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Treatment processes and demographic variables as predictors of dropout from trauma-focused cognitive behavioral therapy (TF-CBT) for youth

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Abstract

Objective: Premature dropout is a significant concern in trauma-focused psychotherapy for youth. Previous studies have primarily examined pre-treatment demographic and symptom-related predictors of dropout, but few consistent findings have been reported. The current study examined demographic, symptom, and in-session process variables as predictors of dropout from Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) for youth.

Method: Participants were a diverse sample of Medicaid-eligible youth (ages 7–17; $n = 108$) and their non-offending caregivers ($n = 86$), who received TF-CBT through an effectiveness study in a community setting. In-session process variables were coded from audio-recorded sessions, and these and pre-treatment demographic variables and symptom levels were examined as predictors of dropout prior to receiving an adequate dose of TF-CBT (< 7 sessions). Twenty-nine children were classified as dropouts and 79 as completers.

Results: Binary logistic regression analyses revealed that higher levels of child and caregiver avoidance expressed during early sessions, as well as greater relationship difficulties between the child and therapist, predicted dropout. Those children who were in foster care during treatment were less likely to drop out than children living with parents or relatives. No other demographic or symptom-related factors predicted dropout.

Conclusions: These findings highlight the importance of addressing avoidance and therapeutic relationship difficulties in early sessions of TF-CBT to help reduce dropout, and they have implications for improving efforts to disseminate evidence-based trauma-focused treatments.

Keywords

Trauma-focused cognitive behavioral therapy; PTSD; Dropout; Avoidance; Trauma

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Traumatic experiences in childhood are associated with a number of deleterious consequences throughout development and into adulthood, including increased risk of psychopathology, such as PTSD, externalizing behaviors (e.g., poor academic performance, interpersonal difficulties), and internalizing symptoms (Paolucci, Genuis, & Violato, 2001; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997; Tyler, 2002). Evidence-based psychotherapies for childhood trauma, such as trauma-focused cognitive behavioral therapy (TF-CBT; Cohen, Mannarino, & Deblinger, 2006; 2017), have been shown to reduce posttraumatic stress symptoms and other negative consequences of trauma (National Child Traumatic Stress Network, 2004). Treatment success, however, is predicated on participation in and completion of therapy. Unfortunately, dropout rates are high in child psychotherapy, with dropout rates ranging from 30 to 60% (Kazdin & Mazurick, 1994; Wierzbicki & Pekarik, 1993; de Haan, Boon, de Jong, Hoeve, & Vermeiren, 2013). Dropout is not only a research concern (Armbruster & Kazdin, 1994; Kazdin, 1993; Kazdin, Mazurick, & Siegel, 1994), but children's mental health problems are more likely to go untreated and can worsen over time, if they do not complete treatment (Watts et al., 2013).

1. Baseline predictors of dropout

In youth trauma treatments, most research on dropout has focused on sociodemographic and clinical predictors that are evaluated at baseline. Demographics and family characteristics found to predict dropout include older child age (Fraynt et al., 2014; Wamser-Nanney & Steinzor, 2016), younger caregiver age (Eslinger, Sprang, & Otis, 2014), minority race/ethnicity (Murphy et al., 2014; Sprang et al., 2013; Wamser-Nanney & Steinzor, 2016, but see; Eslinger et al., 2014), and non-Hispanic ethnicity (Sprang et al., 2013, but see; Eslinger et al., 2014). A variety of indicators of lower socioeconomic status have been found to predict dropout (de Haan et al., 2013), as have prior Child Protective Services involvement (Wamser-Nanney & Steinzor, 2016) and living with biological parents rather than in state custody or out of home (Eslinger et al., 2014; Sprang et al., 2013).

Some studies have shown relationships between dropout and higher levels of PTSD symptoms, externalizing behaviors, or the presence other diagnoses (depression, GAD, oppositional defiant disorder; Eslinger et al., 2014; Murphy et al., 2014; Sprang et al., 2013; Wamser-Nanney & Steinzor, 2016). Greater functional impairment has also been linked to dropout (Fraynt et al., 2014). In contrast, other studies have found dropout to be related to lower levels of PTSD symptoms (Eslinger et al., 2014), fewer internalizing problems (Fraynt et al., 2014), and fewer somatic complaints (Wamser-Nanney & Steinzor, 2016). Studies of adult PTSD treatments similarly report mixed and contradictory findings regarding relationships between dropout and various demographic and baseline characteristics, including gender, age, and baseline symptom severity (see Zandberg, Rosenfield, Alpert, McLean, & Foa, 2016). In general, baseline predictors of dropout have shown small effect sizes and low replicability (Gopalan et al., 2010; de Haan et al., 2013).

In contrast, some process variables measured over the course of treatment have emerged as fairly consistent predictors of dropout. These findings highlight the importance of examining not only pretreatment client, family, and demographic characteristics, but also processes that occur during sessions, as these processes may be more amenable to change. Identification

of such warning signs can allow therapists to intervene early to try to prevent dropout. For example, lower parent ratings of perceived treatment relevance have been shown to predict dropout from child psychotherapy (Kazdin, Holland, & Crowley, 1997; de Haan et al., 2013). Caregivers' perceptions of and expectations for treatment are particularly important, given that caregivers' decisions often determine whether their children continue to attend therapy (Deakin, Gastaud, and Nunes (2012). In addition, youth's perceptions of their parents' approval of treatment predicts retention (Ormhaug & Jensen, 2018).

A consistent predictor of dropout from child psychotherapies is the therapeutic alliance, both between therapists and youth (Robbins et al., 2006) and between therapists and caregivers (Garcia & Weisz, 2002; Kazdin et al., 1997; Robbins et al., 2006; de Haan et al., 2013). In populations that have experienced childhood trauma, impairment in interpersonal functioning, sensitivity to criticism, negative beliefs about others, and difficulty trusting others can extend to the therapeutic relationship and thus influence both treatment engagement and outcomes (Cloitre, Stovall-McClough, Miranda, & Chemtob, 2004; Gopalan et al., 2010; Zlotnick, Zakriski, Shea, & Costello, 1996). In a randomized trial comparing TF-CBT to nondirective supportive counseling for traumatized children lower therapist-rated alliance with youth predicted greater dropout regardless of treatment condition (Ormhaug & Jensen, 2018). Stronger alliance ratings have also been associated with greater retention in adult PTSD treatments (Keller, Zoeller, & Feeny, 2010; Pinto, Campbell, Hein, Yu, & Gorroochurn, 2011). Working with traumatized children and their families can be challenging, and avoidance and mistrust are likely. The therapists' responses to these difficulties and their effectiveness at balancing a supportive relationship with the challenge necessary to promote change are likely contribute to engagement and retention.

Avoidance may play an especially important role in dropout from PTSD treatment. PTSD is characterized by attempts to push away trauma-related thoughts and feelings (Brewin, Gregory, Lipton, & Burgess, 2010) and to avoid situations that trigger those thoughts and feelings (Kashdan & Kane, 2011). Trauma-focused treatments encourage clients to engage with their traumatic memories and their reactions to the trauma. Yet, those with PTSD actively seek to disengage from trauma-related content (Asmundson, Stapleton, & Taylor, 2004) and are often hesitant to discuss their traumatic experiences in treatment (Gopalan et al., 2010), which can contribute to clients' decisions to discontinue treatment. Indeed, some studies have found that pretreatment avoidance symptoms predict dropout in both child (Murphy et al., 2014) and adult trauma treatments (Bryant, Moulds, Guthrie, Dang, & Nixon, 2003; Garcia, Kelley, Rentz, & Lee, 2011; Zayfert et al., 2005; but see; Taylor, 2003). In guidelines for clinicians, Foa, Hembree, and Rothbaum (2007) also highlight the profound impact that avoidance behaviors in treatment can have on both dropout and symptom outcomes. No study to our knowledge has examined in-session avoidance as it relates to dropout in treatments for traumatized youth.

While baseline client and family characteristics can help clinicians identify clients at initial risk for dropout, therapists should also be aware of processes during treatment that can impact decisions to remain in or discontinue treatment. In child psychotherapy, therapists need to consider not only child characteristics and treatment processes, but also those of the caregiver, who can decide to discontinue the child's treatment. The inconsistency of findings

on pretreatment predictors of dropout, together with the paucity of research on client and caregiver process variables, create a meaningful gap in knowledge of factors that predict dropout from childhood PTSD treatments.

The current study addresses these gaps in research by examining the role of client and caregiver baseline variables, as well as client, caregiver, and therapist in-session process variables in the first phase (usually sessions 2–5) of TF-CBT for childhood trauma. In addition, this effectiveness trial of TF-CBT was conducted in community mental health agencies (rather than specialty centers) and was delivered to a racially and ethnically diverse sample of underserved youth. We did not propose specific hypotheses on the relationship between demographic variables or baseline symptom severity and dropout, given the mixed findings in previous research. With regard to *in-session child variables*, more hope expressed in sessions was expected to predict lower dropout, whereas more avoidance would predict greater dropout. In *caregivers*, less caregiver support of the child, more avoidance of trauma-related issues or emotions, and more blame of the child were expected to predict dropout. In addition, *therapist* support of the child and the caregiver were hypothesized to predict less dropout, whereas difficulties in the therapeutic relationship with both the child and the caregiver were hypothesized to predict more dropout.

2. Method

2.1. Participants

Participants were recruited as part of a treatment effectiveness trial that took place between late 2006 and late 2012 (Ready et al., 2015; Webb, Hayes, Grasso, Laurenceau, & Deblinger, 2014). The trial took place in state-contracted community mental health agencies with youth who had experienced an independently-verified (e.g. through child welfare) trauma and with 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 they qualified for publicly-funded treatment (i.e. Medicaid-eligible). They also had a legal guardian who was English-speaking and willing to co-participate in treatment and a year-long follow-up. Youth were excluded if: 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 treatment), or 3) a sibling was already in the study. Qualified youth were administered the UCLA PTSD Reaction Index for DSM-IV-Abbreviated (UPID-A; Steinberg, Brymer, Decker, & Pynoos, 2004) at their residence. Those scoring 17 or higher on the UPID-A or endorsing 3 of 9 PTSD symptoms based on the identified target trauma ($N = 109$) were included in the trial. More detailed information regarding recruitment and outcomes is provided in previous publications on this sample (Ready et al., 2015; Webb et al., 2014; Yasinski et al., 2016).

The current study included 108 youth who were eligible for the study and completed a baseline session. Demographics for the entire sample and for dropouts and completers separately are listed in Table 1. Youth reported an average of 3.4 types of traumatic experiences ($SD = 1.71$) in their lifetime, including sexual abuse (44.4%), physical abuse

(59.0%), domestic violence (49.0%), traumatic loss of a loved one (52.0%), community violence (experienced: 26.0%; witnessed: 32.4%), car- or other traumatic accident (23.0%), fire (4.6%), witnessing a disaster (8.0%), or other abuse (10.0%). According to the unabbreviated UCLA PTSD Reaction Index (UPID; Steinberg et al., 2004), which was administered at baseline, 64.8% of the participants met full criteria for PTSD, 16.7% met criteria for partial PTSD (i.e., met criteria for two of the three DSM-IV symptom clusters), and 18.5% showed elevated symptom severity scores but met criteria for one or fewer symptom clusters.

Participating caregivers included birth parents (51.9%), foster parents (18.5%), other relatives (e.g. grandparents and aunts; 16.6%), caseworkers (5.6%), adoptive parents (1.9%) and other non-relative caregivers (4.6%). Most participating caregivers were female (86.1%). Employment status of caregivers included full-time employment (41.7%), part-time employment (16.7%), unemployment (13%), and not working for other reasons (18%; e.g., being disabled, retired, or a homemaker). Regarding relationship status, 40.8% were married or cohabiting with a partner, 26.9% were single, 17.6% were separated or divorced, and 4.6% were widowed. Caregivers reported having an average of 12.9 years of education (*SD* = 2.34, range = 8–19).

2.2. Therapists and training

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 identified as an Asian woman, one as a Latina woman, and two as Caucasian males. Twelve 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.

Initial training in TF-CBT consisted of two days of didactic training by one of the developers (E.D.), a year of weekly phone consultations (40+) by an experienced TF-CBT supervisor, and expert review of at least one recorded case per trainee. Five core clinicians received this initial training over the course of one year and then proceeded to train and supervise the remaining 11 therapists locally, using a similar combination of a 2-day didactic training, 16 weekly phone consultations, and trainer review of 3 select recordings (i.e., psychoeducation, one of the three skill building sessions, and one of the narrative sessions). Of the five local trainers, one had had extensive prior experience with the TF-CBT model, and four had had at least a year or more of supervisory experience.

2.3. 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 psychoeducation and skill building, as well as gradual exposure to traumatic memories and cognitive processing (Cohen et al., 2006; 2017). The child and caregiver attend 12 to 16 separate 30–45-minute

sessions with the same therapist (60–90 min total) and participate in several trauma-focused conjoint sessions facilitated by the therapist. In the current study, all caregiver and child sessions were audio-recorded 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. In addition, the therapist works with the caregiver to provide parenting guidance and feedback to support the child and help him/her apply the coping skills learned in session. The *trauma narration and processing* phase (phase 2) focuses more directly on the details of the traumatic memories. 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 to process difficult emotions, challenge cognitive distortions, and practice responding 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 personal safety skills training 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; 2017). 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) and caregiver sessions (Yasinski et al., 2016) were high and suggested that TF-CBT components were delivered in the correct sequence.

2.4. 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 CBCL is a well-established measure of internalizing and externalizing problems in children, and it has good reliability and validity (Achenbach & Rescorla, 2001). In the current sample, reliability across treatment and follow-up was excellent for the Internalizing (Cronbach's $\alpha = .89$ to .90) and Externalizing scales (Cronbach's $\alpha = 0.92$ to 0.95).

UCLA PTSD Reaction Index for DSM-IV (UPID).—The UPID (Steinberg et al., 2004) was used to assess PTSD symptoms. The UPID, which is 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). An abbreviated version (23 items) was used for initial screening (UCLA PTSD Reaction Index for DSM-IV Abbreviated; UPID-A), and the full version was used to measure pre-treatment symptom level. The UPID showed good reliability in this sample across treatment and follow-up (Cronbach's α = 0.87 to 0.90).

Session Coding.—Caregiver and youth sessions took place separately and were recorded separately. The baseline session was not recorded, as participants did not consent to recording until the end of that session. Three session recordings from phase 1 (session 2 or later) were randomly selected to code for the child and for the caregiver (a possible total of 6 recordings, 3 for the child and 3 for the caregiver). If fewer session recordings were available, all sessions were coded. A mean of 2.6 sessions were coded for the child (*SD* = 0.9) and 2.1 sessions for the caregiver (*SD* = 0.4). Recordings were only coded from phase 1 for this study because we aimed to predict treatment dropout based on early in-session processes (e.g. prior to phase 2, trauma processing).

Coding variables.—Therapy sessions were coded using the CHANGE (Hayes, Feldman, & Goldfried, 2007), an observational coding system of therapy change processes. Four variables from this system were coded in child sessions: avoidance, hope, therapist support, and therapeutic relationship difficulties. Five variables from this system were coded in caregiver sessions: support, avoidance, blame of the child, therapist support, and therapeutic relationship difficulties. Variable definitions and examples are provided in Table 2. All variables were coded on a 0–3 scale, indicating *absent to very low* (0), *low* (1), *medium* (2), and *high* (3). Variables are not mutually exclusive and can co-occur.

Coders and reliability.—The team of 19 coders consisted of six graduate students in clinical psychology and 13 undergraduate research assistants. As new coders joined the team, they were trained to criterion, which consisted of a set of tapes coded by the CHANGE developer (A.H.) and original coding team members. Two coders were assigned to rate all variables for each session. 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 scale of the CHANGE. The ratings of the two coders per session were averaged. The mean of these averaged ratings for each child across the phase 1 sessions was then used as the predictor variable in analyses (with the exception of the therapeutic relationship difficulty variable), thus allowing information from all available sessions to contribute to the final models. For the therapeutic relationship difficulty variables (parent and child), we were interested in the most problematic sessions and therefore used the highest (or peak) values in the phase 1 sessions. However, initial examination of the coding data indicated that therapeutic relationship difficulties in caregiver sessions occurred at a very low frequency (during only eight sessions from four caregivers). Therefore, only therapeutic relationship difficulties between the child and therapist were included in the analyses. Intraclass correlation coefficients (ICC; Shrout & Fleiss, 1979) were performed on

all coding pairs (see Table 2). These estimates fall within or close to the good to excellent range of agreement (ICC = 0.60 and above; Shrout & Fleiss, 1979). The therapist support of the child variable had the lowest estimate of agreement, but this seemed to be due to restricted range, as there were few low scores. The percent agreement on the raw data (i.e., percent of sessions on which coders did not have a discrepancy greater than one point on the 0–3 scale, before coders came to consensus on such discrepancies) was excellent: coders agreed on the therapist support of the child rating in 98% of sessions.

2.5. Data analytic plan

Participants were divided into two groups: those who dropped out prematurely ($n = 29$) and those who completed an adequate dose of TF-CBT ($n = 79$). Those who attended a baseline session but discontinued therapy prior to completing at least two sessions in the trauma narrative phase (approximately six sessions total or fewer) were categorized as dropouts. Those who completed two or more sessions in the trauma narrative phase (seven or more sessions) were categorized as completers. It is important to note that in some previous trials of TF-CBT, dropout was defined as completing fewer than three of the initial sessions (e.g. Cohen, Deblinger, Mannarino, & Steer, 2004). Our study focuses on those who did not get an adequate dose of the trauma narration and processing sessions, which is hypothesized to be a critical component of TF-CBT (Deblinger, Mannarino, Cohen, Runyon, & Steer, 2011).

Predictors of dropout (0 = completer, 1 = dropout) were analyzed using binary logistic regression in SPSS. We conducted separate logistic regression models for each of seven domains of predictors: child demographic variables (gender, age, white vs. minority race, foster care status), caregiver demographic variables (age, household income), baseline child symptomatology (CBCL internalizing and externalizing, UPID PTSD), in-session child variables (avoidance, hope), in-session caregiver variables (avoidance, blame, support), therapist-child relationship variables (support, relationship difficulties), and the therapist-caregiver relationship variable (support). We ran separate models for each of the seven domains rather than one combined model to reduce the number of predictors per model and to separate groups of predictors that would likely have high collinearity or correlate such that results would be uninterpretable (e.g. child and caregiver demographic variables). Each model included multiple predictors that were entered simultaneously, so that the unique effect of each variable within a given domain could be determined. Child demographic variables were available for all participants who completed baseline measures ($N = 108$). Baseline symptom measures were missing for four participants, therefore this model included 104 participants. Because baseline sessions were not recorded or coded, coding variables were only available for those participants who attended at least one session beyond baseline. Twelve participants dropped out of treatment following baseline, so models including in-session child variables and therapist-child relationship variables included 96 participants. Of the 96 participants who completed at least one session beyond baseline, 10 did not have a caregiver participate during any post-baseline sessions. Therefore, the models including in-session caregiver variables included 86 participants.

3. Results

Means and standard deviations of predictor variables can be found in Table 1, and bivariate correlations among them are presented in Table 3. Logistic regression analysis results are presented in Table 4 and are detailed and explained below.

3.1. Child demographic variables

Among the variables in the child demographic domain, only foster care status significantly predicted dropout: $B = -1.44$, $SE = 0.61$, $p = .018$ (see Table 4 for full regression analysis). The odds ratio (OR) for this analysis indicated that if a child was in foster care (vs. living with a biological parent or relative) at baseline, he or she was 76% less likely to drop out of treatment prior to completing two sessions of the trauma narrative phase. Child gender, age, and race (white vs. minority) did not uniquely predict drop-out.

3.2. Caregiver demographic variables

Caregiver age and household income were not significant predictors of dropout, suggesting that younger caregiver age or lower socioeconomic status did not significantly contribute to dropout.

3.3. Baseline child symptomatology

Pretreatment CBCL internalizing and externalizing scores and UPID scores were not significant predictors of dropout, suggesting that variables other than initial symptom severity are more important for predicting dropout.

3.4. In-session child variables

Consistent with our hypothesis, child avoidance was significantly associated with an increased likelihood of dropout, $B = 0.81$, $SE = 0.31$, $p = .010$ (see Table 4 for full regression analysis). Specifically, the OR suggested a 1-point higher level of average child avoidance during phase 1 (e.g. from low to medium or from medium to high levels) was associated with being 2.24 times more likely to drop out of treatment. An unexpected finding was that child hope was not significantly associated with dropout, $B = 0.68$, $SE = 0.51$, $p = .187$ (see Table 4).

3.5. In-session caregiver variables

Among in-session caregiver variables, only avoidance was significantly associated with dropout, $B = 0.39$, $SE = 0.53$, $p = .039$ (see Table 4). As hypothesized, the OR indicated that caregiver avoidance predicted higher probability of dropout, such that a 1-point increase in average caregiver avoidance during phase 1 was associated with being 4.00 times more likely to drop out of treatment. Caregiver blame and support of the child were not related to dropout.

3.6. Therapist-child and therapist-caregiver relationship variables

As predicted, peak therapeutic relationship difficulty between the child and therapist was significantly associated with dropout, $B = 0.88$, $SE = 0.34$, $p = .011$. A 1-point increase

in peak therapeutic relationship difficulty was associated with the child being 2.40 times more likely to drop out of treatment. It is also interesting to note that peak therapeutic relationship difficulty was significantly correlated with more child avoidance ($r = .55$). In contrast with hypotheses, neither therapist support of the child nor support of the caregiver was a significant predictor of dropout (see Table 4).

4. Discussion

The current study examined treatment process and baseline predictors of dropout in an effectiveness trial of trauma-focused cognitive behavioral therapy for underserved youth and their non-offending caregivers. Child gender, age, and race did not significantly predict dropout, nor did pre-treatment symptom severity, but children who were in foster care (vs. living with a biological parent or relative) were less likely to discontinue prematurely. Observational coding during the initial phase of TF-CBT (stabilization and skills building) revealed that child avoidance in session predicted higher rates of dropout, whereas the level of hope expressed was not associated with dropout. Caregiver avoidance also predicted higher rates of child dropout, and neither caregiver support nor blame of the child were significant predictors. Therapist support of the child also did not predict dropout, but higher levels of therapeutic relationship difficulties between the therapist and the child did.

Most child demographic factors, including gender, age, and race, were not significant predictors of dropout. These findings are consistent with previous consensus that demographics are not reliable predictors of dropout across studies (Armbruster & Fallon, 1994; Kazdin et al., 1997; Warnick, Gonzalez, Robin Weersing, Scahill, & Woolston, 2012; Weisz, Weiss, & Langmeyer, 1987; de Haan et al., 2013). The one exception in the current study was the finding that children currently in foster care were less likely to drop out of TF-CBT than those living with biological parents or family members, which has also been reported in other studies (Eslinger et al., 2014; Sprang et al., 2013). It is possible that because foster parents are monitored by state agencies (e.g. Department of Family Services), they are more likely to attend and complete treatment with children under their care. Another reason for this effect may be relatively higher monetary or social resources available to foster parents (who made up 31.5% of the caregivers in this group) than to birth parents or perhaps greater appreciation for the therapeutic needs of a traumatized child because of prior foster parent training and experience. Foster parents may also experience less emotional distress related the child's traumatic experience because of less direct contact with the trauma, which could decrease avoidance. Overall, this finding indicates that children and caregivers who are not in the foster system may need greater help engaging in treatment, including education regarding the value and rationale for TF-CBT and resources to facilitate engagement with treatment (e.g., transportation, child care, feasible appointment times).

It is important to note that child symptom severity at baseline, whether child-(UPID) or caregiver-rated (CBCL), was not associated with dropout, and thus may not be a consistent predictor of dropout risk. However, child PTSD symptoms at baseline were significantly correlated with caregiver avoidance, which was a predictor of dropout. Although the nature of this relationship is unclear, it is possible that avoidance by the caregiver might contribute

to more severe child symptomatology, as reported in past research (Laor, Wolmer, Mayes, & Gershon, 1997; Ostrowski et al., 2011). Conversely, caregivers might be less willing or able to engage in treatment or face trauma-related emotions or memories when the child's symptoms are more severe. A third variable, such as overall family stress, might also contribute to both child symptomatology and caregiver avoidance. Nevertheless, dropout seems to be related more to in-session variables, such as child and caregiver avoidance and therapeutic relationship difficulties between the therapist and the child, than to pretreatment symptom severity.

For child in-session variables, avoidance during the first phase of therapy predicted higher likelihood of dropout, whereas child hope did not. This finding is consistent with previous research showing that pretreatment avoidance predicts dropout from trauma-focused psychotherapy for both children (Murphy et al., 2014) and adults (Bryant et al., 2003; Garcia et al., 2011; Zayfert et al., 2005). This finding bolsters common clinical intuition: it is important to identify and address in-session avoidance in order to engage and retain clients in treatment. In addition, these findings are an important reminder that therapists also must be vigilant not to model or reinforce avoidance themselves, which may be challenging for those who are new to exposure-based therapies. Further, the finding that child hope did not predict dropout clarifies that high levels of hope may not be necessary to reduce the risk of dropout. As long as they are not highly avoidant, children who are experiencing some hopelessness may still be willing to attempt treatment. While more research is needed, our findings suggest that avoidance, more than hope, signals risk for dropout.

Caregiver in-session avoidance, support, and blame of the child have all predicted child outcomes (CBCL) in previous publications from this sample (Yasinski et al., 2016), yet of those variables, only caregiver avoidance predicted dropout in the current analyses. To our knowledge, this is the first study to report an association between in-session caregiver behavior and child dropout from trauma-focused therapy. This finding builds on previous research demonstrating the deleterious effects of caregiver avoidance on child outcomes, both following the trauma itself and in trauma-focused therapy (Laor et al., 1997; Ostrowski et al., 2011; Yasinski et al., 2016). We did not examine the mechanisms through which caregiver avoidance might contribute to dropout, but it is possible that avoidance reflects the perception by the caregiver that treatment is less relevant, which has been identified as a predictor of dropout in previous research (Kazdin et al., 1997; de Haan et al., 2013). Caregiver avoidance could also contribute indirectly to dropout by communicating to the child these negative perceptions about the importance or distressing nature of therapy and contributing to child-initiated dropout (e.g. Ormhaug & Jensen, 2018). However, in the present sample, caregiver and child avoidance were not significantly correlated, suggesting that the latter explanation may not be as likely. Neither levels of support nor blame of the child predicted dropout, suggesting that while these variables are predictors of long-term child outcomes (Yasinski et al., 2016), they may not forewarn dropout.

Both child and caregiver avoidance predicted dropout, yet they were not significantly correlated with one another. This finding highlights the importance of addressing avoidance directly and frequently early in treatment with *both* parties. TF-CBT incorporates a

discussion of avoidance in the psychoeducation portion of phase 1, and this could be elaborated for those with high levels of avoidant behavior. Since the completion of the current study, a number of studies have been conducted on strategies to improve engagement and retention in TF-CBT. For instance, Dorsey et al. (2014) found that treatment dropout was significantly reduced for families who received a brief pre-treatment phone call and short addition (10–15 min) to the first session that focused on reducing barriers and increasing engagement of caregivers. These engagement strategies are now highly recommended when implementing TF-CBT, and our findings underscore the importance of such strategies, which do not require significant increases in time or effort on the part of the families or therapists but might decrease avoidance. Additionally, for children and caregivers that are particularly avoidant, therapists could apply motivational interviewing or motivational enhancement techniques early in treatment, such as reflective listening and summarizing to highlight non-avoidant behavior and the benefits of facing traumatic memories. Future research could examine whether the addition of such components could further decrease avoidance, increase engagement, and reduce dropout.

With regard to therapist-child relationship variables, peak levels of therapeutic relationship difficulties between the therapist and the child predicted higher levels of dropout, consistent with previous findings in broader child and adolescent therapy samples (Garcia & Weisz, 2002; Robbins et al., 2006). Our findings add to previous research by using an observational coding measure of therapeutic relationship difficulties, rather than only therapist or client self-report. This finding also highlights the importance of the therapeutic relationship for treatment engagement, particularly when working with trauma survivors, who often have low levels of interpersonal trust. Problematic therapeutic relationship interactions included arguments between therapist and child, statements of mistrust by child, and refusal of the child to engage in therapeutic activities. It is important to note that therapist support of the child was not associated with dropout or with therapist-child therapeutic relationship difficulties. Even skilled therapists who are highly supportive of their clients can experience difficulties in the relationship, and such difficulties can forewarn dropout. The way therapists respond to such difficulties can influence outcomes; therapists who effectively combine validation, warmth, and empathic confrontation are more likely to retain their clients. Importantly, therapeutic relationship difficulties were also associated with markers of child disengagement (more avoidance and less hope), suggesting that the therapeutic alliance might be affected by child disengagement, or conversely, that problematic therapist behaviors might contribute to child disengagement. Regardless of the direction of the association, this finding suggests the need for skillful and careful handling of relationship difficulties during early therapy sessions. Therapists may minimize problematic therapeutic interactions by encouraging a warm and collaborative approach that supports gradual exposure, while simultaneously incorporating play, humor and/or children’s personal interests, and end of session positive rituals, whenever possible.

In contrast with hypotheses and previous findings, therapist support of the caregiver did not predict outcome, and therapeutic relationship difficulties between the therapist and caregiver were too infrequent to analyze. This may indicate that the therapeutic relationship between the child and therapist is more important than that of the caregiver and therapist for treatment engagement and retention, given that the child is the primary client and

traumatized individual. However, it is also possible that the relationship between the therapist and caregiver is not as easily observed and coded, due to the adult's greater ability to mask negative opinions or dissatisfaction. Again, future research could examine both observational rating and caregiver and therapist report of the therapeutic relationship to address this question.

5. Limitations and future directions

The current study has multiple strengths, including a sample of medically-underserved and racially and ethnically diverse clients, implementation in a community setting, and the use of observational coding to measure in-session process variables. However, there are also important limitations to consider. The sample size of dropouts was not large (n = 29), which could have limited statistic power to detect additional predictors of dropout. The study did not include a control group because TF-CBT is a treatment with demonstrated efficacy in over 20 randomized controlled clinical trials to date (Cohen & Mannarino, 2017), so it is not clear whether the current findings are specific to TF-CBT. Furthermore, as in-session process variables were not manipulated, findings cannot be interpreted as causal in nature. Future studies could examine the same baseline and in-session predictors of dropout in TF-CBT and other types of therapy (e.g. present-centered, child-only therapy, or treatment-*as*-usual). It may be that variables such as avoidance are more important predictors of dropout in therapies that are directly trauma-focused or exposure-based than those that are more client-centered and supportive in nature.

Although the predictive validity of most of the CHANGE coding variables has been demonstrated in a number of previous studies (e.g. Abel, Hayes, Henley, & Kuyken, 2016; Adler, Harmeling, & Walder-Biesanz, 2013; Hayes & Yasinski, 2015; Ready et al., 2015), the therapeutic relationship variables have not been as well studied. The observational nature of these variables is a strength and interrater agreement was good, but future studies could use additional and more well-validated and standardized measures of the therapeutic relationship to replicate the current findings. In addition, the caregiver-therapist relationship difficulties and therapist support of the child and caregiver variables had restricted range, which might have attenuated associations with dropout.

Another consideration is that baseline sessions that occurred before the first therapy session were not coded, so we do not have CHANGE coding variables for youth who discontinued before starting treatment. It is possible that these participants would show a significantly different pattern of findings than other participants. For instance, therapist support (or lack thereof) might be particularly important for these participants. In addition, there were no sessions to code between referral and the baseline session. As many potential patients do not begin treatment or drop out immediately after baseline orientation, this too will be an important time to identify dropout risk.

While we propose possible reasons that demographic, in-session, and therapeutic relationship variables may have predicted dropout, we did not have complete information on one clear indicator of motivations for dropout: reasons provided by children and caregivers themselves. Self-reported reasons may not reveal all the true motivations for dropout, but

they do provide an important source of information for how to improve patient satisfaction and reduce barriers to effective treatment. Future studies could examine and compare both the reasons given by patients for discontinuing treatment, as well as observational and demographic predictors.

In conclusion, the current study investigated baseline and in-session predictors of premature dropout from an effectiveness study of trauma-focused CBT for children and their non-offending caregivers. Being in foster care was associated with lower dropout, but no other baseline characteristics predicted dropout. All other predictors of dropout were in-session factors, which may be more amenable to change during treatment than are baseline demographic characteristics. Avoidant behavior exhibited by both the child and caregiver during treatment predicted higher rates of dropout. Relationship difficulties between the child and therapist in session also predicted higher dropout. Findings suggest that particular attention in early sessions could be paid to helping both the child and the caregiver overcome avoidance and to enhancing the therapeutic relationship with the child. These findings could have important implications for improving efforts to disseminate and implement evidence-based trauma-focused treatments like TF-CBT and for reducing dropout and improving overall outcomes.

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Table 1

Descriptive statistics for primary study variables for total sample, completers, and dropouts.

Domain	Total Sample		Completers		Dropouts	
Predictor	**Mean or *n***	**SD or %**	**Mean or *n***	**SD or %**	**Mean or *n***	**SD or %**
Child Demographics						
Child Gender (female N)	68	*63%*	53	*67%*	15	*51.7.%*
Child Age	12.71	*2.83*	12.57	*2.86*	13.09	*2.75*
Child Race/Ethnicity						
Black or African-American	48	*44.4%*	33	*41.8%*	15	*51.7%*
White	51	*47.2%*	40	*50.6%*	11	*37.9%*
Hispanic or Latino	5	*4.6%*	3	*3.8%*	2	*6.9%*
Multiracial	4	*3.7%*	3	*3.8%*	1	*3.4%*
In Foster Care at Baseline	34	*31.5%*	30	*38%*	4	*13.8%*
Caregiver Demographics						
Caregiver Age	43.00	*11.23*	43.22	*11.44*	42.13	*10.67*
Caregiver Household Income	$27,928	*$30,423*	$30,151	*$32,821*	$21,165	*$20,700*
Child Baseline Symptoms						
CBCL Externalizing	16.63	*12.51*	17.11	*13.20*	15.12	*10.13*
CBCL Internalizing	14.11	*9.00*	14.81	*9.06*	11.88	*8.61*
UPID	33.08	*14.13*	33.14	*12.97*	32.91	*17.16*
In-Session Child						
Child Avoidance	0.84	*0.81*	0.73	*0.70*	1.38	*1.07*
Child Hope	0.31	*0.39*	0.34	*0.40*	0.17	*0.32*
In-Session Caregiver						
Caregiver Avoidance	0.24	*0.50*	0.18	*0.39*	0.62	*0.87*
Caregiver Blame of Child	0.30	*0.45*	0.27	*0.41*	0.46	*0.69*
Caregiver Support	2.04	*0.66*	2.08	*0.63*	1.83	*0.82*
In-Session Therapist: Child						
Therapist Support-Child	2.70	*0.38*	2.71	*0.35*	2.63	*0.49*
Therapeutic Rel. Difficulty-Child	0.29	*0.66*	0.20	*0.46*	0.71	*1.15*
In-Session Therapist: Caregiver						

Domain	Total Sample		Completers		Dropouts	
Predictor	**Mean or *n***	**SD or %**	**Mean or *n***	**SD or %**	**Mean or *n***	**SD or %**
Therapist Support-Caregiver	2.66	*0.43*	2.66	*0.34*	2.69	*0.34*
Therapeutic Rel. Difficulty-Caregiver	0.12	*0.33*	0.11	*0.41*	0.17	*0.58*

Note. N and percentage (%) are reported for categorical variables, whereas mean and standard deviation (SD) are reported for continuous variables. CBCL = Child Behavior Checklist, UPID = UCLA PTSD Reaction Index, unabbreviated version, rel. = relationship. Completers = 79 Dropouts = 29.

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Table 2

Descriptions of CHANGE coding categories.

Coding Category	Descriptions	Examples	ICC
Child Avoidance	The extent to which the child attempts to protect or defend him or herself by pulling away from rather than moving toward problems or issues	"I try not to think about it, and that works for me" (despite numerous problems reported) Being very quiet and withdrawn in session, refusing to answer relevant questions.	.90
Child Hope	This captures the child's capacity to see the possibility of change in the future, to recognize recent positive changes, and to express a commitment or determination to make changes.	"I think this will help me feel better when I'm sad" (about a therapeutic exercise) Making positive statements about the future (e.g. "I can't wait to go to college")	.70
Caregiver Avoidance	The extent to which the caregiver attempts to protect or defend oneself by pulling away from rather than moving toward problems or issues.	"'Go climb in bed with your father.' I will never forget those words. And I don't want to face it. I want to push it back. That's how I deal with things."	.86
Caregiver Support of Child	The extent to which the caregiver expresses concern, empathy, and care for the child in relation to the trauma, trauma responses, and positive gains that the child makes.	"We went out to eat and he was nervous being in front of other people, having them look at him. 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"	.80
Caregiver Blame of Child	The extent to which the caregiver blames or criticizes the child for the trauma related difficulties.	"She's just using the abuse as an excuse for acting out and misbehaving. And we're the ones paying for it. She's the problem in this family"	.78
Therapist Support: Child and Caregiver	The extent to which the therapist maintains a warm, empathic, genuine tone, combined with concrete interventions to promote stabilization and a safe environment for change.	Therapist pushes for change in empathic and supportive manner. For example, lower scores are given if therapist is: ● Cold or aggressive ● Insincere ● Off-topic	.57
Therapeutic Relationship Difficulties	The extent to which the therapist and child experience a relationship rupture. Problematic aspects of the relationship are discussed or are apparent. Higher levels coded when rupture not addressed or effectively repaired, due to therapist defensiveness, child refusal to engage (e.g. leaving session), or ineffective confrontation by the therapist.	Statements of mistrust by the child: ● "Are you going to tell my mom?" ● "Are you going to take this home?" Arguments between therapist and child: ● Child: "You're insulting my intelligence." ● Therapist: "It's your turn to do the work!" Refusing to engage ● "This game is dumb." "I don't have these problems."	.88

Note. ICC = intraclass correlation.

Table 3

Correlations between primary study variables.

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	
1. Child age	–													
2. Caregiver age	.12	–												
3. Caregiver income	.07	.11	–											
4. INT baseline	.08	−.18	−.06	–										
5. EXT baseline	.11	−.04	−.07	.60***	–									
6. UPID baseline	.12	−.19	−.25*	.17	.09	–								
7. Child avoidance	.27**	.11	.08	.03	.04	−.10	–							
8. Child hope	.39***	.03	.08	.05	.08	.12	−.04	–						
9. CG avoidance	.06	−.01	−.10	−.03	−.03	.36**	.14	−.09	–					
10. CG blame of child	.09	−.02	−.04	.13	.17	.17	−.05	−.04	.05	–				
11. CG support of child	−.00	.08	.14	−.13	.04	−.13	.06	.18	.08	−.22	–			
12. Ther support of child	−.08	.01	.01	.05	−.07	.06	−.16	.06	.09	.10	.07	–		
13. Ther/child rel difficulty	.12	.06	−.01	.01	−.08	−.07	.55***	−.22*	.17	−.02	−.08	−.08	–	
14. Ther support of CG	.06	−.18	−.02	.05	.05	−.07	−.03	.19	.05	−.17	.39***	.12	−.05	–

Note. 1 = INT = Child Behavior Checklist Internalizing score, EXT = Child Behavior Checklist Externalizing score; UPID: UCLA PTSD Reaction Index for DSM-IV; CG = caregiver; ther = therapist; rel = relationship.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 4

Multiple logistic regression models predicting therapy dropout.

Domain Predictor	B (SE)	Wald	*P*	OR	95% C·I.		Model χ^2	R^2
					Upper	Lower		
Child Demographic (*N* = 108)							10.64*	.14
Gender (Female = 0 vs. Male = 1)	0.76 (0.47)	2.61	.106	2.14	0.85	5.38		
Child Age	0.05 (0.84)	0.35	.555	1.05	0.89	1.24		
Foster Care (Yes = 1 vs. No = 0)	−1.44 (0.61)	5.62	.018	0.24	0.07	0.78		
Race (Non-White = 1 vs. White = 0)	0.55 (0.48)	1.30	.255	1.73	0.68	4.41		
Caregiver Demographic (*N* = 86)							1.04	.02
Caregiver Age	0.00 (0.02)	0.00	.961	1.00	0.96	1.05		
Household Income	0.00 (0.00)	0.90	.344	1.00	1.00	1.00		
Baseline Symptoms (*N* = 104)							2.38	.03
CBCL Internalizing	−0.04 (0.03)	1.38	.241	0.96	0.90	1.03		
CBCL Externalizing	0.00 (0.02)	0.03	.863	1.00	0.96	1.05		
UPID	−0.01 (0.02)	0.26	.612	0.99	0.96	1.03		
In-Session Child (*N* = 96)							10.52**	.17
Child Avoidance	0.81 (0.31)	6.64	.010	2.24	1.21	4.14		
Child Hope	−1.35 (1.01)	1.81	.179	0.26	0.04	1.86		
In-Session Caregiver (*N* = 86)							9.05*	.18
Caregiver Avoidance	1.39 (0.53)	6.78	.009	4.00	1.41	11.35		
Caregiver Blame of Child	0.47 (0.66)	0.52	.473	1.60	0.44	5.78		
Caregiver Support	−0.68 (0.51)	1.74	.187	0.51	0.19	1.39		
Therapist-Child Relationship (*N* = 96)							6.97*	.12
Support	−0.41 (0.67)	0.38	.538	0.66	0.18	2.47		
Relationship Difficulties	0.88 (0.34)	6.53	.011	2.40	1.23	4.71		
Therapist-Caregiver Relationship (*N* = 86)							0.07	.00
Support	0.26 (0.97)	0.07	.786	1.30	0.20	8.67		

Note. Each domain of predictors entered separately in a multiple logistic regression model predicting therapy dropout (1) vs. completer (0). SE = Standard Error, OR = Odds Ratio or Exponentiated B, CI = Confidence Interval, R^2 = Nagelkerke R^2, CBCL = Child Behavior Checklist, RI = Reaction Index.

* $p < .05$.

** $p < .01$.