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In-Session Caregiver Behavior Predicts Symptom Change in Youth Receiving Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)

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Abstract

Objective—Involving caregivers in trauma-focused treatments for youth has been shown to result in better outcomes, but it is not clear which in-session caregiver behaviors enhance or inhibit this effect. The current study examined the associations between caregiver behaviors during Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) and youth cognitive processes and symptoms.

Method—Participants were a racially diverse sample of Medicaid-eligible youth (ages 7–17) and their non-offending caregivers (N= 71 pairs) who received TF-CBT through an effectiveness study in a community setting. Caregiver and youth processes were coded from audio-recorded sessions, and outcomes were measured using the Child Behavior Checklist (CBCL) and UCLA PTSD Reaction Index for DSM-IV (UPID) at 3, 6, 9, and 12 months post-intake.

Results—Piecewise linear growth curve modeling revealed that during the trauma narrative phase of TF-CBT, caregivers' cognitive-emotional processing of their own and their child's trauma-related reactions predicted decreases in youth internalizing and externalizing symptoms over treatment. Caregiver support predicted lower internalizing symptoms over follow-up. In contrast, caregiver avoidance and blame of the child predicted worsening of youth internalizing and externalizing symptoms over follow-up. Caregiver avoidance early in treatment also predicted worsening of externalizing symptoms over follow-up. During the narrative phase, caregiver blame and avoidance were correlated with more child overgeneralization of trauma beliefs, and blame was also associated with less child accommodation of balanced beliefs.

Conclusions—The association between in-session caregiver behaviors and youth symptomatology during and after TF-CBT highlights the importance of assessing and targeting these behaviors to improve clinical outcomes.

Keywords

Trauma-Focused Cognitive Behavioral Therapy; posttraumatic stress disorder; parents and caregivers; support; blame

Childhood maltreatment and trauma exposure pose a substantial burden on public health across the lifespan. Youth who have experienced trauma are at increased risk for a range of emotional and behavioral problems during childhood and adolescence, including symptoms of internalizing and externalizing disorders, compromised academic performance, and juvenile justice involvement (Ford, Elhai, Connor, & Frueh, 2010; Greeson et al., 2014; Steinberg et al., 2014). The deleterious effects of childhood trauma also extend into adulthood. Multiple population-level studies report that childhood adversity, particularly child physical and sexual abuse, neglect, and family violence, are associated with the onset and persistence of psychological disorders in adulthood (Green et al., 2010; Kessler et al., 2010; McLaughlin et al., 2010a) and with higher levels of disorder-related functional impairment across the lifespan (McLaughlin et al., 2010b).

However, childhood trauma does not always result in poor outcomes. A number of studies in the past 30 years have examined risk and protective factors that might explain why some children experience long-term impairment following trauma, whereas others do not. A number of meta-analyses have shown that the quality of child social support, particularly support provided by parents or caregivers, is one of the most robust predictors of mental health outcomes in children who have experienced traumatic events (Alisic, Jongmans, van Wesel & Kleber, 2011; Pine & Cohen, 2002; Trickey, Siddaway, Meiser-Stedman, Serpell & Field, 2012). These studies report that parental psychological difficulties and poor family functioning are associated with the development of youth mental health problems, such as posttraumatic stress disorder (PTSD), in both the short- and long-term. The strength and consistency of these associations underscore the importance of examining parental factors when investigating both the psychopathology and treatment of childhood trauma. However, few studies have investigated the influence of caregiver factors across the course of treatment.

Attachment theory (Bowlby, 1969) and social interaction learning theory (Forgatch & Knutson, 2002; Reid, Patterson, & Snyder, 2002) suggest that parenting practices following trauma can have direct and proximal effects on the development of child psychopathology. Pynoos, Steinberg, and Piacentini (1999) suggest that parents can contribute to child resilience by providing support, helping the child to regulate trauma-related responses, and helping to process and integrate difficult experiences using higher-level cognitive skills, such as reappraisal. Few studies have prospectively examined the effect of parental support on recovery from trauma, but some retrospective studies suggest that such support can serve a protective function (Godbout, Briere, Sabourin, & Lussier, 2014; Gold, Milan, Mayall, & Johnson, 1994). However, parents can also inadvertently disrupt the recovery process or even contribute to the development of psychopathology (Charuvastra & Cloitre, 2008). For instance, Deblinger, Steer, and Lippmann (1999) found that parenting practices perceived as rejecting or anxiety-provoking by the child were associated with more psychological

symptoms following child sexual abuse. Parental avoidance following trauma also predicted child posttraumatic stress symptoms six weeks to 30 months later (Laor, Wolmer, Mayes, & Gershon, 1997; Ostrowski et al., 2011). Together, this research suggests that parents and caregivers can inhibit children's healthy adaptation to trauma through less supportive parenting practices and avoidance of trauma-related topics.

TF-CBT is an efficacious treatment for childhood trauma that targets both the child and a primary caregiver to treat youth posttraumatic stress symptoms (Cohen, Mannarino & Deblinger, 2006). TF-CBT involves gradual exposure to trauma reminders over three phases: 1) stabilization and skills-building, 2) trauma narration and processing, and 3) integration and consolidation. Outcome trials suggest that the involvement of a supportive caregiver is an important aspect of effective treatment. For example, Deblinger, Lippmann, and Steer (1996) randomly assigned children who experienced sexual abuse and their non-offending mothers to one of four conditions: child treatment only, parent treatment only, treatment for both mother and child, or a community treatment control. While providing treatment to the child alone resulted in more improvement in PTSD symptoms than not doing so, involving the caregiver in treatment resulted in lower externalizing and depressive symptoms for the children, even when the child did not receive therapy directly. In addition, caregiver characteristics, symptoms, and behaviors can also have a significant effect on child outcome. For instance, more parental depression and emotional distress (including shame, guilt, fear, and anger) following disclosure of their preschool age child's sexual abuse predicted worse outcomes in both CBT and non-directive supportive therapy (Cohen & Mannarino, 1996). Over the 6- and 12-month follow-up, parental support and (lack of) blame of the child became increasingly strong predictors of child outcomes, whereas the effect of parental emotional distress weakened (Cohen & Mannarino, 1998). In a similar study of sexually abused school-age children (ages 7-14), parental support, but not the parent's emotional reaction, predicted child outcomes (Cohen & Mannarino, 2000). Specifically, blaming the child for the sexual abuse (as rated by the parent) and lower perceived credibility of the child's claims (as rated by the child) predicted more child depression following treatment, whereas more parental support predicted lower child anxiety following treatment.

The research by Cohen and Mannarino (1996, 1998, 2000) on parental predictors of outcome in TF-CBT highlights the important role that caregiver behavior and emotional reactions play in the treatment of child trauma. However, these studies examined parental factors through parent self-report, which can be biased, and they included only pre-treatment, post-treatment, and follow-up assessments. No studies that we are aware of have examined parent or caregiver factors *during* TFCBT that might affect child outcomes, nor have studies examined the effects of caregiver behaviors across treatment phases (e.g. comparing skills-building vs. narrative phases). In addition, no studies have used observational coding to assess parent behaviors or emotional reactions. It is important to identify which parent behaviors might facilitate or inhibit positive child outcomes in TF-CBT as this treatment is disseminated across diverse settings. Clinicians who are able to recognize and target key parent factors during treatment might better optimize youth outcomes in the short- and long-term.

The current study used an observational coding system (CHANGE; Hayes, Feldman & Goldfried, 2007) to examine within-treatment caregiver predictors of child cognitive processes and symptomatology in an effectiveness trial of TF-CBT for childhood posttraumatic stress delivered in community settings. The primary child outcomes from this trial are reported in two previous publications (Ready et al., 2015; Webb, Hayes, Grasso, Laurenceau, & Deblinger, 2014). Webb and colleagues examined the trajectories of symptom change over the course of treatment. They reported significant linear and quadratic decreases in externalizing and PTSD symptoms over the course of TF-CBT in this community sample, as well as significant linear decreases in internalizing symptoms. Symptom improvement on internalizing and PTSD symptoms was maintained through the 12-month follow-up, but there was a significant linear increase in externalizing symptoms over this period. Ready et al. (2015) then examined two hypothesized predictors of these symptom trajectories: child overgeneralization (global, exaggerated and overly abstract trauma-related beliefs about self, others, or the world that are broadly applied across time and life situations) and accommodation (more balanced views of self, others, or the world). More child overgeneralization of trauma beliefs in the narrative phase of TF-CBT predicted less change in internalizing symptoms over the course of treatment and also greater increases in externalizing symptoms over the follow-up period. In contrast, more accommodation not only predicted lower internalizing scores at posttreatment, but also interacted with overgeneralization to lessen its negative effects on posttreatment internalizing symptoms and externalizing symptoms over the follow-up period.

The primary goal of the current study is to examine whether caregiver variables predict child outcomes and are associated with the two key predictors of outcome—child overgeneralization and accommodation during the narrative phase of treatment. We hypothesized that caregiver support and cognitive emotional processing (the extent to which caregivers constructively approach and explore issues related to the child's trauma and their own reactions) would be associated with reductions in child symptomatology over treatment and maintenance of these gains over follow-up. In contrast, maladaptive caregiver behaviors (blame of the child for the trauma or trauma-related difficulties and avoidance of trauma-related issues or emotions) were expected to be associated with less symptom reduction during treatment and poor functioning over follow-up. The effects of these variables were expected to be strongest during the narrative phase of treatment, as this phase focuses most strongly on emotional engagement in and processing of details related to the child's personal trauma experiences. An additional goal was to examine the relationships between caregiver variables and child overgeneralization and accommodation during the narrative phase of treatment, as we predicted that caregiver behavior may influence the child's ability to productively process traumatic experiences. Caregiver avoidance and blame of the child were expected to be associated with more child overgeneralization and less accommodation, whereas caregiver cognitive emotional processing and support would show the opposite pattern of associations.

Method

Participants

Participants were recruited as part of a larger treatment effectiveness trial (Ready et al., 2015; Webb et al., 2014). The trial took place within state-contracted community mental health agencies with youth who had experienced an independently-verified (e.g. through child welfare) trauma and their non-offending caregivers. The procedures for this trial were approved by the institutional review boards of all participating agencies. Most referrals to the study were received through child welfare, child advocacy centers, juvenile justice, court advocates, and the state crisis service. Youth in the trial were between the ages of 7 and 17 years old, English-speaking, and qualified for publicly-funded treatment (i.e. Medicaid-eligible). They also had to have a legal guardian who was English-speaking and willing to co-participate in treatment and a year-long follow-up. Youth were excluded if caregivers reported that: 1) the child had an intellectual disability, untreated psychosis, or untreated substance abuse, 2) the child required frequent hospitalizations or a higher level of care (e.g. intensive outpatient), or 3) a sibling was already in the study. Qualified youth were administered the UCLA PTSD Reaction Index for DSM-IV-Abbreviated (UPID-A) at their residence. Those scoring 17 or more on the UPID-A or endorsing 3 of 9 PTSD symptoms based on an independently verified (e.g., through child welfare) trauma ($N=109$) were included in the trial (e.g., Steinberg, Brymer, Decker, & Pynoos, 2004 and A. Steinberg, personal communication, August 2006). More detailed information regarding recruitment and retention of participants is provided in previous publications on treatment outcomes in this sample (Ready et al., 2015; Webb et al., 2014).

The current study included a sample ($n=81$) of youth who completed at least one session in the trauma narrative phase, as in the Ready et al. (2015) study. Because the focus of the current study was on the effects of in-session caregiver behavior on youth outcomes, and participation during the trauma narrative phase is a vital part of the caregiver's role in TF-CBT, only youth whose caregiver completed at least one session during the narrative phase were included. This resulted in a final sample of 71 youth-caregiver pairs. These 71 youth did not differ significantly in terms of demographics or pretreatment symptom severity from the 10 youth who did not have a caregiver complete at least one trauma session. The mean age of the sample used in this study ($n=71$) was 12.30 years ($SD=2.74$). Youth were racially diverse (56.3% White, 36.6% African-American, 4.2% Hispanic/Latino, and 2.8% Biracial), mostly female (69%), and 28.2% were currently in foster care. Youth reported an average of 3.4 types of traumatic experiences ($SD=1.55$) in their lifetime, including sexual abuse (48%), physical abuse (58%), domestic violence (52%), traumatic loss of a loved one (49%), community violence (experienced: 23%; witnessed: 30%), car- or other traumatic accident (25%), fire (4%), witnessing a disaster (6%), or other abuse (10%). According to the UCLA PTSD Reaction Index, 69% of the participants met full criteria for PTSD, 18% met criteria for partial PTSD (i.e., met criteria for two of the three DSM-IV symptom clusters), and 13% showed elevated symptom severity scores but met criteria for one or fewer symptom clusters.

Most participating caregivers were female (90%) with a mean age of 43 ($SD = 12.00$). The relation of the non-offending caregiver to the child included birth parent (50.7%), foster parent (22.5%), grandparent (9.9%) aunt (7%), caseworker (2.8%), and other non-relative caregiver (5.6%). Employment status of caregivers included full-time employment (42.3%), part-time employment (21.1%), being unemployed (15.5%), and not working for other reasons (16.4%; including being disabled, retired, or a homemaker). The majority of caregivers were married or cohabiting with a partner (55.9%), and 22.5% were single, 16.2% were separated or divorced, and 4.2% were widowed. Caregivers reported having an average of 13.2 years of education ($SD = 2.4$, range = 8-19). Average household income of caregivers was \$31,000 per year ($SD = \$33,600$).

Therapists

Therapists included 19 clinicians who either held a professional degree or were doctoral students in clinical psychology programs. Clinicians were either licensed or supervised by a licensed practitioner. Most therapists were Caucasian women (84%); one clinician identified as Asian, one as Latina, and two clinicians were Caucasian males. Twelve qualifying therapists had master's degrees in counseling, psychology, or social work; four had a level of training equivalent to master's degree (had completed at least two years in a clinical psychology doctoral program, but had not yet received a degree), and three held doctorates in counseling or clinical psychology. A TF-CBT developer (the last author) trained a core group of five clinicians, who received two days of didactic training, weekly phone consultations, and expert review of at least one case. These core clinicians then trained and supervised the next cohort of therapists with the same process of didactic training, weekly phone consultations, and tape review.

Trauma Focused Cognitive Behavioral Therapy (TF-CBT)

TF-CBT is an evidence-based treatment for children, adolescents, and their non-offending caregivers that is designed to address PTSD, depression, and behavioral difficulties related to a range of childhood traumas. TF-CBT includes an emphasis on both gradual exposure to traumatic memories and cognitive restructuring (Cohen et al., 2006). The child and the caregiver each attend a separate 30-45-minute session with the same therapist (60-90 minutes total) and participate in one or more conjoint sessions facilitated by the therapist. In the current study, all caregiver and child sessions were audio-recorded separately for coding and supervision purposes, unless there was a technological malfunction or the child/caregiver requested that a particular session not be recorded. Conceptually, TF-CBT can be divided into three phases that are all guided by principles of gradual exposure.

The *stabilization and skills building* phase (phase 1) focuses on therapeutic engagement and psychoeducation about the prevalence, impact, and treatment of trauma. This begins a process of gradual exposure to trauma cues by initiating a general discussion about the trauma(s) and can help to minimize parent and/or child avoidance. Coping skills (e.g. relaxation, affective expression and modulation, cognitive coping/restructuring) are introduced to help both the child and the caregiver manage trauma-related distress. The therapist works with the caregiver to teach him/her relevant behavior management skills.

The therapist also provides guidance and feedback to the caregiver to facilitate support of the child and to help the child apply coping skills learned in session.

The *trauma narration and processing* phase (phase 2) focuses more directly on the details of the traumatic memories through the development of a narrative. During this phase, the child creates his or her trauma narrative orally or through the use of writing or pictures. The therapist then assists the child in challenging maladaptive beliefs about the traumatic event and its meaning and consequences. When clinically appropriate, the therapist shares the child's narrative with the caregiver, helping the caregiver process difficult emotions, challenge cognitive distortions, and respond to the child's narrative in a supportive manner.

The *integration and consolidation* phase (Phase 3) of treatment helps to integrate learning from previous sessions through in vivo mastery activities when needed, trauma-focused parent-child conjoint sessions to share the narrative when clinically appropriate, and the development of personal safety skills to reduce the risk of revictimization.

Treatment adherence—As reported in Ready et al. (2015), coders were trained to use a 10-item adherence checklist for child and caregiver sessions developed by Dr. Esther Deblinger, coauthor of the TF-CBT treatment manual (Cohen et al., 2006). Coders were trained to criterion by Dr. Deblinger and her research team, and after training, coders achieved good to excellent interrater agreement (dichotomous ratings of present or absent) on all categories (median $\kappa = 0.92$, range $\kappa = 0.89$ to 1.00). Adherence ratings for child sessions (reported previously in Ready et al., 2015) were high and suggested that therapy components were delivered in the correct sequence. For the current study, one to two caregiver sessions from each phase were also coded for adherence. Eighty-eight percent of the early caregiver sessions focused on psychoeducation, building coping skills, and/or building parenting skills, whereas 63% of the sessions in the narrative phase focused on processing the child's trauma or otherwise preparing for the conjoint/narrative sharing session. Sessions in phases 2 and 3 also included a focus on parenting skills (54.8% in phase 2, and 44.4% in phase 3). These adherence ratings suggest that therapists delivered the TF-CBT caregiver components in the correct sequence.

Measures

Child Behavior Checklist (CBCL)—The CBCL is a 113-item parent-report measure that assesses a range of child emotional and behavioral problems. Items are rated on a 3-point Likert scale (0= *not true*, 1= *somewhat or sometimes true*, 2= *very true or often true*). The current study focused on the Internalizing and Externalizing scales of the CBCL to provide a measure of broadband symptom change over time. Broadband measures have been recommended over symptom-specific measures as the best way to capture therapeutic change over the course of youth treatment (see Becker, Chorpita, & Daleiden, 2011). The CBCL assesses a broad array of potentially trauma-related symptoms, including those not captured by a PTSD-specific measure. This broad scope is particularly important to capture the diverse effects of child trauma and because children in this sample were not required to meet full PTSD diagnostic criteria for inclusion. Raw scores were used in all analyses, as T-scores can truncate the range of data and be less sensitive to gradual changes in symptom

trajectories (Achenbach, 1991). The CBCL is a well-established measure with good reliability and validity as a measure of mental health problems in children (Achenbach & Rescorla, 2001). In the current sample, reliability across treatment and follow-up was excellent for the Internalizing scale (Cronbach's $\alpha = .89$ to $.90$) and for the Externalizing scale (Cronbach's $\alpha = .92$ to $.95$). Response rates across all assessment periods were high, with either one or zero youth missing data for any of the assessment periods from baseline through 12-month follow-up.

UCLA PTSD Reaction Index for DSM-IV (UPID).—The UPID (Steinberg et al., 2004) was used to assess changes in PTSD symptoms. The UPID (administered as a questionnaire or structured interview) inventories 13 types of trauma, assesses objective and subjective aspects of the most bothersome trauma, and includes questions about the frequency of re-experiencing, avoidance, and hyperarousal symptoms in children ages 7-18. Test-retest reliability is 0.84, and the UPID shows good convergent validity, sensitivity (0.93), and specificity (0.87) in diagnosing PTSD (Steinberg et al., 2004). The full version was used to measure symptom level and change at pre-treatment, mid-treatment, post-treatment, and 9-month and 12-month follow-up. An abbreviated version (only 23 items) was used for initial screening (the UCLA PTSD Reaction Index for DSM-IV Abbreviated; UPID-A). The UPID demonstrated good reliability in this sample across treatment and follow-up (Cronbach's $\alpha = .87$ to $.90$). Response rates across all assessment periods were high, with either one or zero youth missing data for any of the assessment periods from baseline through 12-month follow-up.

Session Coding—Youth in the current sample completed a mean of 4.4 sessions ($SD = 1.1$; $Range = 2-8$; $Mode = 4$) in the stabilization and skills building phase (phase 1) and a mean of 5.4 sessions ($SD = 2.1$; $Range = 1-12$; $Mode = 4$) in the trauma narrative and processing phase (phase 2). On average, caregivers completed 4.1 sessions ($SD = 1.3$; $Range = 1-8$; $Mode = 4$) in phase 1 and 4.8 sessions ($SD = 2$; $Range = 1-11$; $Mode = 5$) in the narrative phase (phase 2). Caregiver and youth sessions took place separately and were recorded separately. Three caregiver session recordings from phase 1 were randomly selected to code, unless fewer session recordings were available, in which case all available sessions were coded. A mean of 2.1 sessions were coded per caregiver ($SD = 0.4$) in phase 1. As phase 2 focuses on emotional engagement and processing in both the child and caregiver sessions, all available recorded caregiver sessions were coded in that phase. A mean of 3.2 ($SD = 1.1$) sessions were coded per caregiver. All available recorded youth sessions from phase 2 were also coded. Sessions from the integration and consolidation phase (phase 3) were not coded due to time and labor constraints and also to assure that predictor variables were clearly separated in time from outcome measures.

Caregiver sessions were coded using the CHANGE (Hayes et al., 2007), an observational coding system of therapy change processes. Four variables from this system were coded in caregiver sessions: cognitive-emotional processing, support, child blame, and avoidance. Variable definitions and examples are provided in Table 1. All variables were coded on a 0-3 scale, ranging from *absent to very low* (0), *low* (1), *medium* (2), and *high* (3). Categories can

co-occur and are not mutually exclusive. The unit of analysis in the current study was the full session.

In a previous report, Ready et al. (2015) examined mean levels of child overgeneralization and accommodation (definitions in Table 1) during the narrative phase of TF-CBT as predictors of outcome at posttreatment and over the 12-month follow-up. The current study investigated associations between caregiver variables and child overgeneralization and accommodation in phases 1 and 2. The child overgeneralization and accommodation variables were adapted from the Impact Statement Coding System, which Sobel et al., (2009) developed to code trauma narratives in cognitive processing therapy for adult PTSD. These categories were adapted for children and adolescents in this sample and for full sessions rather than narratives, the definitions were expanded to capture somewhat broader constructs that could also apply to depression and other disorders, and ratings were changed from dichotomous to the ordinal scale of the CHANGE measure (0=*absent to very low*, 1=*low*, 2= *medium*, 3=*high*).

A team of 19 coders rated all variables for 745 total sessions over a period of three years. Coders consisted of six graduate students in clinical psychology and 13 undergraduate research assistants. Two coders were randomly assigned to rate each session, such that coder pairs (i.e. whom was paired with whom) varied on a weekly basis. Coders then met as a group each week to prevent rater drift and to discuss and reach consensus on coding discrepancies greater than one point on the 4-point coding measure. As new coders joined the team, they were trained to criterion, which consisted of a set of tapes coded by the CHANGE developer and original coding team members. Interclass correlation coefficients (ICC; Shrout & Fleiss, 1979) were performed on all coding pairs; average ICCs were: avoidance=.86; cognitive-emotional processing=.73; child blame=.78; positive support=.80; accommodation=.75; overgeneralization=.69. These estimates fall into the good to excellent range of agreement (Shrout & Fleiss, 1979). The ratings of the two coders per session were averaged. The mean for each phase (phase 1, phase 2) was used as the predictor variable in analyses, allowing for information from all available sessions to contribute to the final models.

Data Analytic Plan

Data from the 71 caregiver-youth pairs who completed at least one trauma narrative session were analyzed with piecewise latent growth curve modeling, using Hierarchical Linear Modeling 7 software (HLM 7; Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011). Due to the close of SAMHSA funding for the effectiveness trial, 9 and 12 month follow-up assessments were discontinued for the final 25 youth enrolled into the study. Twenty-one of these youth without follow-up data were included in the current study (four were not because they did not have least one caregiver session during phase 2). Ready et al. (2015) reported that there were no significant differences on pre-treatment symptoms, post-treatment symptoms, or demographic factors for youth with and without complete follow-up data. The full intent-to-treat sample of 71 youth was included in HLM analyses, using Full Information Maximum Likelihood (FIML) to account for missing data.

A piecewise approach allows for direct examination of processes that may contribute to the reduction of symptoms during treatment, as well as those that might help maintain treatment gains over the follow-up period. Because the rate of symptom change was expected to be greater during the treatment period than the follow-up period, the relationships between predictor variables and symptom change across these two time periods may differ. Piecewise regression analyses provide a more precise examination of which predictor variables are associated with symptom change across each time period, information that is often lost in analyses that only examine the average rate of change over these combined time periods (e.g., Flora, 2008).

Piecewise Hierarchical Linear Modeling—As in the Ready et al. (2015) study, a level-1 within-person equation was used to examine symptom reduction in two pieces: from pre- to post- treatment (0, 3, and 6 months) and from post-treatment through 12-month follow-up (6, 9, and 12 months). Separate models were estimated with CBCL externalizing and internalizing symptoms and UPID PTSD symptoms as the outcomes. Intercepts and slopes were allowed to vary, allowing the model to estimate intercepts and rate of symptom change for each individual. In addition, these random intercepts and random slope terms were allowed to correlate by fitting a covariance between the terms. Next, mean caregiver variables from the stabilization and skills-building phase of treatment (phase 1) and from the trauma narrative phase (phase 2) were both entered in the equation as level-2 between-person predictors of the slope of symptom change over the treatment and follow-up periods. The resulting level-2 equations included caregiver variables from the phase 1 and phase 2 as predictors of the slope for each time piece, so that unique effects of caregiver behavior during each phase could be examined. Separate analyses were run for each of the caregiver variables (cognitive emotional processing, support, avoidance, and blame of the child). While both linear and quadratic changes were reported in the Webb et al. (2014) study, linear symptom change is the most clinically meaningful and therefore was chosen as the outcome of interest in the current study. Caregiver variables were grand mean-centered.

Results

Descriptive statistics and correlations for study variables are provided in Table 2. Associations between caregiver variables and the CBCL Internalizing and Externalizing scales are reviewed below. Contrary to predictions, none of the caregiver variables were significant predictors of change on the symptom-specific measure of PTSD (UPID, Steinberg et al., 2004). These results therefore are not reviewed in detail but can be found in the supplemental online materials for this paper.

Cognitive emotional processing

Piecewise HLM results indicated that caregiver cognitive emotional processing during the stabilization and skills-building phase (phase 1) was not associated with the rate of change in child internalizing or externalizing symptoms over the treatment (treatment slope) or follow-up (follow-up slope periods). However, caregiver processing during the narrative phase (phase 2) was associated with improvement in both internalizing and externalizing

symptoms over treatment. The effects of caregiver processing did not extend over the follow-up period (see Table 3).

Support

Caregiver support expressed during phase 1 was not associated the slope of symptoms in either domain (internalizing or externalizing) over the course of treatment or follow-up. However, support during phase 2 was negatively associated with the slope of internalizing symptoms over follow-up, suggesting children with caregivers who provided more support during the narrative phase of TF-CBT were less likely to experience an increase in (or return of) internalizing symptoms over the follow-up period. Support during the narrative phase was not a predictor of child symptoms across treatment, nor of externalizing symptoms over the follow-up (see Table 3).

Child Blame

Blame of the child in phase 1 was not associated with the slope of internalizing or externalizing symptoms over the treatment or follow-up (see Table 4). However, blame during phase 2 was significantly and positively associated with the slopes of both symptom domains over follow-up. In other words, more caregiver blame of the child during phase 2 was associated with greater increases in internalizing and externalizing symptoms over the follow-up, perhaps indicating poor maintenance of treatment gains.

Avoidance

Caregiver avoidance during phase 1 was not associated with the slopes of child internalizing or externalizing symptoms over the treatment period or with the slope of internalizing symptoms over follow-up (see Table 4). However, caregiver avoidance during phase 1 was associated with a worsening of child externalizing symptoms over follow-up. In addition, caregiver avoidance during phase 2 was significantly associated with a worsening of *both* internalizing and externalizing symptoms over follow-up. In other words, caregiver avoidance during phase 2 was associated with greater increases in both symptom domains over the follow-up period, beyond the effect of avoidance during phase 1.

Associations with Child Cognitive Variables

We examined the correlations between caregiver variables and the child variables that predicted outcomes in the Ready et al. (2015) study: overgeneralization and accommodation (see Table 2). As hypothesized, more caregiver avoidance and blame of the child during the narrative phase of TF-CBT were associated with more child overgeneralization, and blame was associated with less accommodation. In contrast with hypotheses, no other caregiver variables were significantly associated with child overgeneralization or accommodation.

Discussion

The current study examined in-session caregiver behavior as a predictor of child outcomes in an effectiveness study of Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) for underserved youth and their non-offending caregivers. Caregiver's cognitive emotional processing during the trauma narrative phase was associated with reductions in youth

internalizing and externalizing symptoms over treatment, but not follow-up. Caregiver support during the narrative phase was associated with maintenance of internalizing symptoms over follow-up. In contrast, both caregiver avoidance and blame of the child (for their trauma or symptoms) during the trauma narrative phase predicted worsening of internalizing and externalizing symptoms over follow-up. Caregiver avoidance during the stabilization and skills building phase, but no other variables during the first phase, predicted a worsening of externalizing symptoms over follow-up, independent of the effect of later avoidance. Correlational analyses revealed that during the narrative phase, caregiver avoidance and blame of the child were positively correlated with child overgeneralization, which was a predictor of worse child outcomes in an earlier study (Ready et al., 2015). In addition, more blame was associated with less child accommodation, an important buffer of the negative effects of overgeneralization in that study.

To our knowledge, this is the first study to use an observational measure to examine caregiver behavior during TF-CBT as a predictor of child outcomes. The findings bolster assertions by TF-CBT developers (Cohen et al., 2006) and are consistent with previous findings (Cohen & Mannarino, 1996; 2000; Deblinger et al., 1996) that parents or caregivers can have a powerful impact on the treatment process for youth affected by trauma. These results also converge with psychopathology research suggesting that parental responses can significantly influence children's adjustment following traumatic experiences (Alisic et al., 2011; Trickey et al., 2012). In addition, it is important to note that caregivers' behaviors may be in part a function of the therapists' effectiveness in engaging, supporting, and guiding caregivers in the therapeutic process. Overall, these findings have important implications for the delivery of TF-CBT, particularly as it is disseminated across a range of settings and implemented with new and diverse populations.

Caregiver cognitive-emotional processing (approaching trauma-related material, constructively making meaning of it, and shifting one's perspective and emotional response), was associated with reductions in child internalizing and externalizing symptoms over the course of treatment. Cognitive emotional processing has been proposed as an important mechanism of change in the treatment of adult anxiety, depressive, and trauma-related disorders (Foa, Huppert, & Cahill, 2006; Greenberg, 2002; Hayes et al., 2005; Teasdale, 1999), and our study is the first that we are aware of to suggest a link between caregiver processing and child outcomes. While further research is needed to better explain this association, these findings highlight the importance of considering caregiver processing in the context of youth treatment. Caregivers' productive processing of the child's traumatic event and their own reactions to it may help their children to process the experiences and/or regulate emotional reactions, which can then contribute to symptom reduction. For example, a caregiver who initially blamed her child for being sexually abused and then realized through the child's trauma narrative that the experience was out of the child's control, would be better able to help the child make a similar realization and to support the child during therapy. Indeed, more caregiver processing was associated with providing more support to the child in both phases of treatment. Caregiver processing seemed to facilitate change in child symptoms over the course of treatment, but other variables predicted functioning over the follow-up period.

In line with past findings that parental support is an important predictor of PTSD symptomatology in youth and of treatment outcomes, caregiver support during the trauma processing phase was associated with lower internalizing symptoms over follow-up period in this study. More caregiver support was not associated with posttreatment outcome, but the effects were instead apparent over the follow-up period. Caregiver support during treatment may contribute to the maintenance of TF-CBT's positive effects, after contact with therapist and treatment environment are no longer available. Caregiver support was not associated with externalizing symptoms at any time point, suggesting that other caregiver factors (such as blame or avoidance) may be more central.

Blame of the child for the trauma or trauma-related difficulties expressed during the trauma-processing phase of treatment was associated with poor maintenance of treatment gains on internalizing and externalizing symptoms over follow-up. These findings corroborate past research demonstrating that parental blame of the child, as measured by the Parental Support Questionnaire (PSQ; Cohen & Mannarino, 1996) at pretreatment, predicts worse outcomes following TF-CBT for children who experienced sexual abuse (Cohen & Mannarino, 1996; 2000). The current study extends these findings in several ways. Caregiver blame was measured by observational coders *during* treatment. The specificity to the narrative phase of treatment suggest that caregiver blame during that time may actively interfere with the child's ability to engage in effective or long-lasting processing of the traumatic experiences. Although further studies would need to test this hypothesis directly, the associations of caregiver blame with more child overgeneralization and less accommodation suggests one pathway through which blame may interfere with recovery. For instance, caregiver blame, such as “if she hadn't flirted with [the abuser], this never would have happened,” or “the kid is just being a wuss – why can't he just get over it?” may interfere with a child's ability to change exaggerated or overgeneral negative beliefs about themselves, the world, or the future. Such comments might instead reinforce beliefs such as “it's my fault that I was raped” or “no one will ever understand what I went through, so I should just keep my mouth shut.” Furthermore, the association between caregiver blame and child accommodation suggests that blame statements may make it more difficult for a child to establish and maintain balanced, realistic beliefs that can replace or inhibit maladaptive cognitions. While the current study is not able to establish a causal connection between caregiver blame and child maladaptive cognitions, the findings suggest that caregiver blame may have negative effects on child recovery and that therapists can help caregivers change these harmful behaviors and associated beliefs.

Caregiver avoidance across the skills-building and trauma-processing phases of TF-CBT showed independent associations with increased symptomatology over the 12-month follow-up. Overall, these associations are consistent with psychopathology research suggesting that parental avoidance following childhood trauma is associated with the development of child PTSD symptoms (Laor et al., 1997; Ostrowski et al., 2011). The influence of parental avoidance on children during trauma-focused treatment had not yet been examined. The current study suggests that caregiver avoidance both early in treatment and during the trauma narrative phase is associated with worse long-term outcomes for the child. *What* was being avoided by caregivers during each phase (e.g. doing therapy homework, talking about the child's trauma, or revealing their own emotional reactions) was not specified. The

content of these two phases of treatment and the specific symptomatology predicted by avoidance in each phase might reveal how avoidance interferes with long-term recovery. For instance, caregiver avoidance during the first phase of treatment only predicted increases in externalizing symptoms over follow-up, whereas caregiver avoidance during the second phase predicted increases in *both* internalizing and externalizing over follow-up. For caregivers, much of the first phase is devoted to learning effective parenting skills to address the child's difficult or problematic behaviors. Avoidance during this phase may interfere with caregiver learning or long-term retention of these skills, which could contribute to the return of child externalizing behaviors after treatment. This explanation is consistent with findings from a recent TF-CBT dismantling study, which reported that parents receiving TF-CBT without a trauma narrative (and therefore with a greater emphasis on parenting skills) rated their children as lower on externalizing symptoms post-treatment than those who received treatment with a trauma narrative (Deblinger, Mannarino, Cohen, Runyon, & Steer, 2011). While this finding could suggest that emphasis on parenting skills in TF-CBT is more important for reducing externalizing skills than the trauma narrative, the current study suggests otherwise.

Caregiver avoidance during the trauma narrative phase of this trial was *independently* associated with worse externalizing and also internalizing symptoms over the follow-up period. As with caregiver blame, the significant association between caregiver avoidance and more child overgeneralization during the trauma processing phase may suggest a way that avoidance contributes to the loss of treatment gains, although this must be tested empirically. These findings emphasize the critical importance of effective parent engagement in the skill building and narrative and processing phases of treatment.

It is important to emphasize that the significant effects of both avoidance and child blame on child symptomatology only emerged over the follow-up period. It is critical to identify variables that contribute to long-term outcomes, and variables that have lagged effects easily can be missed in routine clinical practice where long-term follow-up is rare. Furthermore, these findings highlight key therapeutic targets and the powerful influence that caregivers can have on child functioning long after treatment is completed. The lagged effect of avoidance and child blame could suggest a few different processes. It is possible that child treatment gains that occur in the context of more caregiver avoidance and blame are more fragile, and therefore less likely to be maintained following treatment without therapist support. It is also possible that caregiver avoidance and blame expressed during treatment indicate an avoidant coping or parenting style that is maintained after treatment and contributes to the erosion of child treatment-related improvements. For example, a mother might refuse to discuss her child's sexual abuse by her boyfriend outside of therapy and perhaps even blame her child for the boyfriend leaving. If the mother's stance has not changed over the course of treatment, the child may develop increasing anger and negative behaviors toward the mother, particularly after treatment is completed. While the current study cannot distinguish the processes that might explain the delayed effect, the findings nonetheless underscore the importance of reducing these caregiver behaviors, if treatment gains are to be maintained.

Implications for TF-CBT

Together, these findings have important implications for the delivery of TF-CBT. This study highlights the significant association between caregiver behavior, child symptomatology, and long-term treatment outcomes. The lack of a control group in the current study precludes an examination of these associations outside of treatment, but past research has shown problematic caregiver behavior to be associated with the development and maintenance of child PTSD (Deblinger et al., 1999; Laor et al., 1997; Ostrowski et al., 2011). Our findings highlight the importance of including a traumatized child's caregiver in treatment and also assessing and targeting: a) positive processes such as support and cognitive-emotional processing, and b) caregiver avoidance and inaccurate and maladaptive cognitions concerning the child's role in their own trauma and symptomatology (blame). Although previous findings have been mixed as to whether caregiver factors have more influence on internalizing or externalizing symptoms, our findings indicate that caregiver processes are important in predicting both spectra of symptoms. Targeting these processes may involve concerted time and effort from the therapist in caregiver-only and conjoint sessions. Depending on the nature and source of the caregiver's difficulties, this may also involve referring caregivers for their own psychotherapy. In addition, the current findings suggest that caregiver processes may be important for maintaining long-term gains and that it may be useful to focus on these processes in the latter part of treatment.

It may be particularly important to emphasize caregiver processes when training new therapists in TF-CBT. A qualitative study assessing the opinions of national TF-CBT trainers on barriers to implementation suggested that lack of caregiver engagement, caregiver avoidance, and caregiver's own mental health problems all posed significant barriers to successful community implementation (Hanson et al., 2014). Trainers also expressed concerns about trainee therapists' fidelity to the TF-CBT model when providing psychoeducation to the caregiver, teaching parent skills, and correcting caregiver's cognitive distortions about the child's trauma. For instance, when running short on time, therapists might cut caregiver sessions short and place more emphasis on child sessions. The findings of the current study suggest that short-changing therapeutic time with the caregiver, or leaving out important components of treatment with the caregiver, may not be in the best interest of the child's long-term outcome.

Limitations and Future Directions

This study is limited by the use of a longitudinal, within-subjects design to examine symptom change over the course of TF-CBT. The lack of a control group prevents definitive conclusions regarding causal effects of predictor variables. The temporal order of variables suggests a possible causal role for caregiver variables on outcome (e.g. caregiver variables measured during treatment predicted symptom change over the follow-up period), but these associations could also occur naturally outside the context of treatment and may have been influenced by non-treatment related factors. Future research examining similar variables in TF-CBT and control groups in a randomized control trial could better address these concerns.

Another limitation is the use of caregiver-report (the CBCL) as the primary measure of therapeutic outcome. None of the caregiver variables predicted child-reported PTSD symptoms on the UPID (Steinberg et al., 2004). There are multiple potential reasons for this. Children enrolled in this study were not required to meet full criteria for PTSD, and youth self-report may be more biased by avoidance than caregiver report. Still, it is possible that a more blaming or avoidant caregiver might rate the child as higher on the internalizing and externalizing scales of the CBCL, whereas a caregiver who is more supportive or has engaged in more productive processing might rate the child as improved because of change in their own perspective rather than change in the child's behavior. This bias would not extend to a child-reported measure. Observational coding of caregiver behaviors for the predictor variables adds some objectivity, but the primary outcome variables are still based on parent report. It is important to note that caregiver behaviors predicted *change* in the CBCL over time, which suggests that these effects are not merely due to a pre-existing tendency to rate the child in a particularly positive or negative light. Nonetheless, these effects need to be replicated using multiple informants, such as teachers, family members, or independent evaluators.

We report important associations between in-session caregiver behaviors and in-session youth behaviors, but the temporal nature of these variables (i.e. variable means over the course of a phase) does not allow for causal interpretations of these associations, nor does it allow for definitive interpretations of the direction of effects. While we suggested that more caregiver blame and avoidance during the trauma processing phase might activate or maintain child overgeneralization, the opposite direction of effects is also possible, as is the presence of a third variable that might explain this association. An important direction for future research would be to examine session-by-session changes in caregiver and child processes to examine whether caregiver behaviors influence child behaviors in session, or vice versa. Additionally, conjoint sessions could be coded to examine caregiver-child interactions in real time.

Importantly, caregivers in the current study were primarily female (90%), therefore the findings may not generalize to male caregivers. Future studies could examine whether caregiver behaviors differ by gender and could compare same-gender and cross-gender child-caregiver dyads. It is also possible that other caregiver demographic factors, such as race/ethnicity, social class, or whether the caregiver is a foster or biological parent, might influence the relationships between caregiver behavior and youth outcomes. For instance, cognitive-emotional processing or blame of the child may have stronger effects for biological parents than foster parents, particularly if they were the caregiver of the child at the time of the traumatic event(s).

Conclusion

In-session behavior of caregivers during TF-CBT predicted change in child symptomatology during and after treatment. Positive caregiver behaviors (cognitive-emotional processing and support of the child) during the trauma narrative phase were associated with better child outcomes. Maladaptive caregiver behaviors (avoidance and blame of the child), during both phases were associated with poor maintenance of child treatment gains. Caregiver avoidance

and blame were both positively correlated with child overgeneralization (a child variable found to predict worse outcomes in a previous study), and blame was negatively correlated with child accommodation (which was found to buffer overgeneralization's negative effects). These findings corroborate those of past studies suggesting that caregiver blame and negative emotional reactions at pretreatment are associated with child outcome in TF-CBT (Cohen & Mannarino, 1996; 1998; 2000) and also extend these findings by measuring in-session behaviors with an observational coding measure and during the course of treatment. Overall, this study highlights the importance of caregivers in TF-CBT and suggests possible areas of focus to improve treatment implementation and extend research.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Public Health Significance Statement

This study highlights the importance of assessing and targeting caregiver behavior during Trauma-Focused Cognitive Behavioral Therapy, a well-established treatment for youth trauma, as these behaviors are associated with long-term youth outcomes.

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Table 1

Descriptions of coding categories

Coding Category	Description	Example
Caregiver Support	Concern, empathy, and care expressed for the child in relation to the trauma, trauma responses, and positive gains that he/she makes.	"We went out to eat and he was nervous being in front of other people. I used the thought changing technique to try and help him. Thoughts are running his life, and I can understand that because it happened to me."
Blame of Child	Blame or criticism of the child for the trauma and trauma-related difficulties.	"She's just using the abuse as an excuse for acting out. We're the ones paying for it. She's the problem in this family"
Cognitive-Emotional Processing	Extent to which the caregiver approaches issues related to the child's trauma and constructively explores, tries to understand, challenge, and make meaning.	"I realize that I raised my kids the way I did as a defense mechanism. I started integrating it together, like 'that's why I do that.' It makes sense. I'm finally understanding why"
Caregiver Avoidance	Attempts to protect or defend oneself by pulling away from problems, issues or emotions related to the trauma.	"'Come climb in bed with your father.' I will <i>never</i> forget those words. And I don't want to face it. I want to push it back. That's how I deal with things."
Child Accommodation	Expression of a balanced view of self, others, or the world. Includes integrating new information, arriving at a more realistic perspective, and discriminating between old and new experiences.	"As I face the memory of the abuse, it starts to go away. She [abuser] doesn't get the right to abuse me, it's not ok to beat a child....I just say to myself the past is over and all the bruises went away. I'm in a safe place now."
Child Over-generalization	Global, exaggerated beliefs of self, others, or world related to trauma. Often information from the trauma is broadly applied across time and situation.	"Guys scare me because of what happened with my cousin [sexual abuse]. I get scared when guys come into the house. I get scared that it will happen again."

Table 2

Correlations, means, and standard deviations of primary study variables

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Avoidance 1	-															
2. Blame of child 1	.06**	-														
3. Support 1	-.00	-.22	-													
4. CE processing 1	.26*	-.02	.44***	-												
5. Avoidance 2	.12	.29*	-.16	.08	-											
6. Blame of child 2	.22	.33**	-.17	-.12	.52***	-										
7. Support 2	.03	-.11	.43***	.21	-.35**	-.42***	-									
8. CE processing 2	.02	-.01	.35**	.40**	.01	-.11	.33**	-								
9. INT baseline	.08	.12	-.08	.14	.17	.29*	.05	.24*	-							
10. INT 6 months	-.09	-.02	-.08	-.04	.11	.38**	-.14	-.01	.59***	-						
11. INT 12 months	-.09	.20	-.17	-.06	.37*	.62***	-.28	.12	.59***	.78***	-					
12. EXT baseline	.11	.19	.08	.31**	.20	.32**	.06	.21	.63***	.35**	.40**	-				
13. EXT 6 months	-.02	.02	-.01	.08	-.01	.29*	-.06	-.07	.30*	.58***	.48**	.54***	-			
14. EXT 12 months	.08	.21	-.10	-.17	.34*	.63***	-.16	-.02	.36*	.54***	.67***	.51***	.63***	-		
15. Child accomm 2	.06	-.13	.19	-.10	-.12	-.26*	.16	-.06	-.14	-.28*	-.26	-.02	-.18	-.09	-	
16. Child overgen 2	.05	.01	.20	.02	.36**	.33**	.13	.13	.17	.20	.13	.18	.01	.45**	.00	-
Mean	0.21	0.31	2.04	0.32	0.33	0.42	1.96	0.48	14.24	8.86	9.60	8.77	11.93	14.85	0.58	0.38
SD	0.42	0.49	0.65	0.40	0.48	0.51	0.59	0.47	9.07	8.10	8.82	7.79	11.18	14.02	10.44	0.47

Note. 1 = phase 1 of TF-CBT; 2 = phase 2 of TF-CBT; CE processing= cognitive-emotional processing; INT = Child Behavior Checklist Internalizing score, EXT = Child Behavior Checklist Externalizing score; Accom = accommodation; Overgen = overgeneralization

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3

Piecewise growth-curve modeling of positive caregiver variables as predictors of child symptom change (CBCL) over the course of treatment and 12-month follow-up

Outcome	Independent Variable	B	SE	<i>t</i>	<i>p</i>	95% CI
Externalizing Symptoms						
<i>Change in Symptoms over Treatment (0, 3, 6 months)</i>						
	Cognitive-Emotional Processing Phase 1	-0.71	0.56	-1.28	.205	[-1.81, 0.39]
	Cognitive-Emotional Processing Phase 2	-1.05	0.47	-2.23	.029	[-1.97, -0.13]
	Support Phase 1	-0.13	0.36	-0.37	.713	[-0.84, 0.58]
	Support Phase 2	-0.40	0.40	-1.01	.316	[-1.18, 0.38]
<i>Change in Symptoms over Follow-Up (6, 9, 12 months)</i>						
	Cognitive-Emotional Processing Phase 1	-1.32	0.88	-1.47	.146	[-3.04, 0.40]
	Cognitive-Emotional Processing Phase 2	0.44	0.66	0.66	.513	[-0.85, 1.73]
	Support Phase 1	-0.38	0.41	0.19	.850	[0.49, 3.51]
	Support Phase 2	-0.66	0.56	-1.18	.253	[-0.84, 1.00]
Internalizing Symptoms						
<i>Change in Symptoms over Treatment (0, 3, 6 months)</i>						
	Cognitive-Emotional Processing Phase 1	-0.36	0.42	-0.85	.396	[-1.18, 0.46]
	Cognitive-Emotional Processing Phase 2	-0.75	0.35	-2.12	.038	[-1.44, -0.06]
	Support Phase 1	0.21	0.26	0.78	.439	[-1.18, 0.42]
	Support Phase 2	-0.53	0.29	-1.82	.073	[-1.10, 0.04]
<i>Change in Symptoms over Follow-Up (6, 9, 12 months)</i>						
	Cognitive-Emotional Processing Phase 1	-0.19	0.47	-0.41	.682	[-1.11, 0.73]
	Cognitive-Emotional Processing Phase 2	0.27	0.35	0.78	.436	[-0.42, 0.96]
	Support Phase 1	0.09	0.27	0.34	.738	[-0.44, 0.62]
	Support Phase 2	-0.63	0.29	-2.19	.032	[-1.20, -0.06]

Note. Each caregiver variable [Cognitive Emotional Processing and Support] was entered in a separate hierarchical piecewise regression model. Phase 1 (stabilization and skills-building phase) and phase 2 (trauma narration and processing phase) means for each variable were entered simultaneously as level-2 (person-level) predictors of change in either externalizing or internalizing symptoms. Symptom change was separated into two pieces: change over treatment, which included 0, 3, and 6 month assessments and change over follow-up, which included 6, 9, and 12 month assessments. CBCL = Child Behavior Checklist

Table 4

Piecewise growth-curve modeling of maladaptive caregiver variables as predictors of child symptom change (CBCL) over the course of treatment and 12-month follow-up

Outcome	Independent Variable	B	SE	<i>t</i>	<i>p</i>	95% CI
Externalizing Symptoms						
<i>Change in Symptoms over Treatment (0, 3, 6 months)</i>						
	Blame of Child Phase 1	-0.56	0.46	-1.36	.232	[-1.47, 0.53]
	Blame of Child Phase 2	0.02	0.44	0.04	.969	[-0.84, 0.88]
	Avoidance Phase 1	-0.36	0.52	-0.73	.470	[-1.39, 0.67]
	Avoidance Phase 2	-0.70	0.44	-1.59	.117	[-1.73, 0.33]
<i>Change in Symptoms over Follow-Up (6, 9, 12 months)</i>						
	Blame of Child Phase 1	0.59	0.62	0.97	.338	[-0.63, 1.81]
	Blame of Child Phase 2	1.34	0.54	2.46	.016	[0.28, 2.40]
	Avoidance Phase 1	2.00	0.77	2.59	.012	[0.49, 3.51]
	Avoidance Phase 2	1.88	0.53	3.58	<.001	[0.84, 2.92]
Internalizing Symptoms						
<i>Change in Symptoms over Treatment (0, 3, 6 months)</i>						
	Blame of Child Phase 1	-0.48	0.34	-1.40	.166	[-1.15, 0.19]
	Blame of Child Phase 2	0.26	0.33	0.80	.425	[-0.37, 0.89]
	Avoidance Phase 1	-0.52	0.37	-1.40	.167	[-1.25, 0.21]
	Avoidance Phase 2	-0.15	0.33	-0.47	.643	[-0.80, 0.50]
<i>Change in Symptoms over Follow-Up (6, 9, 12 months)</i>						
	Blame of Child Phase 1	0.38	0.35	1.10	.274	[-0.31, 1.07]
	Blame of Child Phase 2	0.64	0.31	2.07	.042	[0.03, 1.25]
	Avoidance Phase 1	0.22	0.45	0.50	.621	[-0.66, 1.10]
	Avoidance Phase 2	0.95	0.30	3.12	.003	[0.36, 1.54]

Note. Each caregiver variable [Blame of Child and Avoidance] was entered in a separate hierarchical piecewise regression model. Phase 1 (stabilization and skills-building phase) and phase 2 (trauma narration and processing phase) means for each variable were entered simultaneously as level-2 (person-level) predictors of change in either externalizing or internalizing symptoms. Symptom change was separated into two pieces: change over treatment, which included 0, 3, and 6 month assessments and change over follow-up, which included 6, 9, and 12 month assessments. CBCL = Child Behavior Checklist