex PTSD (C-PTSD) and How It Differs from PTSD
9. Complex post-traumatic stress disorder.
10. Complex Posttraumatic Stress Disorder (C-PTSD) symptoms and diagnostic criteria [Internet]. Trauma Dissociation.
11. Ungar-Sargon, J. (2025). Healing Essays. Julian Ungar-Sargon.
12. Ungar-Sargon J. Essays on Healing. Julian Ungar-Sargon.
13. Ungar-Sargon, J. Post Trauma Depression. Julian Ungar-Sargon.
14. Complex Trauma Resources. Sacred Dissonance: Complex Trauma and Spirituality
15. Harris, J.I., Pearce, M., Pargament, KI. 92015). Trauma, Religion, and Spirituality: Pathways to Healing.
16. Thinking Faith. Spiritual direction and trauma recovery. The online journal of the Jesuits in Britain.
17. Alford, B. (2025). When Religion Becomes Traumatic. CPTSDfoundation.org.
18. Drožđek, B., Rodenburg, J. (2024). Healing wounded trees: clinicians' perspectives on treatment of complex posttraumatic stress disorder. Frontiers in Psychiatry.
19. Larsen, S.E., Hopkins, S., Harris, I. (2025). Addressing Religious or Spiritual Dimensions of Trauma and PTSD. PTSD: National Center for PTSD. U.S. Department of Veterans Affairs.
20. Pearce, M., Haynes, K., Rivera, N. R., & Koenig, H. G. (2018). Spiritually Integrated Cognitive Processing Therapy: A New Treatment for Post-traumatic Stress Disorder That Targets Moral Injury. *Global advances in health and medicine, 7,* 2164956118759939.
21. Ungar-Sargon, J. (2024). Spirituality of 12 Step Recovery Program. Dr Julian Ungar-Sargon
22. Ungar-Sargon, J. (2023). Spirituality of Chronic Pain. Dr Julian Ungar-Sargon
23. https://wikitia.com/wiki/Dr._Julian_Ungar-Sargon_MD_PhD
24. Sherman, L. E., Rudie, J. D., Pfeifer, J. H., Masten, C. L., McNealy, K., & Dapretto, M. (2014). Development of the default mode and central executive networks across early adolescence: a longitudinal study. *Developmental cognitive neuroscience, 10,* 148–159.
25. Pearce, M. J., Koenig, H. G., Robins, C. J., Nelson, B., Shaw, S. F., Cohen, H. J., & King, M. B. (2015). Religiously integrated cognitive behavioral therapy: a new method of treatment for major depression in patients with chronic medical illness. *Psychotherapy (Chicago, Ill.), 52*(1), 56–66.
26. Frewen, P. A., & Lanius, R. A. (2006). Toward a psychobiology of posttraumatic self-dysregulation: reexperiencing, hyperarousal, dissociation, and emotional numbing. *Annals of the New York Academy of Sciences, 1071,* 110–124.
27. Lanius, R. A., Frewen, P. A., Tursich, M., Jetly, R., & McKinnon, M. C. (2015). Restoring large-scale brain networks in PTSD and related disorders: a proposal for neuroscientifically-informed treatment interventions. *European journal of psychotraumatology, 6,* 27313.
28. Pearce, M., Haynes, K., Rivera, N. R., & Koenig, H. G. (2018). Spiritually Integrated Cognitive Processing Therapy: A New Treatment for Post-traumatic Stress Disorder That Targets Moral Injury. *Global advances in health and medicine, 7*, 2164956118759939.
29. Schore AN. Affect dysregulation and disorders of the self. New York: Norton; 2003.
30. Schroeter, M. L., Riva, G., Cipresso, P., Fairfield, B., Padulo, C., Kemp, A. H., Palaniyappan, L., Owolabi, M., Kusi-Mensah, K., Polyakova, M., Fehertoi, N., D'Andrea, W., Lowe, L., & Northoff, G. (2020). Neuroimaging the consciousness of self: Review, and conceptual-methodological framework. *Neuroscience and biobehavioral reviews, 112,* 164–212.
31. Pargament, K.I., Mahoney, A., Exline, JJ., Jones, J.W., &

Shafranske, E.P.(2013). Envisioning an integrative paradigm for the psychology of religion and spirituality. *Am Psychol, 68*(1), 19-32.
32. Koenig H. G. (2015). Religion, spirituality, and health: a review and update. *Advances in mind-body medicine, 29*(3), 19–26.
33. Bryant R. A. (2019). Post-traumatic stress disorder: a state-of-the-art review of evidence and challenges. *World psychiatry : official journal of the World Psychiatric Association (WPA), 18*(3), 259–269.
34. van der Kolk BA. The body keeps the score: Brain, mind, and body in the healing of trauma. New York: Viking; 2014.
35. Bremner, J. D., Randall, P., Vermetten, E., Staib, L., Bronen, R. A., Mazure, C., Capelli, S., McCarthy, G., Innis, R. B., & Charney, D. S. (1997). Magnetic resonance imaging-based measurement of hippocampal volume in posttraumatic stress disorder related to childhood physical and sexual abuse--a preliminary report. *Biological psychiatry, 41*(1), 23–32.
36. Yehuda, R., Hoge, C. W., McFarlane, A. C., Vermetten, E., Lanius, R. A., Nievergelt, C. M., Hobfoll, S. E., Koenen, K. C., Neylan, T. C., & Hyman, S. E. (2015). Post-traumatic stress disorder. *Nature reviews. Disease primers, 1,* 15057.
37. Hermanm J,L. (1992). Trauma and recovery: The aftermath of violence--from domestic abuse to political terror. New York: Basic Books; 1992.
38. Cloitre, M., Stolbach, B.C., Herman, J.L., et al. (2009). A developmental approach to complex PTSD: childhood and adult cumulative trauma as predictors of symptom complexity. *J Trauma Stress, 22*(5), 399-408.
39. Ford, J. D., & Courtois, C. A. (2014). Complex PTSD, affect dysregulation, and borderline personality disorder. Borderline personality disorder and emotion dysregulation, 1, 9.
40. Brewin, C. R., Cloitre, M., Hyland, P., Shevlin, M., Maercker, A., Bryant, R. A., Humayun, A., Jones, L. M., Kagee, A., Rousseau, C., Somasundaram, D., Suzuki, Y., Wessely, S., van Ommeren, M., & Reed, G. M. (2017). A review of current evidence regarding the ICD-11 proposals for diagnosing PTSD and complex PTSD. *Clinical psychology review, 58*, 1–15.
41. Hyland, P., Murphy, J., Shevlin, M., Vallières, F., McElroy, E., Elklit, A., Christoffersen, M., & Cloitre, M. (2017). Variation in post-traumatic response: the role of trauma type in predicting ICD-11 PTSD and CPTSD symptoms. *Social psychiatry and psychiatric epidemiology, 52*(6), 727–736.
42. Maercker, A., Brewin, C. R., Bryant, R. A., Cloitre, M., Reed, G. M., van Ommeren, M., Humayun, A., Jones, L. M., Kagee, A., Llosa, A. E., Rousseau, C., Somasundaram, D. J., Souza, R., Suzuki, Y., Weissbecker, I., Wessely, S. C., First, M. B., & Saxena, S. (2013). Proposals for mental disorders specifically associated with stress in the International Classification of Diseases-11. *Lancet (London, England), 381*(9878), 1683–1685.
43. Courtois, C.A., Ford, J.D. (2013). Treatment of complex trauma: A sequenced, relationship-based approach. New York: Guilford Press; 2013.
44. Descartes R. Discourse on method and meditations on first philosophy. Trans. Donald A. Cress. Indianapolis: Hackett Publishing; 1637/1996.
45. Engel G. L. (1977). The need for a new medical model: a challenge for biomedicine. Science (New York, N.Y.), 196(4286), 129–136.
46. Institute of Medicine. Crossing the quality chasm: A new health system for the 21st century. Washington, DC: National Academy Press; 2001.
47. Substance Abuse and Mental Health Services Administration. Trauma-informed care in behavioral services. Treatment Improvement Protocol (TIP) Series 57. Rockville, MD: SAMHSA; 2014.
48. Sue, D.W., Sue, D. (2019). Counseling the culturally diverse: Theory and practice. 8th ed. Hoboken, NJ: John Wiley & Sons, 2019.
49. American Psychological Association. (2003). Guidelines for psychological practice with ethnic minority populations. Am Psychol, 58(5), 377-402.
50. Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Chatterji, S., Lee, S., Ormel, J., Ustün, T. B., & Wang, P. S. (2009). The global burden of mental disorders: an update from the WHO World Mental Health (WMH) surveys. *Epidemiologia e psichiatria sociale, 18*(1), 23–33.
51. Teicher, M. H., Samson, J. A., Anderson, C. M., & Ohashi, K. (2016). The effects of childhood maltreatment on brain structure, function and connectivity. Nature reviews. *Neuroscience, 17*(10), 652–666.
52. McLaughlin, K. A., Sheridan, M. A., & Lambert, H. K. (2014). Childhood adversity and neural development: deprivation and threat as distinct dimensions of early experience. *Neuroscience and biobehavioral reviews, 47*, 578–591.
53. Substance Abuse and Mental Health Services Administration. Improving cultural competence. Treatment Improvement Protocol (TIP) Series 59. Rockville, MD: SAMHSA; 2014.
54. Bryant, R. A., Nickerson, A., Creamer, M., O'Donnell, M., Forbes, D., Galatzer-Levy, I., McFarlane, A. C., & Silove, D. (2015). Trajectory of post-traumatic stress following traumatic injury: 6-year follow-up. *The British journal of psychiatry : the journal of mental science, 206*(5), 417–423.
55. Shin, L. M., & Liberzon, I. (2010). The neurocircuitry of fear, stress, and anxiety disorders. *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology, 35*(1), 169–191.
56. Hayes, J. P., Hayes, S. M., & Mikedis, A. M. (2012). Quantitative meta-analysis of neural activity in posttraumatic stress disorder. *Biology of mood & anxiety disorders, 2*, 9.
57. Rauch, S. L., Shin, L. M., & Phelps, E. A. (2006). Neurocircuitry models of posttraumatic stress disorder and extinction: human neuroimaging research--past, present, and future. *Biological psychiatry, 60*(4), 376–382.
58. Lanius, R. A., Frewen, P. A., Tursich, M., Jetly, R., & McKinnon, M. C. (2015). Restoring large-scale brain networks in PTSD and related disorders: a proposal for neuroscientifically-informed treatment interventions. *European journal of psy-*

chotraumatology, 6, 27313.
59. Kühn, S., & Gallinat, J. (2013). Gray matter correlates of posttraumatic stress disorder: a quantitative meta-analysis. *Biological psychiatry, 73*(1), 70–74.
60. Logue, M. W., van Rooij, S. J. H., Dennis, E. L., Davis, S. L., Hayes, J. P., Stevens, J. S., Densmore, M., Haswell, C. C., Ipser, J., Koch, S. B. J., Korgaonkar, M., Lebois, L. A. M., Peverill, M., Baker, J. T., Boedhoe, P. S. W., Frijling, J. L., Gruber, S. A., Harpaz-Rotem, I., Jahanshad, N., Koopowitz, S., … Morey, R. A. (2018). Smaller Hippocampal Volume in Posttraumatic Stress Disorder: A Multisite ENIGMA-PGC Study: Subcortical Volumetry Results From Posttraumatic Stress Disorder Consortia. *Biological psychiatry, 83*(3), 244–253.
61. Wang, Z., Neylan, T. C., Mueller, S. G., Lenoci, M., Truran, D., Marmar, C. R., Weiner, M. W., & Schuff, N. (2010). Magnetic resonance imaging of hippocampal subfields in posttraumatic stress disorder. *Archives of general psychiatry, 67*(3), 296–303.
62. Pitman, R. K., Rasmusson, A. M., Koenen, K. C., Shin, L. M., Orr, S. P., Gilbertson, M. W., Milad, M. R., & Liberzon, I. (2012). Biological studies of post-traumatic stress disorder. *Nature reviews. Neuroscience, 13*(11), 769–787.
63. Reddy, S., Allan, S., Coghlan, S., & Cooper, P. (2020). A governance model for the application of AI in health care. *Journal of the American Medical Informatics Association : JAMIA, 27*(3), 491–497.
64. Menon V. (2011). Large-scale brain networks and psychopathology: a unifying triple network model. *Trends in cognitive sciences, 15*(10), 483–506.
65. Jokić-Begić, N., & Begić, D. (2003). Quantitative electroencephalogram (qEEG) in combat veterans with post-traumatic stress disorder (PTSD). *Nordic journal of psychiatry, 57*(5), 351–355.
66. Pineda-Pardo, J.A., Martínez, K., Román, F.J., Colom, R. (2016). Structural efficiency within a parieto-frontal network and cognitive differences. *Intelligence, 54*, 105-116.
67. Dennis, T. A., & Solomon, B. (2010). Frontal EEG and emotion regulation: electrocortical activity in response to emotional film clips is associated with reduced mood induction and attention interference effects. *Biological psychology, 85*(3), 456–464.
68. Rabe, S., Zöllner, T., Maercker, A., & Karl, A. (2006). Neural correlates of posttraumatic growth after severe motor vehicle accidents. *Journal of consulting and clinical psychology, 74*(5), 880–886.
69. Gilbertson, M. W., Shenton, M. E., Ciszewski, A., Kasai, K., Lasko, N. B., Orr, S. P., & Pitman, R. K. (2002). Smaller hippocampal volume predicts pathologic vulnerability to psychological trauma. *Nature neuroscience, 5*(11), 1242–1247.
70. Thatcher, R.W. & Lubar, J.F. (2009).History of the scientific standards of QEEG normative databases. In: Budzinsky TH, Budzinsky HK, Evans JR, Abarbanel A, editors. Introduction to quantitative EEG and neurofeedback. San Diego: Academic Press, 29-59.
71. Hammond, D.C. (2011). What is neurofeedback: an update. J Neurother, 15(4), 305-336.
72. Begić, D., Hotujac, L., & Jokić-Begić, N. (2001). Electroencephalographic comparison of veterans with combat-related post-traumatic stress disorder and healthy subjects. *International journal of psychophysiology : official journal of the International Organization of Psychophysiology, 40*(2), 167–172.
73. Michel, C. M., & Murray, M. M. (2012). Towards the utilization of EEG as a brain imaging tool. *NeuroImage, 61*(2), 371–385.
74. Koenig, T., Prichep, L., Lehmann, D., Sosa, P. V., Braeker, E., Kleinlogel, H., Isenhart, R., & John, E. R. (2002). Millisecond by millisecond, year by year: normative EEG microstates and developmental stages. *NeuroImage, 16*(1), 41–48.
75. Cannon, R., Lubar, J., Congedo, M., Thornton, K., Towler, K., & Hutchens, T. (2007). The effects of neurofeedback training in the cognitive division of the anterior cingulate gyrus. *The International journal of neuroscience, 117*(3), 337–357.
76. Arns, M., de Ridder, S., Strehl, U., Breteler, M., & Coenen, A. (2009). Efficacy of neurofeedback treatment in ADHD: the effects on inattention, impulsivity and hyperactivity: a meta-analysis. *Clinical EEG and neuroscience, 40*(3), 180–189.