Treatment manual for trauma-exposed youth: Case studies

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Abstract
Witnessing community violence and experiencing abuse in the home are two examples of interpersonal trauma that can have a devastating impact on children and adolescents. Recent research on the treatment of children exposed to interpersonal violence has focused on cognitive-behavioral interventions, often delivered in school settings. We describe the application of a new manual-based psychotherapy protocol for treating pediatric trauma in a middle school. Two case studies illustrate the protocol application to children from an inner-city neighborhood. The Stanford Cue-Centered Therapy (CCT) is a short-term, multimodal therapy for youths who have experienced trauma, focusing primarily on exposure to trauma-related cues. These cases provide early data on the feasibility and effectiveness of providing CCT for high-risk youth within a school setting and training of school mental-health personnel in the use of the Stanford CCT Manual.

Keywords
children, protocol, trauma, treatment, violence

Recent large-scale disasters such as the September 11 terrorist attacks and Hurricane Katrina have increasingly brought the need for treating survivors into public focus. Although research has supported mental-health interventions such as cognitive-behavioral therapy (CBT) for adult trauma survivors, the treatment of traumatized children and adolescents is still an emerging field.

In addition to natural disasters and terrorist attacks, children and adolescents experience a wide range of potentially traumatic events, including sexual abuse, physical abuse and witnessing violence in the home or community (McCloskey & Walker, 2000; McNally 1993; Paolucci, Genuis, & Violato, 2001; Runyon, Deblinger, Ryan, & Thakkar-Kolar, 2004). Studies have found that between 15% and 70% of children and adolescents have experienced a traumatic event (Cuffe, Addy, Garrison, Waller, Jackson, McKeown, & Chilappagari, 1998; Giaconia, Reinherz, Silverman, Pakiz, Frost, & Cohen, 1995; McCloskey & Walker, 2000). Although estimates of the rate of post-traumatic stress disorder (PTSD) among youths who have experienced traumatic events range from 0 to 100%, most studies have found prevalence rates ranging from 15% to 25% (Cuffe et al., 1998; Giaconia et al., 1995; McCloskey & Walker, 2000).
In many respects, the symptom presentation of childhood PTSD resembles that of adults, with a few notable differences. Children display specific symptoms not found in adults, including repetitive play, separation anxiety, generalized (rather than trauma-specific) nightmares, omen formation, disorganized or agitated behaviors, and somatic symptoms (DSM-IV-TR, American Psychiatric Association, 2000; Brown, 2005; Yule, 2001). Also, youths who do not meet full PTSD criteria may suffer from the same degree of functional impairment as those who have full-blown symptoms (Carrion, Weems, Ray, & Reiss, 2002). Children and adolescents with PTSD also frequently have other comorbid symptoms, including anxiety disorders, dissociation, mood disorders and externalizing disorders (Carrion, Weems, Ray, & Reiss, 2002; Kendall-Tackett, Williams, & Finkelhor, 1993; McCloskey & Walker, 2000; Paolucci et al., 2001). Finally, children’s symptom presentation depends on factors including age and developmental level at the time of the trauma, the nature and duration of the trauma, and social support following the trauma (Steiner, Carrion, Plattner, & Koopman, 2003).

Youths in high-risk communities frequently experience multiple ongoing traumas rather than discrete single-incident traumas (Finkelhor, Ormrod, Turner, & Hamby, 2005). In samples of traumatized youths drawn from community mental-health and social-service agencies, between 51 and 83% of youths had experienced more than one trauma (Carrion et al., 2001; Carrion, Weems, Ray, Glaser et al., 2002). Inner-city children have staggering report rates of exposure to violence in their communities; up to one-third of children and adolescents in some studies report having witnessed a homicide (Bell & Jenkins, 1991; Gladstein, Rusonis, & Heald, 1992). Experiencing numerous traumas appears to have a synergistic effect on the experience of posttraumatic symptoms (Rossman, Bingham, & Emde, 1997). Many high-risk children and adolescents experience and witness violence in both their homes and their neighborhoods; researchers have called this experience “compounded community trauma” (Horowitz, Weine, & Jekel, 1995). Compounded community trauma has been linked to high rates of PTSD and to associated syndromes such as depression and externalizing behaviors (Flannery, Wester, & Singer, 2004; Horowitz et al., 1995).

Adverse posttraumatic responses are believed to develop as a result of a complex interaction of cognitive, emotional, physiological, psychosocial and behavioral factors (Brewin, 2001; Ehlers & Clark, 2000). Pre-trauma adjustment and the nature of the trauma also influence trauma response (Saywitz, Mannarino, Berliner, & Cohen, 2000; Silva, Alpert, Munoz, Singh, Matzner, & Dummit, 2000). According to recent cognitive-behavioral theories of PTSD, the way in which trauma memories are encoded and the strategies a person uses to cope with trauma-related memories and emotions may actually result in posttraumatic symptoms (Bower & Sivers, 1998; Brewin, 2001; Ehlers & Clark, 2000). Research has supported the role of cognitive appraisals (such as self-blame), and avoidance-based cognitive and behavioral coping strategies in the development of PTSD in children and adolescents (Ehlers, Mayou, & Bryant, 2003; Mannarino & Cohen, 1996). These cognitive, emotional and behavioral processes are all underlain by physiological mechanisms. The body’s normal fear-response system becomes sensitized due to extreme or chronic stress (McEwen, 2000). This imbalance in the fear-response system eventually may lead to ongoing changes in the body’s physiology and may be associated with changes in the brain (Carrion et al., 2001; Carrion, Weems, Ray, Glaser et al., 2002; Carrion, Weems, & Reiss, 2007).

Trauma-Focused CBT is the treatment of choice for children with PTSD and associated posttraumatic conditions. In addition, the National Institute of Clinical Excellence cites eye movement desensitization and reprocessing as an effective treatment modality (American Academy of Child & Adolescent Psychiatry, 1998; NICE, 2005). Standard CBT treatment for children and adolescents involves supporting and normalizing the client’s experience, psychoeducation, skills training, exposure to trauma-related material, emotional expression and family involvement (Finkelhor & Berliner 1995).

Recent studies have supported the efficacy of CBT interventions for traumatized youths. In particular, various studies have supported trauma-focused cognitive-behavioral therapy (TF-CBT)
in the treatment of sexual- and physical-abuse survivors, ages 3 through 17 (Cohen & Mannarino, 1996; Cohen & Mannarino, 1998; Cohen, Deblinger, Mannarino, & Steer 2004). Trauma-focused cognitive-behavioral therapy is an individual treatment that combines standard cognitive-behavioral techniques with interpersonal, supportive and family interventions (Cohen, Mannarino, Murray, & Igleman, 2006a). In a randomized control study, the therapy showed efficacy in treating PTSD and related symptoms, including anxiety, depression and behavioral problems (Cohen et al., 2004). Cohen and colleagues have reported extensively on the effectiveness of a brief CBT intervention for traumatized children and have published these protocol interventions (Cohen, Mannarino, & Deblinger, 2006b).

There has also been a growing research focus on group trauma-therapy interventions delivered within schools, targeted toward treating wide-scale events including natural disasters, terrorism and community violence (Brown, McQuaid, Farina, Ali, & Winnick-Gelles, 2006; Kataoka, Stein, & Jaycox, 2003; Stein, Jaycox, Kataoka, Rhoes, & Vestal, 2003a). Stein and colleagues report on a randomized controlled trial involving an effective standardized 10-session CBT school-based group intervention for children exposed to violence carried out by school-based mental health professionals (Stein, Jaycox, Kataoka, Wong, Tu, Elliott, & Fink, 2003b). Interventions including multimodal trauma treatment (March, Amaya-Jackson, Murray, & Schulte, 1998) and cognitive-behavioral intervention for trauma in schools (Jaycox, 2004) have demonstrated efficacy in reducing children’s posttraumatic symptoms. Although group treatments have the benefit of reaching more children, they also risk re-traumatizing participating survivors (through exposure to others’ stories) and cannot be personalized in the same manner as individual therapies (Pfefferbaum, 1997). Furthermore, there is some evidence that individual treatment does result in symptom improvement above and beyond group therapy (Nolan et al., 2002; Trowell et al., 2002).

Several researchers have suggested the need for collaboration between academicians and community mental-health providers and for further exploration of structured trauma interventions delivered in community settings such as schools (Brown, 2005; Cohen et al., 2004; Kataoka et al., 2003; Stein et al., 2003a). Despite the increasing number of empirically supported child-trauma treatment modalities, the majority of community practitioners still do not use research-informed techniques (Cohen, Mannarino, & Rogal, 2001). Growing recognition of the impact of community violence and the multiplicative deleterious effect of multiple traumas illustrate the imperative for early treatment of high-risk, low-income, urban children exposed to interpersonal traumas in the home and community.

Following are two case studies illustrating the application of a new child-trauma treatment protocol, the Stanford Cue-Centered Therapy (CCT). This is a structured, manual-based therapy that incorporates elements drawn from current treatment modalities. The case studies described in this article took place at a middle school in a multi-ethnic, largely low-income, high-crime neighborhood in San Francisco. This pilot study explored the effectiveness of a manual-based child-trauma therapy protocol delivered in a school setting by school mental-health personnel. We hypothesized that this individual, multimodal, structured, manual-based treatment would result in a decline in participants’ PTSD symptoms, as well as in trauma-related anxiety, depression and behavioral symptoms when utilized in a school setting.

**Method**

**Subjects**

Participants for this study were chosen from the population of students referred to the school counseling office. Students at the school are in grades six through eight, and range in age from 11 to 15. Designated school staff screened students for histories of interpersonal trauma and invited potential
subjects and their legal guardians to participate. Those participants who met the study requirements were then referred to the research team. All participants completed a Stanford University IRB-approved informed-consent form.

The inclusion criteria for this study were: (1) a student (and parent or caregiver available) at the middle school; (2) identified as in need of counseling services; (3) with a history of interpersonal trauma (witnessing violence, physical abuse, sexual abuse, community violence or neglect); (4) evidence of trauma-related sequelae, including both symptoms of PTSD and functional impairment; (5) with adequate English skills to participate in talk therapy.

Exclusion criteria were: (1) current use of CNS-active medications; (2) psychosis; (3) mental retardation; (4) participation in other current psychotherapy. Six children and their caretakers participated in the study. We will present two case studies.

Outcome measures

Children’s symptoms were assessed at pretreatment (T1), mid-treatment (T2) and post-treatment (T3). Trauma history and demographics were assessed at T1.

The Childhood Trauma Questionnaire (CTQ) is a 28-item, self-report screening instrument for histories of child abuse and neglect, including emotional, physical and sexual abuse, and emotional and physical neglect (Bernstein et al., 1994). The scale has demonstrated reliability and validity for the screening of adolescents. The CTQ also includes three questions designed to measure minimization or denial of abuse and neglect.

The Child Post-traumatic Symptom Scale (CPSS) (Foa, Johnson, Feeny, & Treadwell, 2001) is a self-report instrument designed to assess the severity of DSM-IV (American Psychiatric Association, 1994) PTSD symptoms among children exposed to trauma. The CPSS has shown good internal consistency and test-retest reliability among samples of trauma-exposed school-age children. It also shows good convergent validity with other child PTSD measurement instruments, and good discriminant validity in terms of correlation with depression and anxiety measures.

The Child Behavior Checklist (CBCL) for children ages 6–18 (Achenbach, 1991) is a 140-item parent-report questionnaire in which the parent rates the child’s behavioral problems and competencies. The instrument can be used to measure a child’s behavioral change over time. The CBCL has been normed with a large number and wide variety of children and adolescents; it demonstrates good criterion validity, test-retest reliability, inter-rater reliability and internal consistency.

The Revised Children’s Manifest Anxiety Scale (RCMAS) is a 37-item self-report instrument designed to measure anxiety in school-age children (Reynolds & Richmond, 1978). The RCMAS has adequate internal consistency and good validity in measuring trait anxiety.

Additionally, participating therapists filled out a form after each therapy session describing the activities and topics of each session. Items on these forms range from checklists of manual topics covered, to Likert scales of therapists’ clinical judgments on issues such as client insight, to narrative descriptions of clients’ progress. For the purposes of the case-studies presentations, the use of these forms was limited to illustrating and adding depth to findings from the child self-report and parent-report measures.

The Stanford Cue-Centered Treatment Manual

Cue-Centered Therapy is a manualized individual therapy that draws from other empirically supported therapy modalities, combining cognitive-behavioral, supportive, family, expressive and insight-oriented techniques. Specifically, CCT involves psychoeducation, relaxation and coping-skills
training, narrative exposure, imaginary and in-vivo cue exposure, cognitive restructuring and parent training. Cue-Centered Therapy is unique in its skill-building and empowerment focus while the child and caretaker concentrate on identifying trauma-related cues and learn about classical conditioning. The focus on strength-building and self-efficacy makes CCT a good match for children, such as those in the current study, who have experienced multiple traumas or are experiencing ongoing daily stressors. In addition, through exploration of links between the history of the child, current feelings (specifically anger, fear and sadness) and current problematic behaviors, CCT attempts to facilitate insight and increase psychological mindedness.

Cue-Centered Therapy is based within cognitive-behavioral theories of trauma, in particular that trauma exposure can cause impairment across multiple mutually influential domains, resulting in cognitive, emotional, physiological and behavioral signs and symptoms. Cue-Centered Therapy is designed to address these four core domains, decreasing fear sensitization to traumatic memories and reminders, reducing negative cognitions, teaching appropriate emotional expression and coping strategies, identifying and correcting trauma-related behavioral responses, empowering with knowledge and skills, and strengthening the relationship between the caretaker and his or her child.

The therapist teaches the family about the role of classical conditioning in PTSD and how this form of learning relates to the expression of symptoms. Specifically, they learn that trauma (the unconditioned stimulus) became associated with a particular behavior (the unconditioned response). Upon exposure to cues of the traumatic event (the conditioned stimulus), the associated response manifests (the conditioned response). A prior adaptive response, within the new context, becomes maladaptive.

Although CCT is structured in terms of specific session requirements and goals, it is also flexible, able to be adapted depending on the child’s developmental level. The manual contains numerous pictorial tools designed to help children understand difficult therapeutic concepts, such as trauma-symptom severity. Therapists are encouraged to use their clinical judgment and skills in a way consistent with the manual. Various techniques, such as art and play, can be used to facilitate the achievement of CCT’s therapeutic goals. Due to this flexibility, the number of sessions required for completion of CCT can vary from 15 to 18 sessions; the provision for three supplementary sessions allows additional time to be devoted to certain topics to ensure the child is prepared to move from one phase of treatment to the next.

Each CCT manual session consists of a description of the session’s goals, the role of the therapist in facilitating these goals, a brief breakdown of the session’s activities and a list of the materials required during the session. In addition, each session has a background section describing in greater detail the session’s objectives and their theoretical and research underpinnings, and providing brief illustrative case examples. Finally, each session has a review sheet to document the achievement of therapeutic tasks.

Cue-Centered Therapy’s 15 sessions are divided into four phases. Phase 1 (sessions 1–3) prepares the child or adolescent and his or her caretaker for exposure through education and coping-skills training. The psychoeducation and the relaxation- and cognitive-skill training the youth receives in Phase 1 help prepare him or her for the exposure to the trauma narrative and to cue-exposure that will occur in subsequent phases. It also gives the youth tools to use when confronted with traumatic reminders, intrusive thoughts, and anxiety outside of therapy.

During Phase 2 (sessions 4–7), the youth tells the story of the trauma, a form of narrative exposure. The therapist listens empathically, helping to identify cognitions, emotions and cues, and beginning to restructure cognitive distortions and misattributions. The cues identified during Phase 2 will become the focus for the next phase.

In Phase 3 (sessions 8–12), the therapist, the youth and the caretaker work together to identify cues and create adaptive responses to non-threatening situations that are perceived as threatening.
Finally, during Phase 4 (sessions 13–15), the youth is encouraged to use all the learned skills to develop a coherent trauma narrative, and the therapist works to ensure treatment gains are sustained after therapy.

The Principal Investigator (PI) provided training and supervision to Master level personnel at the school. Weekly sessions between the PI and the therapists provided lessons for each session and supervision on the treatment. This was facilitated by review of audio-tapes for each session.

**Case 1**

Andrew* is a 13-year-old Hispanic male who presents for treatment for trauma-related symptoms, including general anxiety and posttraumatic symptoms. Andrew witnessed domestic violence between his mother and her ex-husband, including seeing his mother being hit multiple times and raped at gunpoint. His mother has a history of physical and sexual abuse in childhood and of multiple abusive partners in adulthood. Andrew self-describes his worst trauma as witnessing a community member getting shot; he has witnessed multiple shootings and murders in his neighborhood. Andrew has a sense of re-experiencing these past events due to hearing domestic violence between the people who live next door, and due to persistent community violence. Andrew and his mother report feeling afraid while walking in the neighborhood and while at home at night. He also experiences mid-sleep awakenings and nightmares in which a person with a gun walks into his house.

At the beginning of treatment, Andrew was having academic difficulty at school, due, in part, to trauma-related worry and concentration problems. Andrew also displayed reactivity to loud noises and loud voices, and physiological symptoms of anxiety, including frequent fidgeting. He also had frequent angry outbursts, the onset of which appeared to be when his family moved to a violence-ridden housing project. Andrew self-reported a clinical level of posttraumatic symptoms on the CPSS (Foa et al., 2001) and a sub-clinical degree of anxiety symptoms on the RCMAS (Reynolds & Richmond, 1978). His mother reported a clinical level of anxiety and depression symptoms on the CBCL (Achenbach, 1991).

During the course of therapy, Andrew became able to identify his physiological anxiety symptoms, including foot-tapping, and to use relaxation techniques to control them. In particular, thinking about his family’s pet dog provided a strong sense of comfort and relaxation for him. The therapist focused on reducing Andrew’s sense of trauma-related self-blame, on building his positive self-image and on increasing his goals for the future. Through in-session exposure to loud voices, including both the therapist’s loud voice and his own loud voice, he was able to decrease his reactivity to this cue and increase his positive assertiveness skills.

Andrew’s schoolwork improved during the course of 18 sessions, and many of his behavioral issues at home and school diminished to non-clinical levels by the final session. According to both therapist observation and standardized measurements, participation in therapy improved Andrew’s self- and parent-reported anxiety, and posttraumatic and behavioral symptoms (as evidenced by reduced scores on the CPSS, the RCMAS and the CBCL [see Table 1]).

**Case 2**

Sharonda* is a 14-year-old African-American female. She presents for treatment with a trauma history that includes witnessing domestic violence, neglect, physical abuse and being exposed to community violence. Both her parents had a history of substance abuse, and her father was violent toward Sharonda’s mother and her siblings. At age 3, Sharonda was removed from her biological parents’ home when roach eggs were discovered in her ears. She was returned and removed again.
at age 5 after an incident in which her father set fire to the family’s home with Sharonda, her mother
and her siblings in it. At age 10, once again living with her mother, Sharonda experienced her home
being shot at. Most recently, Sharonda’s brother had been shot in an incident of gang violence.

At the outset of treatment, Sharonda had symptoms of PTSD, anxiety, depression and external-
izing behaviors. She has been in special-education classes throughout middle school due to a learn-
ing disability. Sharonda reported PTSD symptoms in the clinical range on the CPSS (Foa et al.,
2001). On the RCMAS (Reynolds & Richmond, 1978), Sharonda endorsed a moderate, non-clini-
cal level of anxiety symptoms. Her foster mother reported symptoms of attention problems, social
problems, anxiety and depression on the CBCL (Achenbach, 1991). Sharonda’s special-education
teacher mirrored the foster mother’s endorsement of attention, anxiety and depression symptoms.

During the course of therapy, Sharonda learned to use guided imagery, breathing and muscle
relaxation to confront her anxiety, sadness and anger. She also identified taking daily baths as a
symptom-management tool. Through Sharonda’s trauma narrative, the therapist was able to iden-
tify several cognitions related to self-blame, in particular in relation to her father’s violence. As an
example, Sharonda believed that she should have called the police when her father set fire to the
house. The therapist worked with Sharonda to identify the ways in which she had demonstrated
self-efficacy in traumatic situations, and placed Sharonda’s self-blame in context by reminding her
that she was only a child and that the adults around her should have been more responsible.
Sharonda and the therapist collaboratively identified Sharonda’s most pernicious trauma-related
cues as roaches, police cars and needles. The fear of roaches and of needles was related to the time
when she had roaches in her ears. Her fear of police cars was related to both the domestic and the
community violence incidents to which Sharonda had been a witness. The therapist had Sharonda
confront her cues in therapy by actually talking to a toy needle and a roach, humanizing and
demystifying the cues. She then confronted her fear of police cars, needles and roaches through
in-vivo exposure assignments. As therapy progressed, Sharonda was also able to see her father and
appropriately express her anger to him and set boundaries with him.

By the end of the 18 sessions, the therapist reported that Sharonda showed increased positive
mood and decreased anxiety, and she was better able to handle both trauma-related cues and other
anxiety-provoking situations. Although Sharonda’s self-reported posttraumatic symptoms were
still in the clinical range and showed little decrease, she reported that her anxiety symptoms had
decreased, according to the RCMAS. Her foster mother also reported a decrease in symptoms on
the CBCL (see Table 2).

Discussion

The preceding case studies offer early evidence that the Stanford CCT Manual can be utilized
within a school setting. School therapists, through extensive training and supervision, were able to
provide CCT in a manner consistent with the manual. The case studies also present preliminary
data supporting CCT’s effectiveness in alleviating trauma-related symptoms in young adolescents
with a history of interpersonal violence, such as maltreatment and witnessing community and
domestic violence.

Both adolescents showed a decrease in anxiety symptoms and overall caretaker-reported symp-
toms. The multiple, complex nature of the trauma background and symptom pattern both youths
had experienced suggests that CCT could be efficacious for high-risk youths. The adolescents were
able to engage in the therapeutic sessions and understand the concept of classical conditioning.
They found working with cues of the trauma helpful in controlling maladaptive behaviors, and they
were able to develop new coping behaviors and use new tools to manage anxiety.
In Andrew’s case, this work resulted in symptomatic relief and improvement of function. Although Sharonda did not evidence a decrease in posttraumatic symptoms, her anxiety and behavioral symptoms decreased, and both youths demonstrated functional improvement. Sharonda’s response may indicate the need to repeat the protocol sessions in those children with more severe trauma and to allow them to experience interventions of longer duration. Additionally, some of Sharonda’s traumatic events occurred during treatment and the possibility exists that treatment

### Table 1. Case 1: summary of assessment measures at pretreatment, mid-treatment, and post-treatment

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretreatment</th>
<th>Mid-treatment</th>
<th>Post-treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child PTSD Symptom Scale</td>
<td>24&lt;sup&gt;a&lt;/sup&gt;</td>
<td>24&lt;sup&gt;a&lt;/sup&gt;</td>
<td>18&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Children’s Manifest Anxiety Scale</td>
<td>17</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Child Behavior Checklist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadband T-scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing problems</td>
<td>63&lt;sup&gt;b&lt;/sup&gt;</td>
<td>–</td>
<td>40</td>
</tr>
<tr>
<td>Externalizing problems</td>
<td>34</td>
<td>–</td>
<td>34</td>
</tr>
<tr>
<td>Total problem behaviors</td>
<td>51</td>
<td>–</td>
<td>38</td>
</tr>
<tr>
<td>Syndrome scale normative T-scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawn</td>
<td>53</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Somatic complaints</td>
<td>50</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Anxious/depressed</td>
<td>74&lt;sup&gt;a&lt;/sup&gt;</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Social problems</td>
<td>54</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Thought problems</td>
<td>50</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Attention problems</td>
<td>51</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Delinquent behavior</td>
<td>50</td>
<td>–</td>
<td>50</td>
</tr>
<tr>
<td>Aggressive behavior</td>
<td>50</td>
<td>–</td>
<td>50</td>
</tr>
</tbody>
</table>

Notes: <sup>a</sup> Indicates scores in the clinical range. <sup>b</sup> Indicates scores in the borderline range.

### Table 2. Case 2: summary of assessment measures at pretreatment, mid-treatment, and post-treatment

<table>
<thead>
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<th>Measure</th>
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<th>Mid-treatment</th>
<th>Post-treatment</th>
</tr>
</thead>
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<tr>
<td>Child PTSD Symptom Scale</td>
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<td>22&lt;sup&gt;a&lt;/sup&gt;</td>
<td>24&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>Children’s Manifest Anxiety Scale</td>
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<td>Child Behavior Checklist</td>
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<tr>
<td>Broadband T-scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing problems</td>
<td>63&lt;sup&gt;b&lt;/sup&gt;</td>
<td>–</td>
<td>59</td>
</tr>
<tr>
<td>Externalizing problems</td>
<td>59</td>
<td>–</td>
<td>62&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total problem behaviors</td>
<td>64&lt;sup&gt;a&lt;/sup&gt;</td>
<td>–</td>
<td>64&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Syndrome scale normative T-scores</td>
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<td></td>
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<tr>
<td>Withdrawn</td>
<td>69&lt;sup&gt;b&lt;/sup&gt;</td>
<td>–</td>
<td>66&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Somatic complaints</td>
<td>56</td>
<td>–</td>
<td>55</td>
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<tr>
<td>Anxious/depressed</td>
<td>57</td>
<td>–</td>
<td>52</td>
</tr>
<tr>
<td>Social problems</td>
<td>68&lt;sup&gt;b&lt;/sup&gt;</td>
<td>–</td>
<td>64</td>
</tr>
<tr>
<td>Thought problems</td>
<td>60</td>
<td>–</td>
<td>56</td>
</tr>
<tr>
<td>Attention problems</td>
<td>65&lt;sup&gt;b&lt;/sup&gt;</td>
<td>–</td>
<td>63</td>
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<tr>
<td>Delinquent behavior</td>
<td>60</td>
<td>–</td>
<td>57</td>
</tr>
<tr>
<td>Aggressive behavior</td>
<td>58</td>
<td>–</td>
<td>64</td>
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</tbody>
</table>

Notes: <sup>a</sup> Indicates scores in the clinical range. <sup>b</sup> Indicates scores in the borderline range.
may have diminished symptoms that were to develop. The PTSD symptoms scale shows an increase, but only modest (from 21 to 24). Although internalizing and anxiety symptoms improved in both cases, both children continue to be highly symptomatic, including symptoms of PTSD. Youth that experience both domestic violence and community violence are at high risk for increased severity of posttraumatic symptoms. Our protocol may need to be enhanced in order to be able to improve the symptoms present in this specific population. Alternatively, adherence to the current protocol will need to be assessed more rigorously in future trials. For example, involvement of caretakers in treatment was not obtained for all the sessions where it was required by the protocol. This limitation may have impacted the results. Future efforts in facilitating involvement of caretakers in key sessions will enhance the intervention. In addition, future trials will help assess the specificity of symptoms targeted by the protocol and the need to prolong the intervention; for example, repeating the intervention for a second wave of treatment. Continued evaluation of functional impairment will be a key determinant of effectiveness.

The results of this pilot trial suggest that a randomized controlled trial is warranted in order to demonstrate CCT effectiveness in a traumatized population. Such efforts are underway by our group.

**Acknowledgement**

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**Note**

* Pseudonyms have been used throughout to protect the subjects’ confidentiality.

**References**


**Author biographies**

Victor Carrion is an associate professor in the Department of Psychiatry at Stanford University. His work concentrates on developing multi-method evaluation and treatment methods to assess and ameliorate the effects of environmental stress on the developing brain. Dr Carrion works with children exposed to interpersonal violence who have developed posttraumatic stress symptoms.

Katherine Hull is currently a doctoral candidate in the Stanford-PGSP PsyD Consortium. Ms Hull has worked as a research assistant at the Stanford Early Life Research Program for five years, doing behavioral assessments as a part of a study on brain function in PTSD, aiding in the development of the Cue-Centered Therapy Manual, and overseeing the initial pilot study of the manual.