

CASE STUDY

# A single case report of using Dummett's systemic cognitive behavioural formulation to guide treatment of adolescent PTSD

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## Abstract

Trauma-focused CBT (TF-CBT) is recommended by NICE for adolescents with post-traumatic stress disorder (PTSD). Whilst caregiver involvement is recommended, no specific guidance on the nature of involvement is provided although it is important that involvement takes account of the nature of the trauma. This case report details how Dummett's systemic CBT formulation was used to plan an intervention such that systemic sessions were included in TF-CBT treatment of an adolescent female with PTSD which arose following interpersonal trauma. Trauma symptoms, trauma cognitions and depressive symptoms were measured throughout, with trauma symptoms showing clinically significant change over the course of therapy. Clinical implications are considered regarding the applicability of systemic CBT formulation and the inclusion of systemic sessions within TF-CBT for adolescents whose traumas arose interpersonally.

## Key learning aims

- (1) To be able to incorporate systemic factors into a formulation of the maintenance of PTSD for adolescents using Dummett's systemic cognitive behavioural formulation.
- (2) To identify systemic interventions that may facilitate change in interactions between adolescents and parental figures and change in trauma appraisals.

**Keywords:** adolescent; case formulation; case study; parent; PTSD; systemic; TF-CBT

## Introduction

Post-traumatic stress disorder (PTSD) is characterised by re-experiencing through sensory modalities of traumatic event(s) in the form of nightmares or flashbacks, avoidance of trauma-related stimuli, negative alterations in cognitions and mood, and trauma-related changes in arousal following exposure to a traumatic stressor. The cognitive model suggests that PTSD is maintained by avoidance of thoughts, memories and reminders associated with the event(s) (Ehlers and Clark, 2000). PTSD sufferers may experience hypervigilance to threat and, untreated, symptoms tend to persist, which can impact psychosocial functioning (Bolton *et al.*, 2004). It is essential to treat PTSD given the long-term health and functioning implications (McFarlane, 2010; Mulvihill, 2005), alongside the potential impacts on the developing brain (Herringa, 2017). PTSD is also associated with increased likelihood for co-morbidities such as depression, chronic physical illness, alcohol misuse and suicidality (Karatzias *et al.*, 2019).

In an epidemiological study of a representative cohort of young people in England and Wales, it was found that, of the 31.1% of children who were exposed to trauma (defined using *DSM-5* criteria), the lifetime prevalence of PTSD by age 18 was 25.0% (Lewis *et al.*, 2019). For those who were trauma-exposed, more than half had experienced or witnessed some form of interpersonal trauma (Lewis *et al.*, 2019). However, prevalence estimates are likely to differ depending on the diagnostic system used.

A variety of risk factors have been found to increase the likelihood of a young person experiencing PTSD, including low social support, peri-trauma fear, social withdrawal and poor family functioning, amongst others (Trickey *et al.*, 2012). Insecure attachment with caregivers is also associated with a greater severity of PTSD symptoms (Kimerling *et al.*, 2018; Zhou *et al.*, 2020). The range of relational risk factors suggest it may be important to incorporate consideration of such factors into formulations of the development and maintenance of PTSD.

For adolescents, NICE recommends that an individual TF-CBT intervention is offered, with more than 12 sessions if there are multiple traumas (NICE, 2018). TF-CBT involves stabilisation, reliving work on the trauma memories, and reconnecting with valued aspects of life (Cohen *et al.*, 2006; Smith *et al.*, 2010). A meta-analysis identified that TF-CBT produced medium to large effect sizes compared with control conditions for child and adolescent PTSD, as well as small to medium effect sizes in reducing co-morbid depression symptoms (Morina *et al.*, 2016). The PRACTICE (Cohen *et al.*, 2006) acronym summarising the trauma-focused CBT protocol for children incorporates parenting skills and conjoint child–parent sessions to help elaborate and process trauma memories. It is known that caregiver involvement has an influence on outcomes in TF-CBT (Brown *et al.*, 2020).

As argued by Dummett (Dummett, 2006; Dummett, 2010), CBT with children and adolescents should incorporate interpersonal, family and systemic factors, together with developmental and attachment issues. A systemic CBT approach can improve interactional patterns, promote parental attunement, increase openness in communication, and provide new evidence for belief in key appraisals to change (Koch *et al.*, 2010). This approach involves utilising standard cognitive behavioural techniques to intervene within a family system by promoting change in interpersonal maintenance factors (Dummett, 2006). It is known that communication between young people and their caregivers and caregiver support promotes recovery from exposure to traumatic events (Berkowitz *et al.*, 2011). It is also understood that the onset, symptoms and treatment of PTSD can be impacted by interpersonal relationships; for instance, lack of social support is one of the largest predictors of developing PTSD (Brewin *et al.*, 2000; Markowitz *et al.*, 2009). The relevance of interpersonal factors to PTSD suggests that systemic interventions may be of benefit. A recent systematic review found that 10 of the 11 studies of systemic youth–caregiver interventions for young people exposed to trauma were successful at reducing trauma symptoms in young people, as well as improving relationships (McWey, 2022). Many of the studies relied on CBT as a theoretical underpinning, which lends support to a systemic CBT approach, despite this being limited by the small number of studies conducted to date.

The following case report describes how Dummett's systemic CBT formulation facilitated intervention planning such that systemic sessions were incorporated into TF-CBT with an adolescent who had developed PTSD following traumas within the family home.

## Case study

### *Client characteristics and presenting problem*

Isla (pseudonym) is a 16-year-old, white British female who was referred to Child and Adolescent Mental Health Services (CAMHS) via her GP, who identified her difficulties as low mood, poor sleep and suicidal ideation.

Isla lives at home with her mum and dad. Her 19-year-old sister has a diagnosis of emotionally unstable personality disorder (EUPD) and had recently moved out of the family home to live

independently. Following this, Isla developed symptoms of PTSD where she re-experienced memories of conflict and suicide attempts by her sister and experienced frequent nightmares related to these events. This was coupled with other traumatic experiences, including sexual assault by a peer.

## Course of therapy

### Treatment plan

Treatment was conducted over 18 sessions, which were completed during the coronavirus pandemic under lockdown. Sessions were conducted face-to-face wearing personal protective equipment and socially distanced with no notable impact of this on treatment. Phase A (assessment) consisted of three sessions, which focused on assessment, formulation and goal setting. During this phase, a stable baseline was established on the CRIES-8. Phase B (TF-CBT) consisted of seven sessions, focused on stabilisation, nightmare rescripting and cognitive reappraisal of maintaining beliefs. Phase C (systemic CBT) consisted of seven sessions, and focused on elaboration of trauma memories, enactment, interactional vicious cycles and behavioural change within the family. A final session was allocated to creation of a therapy blueprint.

### Phase A: Assessment

Isla's initial assessment was conducted by the therapist's supervisor (C.H.). Clinical interview identified PTSD as the primary presenting problem (based on *DSM-5* criteria), which was believed to be a leading cause of the low mood, poor sleep and suicidal ideation Isla had been referred for. Following a short period of time on a waiting list, Isla had three further assessment sessions with the therapist (B.V.), during which baseline scores on the Children's Revised Impact of Event Scale (CRIES-8) were established. Isla scored well above the clinical cut-off on this measure of trauma symptoms (Perrin *et al.*, 2005). Information was gathered on PTSD symptoms, maintenance and severity; systemic factors, such as interpersonal relationships and conflict, and daily functioning at home and at school. Two SMART goals were developed with Isla: (1) to reduce the frequency and distress of intrusive thoughts and memories, particularly nightmares, and (2) to reduce the severity of anxiety and low mood. Isla's history of traumatic experiences was obtained using a visual timeline created collaboratively in sessions. Key aspects of her history are summarised in Fig. 1, with the two major traumatic incidents of concern to Isla labelled as incident one and incident two.

### Formulation

The Ehlers and Clark (2000) model of PTSD was drawn with Isla to create an individualised formulation following on from psychoeducation around the dual representation theory of traumatic memories (Brewin *et al.*, 1996). This was embedded in the systemic CBT formulation shown in Fig. 2, which incorporates the influence of parental perceptions of the problem and a timeline of Isla's chronic experience of interpersonal stress and trauma.

The explanation of the brain regions and memory processes which may be implicated in PTSD was valued by Isla due to her wish to understand the rationale behind CBT intervention and why this works. It may be that this explanation provides both normalisation and externalisation of PTSD for young people. Similarly, collaborative development of the Ehlers and Clark (2000) formulation facilitated understanding of the cognitive behavioural mechanisms contributing to the maintenance of PTSD. It also enabled shared agreement about the targets of intervention.

At the time of the key traumas, Isla reported being overwhelmed by fear and anger. She recalled being asked to take on age-inappropriate levels of responsibility during some of these events. Isla was asked to not discuss these events, which may have prevented her from processing the traumatic memories and eliciting social support, which is known to increase the risk of PTSD (Trickey *et al.*, 2012).



Figure 1. Timeline produced with Isla of key life events.

Her parents' understandable concern for the welfare of her sister meant that at times Isla's physical and emotional needs went unmet, which may have contributed to the development of beliefs Isla held such as 'I am second best' and 'I will always be alone'.

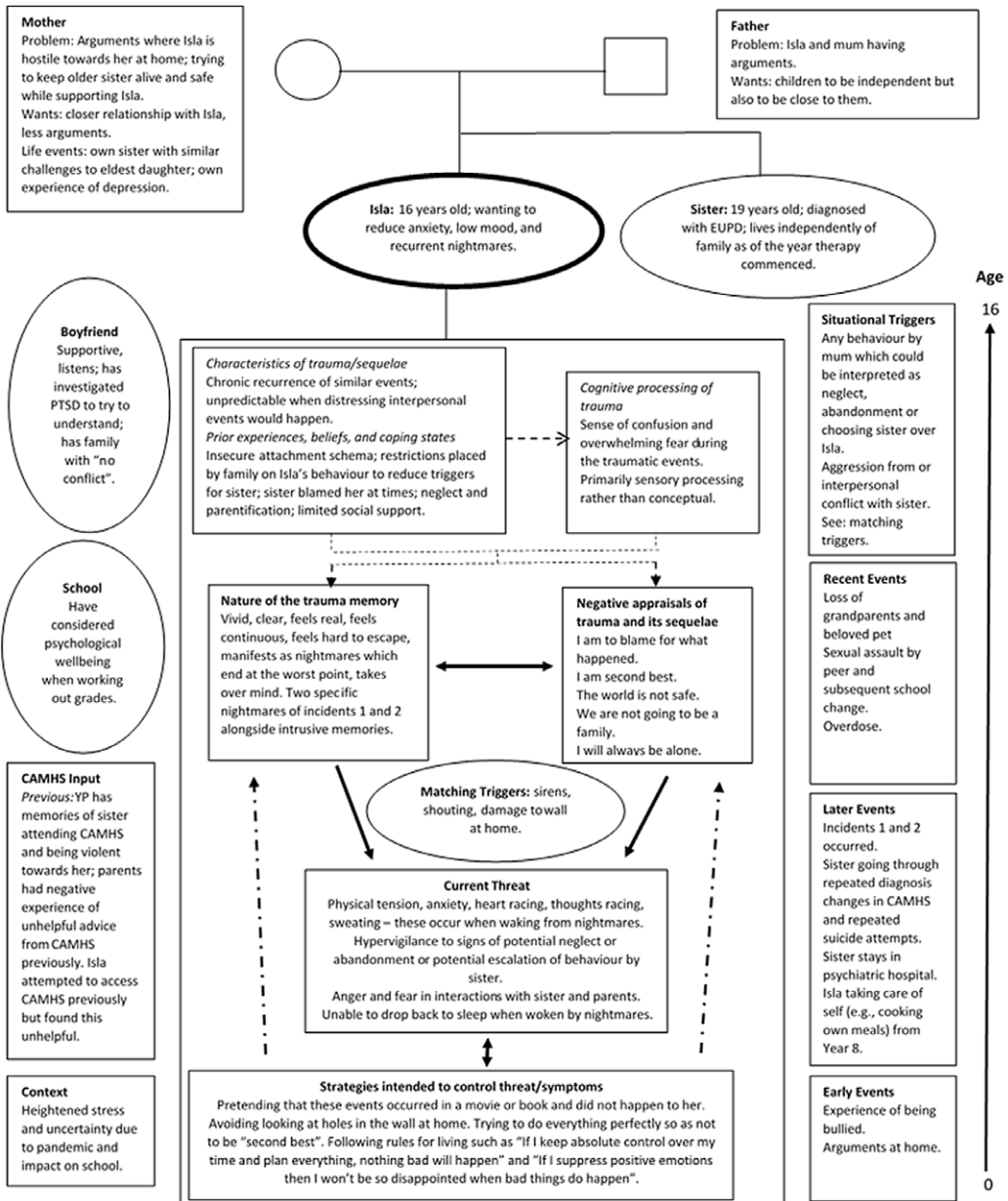


Figure 2. Dummett’s (2006) systemic CBT formulation incorporating Ehlers and Clark’s (2000) model of PTSD.

To cope, Isla avoided sleep, adhered to a rigid daily schedule, suppressed positive and negative affect, tried to behave perfectly, and tried to suppress intrusive memories. All these strategies prevented the processing of her traumatic memories and change in associated appraisals.

Information gathering and formulating, using Dummett’s systemic CBT template, began in Phase A. This continued throughout Phase B, as more information was gathered as a product of the intervention. This enabled systemic hypotheses to be developed which informed the planning of Phase C. For example, it was formulated that some of Isla’s negative appraisals of the traumas were being inadvertently maintained by the frequent arguments between Isla and

**Table 1.** Summary of the key TF-CBT techniques used in this study

Technique	Description
<i>Psychoeducation</i>	An understanding of PTSD was developed through discussion and age-appropriate worksheets
<i>Timeline</i>	A drawing of a timeline was developed with Isla in session. This ranged from birth to 16 years and included all events she recalled as traumatic
<i>Soothing activities and sleep hygiene</i>	Soothing activities for relaxation were identified and planned into Isla's evening routine around her studies. Sleep hygiene strategies were implemented
<i>Sensory grounding</i>	Sensory grounding and its benefits were introduced using the 54321 technique. Isla selected a comforting object she would bring to sessions: a soft toy which had a strong smell
<i>Nightmare exposure, rescripting, and rehearsal</i>	This was completed twice, once each for the two recurring nightmares. Isla wrote down the nightmares she experienced in first person, present tense. She wrote down the worst moment of her nightmares. Subjective units of distress were tracked throughout. She created a rescripted version where she was comforted and protected. Isla recorded her rescripted nightmares and listened to or re-read them twice every night before bed, continuing with this until session 17
<i>Imaginal reliving</i>	Imaginal reliving was then carried around for the memory of incident one. This was selected as nightmares relating to incident one continued occurring but at a reduced rate. Subjective Units of Distress (SUDs) were tracked throughout. Hotspots and associated cognitions were noted and focused on in cognitive restructuring
<i>Cognitive restructuring</i>	This was used to alter appraisals relating to self-blame, namely 'I am to blame for what happened in these traumatic events', as shown in Table 2
<i>Modifying rules</i>	The advantages and disadvantages of Isla's current rules for living were discussed. This included 'I must plan everything to prevent bad things from happening'. When therapy ended, Isla felt she needed further evidence from experience to relinquish these for more flexible rules

her mother, which then contributed to the maintenance of unhelpful behavioural strategies, such as trying to do everything perfectly to avoid being second best and planning day-to-day life exactly to prevent negative events occurring.



### **Intervention Phase B: TF-CBT**

Guided discovery was used to help Isla understand her difficulties and to embed learning. The therapeutic alliance was fostered through warmth, empathy, use of appropriate humour and curiosity. The review of Isla's week and wellbeing each session provided opportunities for her to express her feelings and thoughts, instead of suppressing these, which helped build the therapeutic alliance (Ovenstad *et al.*, 2020). Agendas were collaboratively set every session and homework was reviewed. The frequency of nightmares each week was elicited via verbal report. Grounding techniques were introduced early during intervention to support Isla with managing affect and arousal following flashbacks and nightmares, in line with the stabilisation phase of TF-CBT.

The key techniques used in this TF-CBT intervention are listed in Table 1, alongside a brief description. Nightmares were prioritised for intervention as these were more frequent than flashbacks and Isla identified these as more impactful on her day-to-day functioning.

Rescripting the nightmare of incident two enabled identification of the belief that she was to blame for her sister's suicide attempt. Subsequent sessions focused on cognitive restructuring of this self-blaming belief. A 'taking the thought to court' metaphor was chosen, as Isla had expressed an interest in studying law. The therapist produced a video where she interviewed a dialectical behaviour therapy (DBT) therapist from the CAMHS team using the questions Isla had suggested. The rationale for this was that the DBT therapist was 'an expert' in EUPD and may be able to provide insight into common factors associated with suicide attempts. This contributed to the evidence used in re-evaluating Isla's appraisal that she was to blame for one of the traumatic events, as shown in Table 2.

**Table 2.** ‘Taking the thought to court’ cognitive restructuring worksheet, adapted from *Psychology Tools*, which the therapist subscribes to

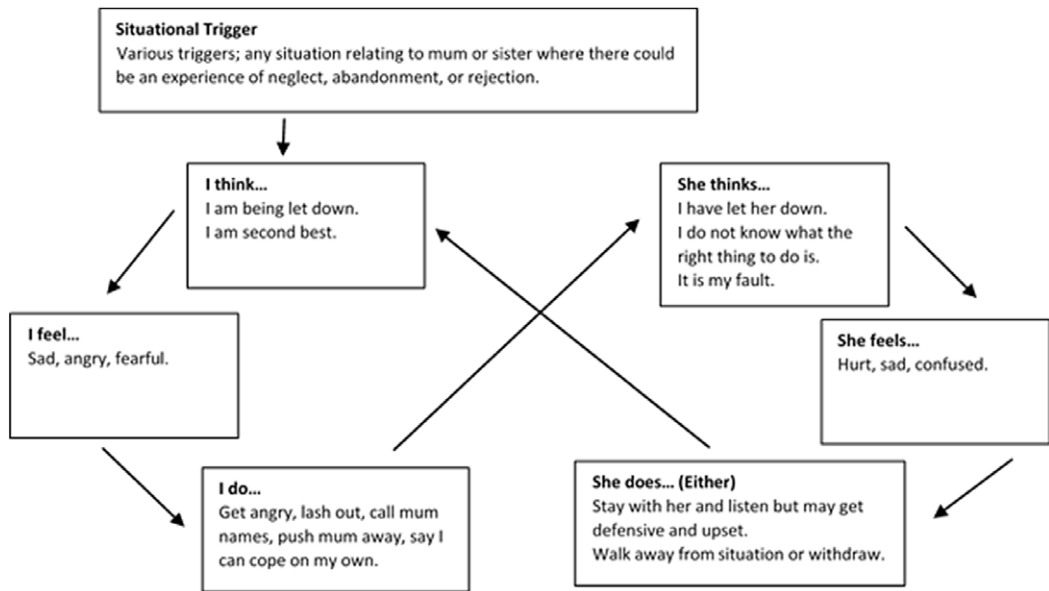
<b>Put Your Thought in the Dock belief (%)</b>	I am to blame for what happened when my sister drank a toxic substance and attempted suicide (100%)
<b>Associated emotions (/10 intensity)</b>	Belief reduced to 80% following initial discussion of hindsight bias Guilt, 10/10
<b>Strategies for Gathering Evidence</b>	
	
<ol style="list-style-type: none"> <li>1. Discuss why she believes she is to blame</li> <li>2. Discuss hindsight bias, especially relating to what it would have been possible for an 11-year-old to know</li> <li>3. Produce short video with a dialectical behaviour therapy (DBT) therapist answering the following questions:             <ol style="list-style-type: none"> <li>a. <i>What is it like for my sister?</i></li> <li>b. <i>How is she making sense of the world and relationships?</i></li> <li>c. <i>Why does someone with EUPD attempt suicide?</i></li> <li>d. <i>What can loved ones do to help and what is the limit of what they can do to help?</i></li> </ol> </li> </ol>	
<b>The Evidence</b>	
	
<b>Defence</b>	
<ul style="list-style-type: none"> <li>• This event was the first major argument after which my sister’s mental health seemed to deteriorate</li> <li>• I had not spent much time with my sister on the day she attempted suicide. I could have prevented it from happening and did not</li> </ul>	
<b>Prosecution</b>	
<ul style="list-style-type: none"> <li>• There was an intervening year between the smoking event and the suicide attempt. Many different experiences during this time could have contributed to the distress my sister felt</li> <li>• As a child, it was not my responsibility to know the warning signs of depression</li> <li>• People with EUPD have difficulties in their way of making sense of the world and other people which can lead to intense emotions and impulsive behaviour, as the DBT therapist described. This suggests my sister’s emotions and behaviours are not my fault but also not her fault</li> <li>• Even if I had spoken to my sister that day, she might have reacted angrily, and this could have made the situation worse. There was no clear right or wrong way to behave when she was sad</li> </ul>	
<b>Jury and Verdict updated belief (%)</b>	Belief in original thought now: 0% Belief in new thought, I am not to blame for what happened: 100%
<b>Associated emotion (/10 intensity)</b>	Guilt, 0/10

Throughout Phases A and B, Isla’s mother or father joined the final 10 minutes of therapy sessions. The purpose of this was to enhance shared understanding of the formulation and treatment; to encourage parental support during treatment; to provide opportunities to improve familial communication; and finally, to offer socialisation to treatment and support the transition to systemic CBT sessions. The therapist initially led on sharing session summary and facilitating discussion with Isla and her parents; however, consistent encouragement of Isla to take on the role of sharing feedback with her parents led to Isla beginning to do this in the latter half of Phase B.

**Intervention Phase C: Systemic CBT**

Isla became angry when her mother expressed doubt about the conceptualisation of EUPD offered by the DBT therapist. This initiated the start of the systemic CBT phase.

Interactional vicious cycles were collaboratively developed during systemic sessions using recent relational interactions. An abstract version summarising a characteristic argument between Isla and her mother is shown in Fig. 3. Isla recognised that her mother’s behavioural response to her in different situations unintentionally tended to reinforce her belief that she is second best, alone, and being let down. Her mother recognised that Isla tended to become



**Figure 3.** Interactional vicious cycle showing general pattern which recurs in arguments between Isla and her mum, and the impact of this on reinforcing negative beliefs about herself and others.

angry due to believing she is being let down, rejected or abandoned. Formulating these cycles within sessions formed part of the intervention in Phase C.

In total, the systemic CBT sessions consisted of one parental session, two sessions with both parents and Isla, one session with Isla and her mother, and three individual systemic CBT sessions with Isla which involved trauma-focused elements. Key systemic techniques used are summarised in Table 3.

### Therapy blueprint

A therapy blueprint was created which demonstrated the range of learning Isla gained from therapy, what had changed, and what she could do to manage setbacks.

### Measures

PTSD symptoms were tracked each session using the Children's Revised Impact of Event Scale (CRIES-8) (Perrin *et al.*, 2005). It was chosen due to acceptability and brevity. It has good construct validity and correlates well with other indices of post-traumatic stress. A clinical cut-off score of 17 maximises sensitivity and specificity for identification of PTSD.

Trauma cognitions were measured using the Child Post Traumatic Cognitions Inventory, Short Form (CPTCI-S) (Meiser-Stedman *et al.*, 2009). It has excellent internal consistency, moderate-high test-retest reliability and an excellent fit factor structure, with scores between 16 and 18 recognised as the optimal cut-off point for clinically significant negative appraisals (McKinnon *et al.*, 2016). This was used in over half of the sessions (10/18) to ensure regular data collection while balancing a reduction in the burden of measure completion for Isla.

The full Revised Children's Anxiety and Depression Scale (RCADS) (Chorpita *et al.*, 2005) was administered at the start and end of therapy. The 10-item depression subscale was used every session to track changes. RCADS subscales have been shown to have good internal consistency. The depression subscale has good convergent validity identified by a significant,



**Table 3.** Summary of the key systemic CBT techniques used

Technique	Description
<i>Parental session</i>	Discussion about their current relationship with Isla, the impact of traumatic events on this, their hopes and fears for the systemic sessions, and the conflicted emotions they experienced towards CAMHS because of past experiences
<i>Ground rules</i>	Isla and her parents identified key ground rules, including ‘we will let each other speak and not interrupt each other’
<i>Elaboration of trauma memories</i>	Discussion focused on Isla’s memory of her sister being put into handcuffs. A new understanding of these events was developed which helped to alter Isla’s beliefs relating to her parent’s role in this event, i.e. her parents were acting on CAMHS advice to call the police, they regretted this, and they were not aware of how much Isla saw at the time
<i>Eliciting differences and strengths</i>	Similarities between family members and positive memories of being together as a family were explored. This was to support the identification of unique outcomes and times when there had been connection and attunement. Differences in the way family members react and interact were explored to enhance empathy
<i>Enactment</i>	Direct discussions between Isla and her mother were facilitated. It provided an opportunity for Isla’s mother to understand Isla’s experiences, to show attunement, to apologise, and to discuss how they could interact differently now. This provided opportunities for Isla’s beliefs about interpersonal relationships to begin to change
<i>Interactional vicious cycles</i>	Interactional vicious cycles were identified individually with Isla to begin with. These were explored with Isla and her parents using circular questions to develop relational thinking and provide a basis for behavioural change. Her mother identified alternative ways of behaving in response to Isla’s distress, which included remaining present, validating Isla’s feelings, identifying the primary emotions under her anger, and offering opportunities to discuss situations more openly. Isla identified that she would start telling her mum directly how she feels and why
<i>Identification of behaviour changes</i>	Strategies to interrupt this maintenance cycles were identified with Isla and her parents who agreed to try these

positive correlation with the Child Depression Inventory (Chorpita *et al.*, 2005). It has a clinical cut-off score of 13 for Isla’s age group (CORC, 2022).

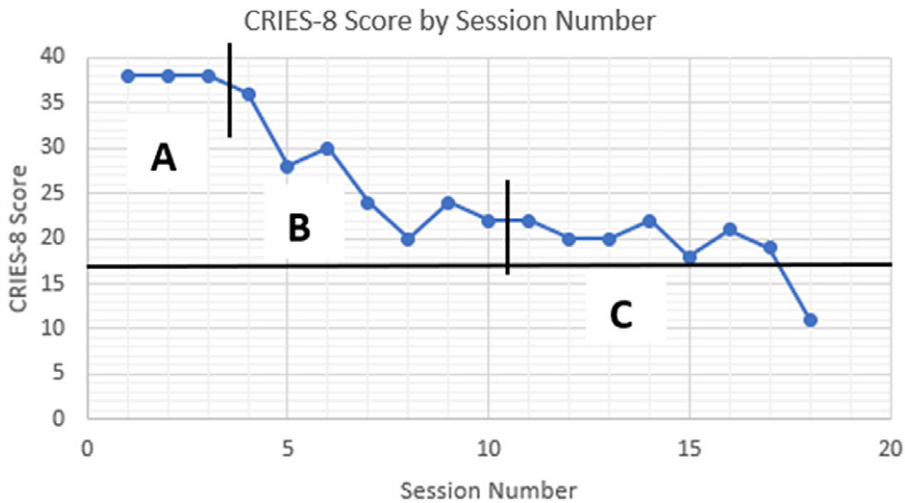
The Systemic Clinical Outcome and Routine Evaluation (SCORE-15) (Stratton *et al.*, 2014) was used at the start and end of Phase C. It was administered to both Isla and her mother. This assesses aspects of family life and functioning which may be targets for therapeutic change. It consists of 15 Likert-scale items assessing family members’ perceptions of family life, such as ‘We seem to go from one crisis to another in my family’. There are six further items, three of which are qualitative. The SCORE-15 was found to have good criterion validity, good internal consistency, and good test–retest reliability (Hamilton *et al.*, 2015). Scores range from 15 to 75, with lower scores indicating better family functioning.

All outcome measures used are accepted by the CAMHS Outcome Research Consortium (CORC). The CAMHS session feedback questionnaire, obtained from the CORC website, was used repeatedly throughout to monitor Isla’s experience of sessions.

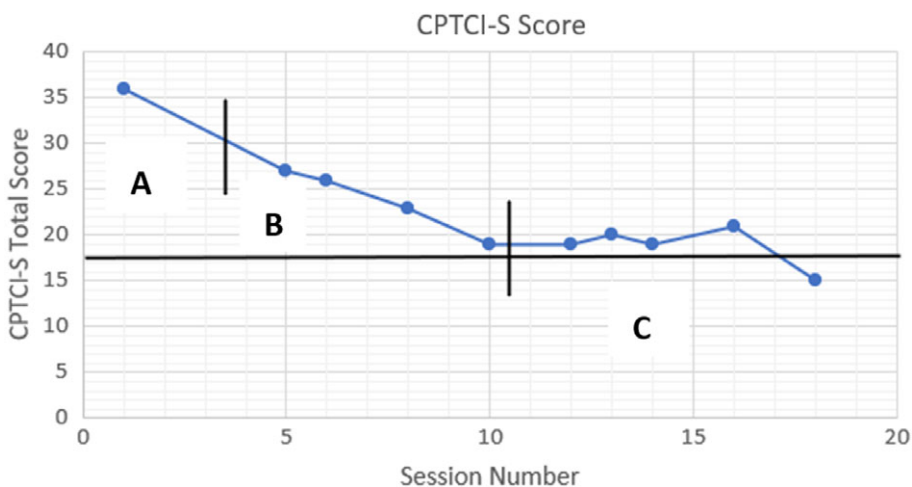
## Outcome

### *Recovery from depression and PTSD*

Isla’s score on the CRIES-8 at assessment was 38. This reduced over the course of treatment and at the end of treatment, Isla’s score was 11 – below the clinical cut-off score of 17, indicating recovery from PTSD (see Fig. 4). The reliable change index (Jacobson and Truax, 1991) obtained for Isla’s scores on the CRIES-8 was 3.68 as calculated using data from Verlinden *et al.* (2014). Indices greater than 1.96 are likely to reflect real change. The calculation used is provided in Appendix A (see Supplementary material). This suggests a reliable change in PTSD symptoms. The reduction in avoidance and intrusions over time lends some support to the hypothesis that nightmare exposure, rescripting and rehearsal, alongside cognitive change



**Figure 4.** Graph displaying the change in CRIES-8 total score by session number. The black horizontal line indicates the clinical cut-off score for the CRIES-8.



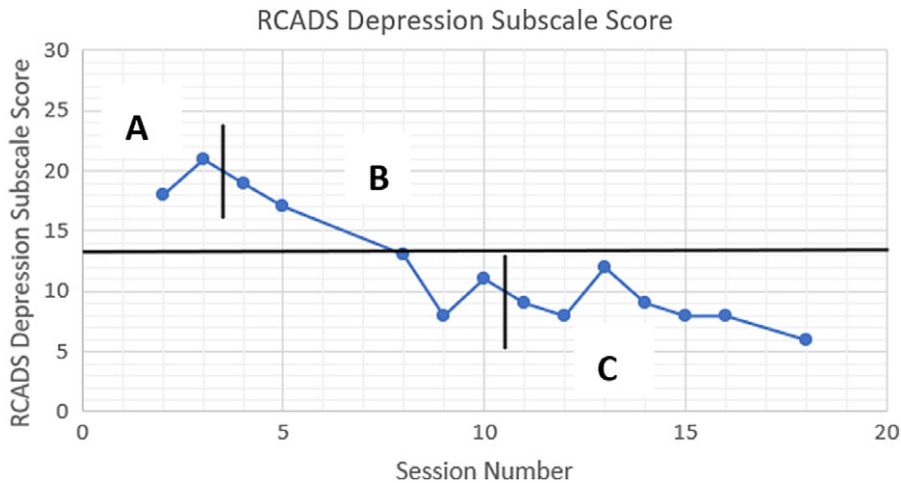
**Figure 5.** Graph displaying CPTCI-S total score by session number. The black horizontal line indicates the clinical cut-off score for the CPTCI-S.

facilitated by restructuring and systemic intervention, facilitated this decrease. Idiosyncratic data collected in sessions indicated that Isla’s nightmares reduced in frequency from two to three times per night at the start of therapy, to one to two per week by the end of therapy.

At assessment Isla scored 36 on the CPTCI-S. This showed a reliable decrease over the course of treatment and reduced to 15 at the end of treatment, below the clinical cut-off of 16–18 (see Fig. 5). The RCI obtained for Isla’s scores on the CPTCI-S was 3.19 using data from McKinnon *et al.* (2016). This suggests a reliable change endorsement of trauma-related cognitions. At the end of therapy, Isla did not feel she had sufficient evidence from her experiences for cognitions on the CPTCI-S, such as ‘bad things always happen’, to change. However, we discussed that these might change with further experiences.

**Table 4.** Isla and her mother's scores on the SCORE-15

Time point	Isla's total score	Isla's mother's total score
T1	59	45
T2	32	36

**Figure 6.** Graph displaying RCADS depression subscale scores by session number. The black horizontal line indicates the clinical cut-off score for the RCADS Depression subscale.

On the RCADS Depression Subscale, Isla scored 18 at assessment and this reduced to 6 at the end of treatment – below the clinical cut-off of 13. The RCI for the RCADS Depression Subscale was 4.19, as calculated using data from Klaufus *et al.* (2020).

Isla's mood improved over the course of therapy, as shown in Fig. 6, in conjunction with nightmare frequency decreasing and sleep improving.

There were no notable sources of measurement error when Isla completed measures.

### Improvement in family functioning

The scores of both Isla and her mother on the SCORE-15 reduced between the start and end of Phase C. A lower score indicates better family functioning. These are shown in Table 4.

The scores show that Isla perceived there to be a greater improvement in family functioning over the course of Phase C compared with her mother. There were differences in the perceived severity of the problem, degree to which the problem was managed together by family members, and therapy helpfulness as shown in Table 5. Isla perceived the problem as more severe and therapy as more helpful than her mother and she showed the greatest change in belief that the family were managing problems together, going from believing they were hardly managing together at all to managing well together. Over a period of 3 weeks between sessions 16 and 18, Isla and her mother reported having just one argument, whereas previously they had two to three per week on average.

Isla completed the session feedback questionnaire most weeks. The average score for sessions was 19.8 out of 20, suggesting Isla felt listened to, understood the content of sessions, and came away with ideas of what to do to move forwards.

**Table 5.** Summary of scores related to problem severity, management within the family, and therapy helpfulness

Item	Isla (T1)	Isla (T2)	Isla's mother (T1)	Isla's mother (T2)
Problem severity (0–10; no problem at all to severe)	9	10	7	8
Managing the problem together (0–10; very well to very badly)	9	2	6	7
Therapy helpfulness (0–10; very helpful to very unhelpful)	2	0	4	4

## Discussion

This case study describes treatment of an adolescent with PTSD, using both individual TF-CBT and systemic CBT sessions. Following 18 sessions, several improvements were identified in relation to Isla's goals for treatment, including a reduction in nightmare frequency. The severity of Isla's PTSD symptoms markedly reduced and dropped below the clinical threshold, and her low mood also improved to below clinical threshold.

Isla's belief about being to blame for what happened in her traumatic memories reduced from 100% to 0%, and her associated feelings of guilt diminished. Both Isla and her mother indicated that there was an improvement in family functioning, as measured by the SCORE-15, over the course of Phase C alongside a reduction in the frequency of arguments. In the therapy blueprint, Isla wrote that she now believed 'Mum and dad are trying. They were trying their best when the traumas happened' and 'I am not on my own'. In her plans for managing setbacks, Isla wrote 'If I have an argument with mum, I will remember what I have learnt about mum since having therapy and we will find a time to talk about it'.

### Clinical implications

This report has shown that systemic CBT sessions as part of TF-CBT were helpful in promoting changes in key appraisals of traumatic memories which were formulated as having been developed and maintained relationally for Isla. Specific items on the SCORE-15 highlight what Isla felt changed. Initially she reported that 'when one of us is upset, they get looked after' described her family 'not well', but she rated this as describing her family 'very well' at the end of Phase C. She also noted improvements in how much she felt listened to and how problems were dealt with within the family. She reported a reduction in blame, a reduction in nastiness and miserableness, and increase in trust within the family. Her mother noticed similar changes, although to a lesser extent. These changes also provided new evidence for Isla which altered her hotspot appraisals 'We are not going to be together as a family' and 'I will always be alone'.

The sessions provided opportunities for parental attunement and for a new understanding to be developed relating to trauma. The change in appraisals associated with the systemic sessions suggests this strategy may have clinical relevance for treating PTSD in other, similar cases. Clinicians may find it useful to consider a systemic CBT formulation (Dummett, 2006) when formulating with an adolescent who has experienced interpersonal trauma and who holds some beliefs which have developed and been maintained relationally. The use of systemic sessions incorporating interactional vicious cycles within TF-CBT may warrant further research into how these can be applied in other instances of adolescent PTSD arising from interpersonal trauma occurring within the family.

It is known that nightmares are linked to more severe distress and impairment in those who have developed them post-trauma compared with adolescents with idiopathic or no nightmares (Langston *et al.*, 2010). Nightmare frequency and poor sleep for adolescents are exacerbated by trauma exposure during developmental periods when these symptoms naturally occur more frequently (Langston, 2007). These studies indicate the importance of addressing trauma-related nightmares in

adolescent PTSD. This study indicates that nightmare exposure, rescripting and rehearsal can be effective in achieving a reduction in nightmares, but further empirical data are needed.

### Ethical considerations

The power held by the therapist in the therapeutic relationship was reflected upon throughout. This was especially important when explaining and conducting nightmare exposure, rescripting and rehearsal, as Isla was anxious about these interventions. She was supported to understand what they would involve and what the advantages and disadvantages might be. This promoted autonomy in her decision-making. This was essential given that the family had historical adverse experiences with CAMHS and this had affected their relationship to help (Reder and Fredman, 2007).

At the end of therapy, a recent murder case had led to public outcry about violence against women (Topping, 2021). This coincided with the anniversary of the sexual assault Isla was victim of. This impacted the end of the intervention, as it was important for time to be reallocated to discussing Isla's distress due to these events, the response of peers, and ongoing sexism at school. The therapist would have allocated more time to this had further sessions been available to support Isla to manage this setback in her recovery, as Isla noted she had recently experienced a nightmare of the assault. However, Isla's mum was proactive in supporting Isla with her distress related to this, providing an opportunity for them to strengthen their relationship following the end of therapy.

### Limitations

This study would have benefited from demonstrating the level of family functioning at the start of therapy and through the initial phases to robustly support the influence of the Phase C intervention on family functioning. Likewise, it would have benefited from follow-up assessment of PTSD symptoms, mood and family functioning, to demonstrate whether the effects of therapy were sustained. Collection of follow-up data was not possible in this case.

As with all single case studies, it is unclear to what degree the results are generalisable to other cases, and as such more research is required.

### Conclusion

This case report has demonstrated through a single-case design that TF-CBT with systemic CBT sessions is a potentially helpful adaptation to the treatment of PTSD and an effective way to treat PTSD which has arisen in the context of interpersonal trauma. It has highlighted the need for further research into the incorporation of such systemic sessions into TF-CBT for adolescents.

#### Key practice points

- (1) Practitioners could consider using Dummett's systemic cognitive behavioural formulation to plan interventions for adolescents with PTSD which has developed as a result of interpersonal trauma.
- (2) Practitioners could consider the utility of systemic interventions to facilitate change in trauma appraisals which have developed relationally.

### Further reading

- Dummett, N.** (2006). Processes for systemic cognitive-behavioural therapy with children, young people and families. *Behavioural and Cognitive Psychotherapy*, 34, 179–189.
- Dummett, N.** (2010). Cognitive-behavioural therapy with children, young people and families: from individual to systemic therapy. *Advances in Psychiatric Treatment*, 16, 23–36.

**Supplementary material.** To view supplementary material for this article, please visit: <https://doi.org/10.1017/S1754470X2200054X>

**Data availability statement.** The scores on measures used within this study are provided in the graphs and tables within the manuscript.

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**Ethical standards.** The Authors have abided by the Ethical Principles of Psychologists and Code of Conduct as set out by the British Psychological Society and the British Association of Behavioural and Cognitive Psychotherapies. Ethical approval was not obtained for this case study as the therapeutic work was part of routine clinical work conducted in a CAMHS setting rather than being conducted as part of a research study. Case study consent was obtained in accordance with the requirements for the University of Bath DClInPsy Doctoral Programme which included consent to publish anonymously in a journal. It was verified with the Associate Director of Psychological Therapies within Oxford Health NHS Foundation Trust that the Trust's only requirement was acknowledgement of affiliation and notification of the communications team should the case study be published. Parental and child consent were given to participate in therapy, and for this work to be written up and submitted for publication. The client saw a version of this case study. Names used have been changed to preserve confidentiality.

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