Clin Child Fam Psychol Rev
DOI 10.1007/s10567-013-0156-9

Developmentally Adapted Cognitive Processing Therapy for Adolescents Suffering from Posttraumatic Stress Disorder after Childhood Sexual or Physical Abuse: A Pilot Study

Simone Matulis · Patricia A. Resick · Rita Rosner · Regina Steil

© Springer Science+Business Media New York 2013

Abstract Although childhood sexual abuse and childhood physical abuse (CSA and CPA) have severe psychopathological consequences, there is little evidence supporting psychotherapeutic interventions for adolescents who have experienced CSA or CPA. To provide a treatment tailored to the specific needs of adolescents suffering from abuse-related posttraumatic stress disorder (PTSD), we modified Cognitive Processing Therapy (CPT) by adding new treatment modules and changing the therapy setting. To evaluate the feasibility and efficacy of Developmentally Adapted CPT (D-CPT), we treated 12 adolescents suffering from PTSD secondary to CSA or CPA. Patients were assessed prior to treatment (t0), post-treatment (t1), and 6 weeks after treatment (t2). Assessments included the Clinician-Administered PTSD Scale (CAPS), the UCLA PTSD Index (UCLA), the Children's Depression Inventory (CDI), the Adolescent Dissociative Experiences Scale (A-DES), and the Borderline Symptom List (BSL-23). MANOVAs revealed that posttraumatic stress measurements and associated symptom measurements significantly differed across time points. When comparing t0 with t2, Cohen's d was large with respect to the CAPS scores ($d = 1.45$, $p < .001$) and the UCLA scores ($d = 1.91$, $p < .001$). Cohen's d had a medium magnitude with respect to the CDI scores ($d = .78$, $p < .001$), the A-DES scores ($d = 0.64$, $p < .05$), and the BSL-23 scores ($d = 0.74$, $p < .01$). D-CPT has the potential to reduce PTSD symptoms and comorbid psychopathology in adolescents with histories of CSA or CPA.

Keywords Posttraumatic stress · Sexual abuse · Physical abuse · Adolescents

Introduction

International studies have confirmed that childhood abuse (CA) such as childhood physical abuse (CPA) or childhood sexual abuse (CSA) occurs with high prevalence. Pereda et al. (2009) found in a meta-analysis that approximately 20 % of women and 8 % of men had experienced some form of sexual abuse before the age of 18 years. Studies investigating the epidemiology of CPA in children and adolescents in Western or European nations have found prevalence rates between 3.6 and 16.3 % (Annerback et al. 2012; Elklit 2002; Finkelhor et al. 2009; Hawkins et al. 2010). CA has strong negative effects on mental health that persist into adulthood (Gilbert et al. 2009). Exposure to CSA increases the risk of morbidity for most mental disorders, including psychotic, affective, anxiety, substance abuse, and personality disorders; the risk associated with the development of posttraumatic stress disorder (PTSD) is especially high (OR = 5.6; Cutajar et al. 2010). Between 37 and 52 % of sexually abused children and adolescents meet the full criteria for PTSD diagnoses (Kendall-Tackett et al. 1993; McLeer et al. 1992, 1998). CSA-related PTSD

S. Matulis (✉) · R. Steil
Department of Clinical Psychology and Psychotherapy, Institute of Psychology, Goethe University Frankfurt, Postbox 11 19 32-120, 60054 Frankfurt am Main, Germany
e-mail: matulis@psych.uni-frankfurt.de

P. A. Resick
National Center for PTSD, VA Boston Healthcare System and Boston University, Boston, MA, USA

R. Rosner
Clinical and Biological Psychology, Catholic University of Eichstätt-Ingolstadt, Eichstätt, Ingolstadt, Germany

Published online: 08 October 2013

often co-occurs with pervasive problems in emotion regulation, suicidality, non-suicidal self-injurious behaviors, dissociative symptoms, and interpersonal deficits (e.g., Harned et al. 2010; Zlotnick et al. 1996; Maniglio 2009). Furthermore, CSA victims have an increased risk of experiencing physical or sexual revictimization (Barnes et al. 2009). Although relatively few studies have investigated the long-term consequences of CPA, previous research has shown that CPA is associated with an increased risk of developing various mental health problems, such as PTSD, depression, antisocial behavior, substance abuse, somatic complaints, and suicidal ideation (e.g., Silverman et al. 1996).

Considering the severe long-term effects of CPA and CSA, early trauma-focused interventions are needed to prevent chronic symptoms and revictimization. In adults, treatment for CSA-related PTSD yields medium effect sizes with respect to symptom changes (Taylor and Harvey 2009), whereas treatment for PTSD generally yields large effect sizes (Bisson et al. 2007; Bradley et al. 2005). Recent meta-analyses investigating the effects of psychological therapies in treating children and adolescents with histories of CSA indicate that treatments are effective to varying degrees in reducing PTSD symptoms (Harvey and Taylor 2010; Trask et al. 2011). In their meta-analysis of 39 studies, Harvey and Taylor (2010) reported an overall weighted pre–post-mean effect size of $g = 1.13$ for seven studies reporting PTSD outcomes and $g = .71$ for studies that provided follow-up data on PTSD outcomes over a period of 1–3 months. These results are slightly different from those reported by Trask et al. (2011), who analyzed 11 studies focusing on PTSD and found a weighted mean effect size of $d = .51$ in single-group pretest–posttest studies and $d = .63$ in controlled studies.

International treatment guidelines recommend trauma-focusing, cognitive behavioral therapy for the treatment of PTSD (e.g., NICE 2005). Leenarts et al. (2012) systematically reviewed evidence-based treatments for children and adolescents exposed to childhood maltreatment and concluded that the trauma-focused cognitive behavioral therapy developed by Deblinger and colleagues (TF-CBT; Cohen et al. 2006) is the best-supported treatment for children following childhood maltreatment. TF-CBT is a phase-based treatment that includes skills-based components followed by trauma-specific components with gradual exposure integrated into each component. TF-CBT is provided to children and parents or primary caretakers in parallel individual sessions or in conjoint child–parent sessions later in treatment. Numerous controlled studies have documented the effectiveness of this treatment in children up to the age of 14 years (e.g., Stauffer and Deblinger 1996; Deblinger et al. 1996, 2001; Cohen et al. 2004, 2011), as reflected in small-to-medium between-group effect sizes (Leenarts et al. 2012). In a few studies on TF-CBT, patients up to the age of 17 years were enrolled (Deblinger et al. 1990; Cohen et al. 2007; Kirsch et al. 2011). Deblinger et al. (1990) reported no significant effects for age on outcome, but the number of patients above 14 is not given. Cohen et al. (2007) report that 33 % of their sample were aged between 14 and 17 years and found no connection between age and treatment outcome. Kirsch et al. (2011) included patients between 4.6 and 16.6 years in their uncontrolled study (mean age 10.5, SD 3.7 years) and reported no age effects. Several other studies also investigated treatment effects on posttraumatic stress after CPA or CSA in samples including children and adolescents (Lanktree and Briere 1995; Nolan et al. 2002; Habigzang et al. 2009; King et al. 2000). To our knowledge, only four studies have examined treatment effects on posttraumatic stress symptoms after CPA or CSA among adolescent patients exclusively (Sinclair et al. 1995; Danielson et al. 2012; Tourigny et al. 2005; Krakow et al. 2001). None of these studies controlled for PTSD as an inclusion criterion; similarly, none of these studies used adequate instrumentation for diagnosing PTSD or comorbidities, and none applied the best-evaluated treatment of TF-CBT for children (Cohen et al. 2006). Highly impaired adolescents suffering from PTSD with severe associated problems may not have been adequately represented in previous studies, which may in part be due to difficulties in motivating this group for treatment and in keeping them in treatment. Furthermore, whereas CSA-related PTSD has been well examined in children and adolescents, no study has focused on PTSD secondary to physical abuse.

The Need for a New Treatment Approach for Adolescents

In summary, adolescents above the age of 14 years suffering from CSA- or CPA-related PTSD have been inadequately represented in treatment research thus far and reported that treatment outcomes have only shown medium effect sizes. Such outcomes could be explained by the following reasons:

Children and Adolescents Should be Treated Differently

The most successful manual for children (Cohen et al. 2006) is easily applicable to children and adolescents between 8 and 14 years of age; however, it needs to be adapted to address the specific needs and developmental issues relevant to later adolescence.

TF-CBT emphasizes the parents' role by dedicating up to 50 % of treatment sessions to be either parent or conjoint

sessions. In adolescents, this is likely to produce resistance. Adolescents and young adults struggle for independence and autonomy and, especially when older, do not like to share their "secrets" with their caretakers. Another important difference concerns the motivation for treatment. In TF-CBT, a supporting (non-offending) caretaker is included in treatment and usually initiates treatment. The adult caretaker has a stable motivation to bring the child into treatment even when the child is reluctant and would rather play or spend time with friends. The caretakers' influence is dwindling in adolescence when patients need not to be brought to treatment anymore. Furthermore, clinical experience shows that sometimes adolescents do not have parental support either because they broke contact and are no longer living with their parents or because the parents interfere with the treatment or intervene to make it stop. In these cases, adolescents seek therapy on their own or are supported by other close persons or caregivers such as child care workers. Therefore, at that point, the adolescent's motivation for treatment helps him or her to seek treatment and remain in it. Motivation building is therefore a core element in the treatment of adolescents. The fluctuating motivation in adolescence is connected to the development and restructuring of emotional regulation. While TF-CBT usually reserves one session to emotion regulation (naming and recognition of emotions and their connection to thoughts and behaviors), one session on emotion regulation is not enough for adolescents who react differently than young children. Adolescents may react to intense emotions with self-harm or suicidal tendencies and therefore dealing with intense emotions that are likely to be present after trauma needs to be therapeutically addressed. Furthermore, adolescents may self-medicate either by substance abuse or by legal drugs, which is a less likely issue in childhood. Further topics for adolescents—but not for children—are either dysfunctional or harmful sexual contacts. Some adolescents feel attracted to dangerous partners and are likely victimized again.

The Psychotherapeutic Delivery System Faces Challenges

In many countries, minors are treated by specialists licensed for children and adolescents, whereas older patients are treated within the structure of the adult healthcare system. Adolescents fall between the two layers for which the delivery system has been designed.

Treating PTSD as early as possible may help to prevent the development of severe PTSD and secondary comorbid disorders, but it is unclear what treatment manuals can be used for adolescent patients.

Treatment for PTSD in Adults

The International Society for Traumatic Stress Studies (ISTSS) has published treatment recommendations based on an extensive literature review of the current evidence supporting treatments for PTSD in adults. CBT is recommended as the first-line treatment for chronic PTSD in adults, with two specific CBT programs showing the most convincing evidence (Foa et al. 2009): Prolonged Exposure (PE; Foa et al. 1991, 1999, 2005) and Cognitive Processing Therapy (CPT; Resick and Schnicke 1992, 1993; Resick et al. 2002, 2008a, 2012b). However, especially for the treatment of PTSD in CSA victims, exposure therapy has been criticized for its high dropout rates (e.g., McDonagh et al. 2005).

Cognitive Processing Therapy

Cognitive Processing Therapy was originally designed to focus on the symptoms of posttraumatic stress disorder in victims of sexual violence (Resick and Schnicke 1992, 1993). According to its original format, CPT consists of 12 weekly sessions delivered in a manualized, serial form. CPT can be applied in group, individual, or combined group–individual formats. CPT is a predominantly cognitive therapy for PTSD that has few formal exposure elements, and it is based on cognitive theories that conceptualize PTSD as a disease of non-recovery. The cognitive theory behind CPT assumes that dysfunctional beliefs cause clients to become "stuck" in the otherwise natural recovery process that usually occurs after a traumatic experience. These dysfunctional thoughts (so-called stuck points) and avoidance (e.g., thought suppression, avoiding feelings) interfere with emotional processing and cognitive restructuring (Resick et al. 2008b). The main goal of CPT is to identify stuck points and modify them through Socratic dialogue and the use of systematic worksheets. The following issues are addressed over the course of CPT: educating patients regarding PTSD and explaining the nature of their symptoms; helping patients explore how traumatic events have affected their lives; learning about connections among trauma-related events, thoughts, and feelings; remembering the traumatic event and experiencing the emotions associated with it; improving patients' abilities to challenge maladaptive thoughts regarding the trauma; helping patients to improve their understanding of unhelpful thought patterns and learning new, healthier ways of thinking; and facilitating patients' exploration of the five core themes of safety, trust, control, esteem, and intimacy (for an overview, see Chard et al. 2012).

In the past two decades, studies have increasingly indicated that CPT is a highly effective and very well-tolerated treatment for reducing trauma-associated symptoms in a wide range of traumatized populations, including female rape victims, childhood sexual abuse survivors, victims of intimate partner violence, refugees, incarcerated

adolescents, and combat veterans (Ahrens and Rexford 2002; Chard 2005; Monson et al. 2006; Resick et al. 2002, 2008a, 2012b; Resick and Schnicke 1992; Schulz et al. 2006; Galovski et al. 2012; Forbes et al. 2012). Clinical trials investigating the effects of CPT have found large within-group effect sizes ranging from 0.92 to 2.75. In addition to randomized controlled trials, CPT has also been examined in clinical settings with veterans and refugees (Chard et al. 2010) as well as in residential programs (Chard et al. 2011; Boos et al. 1999).

Adaptations to CPT for Treating Adolescent PTSD

Considering the broad evidence base for its treatment efficacy and the fact that CPT has been endorsed as a best-practice model by the ISTSS (Foa et al. 2009), CPT may be an effective treatment for traumatized adolescents. To provide a trauma-focused treatment that was tailored to the specific needs of adolescents suffering from abuse-related PTSD, we adapted the original CPT protocol in the following ways.

Building Treatment Motivation

PTSD patients are at an increased risk of dropping out of treatment in general (Imel et al. 2013; Swift and Greenberg 2012); research also shows that highly impaired youths are less likely to complete treatment (Kazdin et al. 1993, 1994; Pellerin et al. 2010). Additionally, PTSD patients characteristically engage in avoidance behaviors that may also be expressed through ambivalent motivation for therapy or treatment refusal. Therefore, a planning-and-preparation phase is needed to increase and consolidate treatment motivation and to make arrangements that are necessary for the patient and the therapist to conduct therapy, such as non-suicide promises, commitments not to use substances prior to attending therapy sessions or completing practice assignments, and agreements to cancel sessions in a timely manner.

Establishing Emotion and Behavior Management Techniques

As described above, CA survivors often experience difficulties in emotion regulation associated with dysfunctional behaviors, such as suicidal ideation, self-harming behavior, dissociation, and substance abuse. At the same time, puberty is associated with a range of challenges. Adolescents in general experience rapid and intense mood changes; as shown in epidemiological studies of community-based adolescent samples, these mood changes can be associated with high rates of self-harm or suicide attempts (e.g., Madge et al. 2008; Kokkevi et al. 2012; for an overview, see Hawton et al. 2012).

There is an ongoing debate as to whether there is a need for phase-based protocols in the treatment of PTSD patients with histories of CA (Resick et al. 2012a). Some evidence suggests that phase-based protocols, including training in emotion regulation skills, are effective in reducing PTSD in adult patients with histories of CA, e.g., Steil et al. (2011) developed a modular treatment program that combines principles from Dialectical Behavior Therapy (DBT; Linehan 1993) and trauma-focused cognitive behavioral approaches. This treatment was especially designed for treating patients suffering from CSA-related PTSD accompanied by severe emotion regulation problems. Dialectical Behavior Therapy for Posttraumatic Stress Disorder (DBT-PTSD) has been shown to be an effective and safe treatment for these patients (Bohus et al. 2013). At the same time, several studies have provided evidence that single-phase treatments, such as CPT, are effective in treating CSA-related PTSD in adults (Chard 2005; Resick et al. 2003). The authors of these studies argue that CPT actually teaches emotion regulation skills that help CSA victims to tolerate intense emotions and therefore conclude that extra modules focusing on emotion regulation skills are not necessary.

However, to our knowledge, no study has ever investigated adolescent patients with CA-related PTSD and severe comorbidities. Adopting a conservative approach to protocol development, we therefore chose to incorporate emotion regulation training as a step prior to administration of CPT.

Recognizing Developmental Tasks

During adolescence and young adulthood, several specific developmental tasks have to be addressed concerning career choice, vocational training, individuation, and romantic relationships. All of these aspects may be severely affected by PTSD symptoms. Adolescent CSA victims are at high risk of revictimization, which may be explained by several factors. Previous research has shown that adolescence is a developmental period in which youths are particularly susceptible to experiencing trauma (for an overview, see Nooner et al. 2012). Older adolescents (16–17 years old) are especially at a higher risk of victimization, as Kilpatrick et al. (2003) found in a national household probability sample of adolescents. At the same time, a history of childhood sexual abuse is a significant predictor of sexual and physical revictimization (e.g., Barnes et al. 2009). Dysfunctional schemas (e.g., "I am not worth being treated well") or dysfunctional behavior, such as substance abuse and dissociation, may explain the high risk for CSA survivors to be victimized again.

Additionally, PTSD is characterized by reduced psychosocial functioning, which may result in low school

functioning for adolescent patients (American Psychiatric Association 2000). For example, Lipschitz et al. (2000) found that adolescent girls with PTSD are more likely than those without PTSD to fail a class or grade, to be suspended from school, or to have been arrested. PTSD symptoms such as intrusive recollections, insomnia, and poor concentration seem to make it difficult for patients to succeed in school or vocational training, which may result in premature separation from school, difficulty in finishing an apprenticeship, or unemployment in the long term. Because these developmental tasks need to be addressed specifically, we developed a separate treatment module to cover the topics of partner choice, revictimization, and career choice.

Although all mentioned developmental tasks are central to adolescents, we assume that they remain important for young adults as well. Therefore, we decided to include patients until the age of 21. In Germany, most young people in the age-group until 21 years are still in vocational training: Secondary school ends around age 19, vocational training ends around age 20, and those moving on to university graduate around age 22–25. Thus, the majority of those between 18 and 21 are still either financially dependent on their families or dependent on funding by state agencies. This desire can be especially acute when the perpetrator is a family member or family members did not believe the teenage victim. Then, the young adult often struggles between the wish to be independent from his or her family and actual financial dependency.

Furthermore, sexual abuse changes the forming of stable romantic relationships, and we assume that it will be much more difficult for the abused adolescents and young adults to achieve a satisfying intimate relationship. As abuse interacts significantly with all developmental tasks, it can be assumed that abused young adults may be in different vocational and financial situations than they were without the abuse. They may drop out of school and vocational training because of their symptoms and thereby aggravate their already-difficult financial and private circumstances, ultimately resulting in more dependence on family and state agencies. For example, we treated a 21-year-old girl who had quit her apprenticeship and was living in a residential living group founded by the child welfare service when she started D-CPT. During therapy, developmental tasks became central concerns, including motivating the patient to find an apprenticeship, collaborating with social workers from the living group, and supporting the patient to deliberate from her parents and to become more autonomous person.

Furthermore, within the German healthcare system, child and adolescents therapists treat patients up to the age of 21. This means that patients turning 18 may be able to remain in the same treatment settings until they are 21.

Modifying the Treatment Setting

As described above, adolescent PTSD patients are likely to suffer from unstable therapy motivation. We decided to administer the trauma-focused, middle part of the Developmentally Adapted Cognitive Processing Therapy (D-CPT) protocol in a high-intensity manner (e.g., 16 sessions over 4 weeks), which may be appropriate for several reasons.

Previous research indicates that intensive CBT is a promising alternative to standard weekly psychotherapy for phobias and PTSD in adults, and for obsessive–compulsive disorder in both adults and children (Storch et al. 2007; Ehlers et al. 2010; Oldfield et al. 2011; Deacon and Abramowitz 2006). Intensive CBT has several advantages, especially when treating PTSD in adolescents. Through daily sessions, patients gain maximal therapeutic support in overcoming avoidance. Frequent sessions keep therapeutic material fresh in mind, which may be very useful in light of the concentration and dissociative problems that are common in PTSD (Ehlers et al. 2010). Meeting with a therapist every day allows significant time-savings because no therapy time is lost to recapturing the whole course of the past week. Furthermore, intensive treatment reduces the duration of therapy. This approach may be especially beneficial for adolescent patients who have difficulty in anticipating long time periods that may prevent them from starting therapy. The decline in school performance that may occur when a young patient is stressed during trauma-focused therapy can be avoided when trauma-focused therapy occurs in an intensive setting during the school holidays. Finally, condensing treatment into a short time period allows patients to achieve symptom reduction faster, which may increase the motivation to continue therapy and compliance.

In summary, Developmentally Adapted Cognitive Processing Therapy (D-CPT) is an intensive treatment tailored to the specific needs of adolescents suffering from CA-related PTSD.

D-CPT Treatment Components

While the original and well-evaluated CPT protocol (Resick and Schnicke 1992, 1993; Resick et al. 2002, 2008a, 2012b) consists of 12 sessions, we decided to administer more sessions to provide a treatment that is easy to disseminate in the German healthcare system. In Germany, treatments usually consist of 25–45 sessions when focusing on PTSD. We decided on a 30-session treatment, with each session lasting 50 min, by grouping five sessions of planning and preparation for treatment, six sessions of emotion regulation training, and four final sessions focusing on developmental tasks around a 15-session CPT protocol (see Table 1 for an overview). Additional six sessions can be applied optionally, e.g., if sessions with caregivers or significant others (e.g., parents,

Table 1 The D-CPT outline

Treatment phase	Session number	Treatment strategies
Preparation-and-planning phase (4 weeks)	1 and 2	Therapy contract, emergency plan
	3 and 4	Lifeline
	5	Therapy goals
Emotion regulation training (4 weeks)	6–9	Monitoring dysfunctional behavior via diary cards, identifying dysfunctional behavior and triggers, discussing long-term consequences via behavior analyses, and using distress tolerance skills
	10 and 11	Education about emotions
Intensive Cognitive Processing Therapy (4 weeks)	12	Education about PTSD symptoms and psychological processes
	13 and 14	Identifying maladaptive beliefs ("stuck points") by writing and discussing the impact statement and by using A–B–C worksheets
	15 and 16	Remembering the traumatic event through written accounts, challenging stuck points, engaging in Socratic dialogue
	17–20	Challenging stuck points, restructuring cognitions, introducing worksheets (viz., the Challenging Questions Worksheet, the Problematic Thinking Pattern Worksheet, and the Challenging Beliefs Worksheet)
	21–26	Focusing on special themes including safety, trust, control, esteem and intimacy, introducing worksheets, restructuring cognitions
Developmental tasks	27–29	Education about potentially abusive partners ("Red Flags"), initiation of education-focused help, inclusion of the social network
	30	Review, second impact statement

caregivers, boyfriend, or girlfriend) are indicated or to gain a deeper understanding of a certain topic. The treatment is organized into four phases.

Planning-and-Preparation Phase (PPP; Sessions 1–5)

In sessions 1 and 2, a therapy contract is established in which the patient commits to a non-suicide agreement, regular participation, and promptness when cancelling sessions. An emergency plan that manages the handling of acute crises or cases of suicidality with consideration for the adolescent's individual life circumstances (e.g., identifying the appropriate psychiatric hospital or who has to be informed) is formulated. Sessions 3 and 4 focus on creating a lifeline. Patients are asked to illustrate their most important positive and negative life events on a chart to recognize associations between central events and the course of symptoms, which may increase the motivation for therapy. At the same time, the lifeline is an economic tool to provide useful information to the therapist regarding the patient's history. Gaining a deep understanding of the patient's thinking and the circumstances under which the adolescent developed central beliefs helps the therapist to validate the patient's thinking. The first treatment phase closes with the formulation of precise and practical therapy goals.

Emotion Regulation Training (ERT; Sessions 6–11)

These sessions are based on emotion regulation interventions as described in DBT-PTSD (Steil et al. 2011; Bohus et al. 2013). During this treatment phase, patients learn to tolerate intensive trauma-related emotions and stress without acting in dysfunctional ways. In DBT-PTSD, a variety of techniques—such as mindfulness, distress tolerance (e.g., distraction, self-soothing, pros, and cons), or emotion regulation (e.g., describing emotions, letting go of painful emotions, opposite thinking or acting)—are used to teach patients how to tolerate high distress. To teach adolescents techniques to regulate distress before focusing on the traumatic events, a condensed selection of distress tolerance and emotion regulation skills was offered to them (see below).

In sessions 6–9, patients identify their typical trauma-related dysfunctional escape strategies, such as dissociation, self-harm, suicidal ideation, dissociation, and substance abuse, and learn to replace them by using more functional, alternate actions. Using behavior analysis, patients learn to recognize typical triggers for their problem behaviors. The patients' motivations to give up dysfunctional escape strategies are enhanced by discussing the long-term negative consequences of these behaviors. Patients keep diaries in which they record daily their urges to act in dysfunctional ways so that they learn to identify early warning signs. To

control these problem behaviors, patients are taught to use distress tolerance skills. For example, dissociation or self-harm can be prevented or stopped using strong sensory stimuli (taste: e.g., smelling chili, peppermint oil, or ammonia; hearing: loud music; touch: cold water in the face; and sight: using fast eye movements), listing pros and cons, or engaging in activities (e.g., climbing stairs, jogging, or calling a friend). Additional sessions can be applied to discuss with the adolescent and primary caregivers which strategies are most helpful for tolerating elevated stress and how caregivers can support the patient.

In sessions 10 and 11, patients are educated about feelings. They learn about the different types of emotions that exist, in which situations they typically occur, the body sensations that they are usually associated with, and what type of behavior usually follows.

Intensive Cognitive Processing Therapy (I-CPT; Sessions 12–26)

CPT tools have been modified to be less complex. The first 10 sessions of the CPT phase are applied on a daily basis, with homework to be completed between sessions. In session 12, patients receive specific information regarding CPT's functional PTSD model. Adolescents are then asked to explore the "meaning" of their traumas by writing an impact statement as homework. In sessions 13 and 14, patients discuss why they believe the traumatic event occurred and how the event has shaped their beliefs about themselves, others, and the world. They are asked to address the domains of safety, trust, power/control, esteem, and intimacy in particular. During the treatment session, the therapist and client work on identifying maladaptive beliefs that keep the patient "stuck"; these beliefs are therefore called "stuck points." Stuck points are thoughts related to interpretations of the traumatic event, such as "my father raped me because I did not pay enough attention to him" or "I must have deserved what happened to me," or thoughts about how they now view themselves and the world based on their traumatic experiences, such as "it will happen again" or "I cannot rely on anybody." Patients are taught to recognize the association between events, thoughts, and feelings through the use of A–B–C sheets. The A–B–C sheet is a three-column worksheet in which patients write down an event (A), their thought about it, their stuck point (B), and then in the C column, their emotion. From this, they learn to identify and label emotions and begin to learn that if their thoughts change, their emotions change.

Sessions 15 and 16 focus on remembering the traumatic event and working through stuck points. To these ends, patients write detailed accounts of their most impairing or important event—the index trauma—including sensory details, thoughts, and feelings. In cases of multiple traumas, the patient starts to write about the index trauma and has the option to write further accounts about other traumas, if needed. This can be the case when the events differ highly in the way that there were different perpetrators or the main trauma-associated stuck points and thus emotions differ.

The therapist supports the adolescent by offering support or inviting the use of emotion regulation skills (e.g., if the therapist notices that the patient is going to dissociate) while the patient writes the account. The patients read the account during the next session, and the therapist listens carefully, looking out for issues of coherency or avoidance behaviors, such as leaving out the worst moment, emotions experienced, or important sensory details. At the same time, the therapist uses Socratic questioning to begin to challenge distorted cognitions, particularly those associated with self-blame, hindsight bias, and other guilt cognitions. The purpose of Socratic questioning is to challenge the accuracy of patients' thinking in a way that will help reduce their suffering.

In sessions 17 through 20, the core cognitive skills of CPT are taught. The use of different worksheets helps the adolescents to learn step-by-step how to analyze their stuck points and how to view past, present, and future events with more balanced interpretations. First, patients use the Challenging Questions Worksheet (CQW) to examine a single belief. In its original format, the CQW consists of ten questions that help patients evaluate their stuck points from different perspectives. To prevent young patients from feeling overburdened by the worksheets, we have reduced the number of challenging questions to five, including those questions that have been observed to be the most useful for adolescents in clinical practice. The modified CQW includes questions that evaluate the evidence for and against the belief, that analyze whether the thought represents a fact or a habit, that reflect the context from which the belief was formed, that consider whether the belief may be extreme, and that identify how much the belief is based on feelings rather than facts.

Next, patients learn how different thinking patterns interfere with recovery from PTSD. Through the introduction of the Problematic Thinking Pattern Worksheet, adolescents become familiar with common faulty thinking patterns. Our shortened version of the Problematic Thinking Pattern Worksheet addresses six patterns, including jumping to conclusions when evidence is lacking, exaggerating or minimizing a situation, disregarding important aspects of a situation, oversimplifying things as good/bad or right/wrong, mind reading, and emotional reasoning. To make these patterns easier to understand for young patients, the therapist uses many examples from everyday life or examples from prior sessions. Patients then examine each stuck point to determine which of the problematic thinking

patterns is being activated. Finally, the Challenging Beliefs Worksheet (CBW) is introduced. The CBW is the most relevant worksheet to be used throughout the rest of the CPT phase. It incorporates all the skills taught in the worksheets used in the prior sessions: organizing the elements of the A–B–C worksheet, answering challenging questions, and identifying problematic thinking patterns. Additionally, the CBW introduces a column to generate a more balanced and realistic alternative thought and related emotions.

In sessions 21 through 26, patients focus on specific topics that are likely to be disrupted by traumatic events: safety, trust, power/control, esteem, and intimacy. Each of these modules is introduced by a worksheet that is given to the patient to read and consider. The worksheets describe how beliefs in each of the themes (e.g., "People are trustworthy") can be disrupted and how negative beliefs can seemingly be confirmed through physical or sexual abuse (e.g., "All people are dangerous"). Suggestions for possible solutions in the form of more adaptive statements are also included in the worksheets. Patients are asked to consider whether they notice any stuck points in each of these themes regarding themselves or others and to discuss them by using the CBW. The last five sessions are completed within 2 weeks.

Developmental Tasks (DT; Sessions 27–30)

Several interventions are provided to minimize the risk of sexual or physical revictimization or the selection of a toxic partner. This goal can be achieved by teaching patients about warning signs that may indicate that a potential intimate partner is likely to become abusive. This allows young patients to identify and avoid potential abusers before they become emotionally involved with such individuals. To this end, we use a youth-modified version of the "20 Red Flags," which was originally compiled by Kubany and Ralston (2008). Warning signs include (among others) jealousy, lying, physical aggression with others, the reputation of being a womanizer, and unreliability. Because female adolescents are often only partially able to anticipate their effects on men, patients are educated about which behavior patterns, clothing, and manners of speaking or acting may be sexually inviting or discouraging to men.

If indicated, sessions of the final module may be used to help the patient to return to school, perform better in school, or complete job-related educations. These sessions focus on enlisting long-term assistance that will extend beyond the termination of therapy (i.e., job counseling, tutoring, and vocational training) and including the social network to support the patient in achieving their educational goals.

The final session focuses on reviewing the impact of treatment. Patients are asked to write a new impact statement reflecting the current (i.e., after the treatment) meaning of the trauma for the patient and what the patient's current beliefs are regarding the five topics described above. The goal of the last assignment is that the patients can see how much their thinking has changed and what stuck points might remain that they will have to continue to work on.

Testing the Feasibility of D-CPT: A Pilot Study

We conducted an uncontrolled pilot study to examine the efficacy, acceptance, and safety of a 16-week D-CPT protocol. We hypothesized that patients would experience significant reductions in posttraumatic stress (the primary outcome) and in associated psychopathological symptoms, such as depression, dissociation, and emotion regulation deficits (the secondary outcomes), from pre- to post-treatment and at a 6-week follow-up. The study was approved by the local ethics committee of the medical faculty of Goethe University of Frankfurt.

Method

Participants

Inclusion criteria were as follows: (a) Age was 14–21 years; (b) full criteria were met for CSA- or CPA-related PTSD according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV-TR; American Psychiatric Association 2000); and (c) informed consent was provided by the patient and by the patient's parents or guardian if the adolescent was younger than 18 years of age. CSA was defined as the sexual assault of a minor or sexual activity between a minor and an older person with the older person using the dominant position to coerce or force the younger person (American Psychological Association 2001). CPA was defined as intentional injury of a child by a parent or caretaker, e.g., striking, kicking, beating, biting, or any action that leads to physical injury (American Psychological Association 2013).

The exclusion criteria were as follows: (a) a lifetime diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder according to DSM-IV; (b) a documented developmental disorder (e.g., autism, IQ < 75); (c) any active drug or alcohol dependency according to DSM-IV; (d) a suicide attempt or life-threatening self-harm within 6 months prior to admission to the study; (e) ongoing abuse; or (f) failure to be fluent in German.

Figure 1 shows the patient flow through the study. Twelve adolescent patients (ten females, two males) with

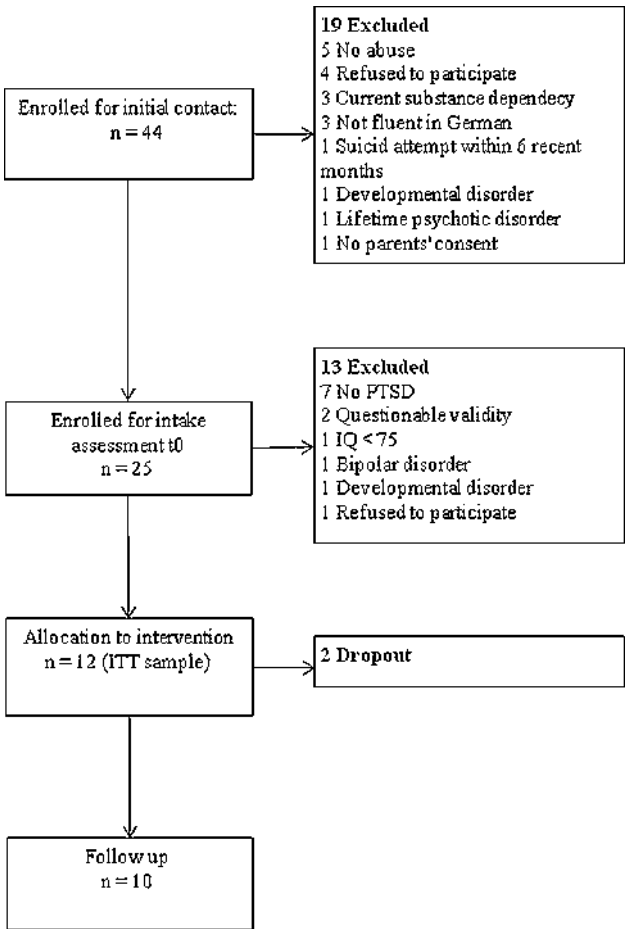

Fig. 1 Flow diagram of study patients

PTSD secondary to CSA or CPA were included consecutively; 11 patients were Caucasian, and one was African American. One patient refused to participate after the pretreatment assessment without giving any reason for refusing to participate. One patient left treatment after attending three sessions; another left after attending nine sessions. These two adolescents (17 %) were defined as dropouts. Twelve patients were included in the intent-to-treat analysis.

Recruitment and Procedure

Assessment and treatment were offered at our specialized PTSD outpatient center. Patients were mainly referred to our treatment unit by child welfare agencies, social workers, caregivers, local child, and adolescent psychiatrists or psychotherapists or their local GP. After initial contact with the adolescent patient or caregivers, patients were screened for inclusion and exclusion criteria in a first screening assessment. In an intake assessment (t0), patients were tested for the inclusion and exclusion criteria using the clinical ratings and self-ratings described below. Assessments were conducted by two trained clinical psychologists. All interviews were video-recorded and discussed with the senior psychologist (R.S.). Intake (t0), post-treatment (t1), and follow-up assessments (t2) included diagnostic interviews and self-report measures of posttraumatic, depressive, and dissociative symptoms, as well as self-ratings of emotion regulation deficits. Post-treatment and follow-up assessments were conducted by a clinician rater who did not deliver treatment to the patient. Two trained clinical psychologists administered the treatment. All treatment sessions were videotaped. Treatment fidelity was secured by weekly supervision with R.S. and periodic telephone consultation with P.R.

No incentives were provided to participants for the assessments.

Measures

All measures were applied in German language. While for some internationally known measures, the validated German version was used (see the citation in parenthesis), other measures have been developed and validated in German (e.g., the Kinder-Dips, see below).

Clinician-Administered PTSD Scale (CAPS; Blake et al. 2000; in German Schnyder and Moergeli 2002)

The CAPS can be used to diagnose DSM-IV PTSD and assess PTSD symptom severity in individuals 16 years of age and older. For each PTSD symptom, a clinician rates two separate dimensions, i.e., frequency and intensity, on a scale ranging from 0 (never) to 4 (daily or almost daily) and from 0 (none) to 4 (extreme), respectively. A symptom was considered present if the frequency score was at least 1 (it occurred at least once or twice in the last month) and the intensity score was at least 2, i.e., moderate intensity (Blake et al. 2000). Symptom severity was determined based on the sum of frequency and intensity ratings. CAPS diagnoses and symptom severity scores have demonstrated reliability and validity (Weathers et al. 2001). Cronbach's alpha for the CAPS total score for this study was .88. To assess interrater reliability, we used a joint interview method (Bruss et al. 1994). The interrater reliability for the total CAPS score was good ($r = .99$).

Structured Clinical Interview for DSM-IV Axis I and Axis II (SCID-I; First et al. 1997, 1994, in German Wittchen et al. 1996; Fydrich et al. 1997)

The semi-structured SCID-I interview was administered by clinician raters to diagnose psychiatric disorders according to DSM-IV Axis I. To evaluate severe problems in emotion

regulation, we utilized the borderline section of the SCID-II. Diverse studies document the reliability of the SCID-I and SCID-II (e.g., Zanarini et al. 2000; Lobbestael et al. 2011).

Diagnostic Interview for Mental Disorders in Childhood and Adolescence (Kinder-DIPS; Schneider et al. 2009)

The Kinder-DIPS is a structured diagnostic interview that is designed to address both ICD-10 and DSM-IV diagnostic criteria in children and adolescents. The Kinder-DIPS has good reliability (Adornetto et al. 2012). To assess child and adolescent disorders that were not covered by SCID-I, we additionally utilized the child version of specific modules of the Kinder-DIPS. For example, the Kinder-DIPS was used to diagnose separation anxiety disorder, conduct disorders, tic disorder, mutism, enuresis, and encopresis.

Interview for Traumatic Events in Childhood (ITEC; Original and in German Lobbestael et al. 2009)

The ITEC is a retrospective, semi-structured interview for childhood maltreatment that provides dimensional scores for the severity of sexual, physical, and emotional abuse as well as emotional and physical neglect. We used the physical and sexual abuse modules in this study. The internal consistency as well as convergent and discriminant validity for the scales used in our study can be classified as good (Lobbestael et al. 2009).

Culture-Fair Intelligence Test (CFT-20-R; Weiß 2006)

CFT-20-R was used to rule out intellectual disability and was conducted in a group setting. All clinical ratings were performed by trained and clinically experienced interviewers.

University of California Los Angeles PTSD Reaction Index (UCLA; Steinberg et al. 2004, in German Ruf et al. 2010)

The UCLA PTSD Reaction Index for DSM-IV (Revision 1) is a paper-and-pencil instrument for the assessment of trauma exposure and posttraumatic stress symptoms among children and adolescents. It consists of three parts. Part I is composed of a brief lifetime trauma screen, whereas Part II systematically evaluates A1 and A2 DSM-IV criteria. Part III consists of 22 items assessing the frequency of occurrence of posttraumatic stress symptoms during the past month (rated from 0 = "none of the time" to 4 = "most of the time"). A cutoff score of 22 is recommended (Ruf et al. 2010). Several studies have demonstrated high reliability and validity of the UCLA index (e.g., Steinberg et al. 2013). Cronbach's α for the UCLA index was .81 in the current study.

Depression Inventory for Children and Adolescents (DICA; Stiensmeier-Pelster et al. 2000)

The DICA is the German version of the Children's Depression Inventory (CDI; Kovacs 1985) and assesses depressive symptoms in childhood. Participants choose one of three response categories on each of the 26 items according to their symptom severity. The internal consistency as well as the convergent and discriminant validity can be classified as good (Stiensmeier-Pelster et al. 2000).

Adolescent Dissociative Experiences Scale (A-DES; Armstrong et al. 1997, in German HDI; Brunner et al. 2008)

The A-DES is a 30-item self-report measure assessing dissociative symptoms in adolescents. The respondent circles statements on an 11-point scale ranging from 0, labeled as "never," to 10, labeled as "always." The instrument shows good reliability (Armstrong et al. 1997).

Borderline Symptom List (BSL-23; Bohus et al. 2009)

BSL-23 was used to assess severe emotion regulation deficits and is a 23-item self-report measure that uses a 5-point Likert scale. Internal consistency and validity can be classified as good (Bohus et al. 2009).

Statistical Analysis

Intent-to-treat (ITT) analyses were conducted with all patients who completed pretreatment assessments ($N = 12$). Because of the data structure, we decided to use LOCF for dropouts in ITT analyses.

To test the assumption of multivariate normality in outcome measures, we conducted a series of Kolmogorov–Smirnov tests to examine univariate normality in every outcome measure. Univariate normality was found in all outcome measures (all $p > .05$). Because Mauchly's test indicated that the assumption of sphericity had been violated, i.e., $\chi^2(2) = 20.45$, the degrees of freedom were corrected using Greenhouse–Geisser estimates of sphericity ($\varepsilon = .54$).

We conducted repeated-measures multivariate analyses of variance (MANOVAs) with time as a within-subject factor (t0, t1, t2) to examine the effects of D-CPT on the severity of posttraumatic stress symptoms (CAPS, UCLA; the primary outcome) and depression, dissociative symptoms, and emotion regulation deficits (DICA, A-DES, BSL-23; the secondary outcomes). Additionally, one-way ANOVAs on each of the outcome measures as follow-up tests to the MANOVA were conducted to assess simple effects. In cases in which the criterion of sphericity was not

met, we used Greenhouse–Geisser corrections. Finally, post hoc analyses were performed to examine individual differences in each outcome measure across the three times of measurement. The significance level was set at $p < .05$ (two-tailed). A Bonferroni adjustment was applied for the post hoc analyses to avoid inflation of type I error. We only report the corrected p values.

Clinically meaningful improvement was defined as a reduction in at least 15 points in the CAPS score (Weathers et al. 2001). Remission was defined as not meeting DSM-IV PTSD criteria any longer according to the CAPS. For quantification of improvement over time, pre–post-effect sizes were estimated by calculating Cohen's d for the primary and secondary outcome measures.

For all outcome measures, 3 % of the data were missing. To examine whether the missing data influenced our results, we conducted Little's Missing-Completely-At-Random (MCAR) test (e.g., Little and Rubin 1989). Because we found that missing data in our sample were not missing completely at random, i.e., Little's MCAR $\chi^2(5,489) = 26{,}578.59$, $p < .001$, we estimated values for the missing data by using mean substitution. Statistics were calculated using SPSS® Version 19.0.

Results

Sample Characteristics

Half of the patients were living with at least one of their parents; three were living with both parents, one only with the father, and two only with the mother. Four patients were living in an assisted youth living group, and two were living with their partner. Five adolescents (42 %) had immigrant backgrounds. Five participants (42 %) were still attending school, whereas two (17 %) had an apprenticeship, two were completing a voluntary year of social service, and three (25 %) were unemployed. In half of the cases, the parents had been divorced.

In addition to PTSD, participants reported various other psychological and behavioral problems. Eleven participants (92 %) had at least one comorbid psychiatric disorder. Nine participants were suffering from a comorbid depressive disorder; nine patients had at least one comorbid anxiety disorder; three also fulfilled criteria for a comorbid eating disorder or a somatoform disorder. Three adolescents had a history of substance abuse. Patients showed a mean of 2.25 comorbid disorders according to DSM-IV criteria and met an average of 2.42 (SD = 2.68) borderline criteria in the borderline section of SCID-II. CFT-20-R scores ranged from 79 to 123 ($M = 99.67$, SD = 14.18). A detailed description of each patient's diagnostic status is shown Table 2.

CAPS and ITEC were used to identify the patients' exposure to traumatic events and to describe the severity of the abuse. Ten of 12 patients (75 %) were victims of CSA, 10 had experienced CPA, and eight (67 %) had experienced both. Abuse-related sample characteristics are presented in Table 3.

Eleven of 12 patients had experienced more than one traumatic event: On average, the adolescents had been confronted with 1.75 (SD = 1.48) types of trauma in addition to sexual or physical abuse. For example, six (50 %) had witnessed or been involved in a serious accident; five (42 %) had witnessed domestic or community violence; four (33 %) had experienced neglect; three (25 %) had been confronted with a sudden and unexpected death of a loved person; and two of the patients (17 %) had witnessed sexual violence. At t0, eight patients described CSA as the most impairing trauma, whereas four mentioned CPA to be most distressing. Of the seven completers who had a history of both CSA and CPA, we found the following: Two patients wrote accounts of their most impairing traumatic event (CSA) exclusively, and in those two patients, all the cognitive interventions also focused on CSA. In the other five cases, the written accounts only targeted the most impairing event (4 on CSA, 1 on CPA) while both kinds of trauma were considered during cognitive restructuring.

At the baseline assessment, 50 % of the patients reported chronic suicidal ideation, with two patients reporting histories with at least one suicide attempt. Three patients exhibited current non-suicidal self-injury, and eight patients reported histories of self-harming behavior. Upon admission, none of the participants was receiving psychotropic medication, and eight (67 %) had previously received psychological treatment.

The mean number of D-CPT sessions provided was 30.30 (SD = 0.48) within an average timeframe of 21.91 (SD = 5.45) weeks. In one case, the full treatment was applied across a shorter period (13 weeks) because the girl had to move to attend her university. In another case, we were forced to extend the time period (31 weeks) because of the patient's unstable motivation for therapy, which led to interruptions in the course of treatment. Six patients additionally received treatment sessions ($M = 1.17$, SD = 0.41) together with another close person (in three cases with the mother, in two cases with a child care worker, and in one case with the partner). One of the patients became engaged in a suicidal crisis after her boyfriend threatened her with leaving during the first therapy phase, which precipitated residential treatment. After a break of 8 weeks, we decided to continue treatment. After attending seven more sessions, the girl left treatment without giving a reason. A second girl dropped out of treatment during the first treatment component

Table 2 Diagnoses according to DSM-IV and PTSD severity ratings pretreatment and at 6-week follow-up

Patient	Pretreatment			6-Week follow-up		
	PTSD diagnosis	PTSD severity	Comorbid disorder	PTSD diagnosis	PTSD severity	Comorbid disorder
1	Yes	76	Major depressive disorder, moderate; panic disorder with agoraphobia	No	40	Major depressive disorder, mild
2	Yes	82	Major depressive disorder, moderate; social phobia	No	12	–
3	Yes	80	Bulimia nervosa	No	19	–
4	Yes	38	–	No	2	–
5	Yes	73	Specific phobia; body dysmorphic disorder	No	20	Specific phobia
6	Yes	43	Major depressive disorder, recurrent, moderate; anxiety disorder NOS	No	3	Anxiety disorder NOS
7	Yes	83	Dysthymic disorder; social phobia; eating disorder NOS; body dysmorphic disorder	Dropout; no diagnostics available		
8	Yes	71	Major depressive disorder, recurrent, moderate; somatization disorder	No	8	–
9	Yes	58	Major depressive disorder, moderate; generalized anxiety disorder	No	4	–
10	Yes	97	Major depressive disorder, severe; generalized anxiety disorder	No	10	–
11	Yes	46	Major depressive disorder, recurrent, moderate; specific phobia	Yes	35	Major depressive disorder, recurrent, partial remission, specific phobia
12	Yes	102	Major depressive disorder, recurrent, moderate; agoraphobia; social phobia; specific phobia; bulimia nervosa	Dropout; no diagnostics available		

CAPS was used to assess diagnosis and severity of PTSD; SCID-I and Kinder-DIPS were used to asses comorbid disorders

because of non-compliance to treatment conditions. One patient did not complete post-treatment self-ratings.

Treatment Outcome

Repeated-measures MANOVAs were conducted to test the hypotheses that there would be a change in primary (CAPS, ULCA) and secondary outcome measures (DICA, A-DES, BSL-23) over time. Only the results of ITT analyses are reported.

Primary Outcome Measures

The posttraumatic stress measures differed significantly across the time points, F (1.07, 11.76) = 34.06, $p < .001$. Follow-up univariate analyses were conducted separately for both the CAPS and UCLA scores as well as for the different symptom clusters of PTSD. As shown in Table 3, all post hoc ANOVAs for CAPS and UCLA scores were statistically significant. Patients showed significant improvements in both PTSD measures on comparison of t0 with t1 and t0 with t2. Pre–post-effect sizes (Cohen's d) were very large, with $d = 1.16$ for the CAPS scores and $d = 2.01$ for the UCLA scores. The CAPS scores also decreased significantly from t1 to t2, with $d = .33$ (Table 4).

At t2, nine patients (75 %) showed reliable changes in the CAPS score and also met remission criteria. No patient exhibited deterioration in the CAPS score at t2. In one case, a deterioration of posttraumatic stress measures was observable at t1; however, upon incorporation of the t2 score, an improvement in posttraumatic stress measures across the entire study period was observed.

Secondary Outcome Measures

A statistically significant reduction in secondary outcome measures was observed across the time points, F (2, 22) = 16.53, $p < .001$. Follow-up univariate analyses were conducted separately for the DICA, the A-DES, and the BSL-23. Significant reductions were observed in depressive symptoms, dissociative symptoms, and emotion regulation deficits when comparing t0 to t1 and t0 to t2. Pre–post-effect sizes (Cohen's d) were medium to large, with $d = .92$ for the DICA scores, $d = .74$ for the A-DES scores, and $d = .88$ for the BSL-23 scores. Gains remained at follow-up, and there were no significant differences in scores from t1 to t2. While 11 patients had at least one comorbid disorder at t0, five of them showed total remission from these comorbid disorders at t2. The detailed diagnoses according to SCID-I at intake and the diagnoses still met at follow-up are shown in Table 2.

Table 3 Demographics and abuse characteristics of the adolescent sample ($N = 12$)

Demographic variables	Results
Age	
M (SD)	18.08 (1.67)
Range	15–21
History of sexual abuse, *n* (%)	10 (83)
No. of sexual abuse clusters, *M* (SD)	1 (0.74)
Age in years at the start of the most intrusive sexual abuse cluster, *M* (SD)	11.80 (5.49)
Duration in months of the most intrusive sexual abuse cluster	
M (SD)	23.60 (59.85)
Range	1–192
Experienced sexual abuse with penetration, *n* (%)	9 (75)
History of physical abuse, *n* (%)	10 (83)
Age at the start of the physical abuse, *M* (SD)	8.33 (6.25)
Duration in months of the physical abuse	
M (SD)	52.70 (44.63)
Range	2–144

Discussion

We developed a phase-based treatment for adolescents suffering from CPA- or CSA-related PTSD and severe comorbidities. To our knowledge, this is the first study to investigate a treatment especially tailored for these patients. In our pilot study, we found strong pre- to post-treatment reductions in PTSD symptoms as assessed by the CAPS and the UCLA indices with large pre–post-effect sizes. Seventy-five percent of patients showed clinically meaningful improvement, defined as a reduction of at least 15 points in the CAPS score, and 75 % of patients achieved remission from PTSD, as also assessed by the CAPS score. Regarding secondary outcome measures, significant improvements from pre- to post-treatment and to follow-up were observed in terms of depressive symptoms, dissociative symptoms, and emotion regulation deficits as assessed by the DICA, the A-DES, and the BSL-23.

A comparison of our results to those of other adolescent-focused studies on PTSD after CSA or CPA is difficult because the previous studies did not report pre–post-effect sizes. Studies on TF-CBT in both sexually abused children and adolescents have reported large pre–post-effect sizes, with $d = .94$ and $d = 1.8$ (Deblinger et al. 2011; Kirsch et al. 2011). Studies on PTSD in general have reported even higher pre–post-effect sizes, but these studies only included children and adolescents who had experienced a single traumatic event (Smith et al. 2007). Compared with the average effect size of $g = .71$ in clinical trials on PTSD in children and adolescents with histories of CSA (Harvey and Taylor 2010), our results seem promising.

Two patients dropped out of treatment (16 %). The first dropout after three sessions of D-CPT may be explained by the patient's high pretreatment CAPS score of 102 and low intelligence level (CFT-20-R: IQ = 79). Research on CPT suggests a positive association between dropout and CAPS scores and a negative association between the dropout likelihood and baseline intelligence level (Rizvi et al. 2009; Galovski et al. 2012). The second patient, who dropped out after nine sessions, had the highest amount of borderline features, as measured by the SCID-II at baseline, and reported the greatest number of different types of traumatization. Although this finding may have influenced the patient's choice to discontinue treatment, we cannot rule out that she was an early treatment responder. Galovski et al. (2012) showed in their trial of a flexible-length CPT protocol that more than half of patients were early responders, with sufficient treatment success occurring after an average of 7.5 sessions. The dropout rate observed in our sample is slightly lower than the average dropout rate of about 20 % in general adult PTSD patients (Bradley et al. 2005; Imel et al. 2013). Given that highly impaired adolescents are at increased risk of not completing treatment (Pellerin et al. 2010), the dropout rate in our study seems acceptable and indicates that D-CPT was well received by the patients.

We did not find any exacerbation in PTSD symptoms from pretreatment to follow-up. One patient showed an increase in PTSD symptoms from pretreatment to post-treatment, with a difference of 15 CAPS points between assessments. This difference may be explained by a delay in treatment progress because of cognitive impairment; the results on the CFT-20-R at pretreatment for this patient suggested low intelligence (CFT-20-R: IQ = 80). Patients at lower intelligence levels may be lower to learn new ways of thinking and may be less likely to follow through and benefit from treatment than those at higher intelligence levels (Rizvi et al. 2009).

One patient reported a suicidal crisis during treatment after her boyfriend threatened to leave her. Given that this patient met eight BPD criteria at the baseline assessment, it is unclear whether this crisis occurred because of treatment conditions or because of emotional instability. However, given the low dropout rate and the lack of exacerbation from pretreatment to follow-up, we can assume that D-CPT is safe.

For the reasons of external validity, we decided to limit the exclusion criteria to a minimum, which resulted in a highly impaired sample. At baseline, D-CPT patients initially showed mean scores on the CAPS and UCLA indices of approximately 71 and 45, respectively. These CAPS

Table 4 Treatment outcome measures

Outcome	t0		t1		t2		Time effect		t0–t1	t0–t2	t1–t2
	M	SD	*M*	SD	*M*	SD	*F*	*df*	*d*	*d*	*d*
CAPS	70.75	20.62	39.08	29.52	28.17	32.61	22.05***	1.16	1.16**	1.45***	0.33*
Re-experiencing	21.92	8.38	13.83	9.02	7.42	9.80	15.57***	2	0.70 ns	1.40***	1.02*
Avoidance	28.50	9.63	12.75	13.50	11.08	13.34	20.25**	1.07	1.09**	1.39**	0.48ns
Hyperarousal	20.33	8.72	12.50	9.66	9.67	11.26	9.00*	1.24	0.76*	0.87*	0.57ns
UCLA	44.50	10.66	18.70	13.13	17.25	15.49	38.86***	1.34	2.01***	1.91***	0.09ns
Re-experiencing	13.25	4.86	4.73	3.88	3.42	4.49	33.50***	1.10	1.37**	1.81***	0.64*
Avoidance	17.42	6.29	6.89	5.53	7.17	7.47	24.74***	2	1.69***	1.35**	−0.6ns
Hyperarousal	13.83	3.16	7.08	4.48	6.58	5.35	19.75***	1.26	1.26**	1.23**	.22ns
DICA	23.97	8.73	14.75	9.81	15.12	12.01	20.72***	2	0.92***	0.78***	−0.03ns
A-DES	86.55	47.95	49.55	45.62	51.91	53.00	10.45**	2	0.74*	0.64*	−0.04ns
BSL-23	39.25	16.92	20.55	22.41	21.76	26.06	20.72***	2	0.88***	0.74**	−0.05ns

The analyses include all patients ($N = 12$) who completed pretreatment assessments

t0 = pretreatment; t2 = post-treatment; t2 = follow-up; CAPS = Clinician-Administered PTSD Scale for Children and Adolescents; UCLA = University of California Los Angeles PTSD Reaction Index; DICA = Child Depression Inventory; A-DES = Adolescent Dissociative Experiences Scale; *M* = mean; SD = standard deviation; *d* = Cohen's *d*

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; adjustment for multiple comparisons: Bonferroni; ns = not significant

scores can be classified as representing severe PTSD symptomatology (Weathers et al. 2001). Other adolescent-focused studies on PTSD after CA did not report CAPS or UCLA scores; thus, it is difficult to compare the samples. One study investigating treatment effects in adolescents with CA-related PTSD reported mean pretreatment UCLA scores of approximately 40 (Danielson et al. 2012). Only a few studies have focused on both children and adolescents that used the CAPS or the CAPS-CA (Nader et al. 1994) as a primary outcome measure. Compared with D-CPT patients, participants in these trials were less impaired, with mean pretreatment CAPS scores of approximately 40, 61, and 67, respectively (Kirsch et al. 2011; Smith et al. 2007; Ertl et al. 2011). Chard (2005) reported mean pretreatment CAPS scores of approximately 65 in an RCT that applied an adapted version of CPT for adult CSA victims.

In contrast to the original 12-session CPT protocol, D-CPT consists of 30 sessions, including additional modules. As mentioned above, there is an ongoing debate as to whether phase-based versus single-phase treatments, such as CPT, are adequate for PTSD patients with histories of CA. As Chard (2005) showed, CPT is highly effective in CSA victims; however, Chard used an adapted version of CPT that employed more sessions and combined group and individual treatment sessions. Furthermore, patients in Chard's study had lower CAPS scores, with a mean score of approximately 65. Our findings suggest that adolescent patients benefit from our phase-based treatment. However, we are aware that the current design does not allow the determination of whether or how treatment modules that we added to the original CPT protocol contribute to treatment effects over and above the contributions of the CPT components. A dismantling design will be needed to investigate the contribution of single-treatment components. It is possible that similar results could be received using the CPT phase only.

We are aware that D-CPT is a treatment with several challenges for patients and therapists. We encountered several barriers to conducting intensive CPT, such as the removal of patients from school, scheduling therapy sessions around holidays, and increasing the therapists' flexibility requirements. Furthermore, the therapists had to invest considerable effort outside the therapy sessions by cooperating with child welfare services and caretakers. As many of the adolescent patients with PTSD after CSA or CPA do not live with their parents any more, D-CPT can be administered independently of parental support. However, if the adolescent is supported by a close person such as a parent, a child care worker, or a partner, the therapist should cooperate with them and invite them to sessions.

Limitations

The results of our pilot study are limited by the lack of a control group and randomized design and by the lack of long-term follow-up assessments. The reliability and validity of several outcome measurements (e.g., CAPS, DICA, and BSL-23) have not been verified for the entire age range investigated in our study. These limitations in the quality of assessment instruments may influence internal

validity. Furthermore, a dismantling study would be needed to examine whether all treatment phases contribute to treatment effects.

These limitations notwithstanding, we can assert that D-CPT is the first treatment tailored to the specific needs of adolescents with PTSD secondary to CSA or CPA in the presence of severe comorbidities. Our findings indicate that D-CPT may represent an effective and safe treatment for reducing posttraumatic stress symptoms and associated symptoms, such as depression, dissociation, and emotion regulation deficits. Implementation of a randomized controlled trial will be the next step in testing the effectiveness of D-CPT.

Acknowledgments We thank Anne-Marie Korst for her conceptual support during the development of D-CPT and her therapeutic work. We also thank Dr. Volkmar Höfling for his collaboration on statistical analyses. Finally, we would like to express our gratitude to all of the participants who gave their time to be part of this study.

References

Adornetto, C., Suppiger, A., In-Albon, T., Neuschwander, M., & Schneider, S. (2012). Concordances and discrepancies between ICD-10 and DSM-IV criteria for anxiety disorders in childhood and adolescence. *Child and Adolescent Psychiatry and Mental Health, 6*(1), 40. doi:10.1186/1753-2000-6-40.

Ahrens, J., & Rexford, L. (2002). Cognitive processing therapy for incarcerated adolescents with PTSD. *Journal of Aggression, Maltreatment & Trauma, 6*(1), 201–216. doi:10.1300/J146v06n01_10.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders, DSM-IV-TR*. Washington, DC: American Psychiatric Association.

American Psychological Association. (2001). *Understanding child sexual abuse. Education, prevention, and recovery*. http://www.apa.org/pubs/info/brochures/sex-abuse.aspx. Accessed March 5, 2013.

American Psychological Association. (2013). *Understanding and preventing child abuse and neglect*. http://www.apa.org/pi/families/resources/understanding-child-abuse.aspx. Accessed March 5, 2013.

Annerback, E. M., Sahlqvist, L., Svedin, C. G., Wingren, G., & Gustafsson, P. A. (2012). Child physical abuse and concurrence of other types of child abuse in Sweden-Associations with health and risk behaviors. *Child Abuse and Neglect, 36*(7–8), 585–595. doi:10.1016/j.chiabu.2012.05.006.

Armstrong, J. G., Putnam, F. W., Carlson, E. B., Libero, D. Z., & Smith, S. R. (1997). Development and validation of a measure of adolescent dissociation: The Adolescent Dissociative Experiences Scale. *The Journal of Nervous and Mental Disease, 185*(8), 491–497. doi:10.1097/00005053-199708000-00003.

Barnes, J. E., Noll, J. G., Putnam, F. W., & Trickett, P. K. (2009). Sexual and physical revictimization among victims of severe childhood sexual abuse. *Child Abuse and Neglect, 33*(7), 412–420. doi:10.1016/j.chiabu.2008.09.013.

Bisson, J. I., Ehlers, A., Matthews, R., Pilling, S., Richards, D., & Turner, S. (2007). Psychological treatments for chronic posttraumatic stress disorder. Systematic review and meta-analysis. *British Journal of Psychiatry, 190*, 97–104. doi:10.1192/bjp.bp.106.021402.

Blake, D., Weathers, F., Nagy, L., Kaloupek, D., Klauminzer, G., Charne, Y. D., et al. (2000). *Clinician-Administered PTSD Scale (CAPS) instruction manual*. Boston: National Center for PTSD.

Bohus, M., Dyer, A., Priebe, K., Krüger, A., Kleindienst, N., Schmahl, C., et al. (2013). Dialectical behaviour therapy for posttraumatic stress disorder after childhood sexual abuse in patients with and without borderline personality disorder: A randomised controlled trial. *Psychotherapy and Psychosomatics, 8*, 221–233. doi:10.1159/000348451.

Bohus, M., Kleindienst, N., Limberger, M. F., Stieglitz, R. D., Domsalla, M., Chapman, A. L., et al. (2009). The short version of the Borderline Symptom List (BSL-23): Development and initial data on psychometric properties. *Psychopathology, 42*(1), 32–39. doi:10.1159/000173701.

Boos, A., Scheifling-Hirschbil, I., & Rüddel, H. (1999). Therapie-Evaluation einer stationären Gruppe « Traumabewältigung » innerhalb der psychosomatischen Behandlung und Rehabilitation von Patientinnen mit chronischer PTB [Evaluation of an inpatient therapy group focusing on coping with trauma in psychosomatic treatment and rehabilitation of patients with chronic PTSD]. *Verhaltenstherapie, 9*, 200–210.

Bradley, R., Greene, J., Russ, E., Dutra, L., & Westen, D. (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *American Journal of Psychiatry, 162*(2), 214–227. doi:10.1176/appi.ajp.162.2.214.

Brunner, R. M., Resch, F., Parzer, P., & Koch, E. (2008). *Heidelberger Dissoziations-Inventar. HDI*. Frankfurt: Pearson Assessment & Information.

Bruss, G. S., Gruenberg, A. M., Goldstein, R. D., & Barber, J. P. (1994). Hamilton Anxiety Rating Scale Interview guide: Joint interview and test-retest methods for interrater reliability. *Psychiatry Research, 53*(2), 191–202. doi:10.1016/0165-1781(94)90110-4.

Chard, K. M. (2005). An evaluation of cognitive processing therapy for the treatment of posttraumatic stress disorder related to childhood sexual abuse. *Journal of Consulting and Clinical Psychology, 73*(5), 965–971. doi:10.1037/0022-006X.73.5.965.

Chard, K. M., Ricksecker, E. G., Healy, E. T., Karlin, B. E., & Resick, P. A. (2012). Dissemination and experience with cognitive processing therapy. *Journal of Rehabilitation Research and Development, 49*(5), 667–678. doi:10.1682/JRRD.2011.10.0198.

Chard, K. M., Schumm, J. A., McIlvain, S. M., Bailey, G. W., & Parkinson, R. B. (2011). Exploring the efficacy of a residential treatment program incorporating cognitive processing therapy-cognitive for veterans with PTSD and traumatic brain injury. *Journal of Traumatic Stress, 24*(3), 347–351. doi:10.1002/jts.20644.

Chard, K. M., Schumm, J. A., Owens, G. P., & Cottingham, S. M. (2010). A comparison of OEF and OIF veterans and Vietnam veterans receiving cognitive processing therapy. *Journal of Traumatic Stress, 23*(1), 25–32. doi:10.1002/jts.20500.

Cohen, J. A., Deblinger, E., & Mannarino, A. P. (2006). *Treating trauma and traumatic grief in children and adolescents*. New York: Guilford Press.

Cohen, J. A., Deblinger, E., Mannarino, A. P., & Steer, R. A. (2004). A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(4), 393–402. doi:10.1097/01.chi.0000111364.94169.f9.

Cohen, J. A., Mannarino, A. P., & Iyengar, S. (2011). Community treatment of posttraumatic stress disorder for children exposed to intimate partner violence: A randomized controlled trial. *Archives of Pediatrics and Adolescent Medicine, 165*(1), 16–21. doi:10.1001/archpediatrics.2010.247.

Cohen, J. A., Mannarino, A. P., Perel, J. M., & Staron, V. (2007). A pilot randomized controlled trial of combined trauma-focused

CBT and sertraline for childhood PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(7), 811–819. doi:10.1097/chi.0b013e3180547105.

Cutajar, M. C., Mullen, P. E., Ogloff, J. R., Thomas, S. D., Wells, D. L., & Spataro, J. (2010). Psychopathology in a large cohort of sexually abused children followed up to 43 years. *Child Abuse and Neglect, 34*(11), 813–822. doi:10.1016/j.chiabu.2010.04.004.

Danielson, C. K., McCart, M. R., Walsh, K., de Arellano, M. A., White, D., & Resnick, H. S. (2012). Reducing substance use risk and mental health problems among sexually assaulted adolescents: A pilot randomized controlled trial. *Journal of Family Psychology, 26*(4), 628–635. doi:10.1037/a0028862.

Deacon, B., & Abramowitz, J. (2006). A pilot study of two-day cognitive-behavioral therapy for panic disorder. *Behaviour Research and Therapy, 44*(6), 807–817. doi:10.1016/j.brat.2005.05.008.

Deblinger, E., Lippmann, J., & Steer, R. (1996). Sexually abused children suffering posttraumatic stress symptoms: Initial treatment outcome findings. *Child Maltreatment, 1*(4), 310–321. doi:10.1177/1077559596001004003.

Deblinger, E., Mannarino, A. P., Cohen, J. A., Runyon, M. K., & Steer, R. A. (2011). Trauma-focused cognitive behavioral therapy for children: Impact of the trauma narrative and treatment length. *Depression and Anxiety, 28*(1), 67–75. doi:10.1002/da.20744.

Deblinger, E., McLeer, S. V., & Henry, D. (1990). Cognitive behavioral treatment for sexually abused children suffering post-traumatic stress: Preliminary findings. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*(5), 747–752. doi:10.1097/00004583-199009000-00012.

Deblinger, E., Stauffer, L. B., & Steer, R. A. (2001). Comparative efficacies of supportive and cognitive behavioral group therapies for young children who have been sexually abused and their nonoffending mothers. *Child Maltreatment, 6*(4), 332–343. doi:10.1177/1077559501006004006.

Ehlers, A., Clark, D. M., Hackmann, A., Grey, N., Liness, S., Wild, J., et al. (2010). Intensive cognitive therapy for PTSD: A feasibility study. *Behavioural and Cognitive Psychotherapy, 38*(4), 383–398. doi:10.1017/S1352465810000214.

Elklit, A. (2002). Victimization and PTSD in a Danish national youth probability sample. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(2), 174–181. doi:10.1097/00004583-200202000-00011.

Ertl, V., Pfeiffer, A., Schauer, E., Elbert, T., & Neuner, F. (2011). Community-implemented trauma therapy for former child soldiers in Northern Uganda: A randomized controlled trial. *Journal of the American Medical Association, 306*(5), 503–512. doi:10.1001/jama.2011.1060.

Finkelhor, D., Turner, H., Ormrod, R., & Hamby, S. L. (2009). Violence, abuse, and crime exposure in a national sample of children and youth. *Journal of Pediatrics, 124*(5), 1411–1423. doi:10.1542/peds.2009-0467.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1997). *Structured Clinical Interview for DSM-IV Axis I disorders (SCID I)*. New York: Biometric Research Department.

First, M. B., Spitzer, R., Gibbon, M., Williams, J., & Benjamin, L. (1994). *Structured Clinical Interview for DSM-IV Axis II personality disorders (SCID II)*. New York: Biometric Research Department.

Foa, E. B., Dancu, C. V., Hembree, E. A., Jaycox, L. H., Meadows, E. A., & Street, G. P. (1999). A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims. *Journal of Consulting and Clinical Psychology, 67*(2), 194–200. doi:10.1037/0022-006X.67.2.194.

Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A., Riggs, D. S., Feeny, N. C., et al. (2005). Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: Outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology, 73*(5), 953–964. doi:10.1037/0022-006X.73.5.953.

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (2009). *Effective treatments of PTSD. Practice guidelines from the International Society for Traumatic Stress Studies* (2nd ed.). New York: Guildford.

Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdock, T. B. (1991). Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology, 59*(5), 715–723. doi:10.1037//0022-006X.59.5.715.

Forbes, D., Lloyd, D., Nixon, R. D., Elliott, P., Varker, T., Perry, D., et al. (2012). A multisite randomized controlled effectiveness trial of cognitive processing therapy for military-related posttraumatic stress disorder. *Journal of Anxiety Disorders, 26*(3), 442–452. doi:10.1016/j.janxdis.2012.01.006.

Fydrich, T., Renneberg, B., Schmitz, B., & Wittchen, H.-U. (1997). *SKID-II. Strukturiertes Klinisches Interview fur DSM-IV. Achse II: Persönlichkeitsstörungen [Structured Clinical Interview for DSM-IV. Axis II: Personality Disorders]*. Göttingen, Germany: Hogrefe.

Galovski, T. E., Blain, L. M., Mott, J. M., Elwood, L., & Houle, T. (2012). Manualized therapy for PTSD: Flexing the structure of cognitive processing therapy. *Journal of Consulting and Clinical Psychology, 80*(6), 968–981. doi:10.1037/a0030600.

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *Lancet, 373*(9657), 68–81. doi:10.1016/S0140-6736(08)61706-7.

Habigzang, L. F., Stroeher, F. H., Hatzenberger, R., Cunha, R. C., Ramos Mda, S., & Koller, S. H. (2009). Cognitive behavioral group therapy for sexually abused girls. *Revista de Saúde Pública, 43*(Suppl 1), 70–78. doi:10.1590/S0034-89102009000800011.

Harned, M. S., Rizvi, S. L., & Linehan, M. M. (2010). Impact of co-occurring posttraumatic stress disorder on suicidal women with borderline personality disorder. *The American Journal of Psychiatry, 167*(10), 1210–1217. doi:10.1176/appi.ajp.2010.09081213.

Harvey, S. T., & Taylor, J. E. (2010). A meta-analysis of the effects of psychotherapy with sexually abused children and adolescents. *Clinical Psychology Review, 30*, 517–535. doi:10.1016/j.cpr.2010.03.006.

Hawkins, A. O., Danielson, C. K., de Arellano, M. A., Hanson, R. F., Ruggiero, K. J., Smith, D. W., et al. (2010). Ethnic/racial differences in the prevalence of injurious spanking and other child physical abuse in a National Survey of Adolescents. *Child Maltreatment, 15*(3), 242–249. doi:10.1177/1077559510367938.

Hawton, K., Saunders, K. E., & O'Connor, R. C. (2012). Self-harm and suicide in adolescents. *Lancet, 379*(9834), 2373–2382. doi:10.1016/S0140-6736(12)60322-5.

Imel, Z. E., Laska, K., Jakupcak, M., & Simpson, T. L. (2013). Meta-analysis of dropout in treatments for posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 81*(3), 394–404. doi:10.1037/a0031474.

Kazdin, A. E., Mazurick, J. L., & Bass, D. (1993). Risk for attrition in treatment of antisocial children and families. *Journal of Clinical Child Psychology, 22*(1), 2–16. doi:10.1207/s15374424jccp2201_1.

Kazdin, A. E., Mazurick, J. L., & Siegel, T. C. (1994). Treatment outcome among children with externalizing disorder who terminate prematurely versus those who complete psychotherapy. *Journal of the American Academy of Child and Adolescent Psychiatry, 33*(4), 549–557. doi:10.1097/00004583-199405000-00013.

Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin, 113*(1), 164–180. doi:10.1371/journal.pmed.1001349.

Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: Results from the National Survey of Adolescents. *Journal of Consulting and Clinical Psychology, 71*(4), 692–700. doi:10.1037/0022-006X.71.4.692.

King, N. J., Tonge, B. J., Mullen, P., Myerson, N., Heyne, D., Rollings, S., et al. (2000). Treating sexually abused children with posttraumatic stress symptoms: A randomized clinical trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(11), 1347–1355. doi:10.1097/00004583-200011000-00008.

Kirsch, V., Fegert, J. M., Seitz, D. C. M., & Goldbeck, L. (2011). Traumafokussierte kognitive Verhaltenstherapie (Tf-KVT) bei Kindern und Jugendlichen nach Missbrauch und Misshandlung [Trauma-focused Cognitive Behavioral Therapy (Tf-CBT) for children and adolescents after abuse and maltreatment: Results of a pilot study]. *Kindheit & Entwicklung, 20*(2), 95–102.

Kokkevi, A., Rotsika, V., Arapaki, A., & Richardson, C. (2012). Adolescents' self-reported suicide attempts, self-harm thoughts and their correlates across 17 European countries. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 53*(4), 381–389. doi:10.1111/j.1469-7610.2011.02457.x.

Kovacs, M. (1985). The Children's Depression, Inventory (CDI). *Psychopharmacological Bulletin, 21*(4), 995–998.

Krakow, B., Sandoval, D., Schrader, R., Keuhne, B., McBride, L., Yau, C. L., et al. (2001). Treatment of chronic nightmares in adjudicated adolescent girls in a residential facility. *Journal of Adolescent Health, 29*(2), 94–100. doi:10.1016/S1054-139X(00)00195-6.

Kubany, E. S., & Ralston, T. C. (2008). *Treating PTSD in battered women*. Oakland: New Harbinger Publications.

Lanktree, C. B., & Briere, J. (1995). Outcome of therapy for sexually abused children: A repeated measures study. *Child Abuse and Neglect, 19*(9), 1145–1155.

Leenarts, L. E., Diehle, J., Doreleijers, T. A., Jansma, E. P., & Lindauer, R. J. (2012). Evidence-based treatments for children with trauma-related psychopathology as a result of childhood maltreatment: A systematic review. *European Child and Adolescent Psychiatry,*. doi:10.1007/s00787-012-0367-5.

Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York, NY: Guilford Press.

Lipschitz, D. S., Rasmusson, A. M., Anyan, W., Cromwell, P., & Southwick, S. M. (2000). Clinical and functional correlates of posttraumatic stress disorder in urban adolescent girls at a primary care clinic. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(9), 1104–1111. doi:10.1097/00004583-200009000-00009.

Little, R. J. A., & Rubin, D. B. (1989). The analysis of social science data with missing values. *Sociological Methods & Research, 18*(2–3), 292–326. doi:10.1177/0049124189018002004.

Lobbestael, J., Arntz, A., Harkema-Schouten, P., & Bernstein, D. (2009). Development and psychometric evaluation of a new assessment method for childhood maltreatment experiences: The interview for traumatic events in childhood (ITEC). *Child Abuse and Neglect, 33*(8), 505–517. doi:10.1016/j.chiabu.2009.03.002.

Lobbestael, J., Leurgans, M., & Arntz, A. (2011). Inter-rater reliability of the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID I) and Axis II Disorders (SCID II). *Clinical Psychology & Psychotherapy, 18*(1), 75–79. doi:10.1002/cpp.693.

Madge, N., Hewitt, A., Hawton, K., de Wilde, E. J., Corcoran, P., Fekete, S., et al. (2008). Deliberate self-harm within an international community sample of young people: Comparative findings from the Child & Adolescent Self-harm in Europe (CASE) Study. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 49*(6), 667–677. doi:10.1111/j.1469-7610.2008.01879.x.

Maniglio, R. (2009). The impact of child sexual abuse on health: A systematic review of reviews. *Clinical Psychology Review, 29*(7), 647–657. doi:10.1016/j.cpr.2009.08.003.

McDonagh, A., Friedman, M., McHugo, G., Ford, J., Sengupta, A., Mueser, K., et al. (2005). Randomized trial of cognitive-behavioral therapy for chronic posttraumatic stress disorder in adult female survivors of childhood sexual abuse. *Journal of Consulting and Clinical Psychology, 73*(3), 515–524. doi:10.1037/0022-006X.73.3.515.

McLeer, S. V., Deblinger, E., Henry, D., & Orvaschel, H. (1992). Sexually abused children at high risk for post-traumatic stress disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*(5), 875–879. doi:10.1097/00004583-199209000-00015.

McLeer, S. V., Dixon, J. F., Henry, D., Ruggiero, K., Escovitz, K., Niedda, T., et al. (1998). Psychopathology in non-clinically referred sexually abused children. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*(12), 1326–1333. doi:10.1097/00004583-199812000-00017.

Monson, C. M., Schnurr, P. P., Resick, P. A., Friedman, M. J., Young-Xu, Y., & Stevens, S. P. (2006). Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 74*(5), 898–907. doi:10.1037/0022-006X.74.5.898.

Nader, K., Blake, D. D., & Kriegler, J. A. (1994). *Clinician Administered PTSD Scale for Children (CAPS-CA). Current and lifetime diagnosis version, and instruction manual*. Los Angeles, CA: UCLA: Neuropsychiatric Institute and National Center for PTSD.

National Collaborating Centre for Mental Health. (2005). *Post-traumatic stress disorder (PTSD): The management of PTSD in adults and children in primary and secondary care*. London: Gaskell and the British Psychological Society.

Nolan, M., Carr, A., Fitzpatrick, C., O'Flaherty, A., Keary, K., Turner, R., et al. (2002). A comparison of two programmes for victims of child sexual abuse: A treatment outcome study. *Child Abuse Review, 11*(2), 103–123. doi:10.1002/car.727.

Nooner, K. B., Linares, L. O., Batinjane, J., Kramer, R. A., Silva, R., & Cloitre, M. (2012). Factors related to posttraumatic stress disorder in adolescence. *Trauma, Violence & Abuse, 13*(3), 153–166. doi:10.1177/1524838012447698.

Oldfield, V. B., Salkovskis, P. M., & Taylor, T. (2011). Time-intensive cognitive behaviour therapy for obsessive-compulsive disorder: A case series and matched comparison group. *The British Journal of Clinical Psychology, 50*(1), 7–18. doi:10.1348/014466510X490073.

Pellerin, K. A., Costa, N. M., Weems, C. F., & Dalton, R. F. (2010). An examination of treatment completers and non-completers at a child and adolescent community mental health clinic. *Community Mental Health Journal, 46*(3), 273–281. doi:10.1007/s10597-009-9285-5.

Pereda, N., Guilera, G., Forns, M., & Gomez-Benito, J. (2009). The prevalence of child sexual abuse in community and student samples: A meta-analysis. *Clinical Psychology Review, 29*(4), 328–338. doi:10.1016/j.cpr.2009.02.007.

Resick, P. A., Bovin, M. J., Calloway, A. L., Dick, A. M., King, M. W., Mitchell, K. S., et al. (2012a). A critical evaluation of the complex PTSD literature: Implications for DSM-5. *Journal of Traumatic Stress, 25*(3), 241–251. doi:10.1002/jts.21699.

Resick, P. A., Galovski, T. E., O'Brien Uhlmansiek, M., Scher, C. D., Clum, G. A., & Young-Xu, Y. (2008a). A randomized clinical

trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology, 76*(2), 243–258. doi:10.1037/0022-006X.76.2.243.

Resick, P. A., Monson, C. M., & Chard, K. M. (2008b). *Cognitive processing therapy: Veteran/military version*. Washington, DC: Department of Veterans' Affairs.

Resick, P. A., Nishith, P., & Griffin, M. G. (2003). How well does cognitive-behavioral therapy treat symptoms of complex PTSD? An examination of child sexual abuse survivors within a clinical trial. *CNS Spectrums, 8*(5), 340–355.

Resick, P. A., Nishith, P., Weaver, T. L., Astin, M. C., & Feuer, C. A. (2002). A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting and Clinical Psychology, 70*(4), 867–879. doi:10.1037//0022-006X.70.4.867.

Resick, P. A., & Schnicke, M. K. (1992). Cognitive processing therapy for sexual assault victims. *Journal of Consulting and Clinical Psychology, 60*(5), 748–756. doi:10.1037//0022-006X.60.5.748.

Resick, P. A., & Schnicke, M. K. (1993). *Cognitive processing therapy for rape victims: A treatment manual*. Newbury Park, CA: Sage.

Resick, P. A., Williams, L. F., Suvak, M. K., Monson, C. M., & Gradus, J. L. (2012b). Long-term outcomes of cognitive-behavioral treatments for posttraumatic stress disorder among female rape survivors. *Journal of Consulting and Clinical Psychology, 80*(2), 201–210. doi:10.1037/a0026602.

Rizvi, S. L., Vogt, D. S., & Resick, P. A. (2009). Cognitive and affective predictors of treatment outcome in cognitive processing therapy and prolonged exposure for posttraumatic stress disorder. *Behaviour Research and Therapy, 47*(9), 737–743. doi:10.1016/j.brat.2009.06.003.

Ruf, M., Schauer, M., & Elbert, T. (2010). UPID—UCLA PTSD Index for DSM IV. In C. Barkmann, M. Schulte-Markwort, & E. Brähler (Eds.), *Fragebögen zur Diagnostik psychischer Störungen des Kindes- und Jugendalters*. Göttingen: Hogrefe.

Schneider, S., Unnewehr, S., & Margraf, J. (Eds.). (2009). *Diagnostisches Interview bei psychischen Störungen im Kindes- und Jugendalter (Kinder-DIPS) [Diagnostic interview for mental disorders in childhood and adolescence]* (2nd ed.). Berlin: Springer.

Schnyder, U., & Moergeli, H. (2002). German version of Clinician-Administered PTSD Scale. *Journal of Traumatic Stress, 15*(6), 487–492. doi:10.1023/A:1020922023090.

Schulz, P. M., Resick, P. A., Huber, L. C., & Griffin, M. G. (2006). The effectiveness of cognitive processing therapy for PTSD with refugees in a community setting. *Cognitive and Behavioral Practice, 13*(4), 322–331. doi:10.1016/j.cbpra.2006.04.011.

Silverman, A. B., Reinherz, H. Z., & Giaconia, R. M. (1996). The long-term sequelae of child and adolescent abuse: A longitudinal community study. *Child Abuse and Neglect, 20*(8), 709–723. doi:10.1016/0145-2134(96)00059-2.

Sinclair, J. J., Larzelere, R. E., Paine, M., Jones, P., Graham, K., & Jones, M. (1995). Outcome of group treatment for sexually abused adolescent females living in a group home setting: Preliminary findings. *Journal of Interpersonal Violence, 10*(4), 533–542. doi:10.1177/088626095010004011.

Smith, P., Yule, W., Perrin, S., Tranah, T., Dalgleish, T., & Clark, D. M. (2007). Cognitive-behavioral therapy for PTSD in children and adolescents: A preliminary randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(8), 1051–1061. doi:10.1097/CHI.0b013e318067e288.

Stauffer, L. B., & Deblinger, E. (1996). Cognitive behavioral groups for nonoffending mothers and their young sexually abused children: A preliminary treatment outcome study. *Child Maltreatment, 1*(1), 65–76. doi:10.1177/1077559596001001007.

Steil, R., Dyer, A., Priebe, K., Kleindienst, N., & Bohus, M. (2011). Dialectical behavior therapy for posttraumatic stress disorder related to childhood sexual abuse: A pilot study of an intensive residential treatment program. *Journal of Traumatic Stress, 24*(1), 102–106. doi:10.1002/jts.20617.

Steinberg, A. M., Brymer, M. J., Decker, K. B., & Pynoos, R. S. (2004). The University of California at Los Angeles Post-traumatic Stress Disorder Reaction Index. *Current Psychiatry Reports, 6*(2), 96–100. doi:10.1007/s11920-004-0048-2.

Steinberg, A. M., Brymer, M. J., Kim, S., Briggs, E. C., Ippen, C. G., Ostrowski, S. A., et al. (2013). Psychometric properties of the UCLA PTSD Reaction Index: Part I. *Journal of Traumatic Stress, 26*(1), 1–9. doi:10.1002/jts.21780.

Stiensmeier-Pelster, J., Schürmann, M., & Duda, K. (2000). *DIKJ—Depressionsinventar für Kinder und Jugendliche. Handanweisung*. Göttingen: Hogrefe.

Storch, E. A., Geffken, G. R., Merlo, L. J., Mann, G., Duke, D., Munson, M., et al. (2007). Family-based cognitive-behavioral therapy for pediatric obsessive-compulsive disorder: Comparison of intensive and weekly approaches. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*(4), 469–478. doi:10.1097/chi.0b013e31803062e7.

Swift, J. K., & Greenberg, R. P. (2012). Premature discontinuation in adult psychotherapy: A meta-analysis. *Journal of Consulting and Clinical Psychology, 80*(4), 547–559. doi:10.1037/a0028226.

Taylor, J. E., & Harvey, S. T. (2009). Effects of psychotherapy with people who have been sexually assaulted: A meta-analysis. *Aggression and Violent Behavior, 14*(5), 273–285. doi:10.1016/j.avb.2009.03.006.

Tourigny, M., Hebert, M., Daigneault, I., & Simoneau, A. C. (2005). Efficacy of a group therapy for sexually abused adolescent girls. *Journal of Child Sexual Abuse, 14*(4), 71–93. doi:10.1300/J070v14n04_04.

Trask, E. V., Walsh, K., & Dilillo, D. (2011). Treatment effects for common outcomes of child sexual abuse: A current meta-analysis. *Aggression and Violent Behavior, 16*(1), 6–19. doi:10.1016/j.avb.2010.10.001.

Weathers, F. W., Keane, T. M., & Davidson, J. R. (2001). Clinician-administered PTSD scale: A review of the first ten years of research. *Depression and Anxiety, 13*(3), 132–156. doi:10.1002/da.1029.

Weiß, R. H. (2006). *CFT 20-R. Grundintelligenztest Skala 2-Revision*. Göttingen: Hogrefe.

Wittchen, H. U., Wunderlich, U., Gruschwitz, S., & Zaudig, M. (1996). *Strukturiertes Klinisches Interview für DSM-IV (SKID) [Structured Clinical Interview for DSM-IV (SKID)]*. Göttingen, Germany: Beltz-Test.

Zanarini, M. C., Skodol, A. E., Bender, D., Dolan, R., Sanislow, C., Schaefer, E., et al. (2000). The Collaborative Longitudinal Personality Disorders Study: Reliability of axis I and II diagnoses. *Journal of Personality Disorders, 14*(4), 291–299.

Zlotnick, C., Zakriski, A. L., Shea, M. T., Costello, E., Begin, A., Pearlstein, T., et al. (1996). The long-term sequelae of sexual abuse: Support for a complex posttraumatic stress disorder. *Journal of Traumatic Stress, 9*(2), 195–205. doi:10.1002/jts.2490090204.