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Utilizing Parent-Child Interaction Therapy with Trauma-Directed Interaction in a Young Male in Out of Home Care Who Had Experienced Trauma

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Abstract

Child abuse and neglect in young children can lead to trauma-related stress symptoms that can be challenging to manage. Parent-Child Interaction Therapy (PCIT), a strong evidence-based behavioral parent training program used for young children with behavior issues, has been used in its traditional form with increasing frequency with children and families who have trauma histories, with clinicians tailoring PCIT to use with children who have experienced trauma. Trauma-Directed Interaction (TDI) is a new systematic adaption to the standard PCIT parent training program that has the potential to help treat trauma in younger children. TDI includes several trauma-informed techniques that are added to a course of standard PCIT treatment including psychoeducation regarding trauma, recognition of feelings, and emotional regulation. This case study illustrates the use of a manualized trauma adaptation to PCIT (TDI) with a three-year-old boy who had a history of child maltreatment and his caregiver. This case provides a summary of the progression of this intervention and the results obtained. Results from the case indicated that TDI treatment was effective in not only reducing child trauma and behavioral symptoms but also in reducing mild caregiver mental health concerns. The next steps for TDI treatment and need for further research are discussed.

Keywords

Parent-Child Interaction Therapy, child abuse/child neglect, trauma

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1 Theoretical and Research Basis for Treatment

The rates of child protection issues in Australia are high. During 2019–2020, there were 55,300 children placed in statutory out-of-home care (OOHC) in Australia (Australian Institute of Health and Welfare [AIHW], 2021), with 158,612 Australian children receiving child protection services. Up to 45% of these children were between the ages of 0–9 years when receiving these services. A study of children living in the state of New South Wales (Australia) found that one in seven children had at least one report to child protection authorities by the age of 5 years (Falster et al., 2020). Younger children are also more vulnerable to fatalities as a result of abuse and neglect and enter into care at a greater rate when compared to older children (AIHW, 2021).

Child abuse and neglect are examples of complex trauma, defined as traumas which occur in the context of the caregiving and attachment systems (Lawson & Quinn, 2013). These traumas are distinctively impactful for children in early childhood (0–7 years), as children in this age group are undergoing a period of developmental change in relation to their coping and regulatory skills, psychosocial and physical growth, and are reliant on their caregivers to meet most of their needs (De Young et al., 2011; Osofsky et al., 2017). Exposure to complex trauma may result in deficits or difficulties in many different areas including emotional regulation, learning and cognition, sleep, daily living skills, behavior, and social skills (Choi & Graham-Bermann, 2018). Common trauma symptoms include externalizing and internalizing behaviors, emotional lability, aggression, somatic complaints, dissociation, hyperarousal, hyperactivity, inattentiveness, agitation and irritability, withdrawal, and problems with attachment (Breidenstine et al., 2014; Vanderzee et al., 2018).

The primary aims of traumatic stress intervention for children include stabilizing and establishing safety, learning and using emotional regulation strategies, promoting positive and safe relationships, and integrating and processing the trauma experience (Kiser et al., 2020). Given that young children are entirely reliant on their caregivers to meet their emotional, psychological, and physical needs, healing from trauma needs to occur via a relational pathway such as a securely attached and safe parent/caregiver–child relationship (Kiser et al., 2020; Osofsky et al., 2017).

The California Evidence Based Clearinghouse (CEBC) has endorsed Parent-Child Interaction Therapy (PCIT), Eye-Movement Desensitization Reprocessing (EMDR), and Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) as having the highest level of endorsement as a trauma treatment for young children (CEBC, 2021). Each intervention has been used successfully to treat traumatic stress symptoms in young children (e.g., Batzer et al., 2018 [PCIT]; McGuire et al., 2021 [TF-CBT]; Olivier et al., 2021 [EMDR]). The developmental sensitivity of each approach varies considerably. EMDR is less cognitively and communicatively demanding for young children, but it has limited focus on strengthening or repairing disrupted relationships which are often so vital to trauma recovery in young children. Young children treated with EMDR may have parents present for all or part of an EMDR session depending on their age and the age they were when they experienced the traumatic experiences (e.g., in one study parents acted as informants and observers in EMDR sessions telling the therapist how the child had progressed in the previous week and observing how the EMDR session went but their direct involvement in treatment appeared minimal; Olivier et al., 2021). Further, studies of young children treated with EMDR (under the age of 4 years) are limited and the outcomes are less well-researched (Olivier et al., 2021). To effectively treat young children, proponents of EMDR with young children report that non-standardized developmental adaptations are necessary (Gomez, 2012). The use of different bilateral stimulation techniques, as well as dyadic EMDR and attachment-focused EMDR, are some of these adaptations (Gomez, 2012).

TF-CBT has a specific focus on improving parent–child relationships via psychoeducation, and provision of parenting support. Children and caregivers are largely seen separately in TF-CBT

treatment with conjoint sessions occurring sporadically throughout the intervention. In one study of TF-CBT with young children (aged 3–6 years), maternal caregivers were present at three sessions and observed all other sessions via television. The primary purpose of this was to increase caregiver attunement and understanding of the child's difficulties as well as to facilitate familiarity with the material presented to the child. TF-CBT also places the greatest demands on young children's reasoning, perspective-taking, reflection, communication, and memory skills (McGuire et al., 2021; Scheeringa et al., 2011). A study by Scheeringa et al. (2011) noted that whilst posttraumatic stress symptoms improved in young children treated with TF-CBT, younger children (3–4 years) had greater difficulty in completing all the tasks of TF-CBT compared to older children (5–6 years). Completion of tasks in this study was supported by visual aids and drawings. McGuire et al. (2021) noted that TF-CBT's status as a preferred treatment for young children with trauma histories diminishes due to the level of adaptations (e.g., visual aids, drawings) required for effective implementation with this cohort.

Parent-Child Interaction Therapy (PCIT) is a behavioral parent training program involving in vivo coaching for children aged 2–7 years and their caregivers (Eyberg & Funderburk, 2011). Treatment has two phases in which the caregivers are taught and coached in specific skills designed to accomplish goals associated with each phase. The first, Child-Directed Interaction (CDI), teaches caregivers how to cultivate a nurturing and secure relationship with their child, as the child leads the play under specific parameters (Eyberg & Funderburk, 2011). In CDI, caregivers are taught to utilize the "PRIDE" skills (Praise, Reflect, Imitate, Describe, and Enjoy) which aim to promote prosocial skills, improve parent–child relationships, and increase calmness and positive behaviors. The second phase, Parent-Directed Interaction (PDI), focuses on the caregiver learning skills to improve their child's compliance to direct commands and decreasing remaining problematic behaviors (Eyberg, 1988; Eyberg & Funderburk, 2011). PDI emphasizes consistency, predictability, and caregiver follow-through with a positive discipline program. PDI involves the caregivers leading more of the play and gradually generalizing the skills to real-world situations, including strategies for managing children's behavior in public. Increased compliance is achieved via coaching the caregiver to give more effective commands and through use of this positive discipline program, which incorporates a consistent and predictable time-out procedure to manage noncompliance.

Parent-Child Interaction Therapy typically involves 12 to 16 weekly PCIT sessions of 1 hour each as the caregiver moves through both phases of treatment, meeting criteria for each phase (Eyberg & Funderburk, 2011). PCIT is a dyadic intervention where children and parents are seen together for the majority of the intervention. Parents learn the skills of PCIT through in vivo coaching of skills (via "bug-in-the-ear technology"), and progression through the treatment phases is determined by attaining competency in the preceding phase. Graduation occurs once the child consistently follows caregiver directions, the caregiver successfully meets criteria for both phases of treatment, the problematic behaviors are reduced to subclinical levels as measured by the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999), and caregivers report they can effectively use all PCIT skills across settings and throughout their day (Eyberg & Funderburk, 2011).

In PCIT, core protective factors promoting recovery from trauma are likely to be created: caregiver–child relationships improve, sense of safety within the dyad increases, adaptive caregiving practices are promoted, and self-regulatory strategies are learned through modeling and caregiver instruction (Thomas & Zimmer-Gembeck, 2011). Whilst TF-CBT provides a brief component about how to parent children with trauma histories, PCIT aims to transform the parenting practices of offending and non-offending parents (Pearl et al., 2012). PCIT builds and strengthens parent–child relationships which may have been damaged by the experience of abuse and neglect or may be newly emerging due to placement in foster or adoptive care

(Thomas & Gimbeck, 2011). By promoting positive interactions, PCIT coaches parents in how to implement consistent and nonviolent discipline strategies with children thus curbing the coercive cycle between parent and child (Chaffin et al., 2004). This focus on attachment and parenting styles/skills is vital given that the presence of a predictable, safe, nurturing, and responsive caregiver is essential to a child's recovery following trauma (Perry & Pollard, 1998). Further, treatment with PCIT is less cognitively, communicatively, and developmentally demanding. This is particularly important given the developmental difficulties experienced by children who have experienced trauma (Cook et al., 2005).

Parent-Child Interaction Therapy has a strong evidence-base for the treatment of children with trauma histories (Batzer et al., 2018). There is evidence that PCIT improves parenting stress and treats child problematic behaviors amongst children with trauma histories (e.g., Timmer et al., 2006). Evidence regarding its ability to reduce traumatic stress symptoms in children has been less researched, with only a few studies highlighting traumatic stress reduction (e.g., Eslinger et al., 2014; Pearl et al., 2012). Despite this, several studies have suggested that to achieve a more complete resolution of traumatic stress symptoms, PCIT needs to be adapted or delivered in conjunction with other trauma treatments (Eslinger et al., 2014; Gurwitch et al., 2017; Pearl et al., 2012; Thomas & Zimmer-Gembeck, 2011). The adaptations discussed in the literature include incorporating emotional regulation skills, distress tolerance techniques, and discussion of cognitive distortions associated with the trauma (Eslinger et al., 2014; Gurwitch et al., 2017; Pearl et al., 2012; Thomas & Zimmer-Gembeck, 2011). It has been suggested that an evidence-based trauma treatment, such as TF-CBT should follow the completion of PCIT to abate any remaining traumatic stress symptoms (Gurwitch et al., 2017). It has also been posited that PCIT would be an ineffective treatment when children have moderate to severe level of posttraumatic stress symptoms, as PCIT does not provide the caregiver with sufficient techniques and strategies to treat these symptoms (Osofsky et al., 2017).

There are several examples in the PCIT and trauma literature where PCIT has been adapted to better serve the needs of children and families affected by trauma. These adaptations have included group-based PCIT (McNeil et al., 2005), in-home PCIT (Galanter et al., 2012), and therapeutic adjuncts to PCIT (i.e., psychoeducation component, motivation interviewing, or enhanced service provision; Chaffin et al., 2004; Hakman et al., 2009). Treatment outcomes were positive across a range of child and caregiver symptomatology (e.g., parenting stress, child behavior problems) as well as in reducing child abuse recidivism (e.g., Chaffin et al., 2004; Galanter et al., 2012; McNeil et al., 2005). Whilst the two-phase model of PCIT intervention was maintained in the research, there was significant variation between studies in the implementation of these adaptations.

Parent-Child Interaction Therapy comes to the treatment of children with a trauma history from a defensive position (Gurwitch & Warner-Metzger, 2022). It was not specifically designed to address young children's trauma symptoms; rather its platform of relationship strengthening and consistent discipline uniquely linked it to core components of trauma treatment (Gurwitch & Warner-Metzger, 2022). Adaptations to the standard PCIT protocol have been created and researched in isolation, and, in clinical settings, PCIT treatment is modified in a myriad of ways to treat families where trauma has occurred (e.g., Warren et al., 2021). Clinician attitudes on this topic note the importance of a supplemental trauma-based module and express concern around implementation of standard PCIT with a traumatized population (Guidry et al., 2021; Woodfield et al., 2021).

The bidirectionality of PCIT in a traumatized population has been examined in some studies (e.g., Timmer et al., 2006; Timmer et al., 2010). Outcomes have generally been positive in relation to parenting stress and parental mental health. Given the rates of traumatic experiences in the general population (Felitti et al., 1998), parents (Maybery et al., 2009), and foster caregivers

(Crusto et al., 2010), the bidirectionality of treatment is an important focus (Gurwitch & Warner-Metzger, 2022). Caregiver trauma is not directly addressed by PCIT or any of the other trauma treatments for this population, a missed opportunity given the importance of the safe, predictable, and stable caregiver in a child's recovery from trauma.

Trauma-Directed Interaction

Adapting PCIT (i.e., changing the structure or content of PCIT) for children with trauma histories may be beneficial to meet the particular needs of both the child and caregiver who have experienced trauma (Thomas & Zimmer-Gembeck, 2011; Eslinger et al., 2014; Pearl et al., 2012; Gurwitch et al., 2017; Osofsky et al., 2017). Trauma-Directed Interaction (TDI), developed by Gurwitch and Warner-Metzger (2019), is an enhanced manualized treatment protocol designed for addressing traumatic stress and behavioral issues in children exposed to trauma, as well as for the caregivers who may have their own trauma experiences or challenges responding to their child's trauma history.

Trauma-Directed Interaction has several goals. The first relates to providing a consistent and standardized way to adapt PCIT treatment for this cohort of children. This consistency allows for a 'common language' for PCIT providers treating this population as well as the ability to conduct scientific studies that are generalizable with this population (Gurwitch & Warner-Metzger, 2022). Specific treatment goals include helping caregivers to better identify and differentiate between children being "upset" versus being activated by a trauma reminder, identification of trauma activators (for both caregiver and child), and supporting caregivers in understanding to the impact of trauma. An additional aim is for caregivers to learn specific coping skills to address these trauma reminders/activators which can be utilized by both caregivers and children. The applicability of the skills to caregivers and children is especially important given that caregiver trauma symptoms can negatively impact their capacity to parent and lead to negative child outcomes (Kiser et al., 2020).

Trauma-Directed Interaction Therapy Structure. Trauma-Directed Interaction is considered an adaptation of standard PCIT and is delivered in combination with standard application of PCIT with both the child-directed (CDI) and parent-directed (PDI) features of PCIT (see Table 1). TDI occurs between the CDI and PDI phases of PCIT treatment. TDI is delivered over 4 time-limited sessions (i.e., one "teach" session, followed by three "coach" sessions).

Trauma-Directed Interaction Teach. As with standard PCIT, TDI treatment begins with a caregiver teach session. This session is for caregivers only which allows them to focus on the information being presented without the child interrupting or overhearing the content that is presented in the session, which may not be completely understood by a young child (Gurwitch & Warner-Metzger, 2022). The teach session covers four key concepts including: trauma psychoeducation, differentiation between trauma activators and emotional "upset," caregiver responses to trauma activators, and child responses to trauma activators (Gurwitch & Warner-Metzger, 2022).

Caregiver responses to child trauma activators are the "SAFE" skills (Gurwitch & Warner-Metzger, 2022). The "SAFE" skills include State the Feeling, Address Safety, Find a COPE skill, and Engage in PRIDE skills (Gurwitch & Warner-Metzger, 2019). Stating the Feeling is about identification and validation of child positive and negative emotions. Caregivers learn specific language (e.g., "You feel happy when we play together") to validate child emotions and to recognize the interplay between the child's emotion and the caregiver's emotion (Gurwitch & Warner-Metzger, 2022). Caregivers Address Safety when a child's play or behavior appears activated by trauma, including if a child engages in traumatic play. To standardize the response,

Table 1. Content and Structure of Standard PCIT versus TDI Within the Statutory Child Protection Agency.

Phase of Therapy	Treatment Type	
	Standard PCIT	TDI
DPICS-IV observations	Observation of parent and child together in three different play scenarios: Child-led, parent-led, and clean-up	Observation of parent and child together in three different play scenarios: Child-led, parent-led, and clean-up
CDI teach	Didactic presentation of CDI skills to parent: - PRIDE skills - "Don't" skills	Didactic presentation of CDI skills to parent - PRIDE skills - "Don't" skills
CDI coach	Coaching sessions with parent and child together	Coaching sessions with parent and child together
TDI teach		Didactic presentations of TDI skills: - Psychoeducation re: childhood trauma and impacts on children - SAFE and COPE skills
TDI coach		Coaching sessions with parent and child together
PDI teach	Didactic presentation of PDI skills to parent: - Direct versus indirect commands - Effectively stated commands - Time-out procedure	Didactic presentation of PDI skills to parent: - Direct versus indirect commands - Effectively stated commands - Time-out procedure
PDI coach	Coaching sessions with parent and child together. The strategies of CDI are integrated in the PDI coaching sessions	Coaching sessions with parent and child together. The strategies of CDI and TDI are integrated in the PDI coaching sessions
Graduation	Repeat DPICS observations and provide graduation certificates	Repeat DPICS observations and provide graduation certificates

Note. CDI = Child-Directed Interaction, DPICS-IV Dyadic Parent-Child Interaction Coding System Fourth Edition, PDI = Parent-Directed Interaction, TDI = Trauma-Directed Interaction.

caregivers are coached using manualized scripting to connect feelings to the past situation and to ground the dyad to the safety of the current moment. This statement promotes calm and predictability for the child (Gurwitch & Warner-Metzger, 2022). When Finding a "COPE" skill, the caregiver is encouraged to help the child identify "COPE" skills (the skills that are used to manage the child trauma reactions discussed below) and actively engage in practicing the skill together, as needed. The final "SAFE" step is for the caregiver to Engage in PRIDE skills with the child to help increase positive and calm feelings and reduce problematic behavior. Once feelings are validated, safety is established, and the child and caregiver engage in coping skills together, a quick return to PRIDE skills not only provides the dyad with a comforting ritual but also a sense of normalcy within the relationship. During the TDI Teach session, all "SAFE" skills are discussed with the caregiver, practiced in role-play, and provided in written handouts.

The "COPE" skills of TDI are used to help caregivers in assisting their child to manage distressing emotions and negative behaviors (Gurwitch & Warner-Metzger, 2019). These skills can be used by the child, caregiver, or both. An added benefit of the caregiver using the skills is the reinforcing of the use of these skills via caregiver modeling. The "C" in "COPE" is for Color Breathing which is a relaxation technique for small children. It is a developmentally appropriate way to help children to calm and is a standardized way to promote regulation in PCIT treatment

(Gurwitch & Warner-Metzger, 2022). In Open to Feelings, the "O" in "COPE," caregivers and children are taught to expand their emotional vocabulary and improve child communication with caregivers about feelings. Positive Actions ("P") involves helping the parent to create a list of alternate behaviors to a child's difficult behavior or trauma activator. PRIDE skills and color breathing should feature on these lists given they are foundational PCIT skills, but other skills like dancing, coloring, or listening to a favorite song are common examples of other Positive Actions. The final skill, Express Yourself, encourages caregivers to create a safe space for children to experience and express emotions. For children exposed to abuse and neglect, they may have never had the experience of an emotionally validating and safe environment. Encouraging caregivers to listen to the child, decipher the meaning behind the behavior or the emotion that is being experienced, and ensuring that they feel validated and safe is discussed (Gurwitch & Warner-Metzger, 2019).

Trauma-Directed Interaction Coach. The dyad is then seen for three TDI coaching sessions where the skills of TDI (i.e., "COPE" skills) are practiced and taught to the child. The sessions are similar to CDI and PDI in that there is a brief check-in, completion of the ECBI, coaching via the "bug-in-the-ear," and dyadic practice of the skills as they naturally arise during child-directed play. The key difference is that following the check-in and completion of the ECBI, the child is taught one or more of the "COPE" skills and the caregiver and child practice this skill together in play time. "COPE" skills are practiced cumulatively: 1) Color Breathing is taught and practiced in TDI Coach 1, 2) Open to Feelings is taught and is practice alongside Color Breathing in TDI Coach 2, and 3) Positive Actions are developed, Express Yourself explored, and Color Breathing and Open to Feelings are practiced in TDI Coach 3.

Trauma-Directed Interaction is sequenced after the family completes the CDI phase of PCIT. By beginning treatment with CDI, parents receive the benefit of starting trauma treatment by creating and strengthening attachment relationships as well as promoting calmness in the child. Given that some younger children are excluded from other trauma treatments because they do not have a consistent, safe, and stable caregiver; or their behavioral challenges are too disruptive to effectively engage in treatment; teaching CDI skills first are vital for treatment success. CDI skills continue to be practiced throughout treatment, consistent with the original PCIT treatment protocol. Once the skills of TDI are taught and practiced within the TDI phase and during child-led play, PDI is introduced. This approach purposely sequences implementing discipline strategies *after* caregivers have established a secure attachment with the child, established a solid understanding of trauma and its impact on children, recognized the difference between an "upset" child and an activated child, and developed emotional regulation skills. By continuing to use the TDI skills throughout the PDI phase of treatment, caregiver readiness and confidence to engage in the skills of PDI (e.g., implementation of time-out) are increased.

2 Case Introduction

Seamus (a pseudonym used to protect client confidentiality) was a 3 years 10 months old boy who was referred by his caseworker for therapeutic support. Seamus and his younger sibling, Alex (aged 2 years), were removed from the care of their biological mother and father when Seamus was 2 years old. Child protection concerns included parental heroin and methamphetamine abuse, exposure to domestic violence (DV) between parents, and neglect. Following their removal, Seamus and Alex were immediately placed into their permanent foster care placement with relatives and their three older children. Legal orders placing the children in long-term OOHC occurred about 9 months after their removal.

3 Presenting Complaints

Seamus was referred for therapeutic intervention following a range of problematic behaviors reported by his foster caregiver, Caroline. These behaviors included excessive crying (up to 20 times per day), inability to regulate his emotions which resulted in him biting and scratching at himself, separation anxiety (crying and screaming at daycare for a maximum of two-three hours following drop off) which had been occurring for over 12 months, fearfulness of loud noises (e.g., lawn mowers and helicopters), and a reluctance to engage in play with his peers due to his reported fearfulness. Caroline described Seamus as a boy who was hesitant to explore his surroundings, engage with children his own age, was hypervigilant (e.g., always watching others, sensitive to his environment), and who became distressed whenever Caroline was out of his view. Seamus was described as inattentive and unable to focus on tasks for longer than 2 minutes at a time, particularly during meal times. His defiance and conduct issues commonly arose when he was asked to do something that resulted in him being away from Caroline or when being asked to do something that was not a preferred activity (e.g., packing away a game). For example, if Seamus was asked to get in the car to go to daycare he would resist or refuse. In addition, Caroline reported several of Seamus's idiosyncratic and sensory behaviors that caused her concern. These included licking things (e.g., poles, carpet, and grass) and lying on his back then pushing himself with his legs to move from one room to another. Finally, Caroline reported that Seamus's speech had been assessed showing delays with an age equivalency of 2 years 10 months in both expressive and receptive language. Seamus and Caroline engaged in speech therapy for approximately 6 months which occurred concurrently with PCIT with TDI. At the conclusion of this intervention, Caroline reported significant improvements to Seamus's communication skills.

During the intake for enrollment in PCIT with TDI, Caroline reported feeling helpless regarding how to support Seamus. Caroline was fearful that the lack of prior psychological intervention coupled with Seamus's behavioral and emotional difficulties meant that he may be difficult, if not impossible, to treat. Seamus's behaviors were reported to be negatively impacting the family. Furthermore, Caroline noted that her available time to spend with her other children was significantly reduced as Seamus required her "constant attention and reassurance." Caroline struggled to identify any consistent behavior management approach and frequently worried about how best to parent Seamus, given his trauma history.

Seamus's behaviors were further complicated by his sporadic family visits with his biological mother. Seamus's problematic behaviors worsened in frequency and intensity for three to 5 days post-visit. Seamus was frequently told by his biological parents that he would be coming home to them during these visits. Caroline expressed her worries that these visits were also causing more trauma to Seamus, as the biological mother sometimes appeared to be under the influence of substances; the biological mother was also occasionally verbally abusive to Caroline, who supervised the visits. Problematic visits were always stopped by Caroline when these issues arose; nonetheless, Seamus often witnessed the mother's unpredictable and intimidating behavior. Seamus's biological father, who was separated from the mother, did not attend family visits regularly, but would occasionally attend the biological mother's visits without prior notice to Caroline, which Caroline reported created additional stress for her.

Seamus's behavior and emotional concerns extended beyond the home setting. Seamus's daycare teacher noted similar concerns. She reported that Seamus took at least an hour (and sometimes as many as 3 hours) to calm down following daycare drop off. She noted he was reluctant to engage with his peers or participate in any group activities. Seamus usually maintained close proximity to his preferred educators, only occasionally playing with same-aged cousins who also attended the daycare facility.

In observing the caregiver–child interactions, the treating psychologist saw many of the identified concerning behaviors. Seamus maintained close proximity to Caroline at all times in the therapy room. He would pick up and inspect the toys, but spent much of the initial sessions seeking affection and reassurance from Caroline. Despite encouragement and assurance from Caroline to explore, these behaviors did not abate until three sessions into treatment. Seamus's reluctance to explore and engage in play seemed to contribute to some deficits in his pre-academic skills; he was unable to correctly identify any colors or shapes and he lacked an understanding of basic concepts expected for children of his chronological age (e.g., large and small). Seamus had difficulty with articulation in his speech, although this was difficult to fully observe as he spoke very little during initial sessions. Caroline reported that she was working to improve his pre-academic skills by doing art with him, using educational flashcards, and by watching educational television programs together. She stated that she felt that Seamus was a bright child who had difficulties with concentration and speech, and was hypervigilant, all of which she believed were negatively impacting his cognitive development.

4 History

Limited information was available regarding the pregnancy with Seamus or Seamus's birth. There were reports that he had been exposed to methamphetamine use in utero, but the frequency of the mother's use was not known. He did not experience withdrawal symptoms post-birth, indicating no prenatal exposure to opioids at delivery. There was no confirmation of alcohol abuse by the biological mother.

Seamus was exposed to repeated and consistent abuse and neglect from birth. This included exposure to DV and caregiver drug abuse. As a result of the caregiver drug abuse, the family was often homeless and transient. Other physical and emotional needs were also unmet, including keeping scheduled medical appointments. The family was very insular, not accepting assistance from others, and frequently moving states to avoid contact with child protection authorities and other family members. When child protective services became aware of the children's circumstances, Seamus and Alex were removed from biological care and entered foster care.

5 Assessment

Seamus's social, emotional, behavioral, communicative, cognitive, and physical functioning were measured using a variety of assessment tools and methods. These included observations of Seamus in the home and school environments, clinical interviews with caregivers and daycare educators, and the use of standardized psychometric measures of trauma and other problematic behavior. Caroline's symptoms of trauma, mental health, and parenting stress were also assessed to determine treatment goals for caregivers. A variety of assessment measures were utilized and data collected at prescribed points in treatment.

Seamus's behaviors were assessed using standardized measures: the Trauma Symptom Checklist for Young Children (TSCYC; Briere, 1999), Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), and the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999). The TSCYC (Briere, 1999) is a measure of young children's trauma symptoms. It has eight clinical scales measuring anger/aggression, depression, anxiety, posttraumatic stress (PTS) avoidance, PTS arousal, PTS intrusion, PTS total (summing the other PTS scores together), dissociation, and sexual concerns. Caregivers are asked to rate their child's behavior against the following criteria "not at all," "sometimes," "often," and "very often." Seamus's scores were all within the clinical range except for anger, which was within normative limits, and sexual concerns,

Table 2. Child and Parent Scores Psychometric and DPICS-IV Scores Over the Course of Treatment.

Measures	Subscale	Pre-Treatment	Post-CDI	Post-TDI	Post-Treatment	M	SD
Child measures							
ECBI	Intensity score	185	63	55	81	96	60.32
	Problem score	17	5	0	1	5.75	7.81
SDQ	Total difficulties	32	x	x	16	24	11.31
	Emotional symptoms	9	x	x	0	4.5	6.36
	Conduct problems	10	x	x	7	8.5	2.12
	Hyperactivity	8	x	x	9	8.5	0.71
	Peer problems	5	x	x	0	2.5	3.54
	Prosocial behavior	6			6	6	0
TSCYC	Anxiety	107	53	48	44	63	29.56
	Depression	110	48	48	48	63.5	31
	Anger	97	51	41	57	61.5	24.56
	PTS–Intrusion	57	80	51	51	59.75	13.79
	PTS–Avoidance	104	54	84	65	76.75	21.99
	PTS–Arousal	110	64	59	54	71.75	25.82
	PTS–Total	110	72	66	57	76.25	23.33
	Dissociation	110	72	72	71	81.25	19.17
	Sexual concerns	66	49	49	49	53.25	8.5
Parent measures							
LSC-R		4	x	x	x	x	x
PSS		33	x	x	36	34.5	2.12
PCL-5		12	7	22	12	13.25	6.29
DASS-21	Depression	10	x	x	4	7	4.24
	Anxiety	0	x	x	0	0	0
	Stress	12	x	x	12	12	0
DPICS-IV	Behavior descriptions	1	16	12	7	9	6.48
	Reflections	12	6	7	11	9	2.94
	Labeled praise	0	11	10	10	7.75	5.19
	Questions	12	3	6	6	6.75	3.77
	Commands	6	0	4	5[a]	3.75	2.63
	Criticisms	0	0	0	0		

Note. DASS-21 = Depression Anxiety and Stress Scale, DPICS-IV = Dyadic Parent-Child Interaction Coding System Fourth Edition, ECBI = Eyberg Child Behavior Inventory, LSC-R = Life Stressor Checklist-Revised, PCL-5 = PTSD Checklist for DSM-5, PSS = Parenting Stress Scale, PTS = posttraumatic stress, SDQ = Strengths and Difficulties Questionnaire. x = measure not administered (as per agency protocol).
[a] Scores reported reflect Caroline's attainment of PDI competency with 75% direct commands with correct follow through and child compliance.

which was within the borderline range (according to norms for children aged 3–4 years; Briere, 1999; see Table 2 and Figure 2).

The SDQ (Goodman, 1997) is a brief behavioral screening questionnaire for children aged between 2–17 years. It has three versions; 2–4 years, 4–10 years, and 11–17 years. The SDQ (Goodman, 1997) 2–4 years was used with this family. The SDQ asks about 25 attributes relating to the child's behaviors which are then divided between five scales: Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Relationship Problems, and Pro-Social Behaviors. An overall score, the Total Difficulties Score, is also obtained by summing all the scales together with the exception of Pro-Social Behaviors Scale. Caregivers are asked to rate their child's presentation against a behavioral statement as either "not true," "somewhat true," or

"certainly true" for the last 6 months. Seamus scored in the very high range across all domains on the SDQ (2–4 years; Goodman, 1997; see Table 2).

The ECBI (Eyberg & Pincus, 1999) is a measure of child behavior problems and the extent to which caregivers find these behaviors problematic. The measure contains two subscales: Intensity Scale and the Problem Scale. The Intensity Scale is comprised of a caregiver's report of the frequency that their child engages in 36 behavioral problems on a seven-point Likert. Scores range between 36 and 252. The caregiver is asked to ascribe a "yes" or "no" value to whether each of the behavior is a "problem for you." The number of "yes" answers are added to yield the overall problem score (ranging from 0–36). Children rated at or above 131 on the Intensity Scale or 15 or above on the Problem Scale are considered to be in the "clinical range" for behavior problems. Seamus's scores on the ECBI were also in the clinical range for both the Intensity and Problem Scales, suggesting that his problematic behaviors occurred often and were reported as being difficult to manage (i.e., according to ECBI norms; Eyberg & Pincus, 1999; see Table 2 and Figure 1).

Given Seamus's difficulties with his academic skills, his cognitive skills were assessed using the Wechsler Preschool and Primary Scale of Intelligence Fourth Edition (WPPSI-IV; Wechsler, 2014). It provides composite scores of intellectual functioning in verbal comprehension, visual spatial, fluid reasoning, working memory, and processing speed. It also provides a composite score that is representative of the child's general intellectual functioning (i.e., Full Scale IQ). Visual spatial, processing speed, and fluid reasoning all fell within the average range with composite scores of 103, 94, and 92, respectively. Verbal comprehension was in the borderline range of functioning (composite score of 74) and working memory skills was in the low average range of functioning (composite score of 88). The pattern of his results, while reflective of his communication difficulties and difficulties concentrating, are also indicative of his history of abuse and neglect and exposure to drug use in utero. Deficits in cognitive development, particularly in relation to working memory and verbal skills, is a common impact of trauma on young children (Beers & De Bellis, 2002; Moradi et al., 1999; O'Hara et al., 2015).

Caroline also completed several assessment measures prior to treatment. Stressful life events were screened for using the Life Stressor Checklist–Revised (LSC-R; Wolfe & Kimerling, 1997).
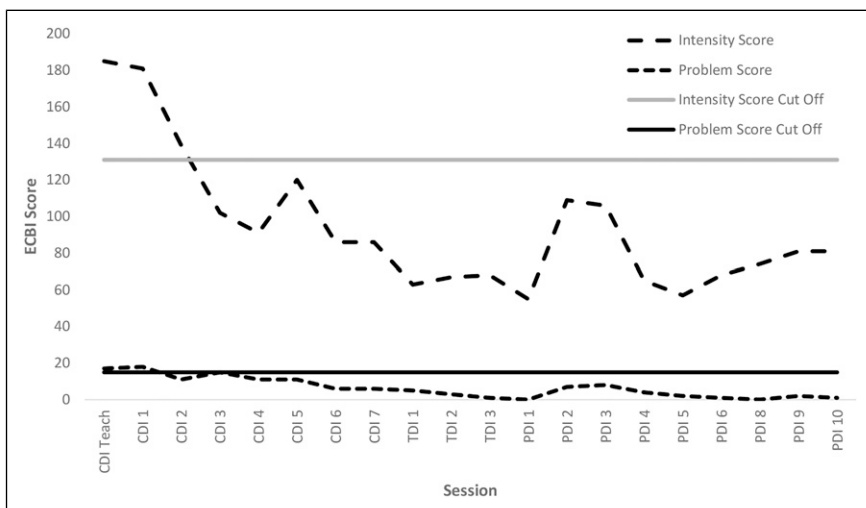

Figure 1. Seamus's ECBI scores over the course of treatment.

The (Wolfe & Kimerling, 1997) is a self-report measure that is designed to screen for the presence of stressful like events. Respondents are asked to provide a "yes" or "no" response to various traumatic events. The presence of stressful life events here indicated that further assessment of Caroline's trauma would be needed. Therefore, trauma symptoms were measured using the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013). The (Weathers et al., 2013) is a self-report measure that assesses the symptoms of Posttraumatic Stress Disorder (PTSD). Caroline's scores on the PCL-5 suggested that she was not experiencing any clinically significant trauma symptoms. Assessment of parenting stress was undertaken with the Parental Stress Scale (PSS; Berry & Jones, 1995). The PSS is a self-report measure assessing caregivers' feelings about their parenting role. Caroline's scores on the (Berry & Jones, 1995) indicated a low level of parenting stress. A measurement of Caroline's depression, anxiety, and stress using the Depression and Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) was completed. The DASS-21 (Lovibond & Lovibond, 1995) is a self-report measure designed to assess the three negative emotional states of anxiety, stress, and depression. Caroline's symptoms of anxiety fell within the normal range and her stress and depression scores were within the mild range.

Caregiver and child acquisition of skills were assessed using the Dyadic Parent-Child Interaction Coding System-IV (DPICS-IV; Eyberg et al., 2014). The (Eyberg et al., 2014) is used to determine caregiver competency with the skills of PCIT including the use of PRIDE skills and avoidance of commands, questions, and criticisms, as well as caregiver use of ignoring, direct commands, and the time-out sequence. DPICS-IV is also used to evaluate the child's response to the use of skills regarding their compliance to commands and the time-out procedure. The DPICS-IV and coding remain unchanged in TDI treatment although clinicians are encouraged to look for caregiver integration of TDI skills in CDI and PDI practice/coding where possible. At baseline Caroline gave 1 reflection, and 0 behavior descriptions and labeled praises (i.e., PRIDE skills). She also used 10 questions and had 1 criticism. Her direct commands were 7 and all were complied with (see Table 2 for progression of DPICS-IV skills).

6 Case Conceptualization

Seamus was a 3 years 10 months old boy referred by his child protection caseworker for psychological support in the context of reported behavioral difficulties. Further assessment of Seamus revealed that he experienced a range of social, emotional, and behavioral issues across environments (i.e., daycare and home). Based on caregiver report, these issues had been occurring since his entry into care and were becoming increasing impactful on the placement. Primary concerns included poor emotional regulation (crying up to 20 times per day, pulling his own hair, kicking and biting himself), hypervigilance (watching others, sensitivity to environment), defiance, poor social skills and a lack of confidence in social situations, academic difficulties, poor concentration and focus, and possible sensory issues (as evidenced by crawling around on the floor, licking objects). Psychometric assessment of Seamus revealed clinically significant trauma and behavioral symptoms. While his full scale IQ was in the average range, his working memory and verbal comprehension skills were in the low average and borderline ranges of functioning respectively. Based on standardized self-report measures, his caregiver reported experiencing some mild general stress and depression, but low levels of parenting stress.

Seamus was at risk for behavioral and social-emotional difficulties due to his exposure to abuse and neglect. Seamus's childhood was chaotic and characterized by maladaptive parenting, parental drug use, DV, physical abuse and neglect of Seamus, and housing instability. His trauma and adverse childhood experiences likely resulted in hypervigilance and compromised his executive functioning and speech and language skills, and resulted in social-emotional difficulties. Additionally, Seamus's methamphetamine exposure in utero may have also contributed to his current

presentation. Methamphetamine exposure can result in several deficits including attention problems, withdrawn behavior, emotional reactivity, anxiety, and depression (Eze et al., 2015). Entry into care and subsequent attempts to integrate and navigate his new community (i.e., attending daycare and having more time with more family members) contributed to the onset of Seamus's difficulties. As a result, he needed to greatly rely on his underdeveloped social and emotional regulation skills and Caroline's help to self-regulate in these environments.

Seamus's presentation was maintained by a variety of factors. Primarily, Seamus was periodically exposed to trauma (via family visits) causing behaviors of concern to increase in frequency and intensity for a lengthy period following the conclusion of the family visits. These visits also resulted in increased stress for Caroline (resulting from both the visit itself and Seamus's behavior) and, therefore, reduced her ability to manage these behaviors. Caroline's approach to behavior management was inconsistent and occasionally absent. The worries around Seamus's presentation meant that she was often reluctant to discipline which contributed to Seamus's difficulties and stresses in the home. The parental commentary around Seamus returning to the care of the biological parents exacerbated and reinforced his desire to maintain proximity to Caroline and his foster home, and reduced his desire for autonomous exploration. This lack of exploration resulted in stunted social and emotional growth for Seamus. Once removed from his parents and placed in an enriched environment with greater opportunities to engage with peers (e.g., enrollment in daycare, sharing the placement with other children) Seamus lacked the necessary social, communicative, and emotional skills to navigate these environments adequately. Finally, despite Seamus's history of abuse and neglect, his behaviors of concern had not been conceptualized as sequelae of the trauma he had experienced. A lack of trauma-informed intervention and targeted skill building has meant that Seamus's problematic behaviors, developmental difficulties, and traumatic stress symptoms were not effectively understood or addressed, likely resulting in these negative behaviors being sustained.

Seamus possessed several protective factors. He was a funny, affectionate, happy, and caring child. Since child protection involvement, Seamus has had increased supports and services to assist in his recovery from trauma. Seamus had extensive family support from Caroline and his family. Caroline was a great advocate for Seamus and pushed for additional therapeutic supports for Seamus, including speech therapy and quality childcare. Caroline also displayed excellent engagement in treatment, attended regularly, and completed all homework (i.e., CDI, TDI, and PDI homework) throughout the intervention.

Diagnosis and Differential Diagnosis

The nature of the referral was not for diagnostic assessment but rather for intervention, and consent for diagnostic assessment was not obtained as part of this referral. As such, a formal diagnosis was not made. Thought was given to potential diagnoses however, and provisional diagnoses were considered. Though Seamus met several of the criteria for Separation Anxiety Disorder (i.e., excessive distress on anticipation or actual separation from attachment figures, fear of being alone, reluctance to go to daycare, and persistence of the symptoms) the etiology of his presentation made formal diagnosis of Separation Anxiety Disorder difficult. His presentation was likely attributable to his history of trauma and a diagnosis of PTSD was considered. Seamus had experienced several traumatic events, had displayed some play based re-enactment of trauma memories/themes, dissociative symptoms, social withdrawal, hypervigilance, exaggerated startle response, and difficulties concentrating which all indicated a diagnosis of PTSD. An Attention-Deficit/Hyperactivity Disorder (ADHD) was also considered due to Seamus's difficulties concentrating and inattention but his symptoms were more congruent to PTSD. Given the overlapping symptomatology, a provisional diagnosis of PTSD was made according to the Diagnostic and

Statistical Manual of Mental Disorders' (fifth ed.; DSM–5; American Psychiatric Association, 2013) diagnostic criteria and intervention selected accordingly.

Treatment Selection

Treatment with PCIT and TDI was determined to be the most appropriate for Seamus and his family. The CDI skills of PCIT would assist in development of social and communication skills, help to promote a secure attachment and positive relationships between parents and their children, increase self-esteem and confidence, and help to improve Seamus' behavior via positive parenting practices. The TDI skills would directly treat Seamus' traumatic stress symptoms, provide Caroline with specific trauma-informed strategies to manage Seamus's behaviors of concern (e.g., color breathing), deliver education regarding trauma in young children, improve Seamus's emotional vocabulary, and reassure Seamus that he is safe in his current environment. TDI was also hypothesized to assist with the transition into the skills of PDI. Having directly addressed Seamus's trauma, it was hypothesized that Caroline would be more willing to engage in discipline techniques and that Seamus would also be more prepared to commence PDI.

7 Course of Treatment and Assessment Progress

As implemented within the child protection agency, Seamus and Caroline received PCIT with TDI (TDI), which was delivered over 25 sessions (i.e., initial appointment, 8 CDI sessions, four TDI sessions, 11 PDI sessions, and one graduation session) with the TDI component of the therapy falling between the CDI and PDI phases (see Table 1). Session numbers were predetermined in line with agency policy and a broader research project that is being undertaken by the agency. As with standard PCIT, PCIT with TDI treatment began with CDI.

In CDI, Seamus's trauma symptoms were observed. Seamus was very watchful throughout initial CDI sessions. He frequently looked at the doors and at the observation room window. He startled easily with sudden noises or sudden or unexpected movements from Caroline. Additionally, Seamus did not explore the therapy room and instead remained by Caroline's side, often holding on to her hand and side of her shirt. Seamus's hypervigilance impacted the quality of the play; Caroline was coached to use the enjoyment skills of CDI to initiate play with Seamus.

Seamus engaged in some re-enactment of his trauma during the later stages of CDI. As Seamus became more confident in the therapy space, his play became more expressive and imaginative, which allowed him to express some of his trauma memories. For example, during play with the train tracks, Seamus commented that he was going to be taken by his parents. Caroline was encouraged to pick up a train and speak to Seamus about how she would not allow this to occur, that she was there to keep Seamus safe. Caroline then picked up the train and continued this rhetoric whilst playing. Traumatic play was mostly related to this theme or Seamus being taken away from the family.

While Seamus displayed some trauma symptoms (e.g., traumatic play, increased startle response) TDI treatment was not preempted in CDI. Very brief observational statements regarding Seamus's presentation were provided to Caroline during these incidents. For example, when Seamus engaged in some traumatic play Caroline was told by the therapist that he had some traumatic themes to his play and she was coached in how to play alongside him while still using her PRIDE skills. Traumatic play was then discussed in greater detail in the TDI teach session.

Caroline was encouraged to practice CDI skills in the home environment in "Special Time" homework for 5 minutes daily. In standard PCIT treatment, parents progress through treatment once they reach skills criteria for CDI. Although Caroline met CDI Criteria in her fifth CDI session, in this research study application of TDI, CDI treatment was time limited to eight

sessions. Upon cementing their positive relationship and reinforcing Seamus' budding pro-social behaviors, Caroline progressed to the TDI phase of treatment.

Caroline was then engaged in a teaching session for TDI. In the TDI teach session she was taught emotional regulation/identification (for both caregiver and child), psychoeducation regarding trauma and its developmental consequences, and how to respond to traumatic themes in play. The psychoeducational component was tailored to reflect and name the traumatic events that had been experienced by Seamus (e.g., exposure to domestic violence, physical abuse). Caroline was also taught the "COPE" and "SAFE" skills of TDI. Seamus and Caroline were then engaged in three treatment sessions where the TDI skills were practiced. In the color breathing session (TDI coach 1) Seamus was easily engaged in color breathing practice. He was encouraged to select a color to slowly breathe in that would represent relaxed and positive feelings, while breathing out a pre-determined color, gray, that would remove negative feelings. In Open to Feelings practice (TDI coach 2) Seamus had difficulty with identifying some of the emotions and linking those to congruent actions (e.g., identifying happy, but having difficulty identifying a time when he felt happy). Positive actions were initially difficult to obtain, but with Caroline's encouragement Seamus and Caroline developed a long list (e.g., having a cuddle, drawing). These skills were integrated with CDI practice, and Caroline and Seamus were encouraged to do color breathing together, recognize emotions and discuss when they might be expressed, create a list of positive actions, and provide reassurance of safety during times of emotional distress throughout their play together.

Caroline was then provided with a final teaching session, this time to learn the basics of the discipline phase, called PDI. Coaching sessions followed where Caroline and Seamus were seen together for 10 sessions of skills coaching. PDI sessions also incorporated what she had learned in both CDI and TDI.

Consistent with standard PCIT, in PDI, following the caregiver providing the child with an instruction, a specified procedure (i.e., time-out) is followed dependent upon the child's compliance or noncompliance. Psychoeducation regarding the use of the time-out chair as an effective discipline technique for children with a history of trauma was provided to Caroline. Specifically, it was important for Caroline to differentiate Seamus's feelings of being "upset" at having to sit on the time-out chair versus him being re-traumatized. When Seamus failed to comply with Caroline's instruction, the PCIT time-out sequence was utilized as the primary consequence. Seamus went to the time-out chair three times during PDI, each time this was due to failure to follow a direct play command and eventually going to the time-out chair for not doing what his caregiver told him to do. On each occasion, Seamus was upset (crying and asking Caroline to allow him to continue to play) and stated that he did not want to go to the chair. Whilst on the chair, Seamus continued to cry and asked to go back and play. Caroline was coached to ignore this behavior and wait for a brief period of silence to signal regulation whilst also utilizing and modeling color breathing to help Seamus to regulate his emotions and to also help her remain regulated.

Following Seamus's return from time-out and following compliance, Caroline was encouraged to recognize his feelings (e.g., sad, angry, upset, or worried) and reassure his safety in the moment. Color breathing was also regularly used after return from time-out as a way to help Seamus calm and to help him transition back to the play. Observations of the impact of the use of TDI skills in PDI were made to Caroline, particularly in relation to how quickly they assisted Seamus to reduce his upset feelings during and after time-out. Communicating this directly to Caroline helped to reduce concerns that time-out may have been re-traumatizing. The use of time-out in session was not required beyond PDI session three. Seamus quickly learnt how to comply with instructions and appeared happy and proud to demonstrate his listening skills.

Given Seamus's communication skills, sensory issues, and anxiety symptoms; PCIT with TDI coaching was individualized, as it is with all families. For example, Reflections and Behavior

descriptions became of particular focus given their positive effect on vocabulary and speech (Eyberg & Funderburk, 2011). Education regarding their importance for language development was provided during the CDI Teach and CDI coaching so as to increase use. During Caroline's completion of the ECBI each session, the treating clinician would often come into the room and attempt to engage Seamus in play. If Seamus was able to be engaged in play the caregiver would offer labeled praise to him for that behavior. The aim of this was to increase Seamus's willingness to explore his surroundings and to increase his comfort in interacting with others. Toys that met Seamus' need for sensory input were also utilized in treatment (e.g., the use of a large chalkboard which required a lot of movement and pressure to draw on).

The ECBI (Eyberg & Pincus, 1999) was used at each session to measure the progress in reducing Seamus's behavioral problems. Seamus's (Eyberg & Pincus, 1999) scores were above clinical range at commencement of PCIT and within the normal range at the conclusion of treatment (see Figure 1). Seamus's Intensity and Problem Scores were at their lowest level at the end of TDI (prior to starting the PDI Teach session). There were some minor fluctuations in his scores throughout treatment but they remained below the range of clinical significance from CDI 3 onwards (see Table 2 and Figure 1).

Seamus's problematic behaviors were assessed using the (Goodman, 1997) at pre and post-treatment. At pre-treatment scores across all subtests were within the very high range. At post-treatment, Emotional Problems and Peer Problems were within normative limits. Conduct Problems and Hyperactivity remained within the very high range, with his Total Difficulties Score falling to the slightly raised categorization, just above normative limits. Despite these scores, Caroline did not report issues with Seamus's conduct and indicated these issues had largely resolved. Given the SDQ utilized in this intervention was the version that asked the respondent to rate behavior over the last 6 months rather than a shorter period, it is possible that these scores were reflective of Seamus's progress over the second half of treatment rather than representative of his presentation at a point in time (i.e., at the conclusion of treatment).

Seamus's trauma symptoms were monitored during treatment using the (Briere, 1999). The (Briere, 1999) was completed by Caroline at pre-treatment, and at specific phases in treatment: post CDI, post TDI, and following completion of PDI. Figure 2 shows Seamus's (Briere, 1999) scores. Most sub-scale scores dropped below the clinical range at the conclusion of CDI (i.e., Anxiety, Anger, Posttraumatic Stress–Avoidance, and Sexual Concerns), with the exception of Posttraumatic Stress–Intrusion, Posttraumatic Stress–Total, and Dissociation, which remained within the clinical range. At the end of TDI, all sub-scales were within normative limits; however, Posttraumatic Stress–Avoidance increased to the clinical range and Dissociation remained in this range as well. Seamus's trauma symptoms had largely subsided following TDI treatment. Caroline attributed the rise in Posttraumatic Stress–Avoidance to a coinciding difficult family visit. During this visit, Seamus's mother attended under the influence of substances and verbally abused Caroline and several other people in the vicinity. This resulted in a return of avoidant symptoms, including restricted play (i.e., reluctance to engage in play), refusal to leave the home, and in-creased distress during daycare drop off. Caroline commented that she used the skills to help Seamus feel safe, to help him regulate his emotions, and to cope following this event. By the end of treatment, all sub-scales were within the normative limits except for Dissociation, which remained in the clinical range. Dissociation scores remained consistently high throughout all stages of treatment. Whilst young children can have higher levels of normative dissociation (Hulette et al., 2008), the impact of this symptom (i.e., frequency, disruptiveness, and pervasiveness) is important to assess. For Seamus, the caregiver identified that he had a tendency to dissociate but she commented that it was not associated with any behavior concerns post-TDI intervention.

It is evident from the (Briere, 1999) scores that CDI was effective in reducing trauma symptoms in young children. There are several hypothesized reasons for this reduction. The first is that given
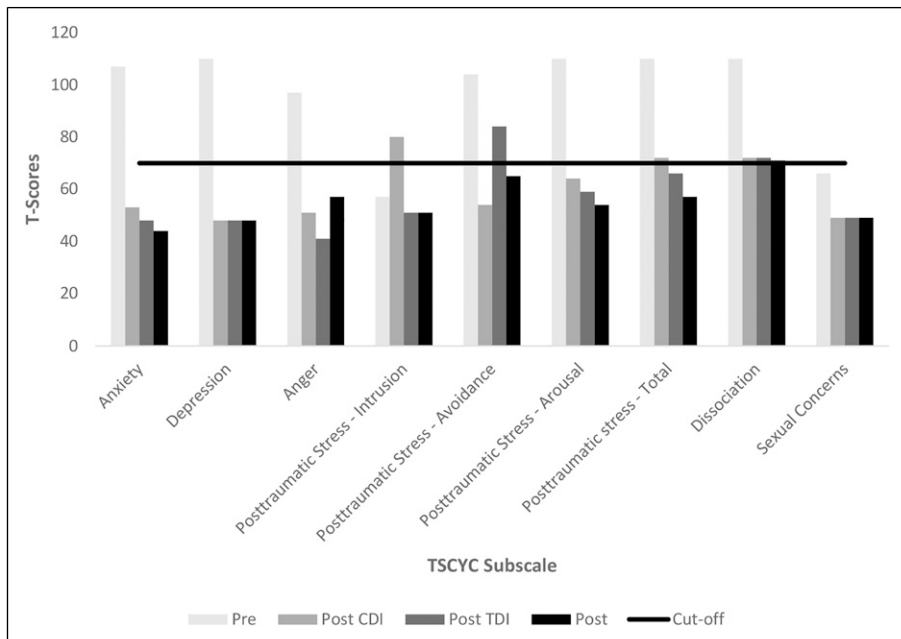
Figure 2. Seamus's Trauma Symptom Checklist for Young Children (TSCYC; Briere, 1999) scores by phase of treatment. *Note.* CDI = Child-Directed Interaction, DPICS-IV = Dyadic Parent-Child Interaction Coding System Fourth Edition, PDI = Parent-Directed Interaction, TDI = Trauma-Directed Interaction, TSCYC = Trauma Symptom Checklist for Young Children.

that young children's recovery from trauma occurs primarily via a relational pathway, CDI helped to strengthen the relationship between Seamus and Caroline, thus promoting healing from trauma via this pathway. Secondly, young children's trauma symptoms often manifest as behavioral issues. CDI promoted calm behaviors and reduced negative behaviors/trauma symptoms in Seamus via positive behavioral strategies (e.g., labeled praise) alone. Finally, Caroline's willingness to engage in therapy, her regular completion of homework, and general acceptability of this treatment for trauma may have contributed to the early trauma symptom reduction that was observed. Despite this, fuller resolution of PTS scores did not occur until the end of TDI treatment (despite the increase on PTS avoidance due to the experience of a traumatic event at the time of administering the measure). TDI provided the necessary developmentally sensitive coping skills to help promote recovery and healing, and to build resilience in the face of trauma activators (Gurwitch & Warner-Metzger, 2022). TDI also helped Caroline to manage her own reactions to Seamus's traumatic stress symptoms thus preparing her to engage in the next phase of treatment.

Caroline's symptomatology was also monitored throughout treatment. The (Weathers et al., 2013) was administered at the same points in treatment as the TSCYC. Caroline's scores on the (Weathers et al., 2013) remained below the clinical threshold throughout treatment. Measures of parental stress and of Caroline's anxiety, stress, and depression were utilized pre and post-treatment. Caroline's scores at pre-treatment were within normative limits for her symptoms of anxiety and parenting stress, her depression and generalized stress were mildly elevated. Post-intervention, Caroline's DASS-21 (Lovibond & Lovibond, 1995) depression scores were within normative limits but her stress scores remained consistent which was possibly due to other stressors in the home given her reports regarding Seamus's improvements.

Finally, to determine Caroline's attitudes to the treatment, Caroline completed a trauma-adapted version of the Therapy Attitude Inventory (TAI; Brestan et al., 1999). The TAI is a 10-item consumer satisfaction outcome scale addressing the impact of caregiver intervention. Assessed on a 5-point Likert scale, items explore parental perception and confidence regarding discipline skills, the quality of the parent–child interaction, shifts in child behavior, change in trauma symptoms, and overall adjustment. Higher scores indicate greater treatment satisfaction. Caroline's scored 37 points from a possible 40 points, indicating high satisfaction with TDI treatment. The TAI was adapted for TDI treatment with the addition of two questions relating to the child's improvement in trauma symptoms and the caregiver's improvement in trauma symptoms. Of note was Caroline's belief that TDI treatment greatly improved Seamus's trauma symptoms.

Caroline's (Eyberg et al., 2014) scores significantly improved over the course of treatment. She attained CDI skill competency at CDI coach 5 and PDI skill competency at PDI coach 8. Her final (i.e., at graduation/PDI coach 10) (Eyberg et al., 2014) scores were 7 behavior descriptions, 11 reflections, 10 labeled praises, 6 questions; and 4/5 direct commands with correct follow through and 100% compliance.

Caroline met all graduation criteria. She graduated treatment at PDI coach session 10. Caroline was provided with the standard PCIT graduation information and encouraged to continue to complete her homework daily.

8 Complicating Factors

Court-mandated family visits appeared to have a significant impact on Seamus's presentation and treatment progress. Seamus's trauma symptoms appeared to re-emerge post-family visits and caused significant stress to Caroline and the other members of the household. Knowing that this was a significant issue in the home, the TDI teach was tailored to Caroline. Instruction was provided to Caroline about how she could utilize the skills to help Seamus cope following family visits. Visits with the mother were also temporarily ceased in order to allow Seamus and Caroline time to learn the skills of PCIT without the complications associated with family visits.

There was a significant gap in treatment (during the PDI phase) due to the COVID-19 pandemic. For a period of 3 months, sessions ceased due to an inability to see the family in-person and technical issues (for both Caroline and the clinician) preventing online sessions. Contact with the family was not as regular during this period due to the demands on Caroline to home school and daycare centers encouraging parents to keep children home. Telephone contact (either phone calls or text messages) occurred every 2 to 3 weeks during this time. During this time, Caroline reported that Seamus's feelings of anxiety and worry increased due to him being at home most of the time and usual outings (i.e., attendance at daycare and other social activities) being canceled. It is important to note that Seamus's difficulties towards the conclusion of therapy related to an inability to engage with the world which was a significant change from the beginning of therapy, where being at home constantly would have met his need to avoid distressing situations (e.g., having to leave Caroline's presence by attending daycare).

A final complicating factor was that only one caregiver participated in the intervention. Seamus had both a female and male caregiver in the home, but the male caregiver was unable to participate in sessions due to work commitments. It is possible that this served to maintain some of Seamus's clinginess to Caroline and lack of willingness to explore. Given the literature on PCIT and father participation, it is possible that father participation/two-parent participation may have mediated some of the outcomes for Seamus and Caroline and may have helped to promote durability of effects (Bagner, 2013; Bagner & Eyberg, 2003).

Seamus's communication difficulties had a small impact on PCIT treatment. Seamus's lack of clear speech made it difficult for Caroline to use her PRIDE skills (especially reflections). In PDI,

speech issues occasionally made it difficult to determine whether Seamus had complied (i.e., when he provided a verbal response to a direct command) and therefore, whether a warning or time-out was required.

9 Access and Barriers to Care

Attempts at implementation of internet-delivered PCIT during the COVID-19 pandemic was a significant barrier to care. Whilst sessions were attempted via the internet, technical difficulties on both the part of the clinician and caregiver made it impossible to continue. Additionally, once technical issues were overcome, the caregiver found sessions over the internet difficult due to the presence of the other children in the home and the demands placed on her time to home school/care for them all. This complicated treatment outcomes during this period as Seamus's symptoms worsened as the need for social distancing grew.

10 Follow-Up

It was evident that Seamus's speech, while somewhat improved over the course of treatment, required speech therapy intervention. Seamus had occasional difficulty understanding simple concepts, and his speech was often unclear. Caroline was encouraged to obtain further speech assessment, which revealed delays in expressive and receptive communication. Further speech therapy was undertaken following this assessment.

Follow-up cognitive testing was recommended for the family (to occur no sooner than 2 years after the first assessment). This was in light of the potential for improved scores relating to verbal comprehension following a period of sustained speech therapy and continued use of PCIT with TDI skills. A referral for occupational therapy (OT) intervention was undertaken at the conclusion of PCIT. The OT assessment, completed during the PDI phase of PCIT, revealed that Seamus has sensory difficulties that would require occupational therapy intervention. Seamus and his family were supported by the child protection agency to access this intervention.

Longer-term follow up caregiver and child data was not obtained and should be considered a limitation of this study. The pre-post outcomes discussed in this study provide evidence of the efficacy of PCIT with TDI for this family during the course of treatment. Obtaining longer-term outcomes from the family would have provided invaluable information regarding the durability of treatment gains. Additionally, bidirectionality of PCIT with TDI outcomes for caregiver trauma symptoms were not able to be explored due to a lack of clinical significance from pre- to mid- to post-treatment. Future research should focus on the outcomes for caregiver's with and without trauma histories and posttraumatic stress symptoms to determine whether this intervention had the hypothesized positive impact in this area (Gurwitch & Warner-Metzger, 2022).

11 Treatment Implications of this Case

This case study describes the use of TDI with a young child who experienced significant abuse and neglect. This child presented with a range of internalizing and externalizing symptoms, traumatic stress symptoms, developmental difficulties, and sensory issues. His caregiver also reported mild levels of stress and anxiety, although she did not report high levels of personal posttraumatic stress symptoms. The foster family was successfully treated with PCIT with TDI. Improvements in most child and caregiver symptoms (as confirmed by parent report and some psychometric data) were achieved by the end of treatment. TDI allowed for integration of core trauma therapy components and explicit teaching of the skills and strategies required for effective trauma treatment of the child

including emotional regulation techniques, psychoeducation regarding trauma, and reassurance of safety.

When posttraumatic stress symptoms were examined by phase of therapy (i.e., CDI, TDI, and PDI), they dissipated after TDI treatment occurred. In CDI, the focus of the intervention is to promote behavioral change via positive parenting practices and differential attention. In TDI, the caregiver was provided with skills evidenced as effective when treating trauma in young children. After these skills were implemented, trauma symptoms dropped below the clinical threshold, apart from avoidance symptoms which increased following a problematic family visit. This single increase was unsurprising given the child's tendency towards avoidance and emotional numbing symptomatology following trauma. In PDI, consistency in discipline was the focus alongside integration of TDI and CDI skills. Time-out occurred both in session and at home, but it did not result in the escalation of posttraumatic stress symptoms above the clinical cut off or compared to the other phases of therapy. This is especially important data given the controversy surrounding time-out and the reticence of clinicians and families to use time-out with children who have a trauma history (Dadds & Tully, 2019). Standard PCIT treatment provides families with the foundational attachment building and positive behavior support skills and then moves into fair and consistent discipline techniques. The addition of TDI may help caregivers to confidently embrace the final discipline phase of treatment because they have a clear way of managing their "upset" as well as managing a child who may be activated by a trauma reminder. The context of time-out in PCIT (i.e., that it is a safe, predictable, and fair discipline strategy occurring in the context of the positive behavior support strategies of CDI) may provide the child with psychological exposure which is key to many trauma treatments (Dadds & Tully, 2019). This "exposure" may cause the child to replace feelings of terror with feelings of control and security (Dadds & Tully, 2019), particularly when they are combined with the skills of TDI.

It is important to note that children may present with trauma symptoms at any stage of the intervention. While it is important not to switch to TDI treatment in the course of CDI, clinicians should not ignore these behaviors either. At various points in time, it might be important to acknowledge a particular trauma symptom and to help the parent navigate it using the skills of CDI. Providing higher order educational statements about how CDI skills are helpful in managing trauma symptoms (e.g., in the case of rough play—"praising him for gentle play with the toys will help to increase this behavior"), providing coaching observations of behavior with a link to trauma symptomatology, and coaching a parent to ignore certain negative behaviors which are not linked to activators are all trauma-informed strategies firmly grounded in CDI skills. In TDI, there is scope to revisit and delve into trauma symptomatology observed during the earliest phase of treatment as well as to tailor TDI trauma psychoeducation based on these observations. In this way, CDI can be considered an extension of the assessment of trauma symptoms of children. Caregivers often struggle to conceptualize their young children's behavior in terms of the trauma they have experienced. TDI clinicians have expertise in this area and may be able to observe these behavioral subtleties that may have otherwise been missed. TDI clinicians who possess this behavioral data regarding the child can lead to TDI intervention which is highly individualized.

Gurwitch et al. (2017) argued that the implementation of PCIT could be helpful in allowing a previously behaviorally demanding child to meaningfully engage in a trauma treatment like TF-CBT. TDI follows a similar course. CDI treatment facilitates resolution, at least in part, of the child's behavioral issues, and a sense of connectedness with the caregiver is fostered. Reducing problematic behaviors may enable children to more readily engage in trauma-focused skills such as affect identification and regulation. Keeping the child in the same familiar environment for this trauma work (i.e., in the context of the caregiver–child dyad) may also be helpful in contributing to a sense of safety and resulting in more meaningful engagement. Finally, PDI is not introduced until the end of treatment. The PDI component ideally occurs with a more regulated child and an

attuned and prepared caregiver. Whilst PDI may still be challenging, caregivers should have a more trauma-informed understanding of the value of discipline; a knowledge of the difference between an activated child and an upset child; and the confidence to implement safe, consistent, and fair discipline.

It is important to note that TDI was not designed to deeply process the child's trauma. In TF-CBT, a trauma treatment recommended for children from three to 18 years, processing of the trauma occurs via the trauma narrative. Processing the trauma narrative is dependent on the developmental skill of the child (i.e., they require the necessary memory and verbal skills to recount an event). Should the child be able to, the therapist and child create a story regarding the most traumatic of their trauma memories. There are several developmental skills that impact successful execution of the narrative including memory (does the child have a specific memory for processing that be the focus of treatment?), verbal skills (does the child have the necessary verbal capacity to create this narrative and then discuss and process it in the sessions to follow?), attention span (can the child remain focused on the narrative for short bursts?), and working memory (can the child hold the memory in their mind whilst also drawing on the skills previously rehearsed to reduce their discomfort? Vanderzee et al., 2018). Seamus presented with deficits in all these areas making TDI a more developmentally sensitive and inclusive treatment for him. TDI focuses on the skills that children like Seamus can achieve (i.e., feelings identification, relaxation skills, and age-appropriate coping skills).

12 Recommendations to Clinicians and Students

The presented case study is the first to assess TDI in a child with a complex trauma history living in OOHC. Results showed improved child trauma symptoms and behavioral problems, and im-proved parental stress and depression. Additionally, the caregiver's attitude to TDI treatment was positive, indicating she experienced TDI treatment as successful. This case study is also the first to examine treatment outcomes for children with trauma histories and their families by phase of treatment, with Seamus's trauma symptoms remaining above the clinical cut off until completion of the TDI component.

In addition to the positive psychological outcomes reported, PCIT with TDI provides clinicians with a consistent way to approach the treatment of children who have been exposed to abuse and neglect. Treatment tailoring is often suggested in much of the literature for these children, but methods to execute such tailoring vary significantly between cases. With approaches to this work being highly personalized to individual clinicians, it is difficult to assess treatment effectiveness of any trauma adaptation of PCIT. A consistent treatment approach is vital for an evaluation and comparison of treatment as usual (PCIT) with a trauma-adapted version. TDI, a standardized trauma-adapted module to add to PCIT, will allow for formal evaluation and replication of the adaptation.

Gurwitch and Warner-Metzger (2022) state this standardization of a trauma adaptation of PCIT alleviates concerns from clinicians, families, and agencies about the ability of PCIT to expressly address traumatic stress symptoms. Anecdotally, caregivers in PCIT report concerns regarding how play (the therapeutic vehicle in PCIT) is effective in treating their children's problems when their primary presentation is traumatic stress symptoms. Attitude to and acceptability of treatment have not been extensively researched in the PCIT and trauma literature. There have been a few studies showing acceptability of treatment is associated with higher rates of treatment compliance and more positive outcomes in standard and adapted (i.e., for different cultural groups) PCIT (Lyon & Budd, 2010; Matos et al., 2006; McCabe et al., 2005). Herschell et al. (2017) showed that PCIT was generally an acceptable treatment by both treatment completers and non-completers in a population who had experienced domestic violence. McNeil et al. (2005) showed that foster

parents found a group-based version of PCIT to be a satisfactory treatment both during treatment and at follow-up. Despite this acceptability of treatment, the rates of attrition in PCIT for children and families with trauma histories are over 50% (Batzer et al., 2018). Various factors contributing to attrition have been examined (e.g., level of parental stress, intensity of child behavior) and ways to keep families in treatment explored (e.g., motivational enhancement conditions, shortening treatment) with mixed results. The addition of TDI to standard PCIT intervention may represent a way to keep families engaged due to it directly addressing children's trauma at a developmentally appropriate level.

This case provides preliminary evidence for the use of TDI as a treatment for children with trauma histories. Further investigation is required to determine which intervention is most effective in treating traumatized children. TDI should be part of a trial comparing efficacy of this treatment with standard PCIT. As with this case, treatment outcomes relating to caregiver and child trauma symptoms, parenting stress, caregiver mental health concerns, child behavior, and caregiver attitude should be assessed. Further information about the factors influencing treatment selection (i.e., PCIT vs. PCIT with TDI) should also be explored. Once further information is obtained at a quantitative level, and should the treatment arms be similar, clinicians will be able to assess which is best fit for the family (Gurwitch & Warner-Metzger, 2022).

Declaration of conflicting interests

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Ethical Approval

This study was approved by the University of Newcastle's Human Research Ethics Committee (approval no. H-2020-0318).

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Dr Sally Hunt is a Clinical Psychologist, Senior Lecturer and Convenor of the Master of Professional Psychology program at the University of Newcastle, Australia. Sally's has worked both clinically and in a research capacity in the field of mental health for over 20 years, and completed her PhD in 2015. Sally's primary research examines the relationship between substance use and mental health disorders, with a focus on developing and disseminating eHealth interventions for these problems. Currently Sally is leading research developing, testing and implementing an online intervention to support women's health and well-being.

Mrs Warren is a registered psychologist with over 10 years of experience. Her clinical work has primarily been with children young people and their families who have been exposed to abuse and neglect. She is currently employed as a manager and clinical lead in a statutory child protection agency. Mrs Warren is a PhD candidate with the University of Newcastle and is completing her research in Parent-Child Interaction Therapy (PCIT) and child trauma.

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Christina Warner-Metzger, PhD, is director of the Parent-Child Interaction Therapy (PCIT) Program at De Paul University. Dr. Warner-Metzger is 1 of 20 PCIT International Certified Global Trainers worldwide, which provides her with clinical expertise in PCIT and allows her to train others in the provision and supervision of PCIT on a larger scale. Dr. Warner-Metzger's clinical practice focuses on early childhood issues, including psychological assessment for children with developmental disabilities, Autism Spectrum Disorders (ASD), and trauma histories. Dr. Warner-Metzger's clinical and reasearch interests include underserved populations, barriers to treatment participation, dissemination efforts, disruptive behavior disorders, developmental disabilities,

ASD, and trauma-informed systems. She has contributed numerous peer-reviewed and invited presentations at national and international conferences.

Robin Gurwitch, PhD, is a licensed clinical psychologist with close to 30 years of experience in evidence-based treatments and the impact of trauma/disaster/terrorism on children. She is a professor in the Department of Psychiatry and Behavioral Sciences at Duke University Medical Center and the Director of Parent-Child Interaction Therapy (PCIT) and Child-Adult Relationship Enhancement (CARE) Training at the Center for Child & Family Health.

Dr. Gurwitch has been involved in research, training, and clinical services involving PCIT; she is one of 22 PCIT Global Trainers worldwide, certified by PCIT International. She has studied the application and adaptation of PCIT to many populations, including children with a history of maltreatment and neglect, military children, children with prenatal substance exposure and Fetal Alcohol Syndrome, Native American children, and children in foster care settings. She recently completed her service on the HHS National Advisory Committee on Children and Disasters. She has been an active member of the National Child Traumatic Stress Network (NCTSN) since 2001.