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RESEARCH ARTICLE

The relationship between youth involvement, alliance and outcome in trauma-focused cognitive behavioral therapy

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ABSTRACT

Objective Research suggests that combining the trauma-specific elements with a strong alliance helps optimize treatment outcomes in Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) for youth. Building on this, we investigate whether more positive and less negative involvement behaviors during trauma narration are associated with a stronger alliance and predict fewer posttraumatic stress symptoms (PTSS).

Method Participants were 65 youth (*M* age = 15.5, *SD* = 2.2; 77% girls) receiving TF-CBT. Both youth self-report (Child PTSD Symptom Scale and Therapeutic Alliance Scale for Children) and observer ratings (Client Involvement Rating Scale) were used, and relationships were investigated with correlations and regression analyses.

Results The positive involvement behaviors *demonstration of treatment understanding* and *self-disclosure* predicted fewer PTSS but were not associated with the alliance – while *initiation of discussions and showing enthusiasm* predicted more PTSS but were associated with a stronger alliance. The negative involvement behaviors *passivity* and *avoidance* did not predict PTSS but were negatively associated with the alliance.

Conclusion The relationships between traumatized youths' positive and negative involvement behaviors, alliance and PTSS outcomes appear mixed. The combination of a clear understanding of why processing the trauma can be helpful, more trauma-related self-disclosure and a stronger alliance seem favorable for alleviating PTSS.

Trial registration: ClinicalTrials.gov identifier: NCT00635752..

Keywords: youth; TF-CBT; trauma; alliance; involvement

Clinical or methodological significance of this article: According to this study, essential therapeutic tasks towards helping traumatized youth recover are to help them to talk about and process their experiences and ensure that they understand why this work may be helpful. Therapists do not need to be too concerned that youth show signs of passivity and avoidance during the initial trauma narrative work, as this does not seem related to poorer treatment response. Instead, these behaviors may be considered as natural responses to the processing of difficult and emotionally loaded experiences.

It is well documented that Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) efficaciously reduces posttraumatic stress symptoms (PTSS) in youth (e.g., Cohen et al., 2018; de Arellano et al., 2014; Morina et al., 2016), and the model is the recommended treatment of choice for PTSS (ISTSS,

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2018; National Institute for Health and Care Excellence, 2018). However, not all children and adolescents respond well to TF-CBT, and relatively little is known about what facilitates change within this treatment (Alpert et al., 2021; Hayes et al., 2017). Across youth treatment studies, a stronger alliance is found to predict a better treatment response (Karver et al., 2006, 2018; McLeod, 2011; Murphy & Hutton, 2018; Shirk et al., 2011; Shirk & Karver, 2003). A strong alliance may be curative on its own, but it may also prerequisite for the effective implementation of therapeutic techniques and tasks (DiGiuseppe et al., 1996; Garcia & Weisz, 2002). Our previous study suggests that the combination of a strong alliance along with the trauma-focused components of TF-CBT helps to optimize the treatment response for traumatized youth (Ormhaug et al., 2014). One assumption is that youth who report a stronger alliance will involve themselves more in the different aspects of treatment and that a strong alliance may be particularly helpful in the demanding aspects of trauma treatment, such as processing the trauma. Thus, the overarching purpose of the current study is to provide a better understanding of in-session involvement, alliance, and outcome for youth receiving TF-CBT.

This study's first aim is to examine whether youths' level of involvement in their treatment is associated with their treatment response. According to an early meta-study by Karver et al. (2006), youths' expressed willingness to participate in therapy along with their actual participation in treatment are among the most consistent predictors of outcome. In support of this finding, in-session involvement is found to be positively linked with treatment response among anxious and behaviorally disruptive youth (Chu & Kendall, 2004; Hudson et al., 2014; Lindhiem & Kolko, 2010; Tobon et al., 2011). However, in a study of depressed youth, a greater level of involvement was associated with treatment improvements for youth receiving CBT but was not associated with outcomes for youth receiving nondirective supportive therapy (Karver et al., 2006). Thus, treatment type may moderate the link between involvement and outcome. It may also be that treatment outcome is more related to involvement in particular phases of a treatment and not so important for other parts. For instance, in the treatment of depression with a CBT protocol, Karver et al. (2008) and Shirk et al. (2013) found conflicting results regarding the importance of involvement for outcome. However, Karver et al. (2008) examined involvement during the problem-solving skills training of CBT and found an effect of involvement, while Shirk et al. (2013) examined involvement during the identification of negative automatic thoughts and cognitive restructuring work and found no effect. Perhaps behavioral involvement is more important during problem-solving skills training than it is during therapeutic work that focuses on changing cognitive distortions, but this has not been examined. Together, the aforementioned studies suggest that the association between involvement and outcome may depend on treatment type and timing of the assessment. To understand more about the relationship between in-session involvement behavior and treatment response, we would argue that studying involvement in the key components of a treatment is particularly helpful. In TF-CBT, exposure to trauma through trauma narration and processing are thought to be essential for reducing posttraumatic stress (PTS; Cohen et al., 2017). However, exposure can elicit re-experiencing and avoidance, a hallmark of PTS (World Health Organization, 2018), and it is reasonable to expect that this may affect traumatized youths' level of involvement during this particular phase. In fact, youth do report that the narration work is emotionally challenging, albeit the most helpful (Dittmann & Jensen, 2014). Additionally, for therapists, trauma narration work is considered the most challenging part of trauma-specific treatment due to youths' avoidance behavior (Ascienzo et al., 2020). Unfortunately, the number of studies that have examined the involvement-outcome link among traumatized youth is limited. The results from a study by Kirsch et al. (2018) showed that therapists' evaluations of youths' degree of collaboration/involvement at mid-treatment did not predict youths' treatment response from TF-CBT. To bring this work further, we now examine whether independent raters' evaluations of youths' involvement behaviors during the initial trauma narration work can predict treatment outcomes and, if so, whether these behaviors may serve as useful markers for therapists to appraise treatment progress.

Although previous studies have mainly focused on the overall level of involvement, involvement can be defined by a range of different types of behaviors. Chu and Kendall (1999; 2004; 2009) developed and used the Client Involvement Rating Scale (CIRS) to code anxious youths' involvement behaviors during CBT. The CIRS consists of six different types of involvement behaviors that can be divided into four positive behaviors (i.e., initiating discussion, engaging in treatment material, level of self-disclosure, and enthusiasm), and two negative behaviors (i.e., withdrawal or passivity and inhibition or avoidance). Chiappini et al. (2020) examined anxious youths' negative and positive involvement behaviors during two components of CBT as outcome predictors using CIRS (Chu & Kendall, 1999; 2004; 2009). More positive and fewer negative involvement

behaviors during the psychoeducation/skill-building component were related to treatment improvements, while during the planning session prior to the exposure tasks, only more of the positive involvement behaviors were related to better outcomes (Chiappini et al., 2020). Thus, it might be that different types of involvement behaviors are more important during some treatment components than others. Also, there might be differences in what role the various involvement behaviors play in the treatment of different types of disorders. One might assume that involvement behaviors could be differently related to treatment outcomes for anxious youth receiving CBT compared with treatment outcomes for traumatized youth receiving TF-CBT. For example, it could be that level of expressed enthusiasm from anxious youth before or during exposure work (e.g., related to feeling mastery when managing to conduct an exposure task) would be differently related to outcomes than for traumatized youth talking about one of the worst experiences they have gone through during trauma narration (e.g., elaborating in detail about being raped). Thus, in this study we examine the relationship between each of the individual involvement behaviors coded from CIRS (Chu & Kendall, 1999; 2004; 2009) with PTS treatment outcomes for traumatized youth receiving TF-CBT. By assessing each of the involvement behaviors separately we aim to provide clinically useful information to therapists about what type of involvement behaviors that may be particularly useful to monitor.

Since alliance is related to outcome, the second aim of our study is to examine how youths' in-session behaviors during trauma narration are related to how they experience their alliance. There are reasons to believe that desired involvement behaviors may be facilitated by a strong alliance since an agreement on the task and goals of treatment and an emotional bond to the therapist may contribute to increased participation in the potentially demanding exposure component (Kendall & Ollendick, 2004; Shirk et al., 2010). Supporting this notion, a positive link between alliance and involvement is found across samples of anxious and depressed youth (Karver et al., 2008; McLeod et al., 2014). Assuming that more positive and less negative in-session involvement behaviors are associated with better treatment improvements, it may be useful for therapists to know whether these behaviors may be boosted or hindered by the therapeutic alliance. However, to our knowledge, no studies have examined the link between involvement and alliance in youth trauma treatment. Furthermore, although our previous study indicated that a stronger youth-perceived alliance is associated with greater PTS reductions from TF-CBT (Ovenstad et al., 2022), its unique contribution to outcomes when assessed along with positive and negative involvement has yet to be evaluated.

The current study builds on secondary analyses from an RCT comparing the treatment effects of TF-CBT with therapy as usual (TAU) that indicate better treatment improvements for youth who received TF-CBT (Jensen et al., 2014). We examined two research questions and formed hypotheses based on the reviewed literature: (1) Do youths' involvement behaviors in trauma narration work predict their treatment response? We expected that youths' involvement behaviors during trauma narrative work would be related to PTSS outcomes; more specifically, we expected that more of each positive involvement behavior (i.e., initiating discussions, demonstrating enthusiasm, self-disclosure and elaborating therapist points or demonstrated understanding) and less of each negative involvement behavior (i.e., withdrawal or passivity and inhibition or avoidance) would predict greater PTSS reductions posttreatment. (2) Is there a significant relationship between youths' alliance and their involvement behaviors in the trauma narrative? We hypothesized that youths' alliance and involvement behaviors would be associated; more specifically, that youth perceiving their alliance as stronger would show more of each positive involvement behavior and less of each negative involvement behavior. To our knowledge, this is the first study to examine the relationships of multiple and separate in-session involvement behaviors among traumatized youth and how these behaviors pertain to the therapeutic alliance and treatment response in a trauma-specific treatment.

Method

Sample

Clients. Participants were from the TF-CBT arm of a randomized clinical trial in Norway (Jensen et al., 2014). Inclusion criteria for this trial were referral to one of the eight participating community clinics, ages 10–18 years, exposure to at least one traumatic event and significant symptoms of PTS (i.e., a score of 15 or higher on the Child PTS Symptom scale; Foa et al., 2001). The exclusion criteria were acute psychosis, active suicidal behavior, intellectual disability, or nonproficiency in the Norwegian language. From an initial sample of 79 participants, 14 (17.7%) were excluded because they never started treatment ($n = 4$), did not receive the allocated intervention according to the *TF-CBT fidelity checklist* (Deblinger et al., 2008; $n = 5$), did not have any available audio-recorded sessions ($n = 3$), or there was an administrative error ($n = 2$).

From the sample of 65 youth included within the current study, the majority (76.9%) fulfilled the diagnostic criteria for PTSD as assessed with the Clinician Administered PTSD Scale for Children and Adolescents (CAPS-CA; Nader et al., 2004). In addition, 69.2% scored above the clinical cutoff for depression (Mood and Feelings Questionnaire [MFQ]; Angold et al., 1995), 52.4% over the clinical cutoff for anxiety (Screen for Child Anxiety Related Disorders [SCARED]; Birmaher et al., 1999), and 47.7% on other general mental health problems (Strengths and Difficulties Questionnaire [SDQ]; Goodman, 2001). Pretreatment traumatic experiences were assessed using an adapted version of the Traumatic Events Screening Inventory for Children (TESI-C; Ribbe, 1996), see Table I for description of the participant sample and trauma exposure.

Treatment

Treatment Type. All participants received TF-CBT, which is a component-based manualized treatment including parenting skills, psychoeducation, relaxation, affect modulation, cognitive coping, trauma narration and cognitive processing, in vivo exposure if necessary and enhancing future safety and development. During the trauma narration and processing phase, the youth creates a trauma narrative orally or through the use of writing or pictures to activate trauma memories and facilitate emotional processing (Cohen et al., 2017). All included cases reached fidelity in accordance with the criterion in the TF-CBT fidelity checklist (Deblinger et al., 2008).

Treatment Providers. The therapists ($n = 21$, 90.5% female) consisted of 16 psychologists, 2 psychiatrists, 2 educational therapists and 1 clinical social worker. Years of clinical experience ranged from 3 to 28 ($M = 9.7$, $SD = 5.8$), and the mean therapist to client ratio was 1:2.4 ($SD = 1.0$, range 1–4). The theoretical background was either CBT ($n = 14$), psychodynamic ($n = 4$), or systemic/family therapy ($n = 2$; one therapist did not report a theoretical orientation). All therapists volunteered to receive TF-CBT training and participate in the study. The training consisted of 4–6 days of training by the TF-CBT developers and other approved TF-CBT trainers, reading the treatment manual (Cohen et al., 2006), and completing a web-based TF-CBT course (http://www.musc.edu/tfcbt). In addition, the therapists received weekly session-by-session supervision provided by trained TF-CBT therapists based on reviews of audio-recorded sessions (for further details, see Jensen et al., 2014).

Measurements

Client involvement. The Client Involvement Rating Scale (CIRS) was used to code involvement (Chu & Kendall, 1999, 2004, p. 2009; see online supplement Table 1). Items 1–4 assess positive involvement behaviors, and items 5 and 6 assess negative involvement behaviors. All items are rated on a 6-

Table I. Description of Participants, Worst Trauma Type and Different Types of Trauma Experiences.

Variable	Category	*M*	*SD*	Range	*n*	%
Age		15.5	2.2	10–18		
Sex	Female				50	76.9
	Male				15	23.1
Background	Norwegian-born				53	81.5
	Non-Norwegian-born				12	18.5
Living situation	Primarily with one parent				36	55.4
	Equal time with both parents				21	32.3
	Foster care				2	3.1
	Other household arrangements				5	7.7
	Did not report living situation				1	1.5
Household income*	> 83,300 USD				27	41.5
	≤ 83,300 USD				24	37.0
	Did not report income				14	21.6
Worst trauma type	Violence inside the family				21	32.4
	Violence outside the family				12	18.4
	Sudden death or severe illness of close person				11	16.9
	Sexual abuse inside family				10	15.4
	Sexual abuse outside family				8	12.3
	Other frightening or overwhelming experiences				3	4.6
Different types of trauma experiences		3.7	1.6	1–8		

Note: * Mean level income in Norway in 2012 = USD 79,800 (https://www.ssb.no)

point scale (0 = *not present* to 5 = *a great deal*), and both quantity and quality are emphasized according to the coding manual. The CIRS has demonstrated strong inter-rater reliability (ICC = .76), moderate retest reliability (ICC = .59) and predictive validity (Chu & Kendall, 2004).

The first author and a graduate student in psychology conducted the CIRS coding. A translation of the manual into Norwegian was considered unnecessary given that the coders were considered fluent English-speaking; thus, the manual was kept in its original language. The coders carefully read the coding manual and discussed all items in detail with two clinical experts in child psychology before practicing coding CIRS from audiotaped TF-CBT cases from another study. When satisfactory rater agreement was obtained, the coders coded all included cases. Rater agreement was examined by double-coding a random selection of 15 cases (30%), each of which included 15 min X 3 segments. To check for coder drifting, cases were randomly selected at different stages of the coding process. A two-way random, single measure intraclass correlation coefficient (ICC) was calculated to assess reliability between the raters on session involvement scores (McGraw & Wong, 1996; Shrout & Fleiss, 1979; see online supplement Table 1). According to Cicchetti (1994), ICCs < 0.40 are considered poor, 0.40–0.59 fair, 0.60–0.74 good, and 0.75–1.00 excellent.

Therapeutic alliance. The Therapeutic Alliance Scale for Children-revised (TASC-r; Shirk, 2003; Shirk & Saiz, 1992) was used to measure youth-perceived alliance. The TASC-r consists of 12 items; six items assess emotional aspects (e.g., "*I like my therapist*"), and six items assess task collaboration (e.g., "*I work with my therapist on solving my problems*"). Each item is rated on a 4-point scale (0 = *not at all* to 4 = *very much*). The TASC-r was translated according to recommended procedures. First, we translated and back translated the TASC-r scale. Then, the translated version was approved by the scale's first author (Dr. Stephen Shirk). The translated version of the TASC-r indicated good internal consistency in the current sample (α = .92). Based on results from our previous study supporting a one-factor solution of the scale (Ormhaug et al., 2015), the total TASC-r score was used in the current study.

Youth-rated PTSS. PTS symptoms were assessed using the self-completion questionnaire Child PTSD Symptom Scale (CPSS; Foa et al., 2001). The CPSS measures the 17 symptoms of PTSD as defined in the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM–IV; American Psychiatric Association, 1994), covering the three factors re-experiencing, avoidance, and hyperarousal. Symptom frequency is rated based on the last 2 weeks on a 4-point scale (0 = *never* to 3 = *almost every day*), yielding a total score ranging from 0 to 51. The measure is appropriate for children aged 8–18 years and has demonstrated excellent internal consistency, test-retest reliability, and convergent validity (Foa et al., 2001; Gillihan et al., 2013). The CPSS was translated and back translated, and the developers of the scale approved the Norwegian version. Principal component analyses of a comparable sample of 312 youths confirmed the factor structure in the original version (Hukkelberg & Jensen, 2011), and satisfactory internal consistencies were found for each of the three factors (re-experience α = .84, avoidance α = .80, and hyperarousal α = .76).

Procedure

The original study was approved by the Regional Committee for Medical and Health Research Ethics. Written consent to participate was provided by participants and their caregiver(s). For a full description of the source study, see Jensen et al. (2014). CPSS was administered pre-, mid- (around session six) and posttreatment (after completion of the 15th session). TASC-r was administered at mid-treatment (around session six, *M* session number = 6.47, *SD* = 1.25, range 3–9), but scores were missing in 7 cases (10.77%). CIRS was coded from 3 × 15-minute segments based on audiotapes of the first 45 min of the trauma narration and processing phase, starting at session 5 (n = 6, 12.2%), 6 (n = 7, 14.3%), 7 (n = 18, 36.7%), 8 (n = 14, 28.6%), 9 (n = 2, 4.1%), 10 (n = 1, 2%) or 12 (n = 1, 2%). To meet the 45-minute requirement, segments came from one (n = 12, 25.8%), two (n = 37, 74%) or three (n = 1, 2%) subsequent sessions. In 16 cases (24.6%), CIRS was not coded due to drop-out before the narrative started (n = 15) or sampling error (n = 1).

Data Analysis Plan

In the preliminary analyses, we first calculated a sum score for each item that came from the 3 × 15-minute segments coded with CIRS (see online supplement Table 1), and these total item scores were used in further analyses. Then, we estimated and inspected skewness, kurtosis, means and standard deviations for the scores on CPSS (mid- and posttreatment), TASC-r and CIRS items (see online supplement Table 2). Potential associations between these

variables and youths' sex and background (Norwegian-born versus non-Norwegian-born parents) were examined using Mann–Whitney *U* tests due to unequal sample sizes. To examine whether age was associated with scores on the CPSS, TASC-r and CIRS, we used bivariate correlations. Potential age differences between females versus males and between Norwegian-born versus non-Norwegian-born youth were examined using Mann–Whitney *U* tests. Finally, missing data analyses were computed to inspect differences for youth with a TASC-r score ($n = 58$) compared with those without a TASC-r score ($n = 7$) and for youth with CIRS scores ($n = 49$) compared those without CIRS scores ($n = 16$). For these analyses, potential group differences in continuous variables (age and CPSS pre- and mid-treatment scores) were assessed using Mann–Whitney *U* tests, and potential differences in categorical variables (sex and background) were assessed using chi-squared tests.

To examine our first research question, we conducted two hierarchical regression models (Models 1 and 2) predicting CPSS posttreatment scores. In the first step of both models, we entered CPSS mid-treatment scores, TASC-r scores and potential variables found related to CPSS posttreatment scores from the preliminary analyses as independent variables (IVs). In the second step of Model 1, each of the positive CIRS item scores was entered as an IV. In the second step of Model 2, each of the negative CIRS item scores was entered as an IV. To test if the data met the assumption of collinearity, we determined that the levels of tolerance were > 0.2 (Field, 2013), and the variance inflation factors (VIFs) were below 10 (Myers, 1990). To test if the data met the assumption of independent errors, we examined whether the Durbin-Watson value of the IV values were ≥ 1 and ≤ 3 (Durbin & Watson, 1951).

In an attempt to control for potential therapist effects, we recomputed Models 1 and 2 through two approaches. First, we computed linear mixed-effects (LME) models with the client level nested within therapists. The results showed that the models were unstable, as indicated by very wide confidence intervals, probably due to the small number of youths treated by some therapists (mean therapist-to-client ratio 1:2.7, *SD* 1.31, range 1–5). Therefore, we followed the advice of Pinheiro and Bates (2000) and performed single-level analyses. Second, we recomputed Models 1 and 2 with the entrance of a single multicategory categorical level for therapists as an additional IV. The results showed that the therapist variable was not a significant outcome predictor in Model 1 ($p = .787$) or in Model 2 ($p = .640$). Additionally, the recomputed models provided poorer fit than the primary models according to AIC for Model 1 (AIC change from 329.90–345.82) and Model 2 (AIC change from 339.07–352.13). Based on these results, we chose to present the results from Models 1 and 2 without controlling for therapist effects.

To examine our second research question, we assessed the relationships between scores on TASC-r score and CIRS items using bivariate correlations. Pearson *r* was calculated to examine the effect sizes for these analyses, with *r* interpreted as 0.1 = small effect, 0.3 = medium effect, or 0.5 = large effect (Cohen, 1988).

The level of statistical significance was set at $p < .05$. Preliminary analyses were conducted using IBM SPSS, version 22 (IBM Corp., 2017), and primary analyses were conducted using R version 3.6.1 (The R Foundation for Statistical Computation, Vienna, Austria). For the mixed-effects models, we used the R package nlme (Pinheiro & Bates, 2000)

Results

Preliminary Analyses

The CIRS total item scores are presented in online supplement Table 1. The means and standard deviations of the scores on the CPSS mid- and posttreatment, TASC-r and CIRS showed substantial variability (see online supplement Table 2) and a normal distribution of scores. Inspection of the correlations between CIRS items showed that *initiates discussions* (C1) and *demonstrates enthusiasm* (C2) were highly correlated ($r = .85$). Thus, to address multicollinearity concerns and given that the items conceptually overlap, these items' scores were summed and relabeled *initiates discussions and demonstrates enthusiasm* (C1 + 2).

Second, the results showed that CPSS mid-treatment scores were significantly higher among females ($M = 20.11$) than among males ($M = 15.50$; $U = 364$, $z = 2.00$, $p = .046$, $r = -0.27$). Additionally, CPSS posttreatment scores were significantly higher among females ($M = 13.11$) than among males ($M = 7.82$; $U = 312$, $z = -2.46$, $p = .014$, $r = -.35$). Youths' background and age were not significantly associated with CPSS scores, and TASC-r scores were not significantly associated with sex, background or age (see online supplement Table 2). The only sex difference in youths' involvement behaviors was significantly more *elaborates or demonstrates understanding* (C4) by females ($M = 3.43$) than by males ($M = 1.83$; $U = 136$, $z = -2.01$, $p = .044$, $r = -.29$). Youths' involvement behaviors were not associated with background. Older age was significantly associated with more *elaborates or demonstrates*

understanding (C4; $r = .33$, $p = .023$). Females were significantly older ($M = 15.48$) compared with males ($M = 13.80$, $U = 517$, $z = 2.24$, $p = .025$, $r = .28$). There was a nonsignificant age difference between Norwegian-born compared with non-Norwegian-born youth.

Last, missing data analysis showed that there was no significant difference between the groups of participants with a TASC-r score compared with those missing TASC-r scores or between participants with CIRS scores compared with those missing CIRS scores on sex, background, age, pre- and mid-treatment symptoms, or number of types of trauma experiences.

Primary Analyses

Our first research question was examined by two models that predicted youths' posttreatment PTSS by CPSS from youths' positive or negative in-session involvement behaviors assessed by CIRS, controlling for sex, PTSS at mid-treatment assessed from CPSS, and alliance assessed by TASC-r (Table II). The results from Model 1 showed, in line with our hypothesis, that lower levels of PTSS at posttreatment were predicted by more *self-disclosure* (C3; Est. = −1.33, 95% CI [2.35, −0.30], $p = .012$) and *elaborates or demonstrates understanding* (C4; Est. = −1.13, CI [−2.25, −0.02], $p = .047$). However, contrary to what we expected, more of the positive involvement behavior *initiates discussions and demonstrates enthusiasm* (C1 + 2) was a significant predictor of more PTSS at posttreatment (Est. = 1.17, CI [0.66, 1.69], $p < .001$). The results from Model 2 did not support our hypothesis; posttreatment outcomes on CPSS were not significantly associated with youths' appearance as *passive/withdrawn* (C5; Est. = −0.49, CI [−1.27, 0.29], $p < .214$) or *inhibited/avoidant* (C6; Est. = −0.70, CI [−1.47, 0.07], $p = .072$). Data for Model 1 and Model 2 met the assumption of collinearity and independent errors.

Our second research question was assessed by examining the relationships between the alliance and involvement behaviors (see online supplement Table 2). In line with our expectations, a significantly positive correlation with medium effect size was found between youths' alliance scores and the merged positive involvement item *initiates discussions and demonstrates enthusiasm* (C1 + 2; $r = .33$, $p = .022$). Contrary to what we predicted, youths' alliance scores were not significantly associated with the positive involvement items *self-disclosure* (C3; $r = .20$, $p = .162$) or *elaborates or demonstrates understanding* (C4; $r = -.08$, $p = .602$). As expected, higher alliance scores were associated with less *passivity/withdrawal* (C5; $r = -.31$, $p = .032$) and less *avoidance* (C6; $r = -.32$, $p = .027$) with medium effect sizes.

Table II. Two Hierarchical Regression Analyses Predicting PTSS Posttreatment Scores from PTSS Midtreatment Scores, Sex, Alliance (Models 1 and 2; Step 1); and Positive Involvement Behaviors (Model 1; Step 2) or Negative Involvement Behaviors (Model 2; Step 2).

Variable	R^2	ΔR^2	*df*	Est.	95% CI	*p*
Models 1 and 2: Step 1	.402		3, 46			
PTSS Mid-treatment				0.49	[0.25, 0.72]	<.001
Sex				1.42	[−5.04, 7.89]	.659
Alliance				−0.44	[−0.77, −0.11]	.011
Model 1: Step 2	.613	.211	6, 46			
PTSS Mid-treatment				0.60	[0.39, 0.81]	<.001
Sex				1.69	[−3.86, 7.23]	.542
Alliance				−0.65	[−0.96, −0.35]	<.001
Initiate/ enthusiasm				1.17	[0.66, 1.69]	<.001
Self-disclosure				−1.33	[−2.35, −0.30]	.012
Elaborate/ understand				−1.13	[−2.25, −0.02]	.047
Model 2: Step 2						
PTSS Mid-treatment	.504	.102	5, 46	0.51	[0.29, 0.74]	<.001
Sex				−0.03	[−6.15, 6.09]	.992
Alliance				−0.63	[−0.96, −0.29]	<.001
Withdrawn/ passive				−0.49	[−1.27, 0.29]	.214
Inhibited/ avoidant				−0.70	[−1.47, 0.07]	.072

Note: *df* = degrees of freedom. Est. = estimate. CI = confidence interval.

Discussion

The overall aim of this study was to better understand the relationship between traumatized youths' involvement behaviors, alliance, and treatment outcomes. The findings that youth who expressed a greater understanding of the treatment rationale and elaborated more about their traumatic experiences had better outcomes than those who did not do this to the same extent were in line with our expectations. It is reasonable to assume that youths who understand why emotionally challenging exposure work may be

helpful will also be able to tolerate the heightened emotional distress that the telling and elaborating of their trauma experiences entails. In support of this notion, we found a significantly positive association between a demonstrated understanding of narrative work and self-disclosure. The finding that more elaboration on the trauma narrative predicts better outcomes is in line with the theoretical foundations of TF-CBT (Cohen et al., 2017). For one, based on the pioneer study of emotional processing theory (EPT) by Foa and Kozak (1986), the activation of fear responses during treatment is important in processing emotions and optimizing outcomes. Thus, for youth to be actively and emotionally engaged in trauma narration may be a prerequisite for the effect of the exposure work. Second, a more extensive elaboration of the trauma experience allows therapists to identify any problematic beliefs or attributions the youth may have developed as a consequence of the traumatic event (Cohen et al., 2017; Deblinger et al., 2011; Ehlers et al., 2010) and subsequently tailor the work to alter these. Last, for the child, the trauma narrative work provides an opportunity to make a coherent and integrated narrative around the traumatic event that is associated with positive development and recovery (Alvarez-Conrad et al., 2001; Deblinger et al., 2011).

In addition to increasing motivation and acceptance for doing the narrative work, a better understanding of the treatment process may help the youth experience the therapist as transparent and restore a sense of control. Another suggestion is that youth who demonstrate greater understanding of the treatment rationale are better at mentalizing. Not surprisingly, we found that older youth expressed a greater understanding of the purpose behind the trauma narrative work's form and content compared with younger youth. Perhaps younger children are less able to fully understand the treatment rationale, or they may be less able to verbally express their understanding. Thus, we cannot know whether younger youth actually had a poorer understanding of the trauma narration work or if they simply were not able to express their understanding. Furthermore, we found that girls expressed a significantly greater understanding of the narrative work compared with the boys. One explanation for this finding might be that our study sample included a significantly older sample of girls compared with boys. Alternatively, it might be that girls grasp the treatment rationale better than boys, or it could also be that girls are generally more socialized into talking about their thoughts and feelings than boys and that this may make them more inclined to verbalize their understanding compared with boys. In sum, our findings suggest that therapists should provide information about the treatments' framework, content and purpose in an age-appropriate manner, check in with the youth about their understanding of the treatment rationale and sufficiently elucidate and resolve what might be unclear. Potential paths to study in future studies may be whether youths' level of mentalization and emotional regulation may moderate the positive link between a greater treatment understanding and larger reductions in PTS at posttreatment.

We did expect that youth who reported a stronger emotional bond and a greater agreement on the tasks (i.e., scored higher on alliance) would also express a greater understanding of the treatment rationale and talk more about their trauma experiences than those with lower alliance scores. However, the relationships between the strength of the alliance and the extensiveness of these particular involvement behaviors were nonsignificant. The lack of a significant relationship may indicate that the concepts are not related, although firm conclusions cannot be drawn since absence of evidence does not equal evidence of absence (Altman & Bland, 1995). However, it may be that the youth's ability to or wish to talk about their traumatic experiences is more related to factors other than the strength of the alliance, such as social support, whether they have talked about their experiences before, type of trauma history, and how successful the therapist has been in introducing the trauma-related tasks in advance of the narrative work. Although assessing predictors of youths' in-session involvement behaviors was outside the scope of the current paper, these may be important aspects to examine in future studies aiming to understand what predicts desired in-session involvement behaviors during youth treatment. In sum, a beneficial strategy for therapists to use to help optimize traumatized youths' treatment response seems to be focusing on youths' understanding of the underlying reasons for entering the trauma narrative work and facilitating more exposure to the trauma content combined with focusing on building and maintaining a strong alliance.

The two remaining positive involvement behaviors were highly positively correlated and therefore merged into a common concept of discussion coupled with expressed enthusiasm. The relationship between this merged positive involvement behavior and outcomes was in the opposite direction than we expected; *more* discussion along with enthusiasm predicted *poorer* treatment response. In retrospect, it may not have been reasonable to expect that these items, initially developed for investigating involvement among anxious youth, would be equally relevant for traumatized youth. We can only speculate whether showing enthusiasm and initiative (i.e., expressing

energy and excitement for therapy tasks, e.g., through the verbal expression "*I like writing this down*") could mean that trauma-related emotions and content are not being sufficiently activated at a deeper level but rather approached on a surface level. Another suggestion is that youth who are very eager when they begin the trauma narrative may work too quickly through this component. Thus, a youth expressing a high level of initiative and enthusiasm might need help from the therapist to adapt the pace of the narrative work, slow down and make sure that the narrative content is sufficiently elaborated. Furthermore, as the enthusiasm item was coded both as the presence of energy and excitement, we cannot know if these facets are differently related to outcomes, but this possibility may be examined in future studies. We found that a youth who experienced the alliance as stronger appeared to be initiating more discussions during the initial trauma narrative work coupled with energy or enthusiasm; however, the correlation between these involvement behaviors and the alliance was medium, and the variables predicted outcomes in opposite directions. Thus, the link between the alliance and involvement in the challenging narrative work does not seem to be straightforward. Perhaps only facets of involvement behaviors relate to the alliance or the interrelationship between involvement and alliance may depend on the timing of the assessments. Future studies are encouraged to replicate our findings, dismantle the relationship between traumatized youths' alliance and in-session involvement behaviors across multiple stages of the therapy process, and examine the potential reciprocal relationship among the variables (McLeod et al., 2014). Thus far, our results suggest that youth who seem to have a greater understanding of why it is important to talk about their traumatic experiences also seem to disclose more about these experiences. This, along with having a strong alliance with their therapist, is important for youths' outcomes. Furthermore, our results suggest that therapists should be cautious in interpreting more initiative and enthusiasm from youth during initial trauma narratives as positive indicators for outcomes.

Last, negative involvement behaviors were unexpectedly not significantly related to outcomes. Notably, a trending effect appeared but in the opposite direction than we expected; *more* avoidance was associated with *less* PTS at posttreatment (Est. = −0.70, p = .072). This is good news considering that common reactions in the aftermath of trauma are avoidance of trauma reminders and because traumatized youth tend to underreport traumatic experiences and trauma-related problems (Cohen et al., 2012). Research suggests that youth clients are likely to resist exposure when they find discussing these experiences and problems as challenging and emotionally demanding (Kendall & Ollendick, 2004). Perhaps signs of negative involvement behaviors during the initial trauma narration work might be a natural trauma-related response and not necessarily a sign of not processing the trauma. Furthermore, we cannot know whether youth who appear negatively involved actually have high inner activation. Thus, a relevant next step could be to examine youths' observable in-session behaviors combined with directly asking youth about their subjective experience related to the trauma narrative work and/or use physiological measures (e.g., heart rate and salivation) to capture inner activation during the trauma narrative work. Future studies should also examine the developmental path and curve of youths' negative and positive involvement behaviors as the trauma narrative work progresses. One explanation for our results may be that youth who appeared more avoidant during the initial phase of the trauma narration work would experience a decline in avoidance as the trauma narration work progressed, which could have resulted in fewer PTSS at posttreatment. Since more avoidant youth may also report fewer PTS symptoms, future studies should include PTS symptom scores from multiple sources. A last finding was that youth reporting a weaker alliance showed more negative involvement behaviors; however, from our results, this did not seem to impede their healing process. In sum, given that many therapists fear the trauma narration work (Ascienzo et al., 2020), a reassuring finding from our study is that neither signs of avoidance nor signs of passivity and withdrawal seem to be related to poorer outcomes from TF-CBT.

Strengths and Limitations

This study included some important strengths. First, it is the first study to examine the predictive role of multiple types of in-session behaviors among traumatized youth on treatment outcomes. Second, our findings regarding observable in-session involvement behaviors may be used by therapists in their clinical work and could easily be transferred to a supervision context. Third, as involvement behaviors were coded by independent observers while the alliance was assessed using self-report, we avoided rater bias when assessing the relationship between these factors. Finally, data were collected from a mental health clinic reflecting a naturalistic sample that increased the ecological validity of our study. However, there are also some study limitations that must be mentioned. First, the relatively low n is a limitation; the risk of incurring a Type II error

would arguably have been reduced if the sample size were larger. Second, our attempt to control for therapist effects by using hierarchical analyses resulted in unstable models, so we only used single-level analyses. We cannot rule out that potential therapist effects may have biased our results. However, entering a single multicategory categorical variable into the primary models showed that this variable did not predict outcomes, indicating that the potential effect of therapists was not substantial. Third, the use of multiple statistical comparisons on the same dependent variable may have increased the risk of conducting Type I error. Thus, particularly the result that more *elaborates or demonstrates understanding* predicted less PTSS at posttreatment ($p = .047$) should be interpreted with some cautiousness and be re-examined within other traumatized youth populations. Fourth, youths' in-session involvement behaviors were only investigated at one time point, which prevented us from assessing the potential effect of increases and/or decreases in the behaviors on outcomes. Furthermore, we cannot rule out that some involvement behaviors might be more important during some components than others. Thus, future studies are encouraged to assess involvement behaviors at different time points and across treatment components. Fifth, the inconsistency in regard to the assessment of the alliance before, at the same or after the session involvement behaviors were coded, in addition to both measures assessed at one time point only, prevented us from assessing potential interactive changes in the relationships between alliance and involvement, their potential reciprocal relationship, and testing mediation models on whether their relationship with outcome would be moderated by the other. Thus, future studies are encouraged to dismantle how youths' involvement behaviors and alliance are woven together through the treatment process. Sixth, we only used audiotapes, but future studies should try to include video recorded sessions to make it possible to capture other signs of involvement behavior, such as body postures and facial expressions. Last, the study included traumatized youth receiving TF-CBT in a mental health outpatient clinic, and the results may not generalize to other conditions, interventions, or treatment settings.

Conclusion

In sum, our study suggests that the more youth are able to disclose traumatic experiences, understand the treatment rationale and elaborate on points made by the therapist, and develop a strong alliance, the greater the treatment improvements they report. These results underscore that therapists should spend sufficient time properly explaining the treatment rationale, ensure the youths are well informed and comprehend the purpose of the narrative task, facilitate self-disclosure during the initial trauma narrative work and focus on building a robust alliance. From our previous study, evidence suggests that the use of rapport-building behaviors in the initial phase of treatment is beneficial for solidifying the alliance, and that focusing on trauma aspects does not seem to impede an alliance-building process (Ovenstad et al., 2020). As a next step, future studies are encouraged to detangle therapist behaviors that facilitate beneficial involvement behaviors from youth and maintain a good working relationship. Furthermore, our results indicate that therapists do not need to be too preoccupied by signs of negative involvement during the initial trauma narrative work. With hope, our findings may help guide clinicians regarding beneficial aspects of tailoring recovery processes for traumatized youth.

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Supplemental data

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