

EMPIRICALLY GROUNDED CLINICAL GUIDANCE PAPER

# Examining the role of emotion and alexithymia in cognitive behavioural therapy outcomes for posttraumatic stress disorder: Clinical implications

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## Abstract

Although several evidence-based trauma-focused treatments have been developed for post-traumatic stress disorder (PTSD), a high proportion of treatment completers fail to show total symptom or disorder-level remission. Trauma-focused treatments are predicated on the ability of one to emotionally engage with a trauma memory in order to process the traumatic experience and facilitate safety learning in the post-trauma 'here and now'. Alexithymia, a difficulty in identifying, describing and tending to one's emotions, occurs in approximately 40% of those who experience PTSD. This article investigates the role of emotional mechanisms in the effectiveness of trauma-focused treatments for PTSD, particularly prolonged exposure and trauma-focused cognitive behaviour therapy. Second, it explores how alexithymia poses challenges to emotion processing, undermining the effectiveness of trauma-focused treatments. The article concludes with a discussion of the clinical implications and possible treatment augmentation for those presenting with alexithymia and PTSD.

## Key learning aims

- (1) To recognise the important affective mechanisms that can undermine trauma-focused CBT interventions.
- (2) To widen the understanding and recognition of those who may be at risk of treatment non-response.
- (3) To increase knowledge of available strategies and approaches in treating those who may have difficulties engaging with frontline exposure-based interventions.

**Keywords:** Avoidance; Emotion; Prolonged exposure therapy; PTSD; Trauma; Trauma-focused cognitive behaviour therapy

## Introduction

Contemporary trauma-focused interventions for post-traumatic stress disorder (PTSD) emphasise exposure to traumatic stimuli within objectively safe environments, enabling individuals to develop a heightened sense of security after experiencing trauma. Despite the proven effectiveness of various trauma-focused therapies for PTSD (Cusack *et al.*, 2016), it is estimated that up to 50% of those with PTSD who participate in primary trauma-focused treatments do not experience adequate improvement (Schottenbauer *et al.*, 2008). One potential factor contributing to a low treatment response rate is the assumption that all

patients can engage in treatment processes similarly (e.g. Foa and Kozak, 1986; Foa and Rothbaum, 1998). However, individual differences in emotional engagement and subsequent processing may shape one's response to safety learning and treatment response.

### Prolonged exposure therapy

The emotional processing theory (EPT), formulated by Foa and Kozak (1986), underpins prolonged exposure (PE), a frontline trauma-focused therapy for PTSD. This theory draws on Lang's bio-informational theory of fear (Lang, 1977; Lang, 1979), positing that fear is represented in memory networks consisting of interconnected stimulus, response and meaning components that collectively function to signal and avoid danger. For instance, a fear memory network might link a specific stimulus like a gun to various behavioural and physiological responses (e.g. increased heart rate, urges to flee or hide) and meanings ('I am in danger'). When an environmental cue triggers one or more elements of this fear network, activation spreads throughout the connected elements. Extending the EPT theory to PTSD, Foa and Rothbaum (1998) suggested that the fear memory in PTSD patients is marked by exaggerated stimuli and responses coupled with distorted meanings. For example, a person who has suffered an assault might irrationally perceive walking alone at night or encountering bald men (if the assailant was bald) as threatening, despite these being generally harmless. They might also hold unhelpful beliefs, like self-blame ('I should have defended myself'). In PTSD, such fear structures often include maladaptive cognitions that can instigate and perpetuate PTSD symptoms, such as a pervasive belief in the world's inherent danger or doubts about one's competence. Therefore, according to Foa and Kozak, effective psychological interventions for PTSD focus on emotionally processing these fear memories to alter their maladaptive aspects, facilitating healthier cognitive and emotional responses.

Two pre-requisites are essential for the emotional processing and alteration of a fear structure. Initially, the fear structure needs to be triggered or activated. Subsequently, information incongruent with the elements of the fear structure must be introduced and assimilated into the fear structure, aiming to substitute pathological elements with realistic ones. Data from clinical studies have shown a set of responses in patients who improve with PE treatment and are therefore taken as signs of emotional processing. The initial response is characterised by an increased physiological reactivity to imagery associated with fear or when exposed to stimuli related to trauma (as noted by Jaycox *et al.* in 1998, Pitman *et al.* in 1996, and Wangelin and Tuerk in 2015), suggesting the activation of fear memories. Furthermore, there is a gradual reduction (habituation) in the distress experienced in response to these activated fear structures across therapy sessions (highlighted in studies by Foa and Kozak in 1986 and Foa and Rothbaum in 1998). The first is characterised by an increased physiological reactivity to imagery associated with fear when exposed to stimuli related to trauma (Jaycox *et al.*, 1998; Pitman *et al.*, 1996; Wangelin and Tuerk, 2015), suggesting the activation of fear memories. Habituation is assessed throughout treatment using subjective units of distress (SUDS) and observed autonomic physiological reactions within and between exposure trials.

Although PE has been validated as an efficacious treatment for PTSD, approximately 50% of those who undertake PE will fail to demonstrate a treatment response indicative of disorder remission (for a review, see Schottenbauer *et al.*, 2008; Steenkamp *et al.*, 2015). Furthermore, a number of controversies are associated with PE in clinical practice. The primary one is the relatively high drop-out, which is reported to be an average of 28% (Hembree *et al.*, 2003; Najavits, 2015). However, drop-out rates as high as 62% have also been reported (Belleau *et al.*, 2017).

## Trauma-focused cognitive behavioural therapy

Trauma-focused cognitive behavioural therapy (TF-CBT), an alternative trauma-focused evidence-based treatment for PTSD, is also partially informed by the EPT (Cohen and Mannarino, 2019). Extending the EPT, Ehlers and Clark's (2000) cognitive model offers insights into both the onset and persistence of PTSD, detailing interconnected elements such as re-experiencing symptoms, fear extinction learning, avoidance behaviours, and physiological dysregulation. This model posits that PTSD is linked to evaluations of trauma and its aftermath, creating a sense of ongoing threat, which may also arise from inadequately integrated trauma memories within autobiographical memories (van der Kolk and Fisler, 1995). The perpetuation of maladaptive trauma memory structures is attributed to maladaptive behaviour (e.g. avoidance of trauma-related stimuli) and cognitive processing styles (e.g. rumination, distraction, thought suppression).

In applying TF-CBT to each patient, a formulation of the Ehlers and Clark (2000) model is constructed. This conceptualisation involves finding the pertinent appraisals, memory characteristics, triggers, and behavioural and cognitive strategies that contribute to the individual's PTSD maintenance. The initial objective is to amend maladaptive appraisals of the trauma, identified through targeted questioning, particularly focusing on the significance of 'hot spots' or moments of distress in the trauma memory (Kleim *et al.*, 2013). Once an alternative, convincing appraisal is determined, it is actively integrated into the trauma memory (Ehlers and Wild, 2015). Modifying excessively negative appraisals of trauma consequences involves information dissemination, Socratic questioning, and behavioural experiments. The second aim is to diminish intrusive symptomology by processing traumatic memories and discerning triggers (Ehlers, 2010). The therapist and patient construct a narrative, starting at pre-trauma to a point of relative safety post-trauma. This examination of autobiographical memory facilitates the identification and modification of excessively negative appraisals and inhibits re-experiencing symptoms in the presence of trauma-related stimuli. The third goal is to eradicate dysfunctional behaviours and cognitive strategies, such as avoidance (Ehlers and Wild, 2015). Common in PTSD, these strategies aim to diminish the current sense of threat but inadvertently sustain the disorder in the long term by impeding trauma memory elaboration, preventing reappraisal, or directly intensifying PTSD symptoms.

TF-CBT stands apart from PE by emphasising, identifying and modifying problematic appraisals. While there are shared treatment techniques, significant distinctions arise. Firstly, TF-CBT employs imaginal reliving not for emotional habituation but to pinpoint 'hot spots' for subsequent cognitive restructuring and narrative elaboration within the trauma context. Unlike PE, where imaginal exposure and cognitive processing are separate, TF-CBT intricately intertwines these techniques. Secondly, TF-CBT's *in vivo* exercises aim to test predictions about danger overgeneralisation and reduce immediacy triggered by activated trauma memories, departing from PE's focus on emotional habituation. Thirdly, TF-CBT introduces innovative techniques, including stimulus discrimination, modification of the trauma memory with new information emerging throughout treatment, behavioural experiments illustrating various maintaining processes, and imagery transformation methods (Ehlers, 2013).

Nonetheless, a commonality between the two treatments is the foundational role of emotional engagement and emotional clarity. Emotional engagement is pivotal for the effective processing of traumatic memories, particularly when targeting various trauma responses such as cognitions, emotions, behaviours, and physiological reactions (Foa and Kozak, 1986). Furthermore, TF-CBT's success lies in its multi-modal approach, examining helpful and unhelpful trauma responses as predictors of client outcomes, transcending isolated variables (Alpert *et al.*, 2023). The therapy facilitates the recognition of connections among thoughts, feelings, and behaviours, replacing maladaptive cognitions with adaptive ones (Ehlers, 2013). This process allows patients to develop a more adaptive appraisal(s) of the traumatic experience, identifying and correcting previously assumed rigid beliefs. Without emotional clarity, the challenging task of identifying and correcting

these maladaptive cognitions, critical for reducing trauma-related fear and enhancing treatment outcomes, would be compromised (Butler *et al.*, 2018).

Like PE, treatment non-response rates for TF-CBT range between 25 and 50% (Brady *et al.*, 2015). Several factors have been identified that may influence the response to TF-CBT in adults. These responses include perseveration of responses observed in early therapy sessions and the strength of the therapeutic alliance (Brady *et al.*, 2015). For instance, greater patient perseveration (repetition of a particular response), less articulation of thoughts and feelings, and weaker therapeutic alliance have been inversely associated with treatment outcomes (Brady *et al.*, 2015).

A potential explanation for the elevated occurrence of non-response to trauma-focused treatments may lie in the challenges some patients encounter when attempting to connect with emotions and stimuli related to trauma (Wangelin and Tuerk, 2015). Wangelin and Tuerk (2015) observed that heightened arousal to trauma stimuli at the outset of treatment correlated with the process of habituation to the trauma memory throughout prolonged exposure (PE) treatment. Evaluations were conducted at pre-treatment, session 4, and post-treatment, during which participants were exposed to personalised trauma scripts based on their respective index trauma. Those who successfully completed PE exhibited significantly diminished heart rate and skin conductance reactivity to trauma imagery throughout therapy. Individuals exhibiting higher trauma-specific heart rate reactivity at pre-treatment demonstrated more substantial reductions in subjectively reported PTSD symptoms at post-treatment. Conversely, patients who discontinued therapy were more likely to exhibit hypo-arousal, underscoring the critical role of activating the fear memory network and fostering emotional engagement, as indicated by physiological arousal. Wangelin and Tuerk's (2015) research highlights the crucial link between physiological responses to trauma stimuli and the effectiveness of PE in treating PTSD, suggesting that the ability to activate and engage with fear memories is key to successful treatment outcomes.

### Advances in affective science

Over the past 20 years, there has been an exponential advance in affective sciences from theories of emotion generation (constructed emotion; Barrett, 2006; predictive coding accounts of emotion; Seth, 2013), which define emotions as complex interplays of sensed and anticipated top-down and bottom-up processes. This interplay contrasts with traditional theories of emotion, which lie across a dichotomy of top-down and bottom-up processes (Cannon, 1927; Damasio, 1994; James, 1894; Lange, 1922). However, these new accounts of affective experience are not well integrated into the PTSD literature. The importance of affective processing in PTSD treatment response suggests that the field may benefit from integrating advances in affective science with predominant models of associative learning, i.e. using fear extinction learning to explain treatment response better and guide more precision treatments.

Research has demonstrated a link between the concordance or intra-person correlation of various emotion components (such as physiological arousal, expressed feelings, and behaviour) and improved emotional processing and well-being (Brown *et al.*, 2019; Sommerfeldt *et al.*, 2019). This concordance among cognitive, emotional, and physiological factors is underscored by studies highlighting the role of the interaction between cortisol and noradrenaline in the basolateral amygdala in the formation of emotional memories (McGaugh, 2004). In the realm of emotional memory processing, both the initial learning phase (consolidation) and the advanced phase (reconsolidation) are adversely affected when physiological cues are diminished, for instance, through the use of beta-blockers (Lonergan *et al.*, 2013). While certain medications, such as those used in the management of acute emotional arousal discordance stemming from traumatic memories, have shown some effectiveness (Giustino *et al.*, 2016), a continuous misalignment of emotional and cognitive signals can hinder therapeutic intervention and prolong the underlying issues. In acute scenarios, drugs like propranolol, which disrupt physiological and emotional

indicators, can facilitate unlearning processes (Elsey *et al.*, 2020), especially when stress levels are high and norepinephrine concentrations are beyond the ideal learning range (Fitzgerald *et al.*, 2015).

In contrast, benzodiazepines, which broadly inhibit neural activity across the brain (Guina *et al.*, 2015), can impede the cognitive engagement with fear needed for effective exposure (Rosen *et al.*, 2020). Benzodiazepine use has been linked to reduced effectiveness in trauma-focused treatment approaches (Guina *et al.*, 2015). Consequently, a limited correlation between emotional facets might limit optimal engagement with feared emotional states, key for safety learning. Recognising individual variations in emotional engagement and concordance in emotional responses is important.

## Alexithymia

Alexithymia, originating from Greek (*a* = lack, *lexis* = word, *thymos* = emotions), was first used clinically to describe the psychological characteristics of patients with psychosomatic illness (Sifneos, 1973). The construct includes difficulties articulating feelings, limited imaginative ability, and excessive pre-occupation with physical symptoms and external events (Nemiah and Sifneos, 1970). Individuals with alexithymia also demonstrate general difficulties with emotion regulation, including deficits in cognitive reappraisal ability (Swart *et al.*, 2009). Recent research on alexithymia, showing an estimated correlation of  $r = .43$  between alexithymia and PTSD across various trauma-exposed populations, has attracted significant attention (Edwards, 2019; Frewen *et al.*, 2008; Putica *et al.*, 2021). Trauma-exposed adults high in alexithymia demonstrate a discordant emotion response style in anticipation of fear-related stimuli (Putica *et al.*, 2022b), which suggests that alexithymia's impact on emotion and memory processing is multi-faceted in that it does not just impact one component of emotionality, but rather the interaction between emotional components. The findings above are in line with previous work which has shown that those with alexithymia show hypo-arousal (Peasley-Miklus *et al.*, 2016) attenuated habituation (Panayiotou and Constantinou, 2017), and emotion response discordance (Eastbrook *et al.*, 2013; Kleiman *et al.*, 2016) to emotional stimuli, which becomes more pronounced as the stimuli become more personal and high-stakes for the individual (Kleiman *et al.*, 2016). The emotion response discordance, due to its disconnection of emotional components, interferes with one's ability to fully assess the context and specific emotional states to be regulated, thus impacting their ability to engage in adaptive emotion regulation (Levenson, 2014; Luhmann *et al.*, 2012).

## Alexithymia and PTSD treatment response

Considering the deficits in emotional processing in those high in alexithymia, it is not surprising that alexithymia has been implicated in PTSD treatment resistance (Kosten *et al.*, 1992; Putica *et al.*, 2023; Zorzella *et al.*, 2020). Putica *et al.* (2023) examined the impact of alexithymia on PE outcomes. Most notably, they found that impairment in emotional clarity was a significant predictor of treatment drop-out. They also found that participants with high alexithymia were more likely to maintain a full PTSD diagnosis immediately post-treatment and at a 6-month follow-up. Alexithymia was also associated with delayed treatment effects on avoidance, with a significant reduction in symptomology observed from pre- to follow-up but not from pre- to post-treatment. The study concluded that while PE is effective, those with alexithymia show a delayed treatment response and may be at greater risk of pathology after treatment.

Furthermore, Kosten and colleagues (1992) examined the effect of alexithymia on PTSD treatment response among a sample of 57 Vietnam veterans. The veterans engaged in 8-week randomised, controlled, double-blind trials and were randomised to one of the following conditions: (1) imipramine and brief psychodynamic psychotherapy; (2) phenelzine and brief psychodynamic psychotherapy; and (3) brief psychodynamic psychotherapy only. Each

participant concurrently received individual psychotherapy grounded in a brief psychodynamic framework. In the psychotherapy group, alexithymia was inversely associated with a reduction in avoidance outcomes, irrespective of the severity of trauma. No impact was observed on intrusion symptomatology or among subjects in the psychopharmacology group. Given that all three treatment cohorts received both psychotherapy and the pharmacological agent, the study findings imply that psychotherapy in isolation might not be efficacious in mitigating avoidance symptoms in individuals with alexithymia and PTSD.

Thirdly, Zorzella *et al.* (2020) explored the role of alexithymia in treatment outcomes for women with childhood abuse histories participating in a specialised trauma-focused group therapy. Their research involved 167 participants in the Women Recovering from Abuse Program (WRAP), an 8-week comprehensive intervention incorporating aspects of affect regulation, self-care, stabilisation, and cognitive-behavioural therapy skills. The therapy, both group and individual, was specifically designed for women with significant childhood trauma. They found that high alexithymia levels at baseline were linked to greater severity of PTSD, increased dissociation, and more severe interpersonal problems before treatment. Notably, reductions in alexithymia during treatment were closely correlated with improved outcomes in PTSD symptoms, dissociation, and interpersonal challenges. While these findings contribute to understanding the impact of alexithymia on the manifestation and treatment of PTSD, they stop short of examining the influence of alexithymia and related emotional deficits on primary trauma-focused treatments for PTSD.

### Clinical implications

In the context of TF-CBT, the diverse therapeutic approaches and the patient–therapist collaborative discovery method may inherently offer greater efficacy for individuals concurrently experiencing PTSD and alexithymia. Specifically, the amalgamation of appraisal and imaginal work appears particularly advantageous for those with alexithymia, given their challenges in identifying emotional triggers and targets for reappraisal. Engaging in these processes collaboratively with the therapist throughout treatment could facilitate a mutual learning experience concerning trauma cues and reminders, with each being systematically addressed during sessions. Moreover, the incorporation of thought suppression experiments and other demonstrative techniques elucidating the detrimental consequences of maladaptive trauma coping mechanisms proves beneficial in addressing avoidance and suppression tendencies through an educational and experiential approach. However, it is important to highlight that alexithymia-related difficulties, particularly challenges in mentalisation (the cognitive capacity to understand and interpret one's own and others' thoughts, feelings, intentions, and beliefs; Lüdemann *et al.*, 2021), may compromise aspects of TF-CBT treatment protocols related to mental inference and integration.

Several treatment considerations could be implemented across both TF-CBT and PE to enhance treatment response for those with alexithymia and PTSD. Firstly, given that alexithymia is distinct from but highly associated with PTSD severity across trauma-exposed populations, this construct should be considered in clinical assessment. Assessment can be facilitated by a brief screening tool such as the Toronto Alexithymia Scale (TAS-20; Bagby *et al.*, 1994) or the license-free Perth Alexithymia Questionnaire (PAQ; Preece *et al.*, 2018). If high levels of alexithymia are endorsed or evident, therapists should emphasise psychoeducation on emotional literacy, helping individuals develop a vocabulary for their emotional experiences. Additionally, interventions can be adapted to focus on concrete, observable behaviours and physical sensations associated with emotions rather than relying solely on verbal expression. Furthermore, therapy sessions can be structured to gradually build emotional awareness and expression skills, fostering a safe and supportive environment for individuals to explore and articulate their emotional states.

Screening for alexithymia may help identify those with difficulties with therapeutic engagement (Nunes da Silva, 2021) and may help with individual differences in interpersonal style and rapport building. Those who present with severe PTSD can be challenging for clinicians. However, those who also present with a cold, detached, emotionally incongruent interpersonal style (alexithymia) may elicit confusion and frustration from their treater(s) (Ogrodniczuk *et al.*, 2011). This alexithymia-related interpersonal style is inversely associated with the therapist-rated therapeutic alliance (Ogrodniczuk *et al.*, 2011; Quilty *et al.*, 2017) and treatment outcomes across treatment modalities (Ogrodniczuk *et al.*, 2011; Quilty *et al.*, 2017). Screening for alexithymia and incorporating such presentations into clinical formulations may foster clinician understanding and empathy rather than frustration or misattribution of patient motivation (for example, ‘the patient is not motivated or taking treatment seriously’). Screening and formulating for alexithymia have been suggested by Nunes da Silva (2021), who presents intervention guidelines for fostering emotional skills and therapeutic alliance for patients with alexithymia. Specifically, Nunes da Silva (2021) posits that alexithymic functioning is particularly relevant in conceptualising emotional processing and emotional aspects of the therapeutic relationship (guideline 2.3; Nunes da Silva, 2021).

Beyond being a generalised interpersonal style, it may be that alexithymia, as measured by the TAS-20, is a sophisticated measure of avoidance or screener for trauma-focused treatment under-engagement. For example, as a means of avoiding acute distress following trauma exposure or in the case of severe pathology, some patients may avoid tending to unwanted or distressing emotional states. One of the most challenging emotional experiences that a survivor of trauma may encounter is the confrontation of the traumatic memory(ies). It is not, therefore, surprising that individuals with this emotion-response style would modulate their emotional engagement during trauma memory exposures as a means of attenuating their experienced distress, resulting in under-engagement. Therefore, if alexithymia is identified, the clinician may incorporate emotion exposures and emotion regulation skill-building as part of, or as an adjunct to, trauma-focused treatments (Cameron *et al.*, 2014). For example, emotion exposures may be incorporated as part of *in vivo* exposures or as preparatory work prior to trauma-focused intervention. Incorporating targeted adjunct treatment modules is affirmed by Nunes da Silva (2021), who posits that experiential interventions may help increase awareness, while experiential interventions could enhance emotional awareness (guideline 3.4; Nunes da Silva, 2021). Therefore, if alexithymia presents an initial barrier to trauma-focused treatments or is a residual clinical concern after treatment, clinicians are encouraged to directly address alexithymia-related difficulties to promote treatment engagement or the retention of treatment gains (Cameron *et al.*, 2014).

Moreover, individuals with elevated alexithymia may perceive ordinary bodily changes as alarming or disengage through anticipatory anxiety, characterised by atypical interoception (Brewer *et al.*, 2016). Therapeutic approaches could be refined to incorporate elements specifically designed to address these inclinations. Interoceptive exposures (Boettcher *et al.*, 2016) or instruction in additional strategies for recognising, expressing, and managing emotions more adeptly could be integrated. This adaptation aims to help patients comprehend that affective information is not inherently uncontrollable or perilous. Techniques like emotion labelling, emotion differentiation, and the implementation of emotion-focused coping strategies may contribute to this comprehensive therapeutic approach.

Furthermore, given that those with alexithymia demonstrate a discordant emotional response style that is hypothesised to stem from difficulties in present-focused, non-judgemental emotional awareness, mindfulness-based interventions should also be considered (for example, see Putica *et al.*, 2022a; Watford and Stafford, 2015). The intricate interplay between physiological arousal and cognitive processing underscores the complexity of trauma-related emotional experiences, emphasising the need for nuanced approaches in therapeutic interventions to bridge the gap between physiological reactions and conscious awareness of the cognitive appraisal processes associated with traumatic events. In essence, tailoring PTSD treatments for those high in alexithymia involves a nuanced and patient-centred approach that recognises the unique

emotional processing challenges of this population. For a summary of the potential impacts of alexithymia on individual treatment components and potential treatment augmentations, see Table 1 below.

### Limitations and considerations

It is important to note the heterogeneity of PTSD when considering treatments. The distinction between reactive and dissociative PTSD subtypes, as highlighted by Lanius *et al.* (2012), underscores the complexity of PTSD's impact on individuals. Research indicates that alexithymia may affect treatment outcomes differently across these subtypes, suggesting a nuanced interaction that warrants further investigation. Reactive PTSD is characterised by symptoms primarily as responses to stressors, including hyperarousal, intrusive memories, and avoidance behaviours. In contrast, the dissociative subtype includes symptoms of dissociation alongside other PTSD symptoms. This distinction is crucial for treatment; for instance, treatments for reactive PTSD might focus more on managing arousal and anxiety, processing traumatic memories, and reducing avoidance behaviours. Conversely, treatments for the dissociative subtype may include strategies specifically aimed at addressing dissociative symptoms, such as grounding techniques, integrating dissociated parts of the self, and processing trauma without causing further dissociation.

It is also of note that interventions specifically designed for alexithymia show encouraging outcomes and may also be considered as adjuncts to trauma-focused treatments. Levant and colleagues (2009) observed a marked decrease in alexithymia levels among individuals participating in a psychoeducational group focused on correcting dysfunctional beliefs about emotions, enriching emotional vocabulary, enhancing the ability to interpret others' emotions, recognising emotions or physical sensations, and engaging in exercises for emotional experience. Furthermore, Melin and associates (2010) reported a significant reduction in alexithymia, particularly with challenges in recognising and articulating emotions, following an 8-week psychological program aimed at identifying, distinguishing, and expressing emotions and their physical manifestations verbally. Additionally, preliminary evidence suggests the potential of dialectical behaviour therapy in addressing alexithymia-specific issues (refer to Salles *et al.*, 2023, for a review).

Finally, alexithymia has been identified as a dimensional and multi-faceted construct (Kooiman *et al.*, 2002; Zimmermann *et al.*, 2005), consisting of various primary challenges for individuals. For instance, difficulty in identifying feelings may hinder engagement with core practices of CBT, such as cognitive restructuring, whereas an external focus could impede mindfulness efforts. Assessing the subscales of alexithymia allows for a more customised therapeutic approach, enabling interventions to directly target the specific traits of alexithymia affecting therapy.

### Summary and conclusion

Primary interventions for PTSD, such as prolonged exposure therapy (PE) and trauma-focused cognitive behavioural therapy (TF-CBT), have made significant strides in addressing the intricate and multi-faceted nature of trauma-related experiences. While both therapies have demonstrated efficacy, many individuals still do not respond adequately to these frontline treatments. The emphasis on emotional engagement and clarity in PE and TF-CBT underscores the critical role of individual differences in emotional processing. Moreover, the integration of advances in affective science into PTSD treatment models can provide a more nuanced understanding of treatment response and guide more precise interventions.

Despite the successes of PE and TF-CBT, challenges persist, particularly in the context of treatment non-response and high drop-out rates. Notably, the role of alexithymia, characterised by difficulties in articulating and understanding emotions, emerges as a factor influencing PTSD

**Table 1.** Impact of alexithymia on treatment components with recommended augmentations

Treatment	Treatment component	Alexithymia impact	Treatment augmentation
PE	Psychoeducation	Difficulties in recognising emotional antecedents to common reactions to trauma	<ul style="list-style-type: none"> <li>• Start by providing psychoeducation on alexithymia. Help patients understand that this difficulty in identifying and expressing emotions may influence their response to trauma</li> <li>• Modify traditional emotional identification exercises to better suit individuals with alexithymia. Use concrete examples, visuals, or analogies to help them recognise and label emotions. For example, through the use of pictures, stories, or metaphors to illustrate different emotional states</li> <li>• Emphasise the connection between physical sensations and emotions. For those with alexithymia, bodily sensations might be more accessible than emotional experiences. Encourage the patient to notice and describe physical reactions associated with trauma memories</li> </ul>
	<i>In vivo</i> exposure	Difficulties in engaging in exercises (or under-engaging with exercises) due to predisposition to trait-avoidance coping or appraising all exposures as highly distressing (minimal emotional granularity)	<ul style="list-style-type: none"> <li>• Implement a more gradual exposure approach (commencing with interoceptive exposures), taking into account the potential overwhelm associated with both PTSD and alexithymia. Allow individuals to progress at their own pace, ensuring they have sufficient time to process and integrate emotional experiences</li> <li>• Provide <i>ad hoc</i> ‘coaching’ between sessions about present level subjective units of distress (SUDS) to build awareness over emotional granularity in daily life</li> </ul>
	Imaginal exposure	Limit engagement in imaginal exposure due to anticipatory anxiety or maladaptive beliefs about emotions being dangerous or uncontrollable	<ul style="list-style-type: none"> <li>• Address fears of acute emotional experience, for example, that emotions are dangerous/uncontrollable. Set upgraded imaginal exposures to help the patient test their beliefs about the nature of emotions acting as a barrier for optimal imaginal exposure engagement</li> <li>• Use psychophysiological measures (such as galvanic skin response or heart rate) to track imaginal exposure engagement and habituation</li> </ul>
	Cognitive processing	Difficulties with mentalising or reappraising trauma sequelae	<ul style="list-style-type: none"> <li>• Integrate metacognitive strategies to help individuals reflect on their thinking processes and become more aware of their emotional responses. For example, this may be facilitated by discussing patterns of thought related to trauma and exploring how these thoughts connect to emotions</li> </ul>

(Continued)

Table 1. (Continued)

Treatment	Treatment component	Alexithymia impact	Treatment augmentation
TF-CBT	Relapse prevention	Difficulties in maintaining approach-based coping	<ul style="list-style-type: none"> <li>• Consider ongoing <i>booster</i> sessions to monitor avoidance-based coping</li> <li>• Consider engagement in emotion regulation/identification programs (such as Skills Training in Affective and Interpersonal Regulation Training; Cloitre and Schmidt, 2015)</li> </ul>
	Psychoeducation reclaiming/rebuilding life assignments	As above	<ul style="list-style-type: none"> <li>• As above</li> <li>• Frame goals in concrete and observable terms. Instead of focusing on emotional aspects, emphasise specific actions or behaviours that can be objectively measured. For example, setting a goal to attend a social event for a certain amount of time rather than focusing on emotional responses</li> <li>• Encourage the use of external cues or indicators for emotional states. As individuals with alexithymia may struggle to identify emotions internally, they can rely on external signs such as changes in body sensations, facial expressions, or behavioural cues to gauge emotional experiences</li> <li>• Use behavioural tracking to monitor progress. Ask patients to record their actions and accomplishments, providing a tangible measure of success without relying solely on emotional feedback</li> <li>• Focus on functional outcomes. Evaluate the impact of goals on daily functioning and overall well-being rather than solely on emotional satisfaction</li> <li>• Celebrate and reinforce achievements with a focus on observable outcomes. Positive reinforcement for completing tasks and reaching milestones can create a sense of accomplishment, even if the emotional component is challenging to express</li> <li>• Maintain flexibility in goal adjustment. Recognise that goals may need to be adapted based on the individual's evolving understanding of their emotions and progress</li> </ul>
	Changing problematic appraisals	Difficulties in identifying antecedents to emotional experience and cognitive reappraisal	<ul style="list-style-type: none"> <li>• Use guided discovery questions and Socratic dialogue to help the person identify their emotional responses to situations. Ask what physical sensations they notice and what those might signify</li> <li>• The therapist may model reappraisal by reframing emotions first. Verbalise the appraisal process of finding alternative meanings. Then, prompt the patient to try</li> <li>• Practise reappraising in session using role plays. Start with low emotional</li> </ul>

(Continued)

Table 1. (Continued)

Treatment	Treatment component	Alexithymia impact	Treatment augmentation
			intensity scenes. Provide coaching and feedback to shape patient skills
	Updating trauma memories	Impacts emotion recognition memory	<ul style="list-style-type: none"> <li>• Assign reappraisal practice as between-session homework. Have patients record situations, emotions and reappraisals. Review these records together</li> <li>• Use of multiple sensory modalities/ cues when recalling emotional experiences</li> </ul>
	Discrimination training with triggers of re-experiencing	The lack of emotional awareness may hinder the person's ability to pinpoint triggers accurately	<ul style="list-style-type: none"> <li>• Ecological Momentary Assessment</li> <li>• Mindfulness and present-focused awareness</li> </ul>
	Dropping unhelpful behaviours and cognitive processes	Limited insight into cognitive processes and behaviours perpetuating distress	<ul style="list-style-type: none"> <li>• Explore the antecedents (short- and long-term), responses (along cognition, physiology and behaviour) and consequences (short- and long-term) of various emotional experiences</li> </ul>
	Relapse prevention	As above	<ul style="list-style-type: none"> <li>• As above</li> </ul>

treatment response. Understanding and addressing alexithymia-related challenges, including emotional discordance and difficulties in mentalisation, are crucial for enhancing therapeutic engagement and treatment outcomes.

Clinical implications highlight the need for tailored approaches that consider individual variations in emotional processing, with specific attention to alexithymia. Screening for alexithymia can inform treatment strategies, including psychoeducation on emotional literacy, therapy session adaptations, and mindfulness-based interventions. Additionally, recognising alexithymia-related difficulties in interpersonal style can guide clinicians in building effective therapeutic alliances. Overall, the integration of these considerations into PTSD treatment protocols offers a more comprehensive and personalised approach to address the diverse needs of individuals with PTSD, ultimately optimising treatment response and fostering long-term recovery.

#### Key practice points

- (1) For PTSD presentations, the screening and consideration of alexithymia is indicated for those who are not appropriately engaging with or responding to treatment.
- (2) If alexithymia is identified, the clinician may find it useful to incorporate emotion literacy, emotion exposures and emotion regulation skill-building as part of or adjunct to trauma-focused treatments.
- (3) Given that those with alexithymia demonstrate a discordant emotional response style that is hypothesised to stem from difficulties in present-focused, non-judgmental emotional awareness, mindfulness-based interventions should also be considered.

#### Further reading

- Nunes da Silva, A. (2021). Developing emotional skills and the therapeutic alliance in clients with alexithymia: intervention guidelines. *Psychopathology*, 54, 282–290. <https://doi.org/10.1159/000519786>
- Putica, A., Felmingham, K. L., Garrido, M. I., O'Donnell, M. L., & Van Dam, N. T. (2022a). A predictive coding account of value-based learning in PTSD: Implications for precision treatments. *Neuroscience and Biobehavioral Reviews*, 138, 104704. <https://doi.org/10.1016/j.neubiorev.2022.104704>

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