



CLINICAL RESEARCH ARTICLE



Therapeutic alliance in intensive PTSD treatment with a therapist rotation model

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ABSTRACT

Background: Therapeutic alliance is a robust predictor of treatment outcome. However, little is known about its development and relationship with symptom changes in intensive trauma-focused treatment for post-traumatic stress disorder (PTSD) using a therapist rotation model.

Objective: This study examined (1) how therapeutic alliance develops during intensive trauma-focused treatment with therapist rotation, (2) its bidirectional relationship with PTSD symptom change, and (3) exploratory associations between baseline patient characteristics, preferences, alliance ruptures, and perceived relational fit experiences with outcomes.

Method: Data were derived from 133 patients (75.8% female, mean age = 41.32 years, SD = 12.59) who received a 4-day intensive trauma-focused treatment combining prolonged exposure and EMDR therapy, delivered by rotating therapists. The PTSD Checklist for DSM-5 (PCL-5; intake, start day 2, mid-, post-treatment) and Working Alliance Inventory-Short Form (WAI-SF; start day 2, mid-, post-treatment) were administered. Linear mixed models and regression analyses were performed.

Results: Therapeutic alliance increased significantly from the start of day 2 to mid-treatment ($d = 0.19$) and then stabilised. Higher prior PTSD severity predicted lower subsequent alliance, while stronger prior alliance predicted greater symptom reduction, indicating a small bidirectional relationship. Exploratory analyses showed no significant associations between baseline PTSD severity, childhood sexual abuse, paranoia, attachment style, autism, and alliance development. Patient preferences shifted towards rotating therapist teams but were unrelated to outcomes. Post-treatment, alliance ruptures and lack of a perceived relational fit were linked to lower alliance, and unresolved ruptures to higher PTSD symptoms.

Conclusions: A therapeutic alliance can be established in rotation-based trauma-focused treatment, with small but consistent links to symptom change. Exploratory findings should be interpreted cautiously, and controlled studies are needed to clarify the specific role of therapist rotation in treatment outcomes and therapeutic alliances.

La alianza terapéutica en el tratamiento intensivo del TEPT mediante un modelo de terapeutas rotativos

Antecedentes: La alianza terapéutica es un predictor robusto del desenlace del tratamiento. Sin embargo, poco se sabe sobre su desarrollo y su relación con cambios sintomáticos en el contexto del tratamiento intensivo del trastorno de estrés postraumático (TEPT), empleando un modelo rotativo de terapeutas.

Objetivo: (1) Describir cómo se desarrolla la alianza terapéutica durante el tratamiento intensivo centrado en trauma con un modelo de terapeutas rotativos; (2) examinar su relación bidireccional con el cambio en los síntomas del TEPT; y (3) asociaciones exploratorias entre las características iniciales del paciente, las preferencias, las rupturas de la alianza y las experiencias percibidas de ajuste relacional con los resultados.

Método: Se incluyeron 133 pacientes (75,8 % mujeres, edad promedio = 41.32 años, desviación estándar = 12.59) que recibieron tratamiento intensivo de 4 días centrado en trauma combinando exposición prolongada y EMDR, brindado por terapeutas rotativos. Se aplicaron la lista de chequeos para los síntomas del trastorno de estrés postraumático según el DSM-5 (PCL-5, por sus siglas en inglés; aplicado en la admisión, día 2 de tratamiento, a la mitad y al finalizarlo) y el inventario de alianza terapéutica en su versión corta (WAI-SF, por sus siglas en inglés; aplicado el día 2 de tratamiento, a la mitad y al finalizarlo). Se emplearon análisis lineales mixtos y de regresión.

Resultados: La alianza terapéutica aumentó significativamente entre el día 2 y la mitad del tratamiento ($d = 0.19$) y, posteriormente, se estabilizó. Una mayor gravedad del TEPT predijo

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PALABRAS CLAVE

Trastorno de estrés postraumático; tratamiento intensivo centrado en trauma; rotación de terapeutas; alianza terapéutica; exposición prolongada; terapia EMDR; preferencias de pacientes; reparación de rupturas

HIGHLIGHTS

- Patients with PTSD were able to form good therapeutic alliances in a therapist-rotation model.
- Exploratory analyses showed that changes in the therapeutic alliance and PTSD symptoms were related over time.
- Exploratory analyses showed that patients with different baseline characteristics (type of trauma, paranoia, attachment style, and autism) could form alliances in a rotation model, but unresolved conflicts with therapists were linked to poorer outcomes.

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una menor alianza subsecuente, mientras que una alianza inicial fuerte predijo una mayor reducción de síntomas, indicando una relación bidireccional pequeña. Los análisis exploratorios no mostraron asociaciones significativas entre los datos basales sobre la gravedad del TEPT, abuso sexual infantil, paranoia, estilo de apego, autismo y desarrollo de la alianza. Las preferencias de los pacientes cambiaron hacia equipos rotativos de terapeutas, pero no se relacionaron con los desenlaces. Los datos postratamiento, la ruptura de la alianza y la falta de una percepción de ajuste relacional se asociaron a una menor alianza; en cambio, las rupturas no resueltas se asociaron a mayores síntomas del TEPT.

Conclusión: Es factible establecer una alianza terapéutica en el tratamiento centrado en trauma mediante un modelo rotativo, y esta se asocia a cambios sintomáticos de tamaño pequeño, pero consistente. Se deberían interpretar con cautela los hallazgos exploratorios, siendo necesarios estudios controlados para clarificar el papel específico de la rotación de los terapeutas en los desenlaces del tratamiento y en las alianzas terapéuticas.

1. Introduction

In recent years, intensive trauma-focused treatments have emerged as promising approaches for treating post-traumatic stress disorder (PTSD; Ehlers et al., 2014; Hoppen et al., 2023; Sciarrino et al., 2020). These therapies often combine trauma-focused methods, such as prolonged exposure (PE) and eye movement desensitisation and reprocessing (EMDR) therapy, in an intensive format with multiple sessions per day (Matthijssen et al., 2024; Van Woudenberg et al., 2018). Intensive trauma-focused treatment formats were developed to shorten treatment duration and enhance treatment continuity, with the aim of improving feasibility and reducing treatment dropout (Ehlers et al., 2014). The combination of PE and EMDR therapy within intensive programmes is motivated by the integration of interventions with partly different hypothesised mechanisms (Lee et al., 2006; Van Woudenberg et al., 2018). Studies on patients with severe and complex PTSD have shown that this approach is safe, with large effect sizes, substantial loss of diagnostic status, low dropout rates, and reduced comorbid symptoms (Paridaen et al., 2023; Voorendonk et al., 2020, 2023).

A central element within certain intensive trauma-focused programmes is therapist rotation (e.g. Farrell et al., 2023; Van Minnen et al., 2018). In this model, therapists rotate between patients across treatment sessions, such that patients are seen by multiple therapists and therapists work with multiple patients within the same trauma-focused treatment programme, while applying the same treatment methods. The proposed benefits include reduced therapist avoidance or drift from trauma-focused techniques, more consistent protocol adherence, and increased mutual support among therapists (Krampe & Ehrenreich, 2012; Van Minnen et al., 2018).

While therapist rotation shows promise, it raises questions about the therapeutic alliance, a factor that is consistently linked to treatment success (Baier et al., 2020; Flückiger et al., 2018; Howard et al., 2022). The therapeutic alliance is commonly understood as a collaborative and relational process

involving shared goals, tasks, and an emotional bond between patient and therapist (Bordin, 1979). Prior research suggests that strong alliances can be formed in multi-therapist settings, even among patients with insecure attachment (Van Minnen et al., 2018). However, this evidence is based only on post-treatment assessments. This leaves uncertainty about how the alliance develops and whether symptom change influences alliance ratings, given the evidence for reciprocal associations in traditional settings (Xu & Tracey, 2015). In contrast, Opriel et al. (2024) found no such reciprocity in a rotation model with two alternating therapists, suggesting that multi-therapist settings may influence this dynamic relationship. It is unclear whether these dynamics change in larger teams with more frequent therapist transitions, which may introduce specific challenges for alliance development and its relation to symptom reduction.

Beyond therapist rotation, baseline patient characteristics and preferences may also influence alliance development. PTSD symptom severity and a history of childhood sexual abuse do not necessarily hinder alliance formation in traditional therapy (Howard et al., 2022; Keller et al., 2010). However, associated difficulties, such as avoidance, distrust, and problems with emotional connection, may be exacerbated in rotation settings, where therapist consistency and safety might be less inherent. Other baseline patient characteristics, such as paranoia, insecure attachment, or autism, are linked to similar interpersonal challenges and could further complicate alliance formation in a rotation model (Brewer et al., 2021; Lawlor et al., 2015; Notsu et al., 2025). Baseline patient preferences for either a fixed therapist or a rotating team may also influence treatment engagement and perceived alliance. Although a recent meta-analysis found no consistent effect of preferences on outcomes (Eigenhuis et al., 2024), preferences in therapist-rotation models have not yet been examined.

Dynamic processes during therapy may further shape alliances and treatment outcomes. One such process is rupture and repair, referring to moments of tension or disconnection between the patient and

therapist that can weaken the bond or, when successfully addressed, strengthen it. These processes are associated with treatment outcomes (Eubanks, 2022; Eubanks et al., 2018) and may be affected by frequent transitions in therapists. Some patients may also struggle to feel a connection or ‘click’ (i.e. subjective sense of relational fit) with one or more therapists, which could influence alliance and outcomes but has not yet been studied in rotation formats.

To better understand alliance formation in intensive trauma-focused treatment with therapist rotation, the present study tested one central hypothesis, namely that therapeutic alliance would increase over the course of treatment (Opriel et al., 2024). In addition, we examined whether alliance and PTSD symptoms were reciprocally related over time and whether baseline patient characteristics (PTSD severity, childhood sexual abuse, paranoia, attachment style, and autism) would hinder alliance development. We also explored whether baseline patient preferences for therapist consistency changed over the course of treatment and whether these preferences were related to alliance and treatment outcomes. In addition, we investigated rupture-repair processes and lack of a perceived relational fit in the context of frequent therapist transitions.

2. Method

2.1. Participants

This study included patients referred by general practitioners, psychiatrists, or psychologists who received treatment between November 2024 and May 2025 at Psychotrauma Expertise Centre (PSYTREC) in the Netherlands. Inclusion criteria were as follows: (1) PTSD diagnosis confirmed by the Clinician-

Administered PTSD Scale for DSM-5 (CAPS-5); (2) minimum age of 18 years; (3) sufficient proficiency in Dutch to participate in treatment; (4) absence of substance intoxication prior to and during treatment (detoxification required before participation if necessary); and (5) first-time treatment at PSYTREC. A flow diagram is presented in Figure 1. Ethical exemption was granted by the Medical Ethics Review Committee of the VU University Medical Centre (registered with the US Office for Human Research Protections (OHRP) under IRB00002991, FWA number FWA00017598).

2.2. Procedure

Eligible patients were informed during intake and received written information via their patient portal about the use of their data for scientific research, including study purposes and procedures. Informed consent was obtained during the first intake session and reconfirmed during the final intake session when the official treatment contract was signed; patients were informed that they could withdraw consent at any time. Measurements were part of routine outcome monitoring (ROM) and were conducted at pre-treatment, at the start of treatment day 2, mid-treatment, and post-treatment. Data were collected as part of routine clinical care. Handling of missing data is described in the Statistical Analysis section.

2.3. Treatment

The treatment consisted of intensive trauma-focused therapy which lasted two weeks, each with two treatment days separated by a five-day break (2×2 days). The first two days were conducted in person, and the latter two days online, a format supported by prior research on remote intensive trauma-focused

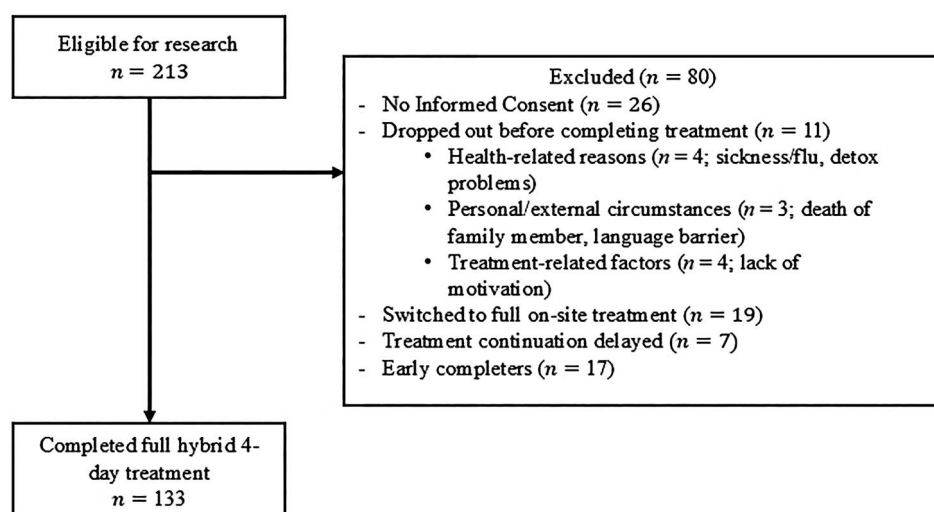


Figure 1. Flow diagram.

Note: In the final sample ($n = 133$), missing data at each time point were as follows: pre-treatment (PCL, $n = 1$), day 2 (WAI, $n = 3$; PCL, $n = 2$), mid-treatment (WAI, $n = 3$; PCL, $n = 3$), and post-treatment (WAI, $n = 10$; PCL, $n = 4$).

	Day 1 (In Person)	Day 2 (In Person)	5-day break	Day 3 (Online)	Day 4 (Online)
08:00 – 08:30	Psychoeducation	Psychoeducation		Psychoeducation	Psychoeducation
08:30 – 09:30	PE	PMT		PE	PMT
09:30 – 10:30	EMDR	PMT		EMDR	PMT
10:30 – 10:45	Break	Break		Break	Break
10:45 – 11:45	PMT	PE		PMT	PE
11:45 – 12:45	PMT	EMDR		PMT	EMDR
12:45 – 13:45	Break	Break		Break	Break
13:45 – 14:45	PE	PMT		PE	PMT
14:45 – 15:45	EMDR	PMT		EMDR	PMT
15:45 – 16:00	Break	Break		Break	Break
16:00 – 17:00	PMT	PE		PMT	PE
17:00 – 18:00	PMT	EMDR		PMT	EMDR
18:00 – 19:30	Break	End of the day		Break	End of the day
19:30 – 21:30	Psychoeducation			Psychoeducation	

Figure 2. Overview of intensive trauma-focused treatment programme.

Note: PE = Prolonged Exposure, EMDR = eye movement desensitization and reprocessing, and PMT=psychomotor therapy.

therapy (Bongaerts et al., 2022; Ellenbroek et al., 2024). Each treatment day included two 120-min therapy blocks: each comprising: 60 min of prolonged exposure (PE) followed by 60 min of eye movement desensitisation and reprocessing (EMDR) therapy. This sequence is supported by prior evidence (Van Minnen et al., 2020) and both therapies were delivered according to established protocols (De Jongh & Ten Broeke, 2019; Foa et al., 2019). PE involved imaginal and in vivo exposure, while EMDR incorporated working memory taxation tasks (e.g. eye movements), based on Baddeley's (2012) working memory theory. EMDR was applied with elements of EMDR 2.0 (Matthijssen et al., 2021), which further emphasises

motivation and treatment rationale, optimises memory activation by engaging all sensory modalities, and integrates diverse working memory taxation techniques for reprocessing. Both therapies were delivered by psychologists holding at least a master's degree in Clinical Psychology who received specialised training in PE and EMDR therapy. Patients were paired up with different therapists for each session, interacting with up to eight therapists during the programme (Van Minnen et al., 2018). In addition, psychomotor therapy (PMT) was integrated as a supportive treatment element alongside the trauma-focused components, and brief psychoeducation was provided on treatment days addressing topics such as PTSD symptoms, triggers, and avoidance behaviours. An overview of the treatment programme is provided in Figure 2.

Table 1. Overview of assessments.

	Pre-treatment	Start Day 2	Mid-treatment	Post-treatment
Therapeutic alliance				
WAI-SF		X	X	X
PTSD symptom severity				
PCL-5	X	X	X	X
Baseline characteristics				
LEC-5	X			
BSPC	X			
RQ	X			
Self-reported autism diagnosis	X			
Patient preference				
PP	X		X	X
Relational processes				
Rupture-repair and relational fit items				X
Diagnostic and screening measures				
CAPS-5	X			
MINI-s	X			

Note: WAI-SF = Working Alliance Inventory-Short Form, PCL-5 = PTSD Checklist for DSM-5, LEC-5 = the Life Events Checklist for DSM-5, BSPC = Brief State Paranoia Checklist, RQ = Relationships Questionnaire, PP = Patient Preference, CAPS-5 = Clinician Administered PTSD Scale for DSM-5, MINI-s = Mini International Neuropsychiatric Interview-Simplified.

2.4. Measures

Table 1 summarises the assessment of all measures across the different assessment points. The instruments are described in detail below.

2.4.1. Therapeutic alliance

The 12-item Working Alliance Inventory Short Form (WAI-SF; Tracey & Kokotovic, 1989) measures the therapeutic alliance, focusing on goals, tasks, and emotional bond using a 7-point Likert scale. The scores range from 12 to 84, with higher scores indicating stronger alliance. Items were adapted for the rotation model by replacing 'therapist' with 'therapist team'. The WAI-SF has strong psychometric properties and is widely used in PTSD research (Horvath & Greenberg, 1989; Howard et al., 2022).

2.4.2. PTSD symptom severity

PTSD symptom severity was assessed using the Dutch PTSD Checklist (PCL-5; Boeschoten et al., 2014), a 20-item self-report measure using a 5-point Likert scale,

with total scores ranging from 0 to 80, with higher scores indicating greater severity. It was administered with varying recall periods depending on the assessment point: one month before treatment, 24 h during treatment, and one week after. This measure has demonstrated strong internal reliability and validity (Blevins et al., 2015).

2.4.3. Baseline clinical and interpersonal characteristics

To describe baseline patient characteristics and examine their role in subgroup analyses, traumatic exposure was assessed using the Dutch Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013), a 17-item self-report questionnaire with good reliability (Gray et al., 2004). Following Keller et al. (2010), childhood sexual abuse was coded as present when sexual abuse before the age of 13 was reported. Paranoia was measured using the 5-item Brief State Paranoia Checklist (BSPC; Schlier et al., 2016), scored on a 0–10 scale, with higher scores indicating greater paranoia. Attachment style was assessed using the Relationships Questionnaire (RQ; Bartholomew & Horowitz, 1991), which provides categorical and dimensional indices. Both measures demonstrate adequate psychometric properties (Schlier et al., 2016; Wongpakaran et al., 2021). A single item assessed whether patients had ever received an autism diagnosis (e.g. autism, PDD-NOS, Asperger's).

2.4.4. Patient preferences

Patients' preferences for therapist consistency were assessed using a single categorical item, in which participants indicated whether they preferred a fixed therapist, rotating therapists, or had no preference.

2.4.5. Relational processes during treatment

Based on current rupture-repair conceptualisations and the absence of a gold-standard measure of alliance ruptures and repairs (Eubanks, 2022; Eubanks et al., 2018), PSYTREC's research team developed a brief set of items to assess conflict (rupture) experiences and their resolution, tailored to the therapist rotation model. Patients first indicated whether they had experienced any conflicts or uncomfortable situations in the therapeutic relationship ('Yes', 'No', 'Don't know'). If 'Yes', follow-up items assessed the perceived impact on treatment progress and trust, and whether the conflict was resolved. Additional items asked how many therapists were involved and who resolved the conflict. Patients also rated the statement 'I had no connection or click with one or more therapists' (1–5), which was used to assess perceived relational fit, followed by brief items on impact and resolution. Response formats included multiple-choice, Likert scales, and short open-ended questions. All rupture

and repair items, including response options, are provided in the supplementary materials.

2.4.6. Diagnostic and screening measures

The CAPS-5 (Boeschoten et al., 2018; Weathers et al., 2018) was administered to diagnose PTSD and assess baseline symptom severity in the past month. The 20 symptom items are scored on a 5-point scale and summed to a total score of 0–80, with strong reliability and consistency. The items evaluate re-experiencing, avoidance, negative alterations in cognition and mood, and hyperarousal symptoms (Boeschoten et al., 2018).

The Dutch Mini International Neuropsychiatric Interview – simplified version (MINI-s; Hergueta & Weiller, 2013; Overbeek & Schruers, 2019; Sheehan et al., 1998) was used to screen for comorbid psychiatric symptoms and suicide risk. The original MINI has well-established psychometric properties (Sheehan et al., 1998), but the shortened MINI-s version has not yet been evaluated separately.

2.5. Statistical analyses

All analyses were conducted using R Version 4.3.2 (R Core Team, 2023). Primary and exploratory analyses were conducted on a sample of treatment completers ($n = 133$). Participants who dropped out ($n = 11$), switched to full on-site treatment ($n = 19$), continued with delayed treatment ($n = 7$), or completed treatment early ($n = 17$) were excluded. Sensitivity analyses compared baseline age, gender, and PTSD symptom severity (CAPS-5, PCL-5) between completers and excluded groups, as well as between participants with complete versus incomplete data on key study variables, and additionally examined whether inclusion of participants who dropped out influenced the results of the main analyses. Missing data in the linear mixed models (LMMs) were handled using maximum likelihood estimation under a missing-at-random (MAR) assumption; missing outcome data were not imputed, and all available observations contributed to the estimation of the model parameters. Descriptive statistics and regression analyses were based on available data only. The significance threshold was set at $\alpha = .05$. Assumptions were checked for each LMM and, where applicable, for linear regression. Multiple comparisons in relevant pairwise post-hoc tests were controlled for using the Benjamini-Hochberg false discovery rate (FDR; Benjamini & Hochberg, 1995).

Descriptive statistics were computed for the WAI-SF and PCL-5 at each time point. Alliance development was examined using an LMM, including time as a fixed effect and a random intercept for participants. Bidirectional associations between WAI-SF and PCL-5 over time were tested in two LMMs: (i)

WAI-SF at time t predicted from prior PCL-5 ($t-1$) and (ii) PCL-5 at time t predicted from prior WAI-SF ($t-1$), controlling for time and baseline PCL-5. Random-slope variants did not converge because of limited observations per subject; therefore, random-intercept models were retained, and standardised coefficients (β) were reported. Lagged models included only observations with available lagged predictors.

Exploratory LMMs examined whether baseline PTSD severity (PCL-5), childhood sexual abuse (LEC-5), paranoia (BSPC), attachment style (RQ), and autism (single-item diagnosis) were associated with alliance development. Each predictor was analysed using a separate model.

Patient preferences for therapist consistency (fixed, rotating, no preference) were summarised with a transition matrix across pre-, mid-, and post-treatment, and linear regression tested whether pre-treatment preferences predicted post-treatment WAI-SF and PCL-5 scores, controlling for baseline PCL-5.

Post-treatment, participants were categorised into three groups based on rupture and repair responses: *no rupture*, *resolved rupture*, and *unresolved rupture*. For perceived relational fit, responses on the 5-point item and a follow-up question were categorised into five groups: *perceived fit* (scores 1–2), *neutral* (score 3), *no perceived fit-unresolved*, *no perceived fit-unclear resolution*, and *no perceived fit-resolved* (scores 4–5). The resolution categories applied only to participants who initially reported the absence of a perceived relational fit. Groups were compared on WAI-SF and PCL-5 using linear regression with group as categorical predictor; no longitudinal models were estimated because these variables were assessed only post-treatment.

2.6. Power analysis

A Monte Carlo simulation-based power analysis was conducted using the R package *simr* to estimate the sample size required to detect a moderate time effect ($\beta = 0.20$) on WAI-SF scores in an LMM with a random intercept ($\text{WAI} \sim \text{time} + (1 \mid \text{id})$; Green & MacLeod, 2016; R Core Team, 2023). A linear time specification was used because it provides a conservative and stable benchmark in simulation-based power estimation. In the final models, time was treated categorically to capture potential nonlinear patterns. Based on 1,000 simulations, a sample of 120 participants yielded a power $> .80$ ($\alpha = .05$), with power curves indicating that this threshold was reached at approximately 100 participants. Given that the final analytic sample comprised 133 participants, the study was considered adequately powered for the primary analyses. No a priori power calculations were conducted for exploratory analyses, which should therefore be interpreted with caution.

3. Results

3.1. Sample characteristics and descriptive statistics

A total of 133 participants were included in the final sample. Data on age and gender were available for 132 participants (age: $M = 41.32$, $SD = 12.59$, gender: 75.8% female, 22.5% male, and 1.4% identifying as nonbinary or genderqueer). Baseline sample characteristics are presented in Table 2.

3.2. Sensitivity analyses on baseline characteristics

Sensitivity analyses indicated that none of the excluded subgroups differed significantly from treatment completers ($n = 133$) on baseline characteristics, including participants who dropped out ($n = 11$), completed treatment early ($n = 17$), switched treatment ($n = 19$) or had a treatment delay ($n = 7$). Additionally, no significant baseline differences were observed between participants with complete data and those with missing data on key study variables ($n = 16$).

3.3. Development of therapeutic alliance throughout treatment ($n = 133$)¹

A significant increase in WAI-SF scores from the start of day 2 ($M = 67.75$, $SD = 9.99$) to mid-treatment ($M = 69.68$, $SD = 10.16$; $\beta = -2.140$, $SE = 0.67$, $p = .002$, $d = 0.19$) was observed, indicating higher scores at mid-treatment than on day 2. There was no significant change from mid- to post-treatment ($M = 69.40$, $SD = 11.19$; $\beta = 0.504$, $SE = 0.68$, $p = .461$, $d = 0.02$). The development of therapeutic alliances across treatment phases is shown in Figure 3. Descriptive statistics for

Table 2. Baseline sample characteristics ($N = 133$).

Variable	<i>N</i> (%)
<i>Trauma exposure</i>	
Physical violence	126 (94.7)
Sexual abuse	
<13 years	63 (47.4)
≥13 years	40 (30.1)
Confrontation with sudden or violent death	59 (44.4)
<i>Comorbidity</i>	
Anxiety disorder	88 (66.2)
Mood disorder	84 (63.2)
Autism diagnosis (self-reported)	6 (4.5)
<i>Attachment style</i> ($n = 132$)	
Secure	13 (9.8)
Fearful	84 (63.6)
Preoccupied	13 (9.8)
Dismissive	6 (4.5)
Mixed	16 (12.1)
<i>Suicide risk</i> ($n = 126$)	
No	46 (34.6)
Low	28 (21.1)
Moderate	24 (18.1)
High	27 (20.3)

Note: Anxiety disorders comprised social anxiety disorder, generalised anxiety disorder, agoraphobia, and panic disorder. Mood disorders comprised depressive and manic disorders.

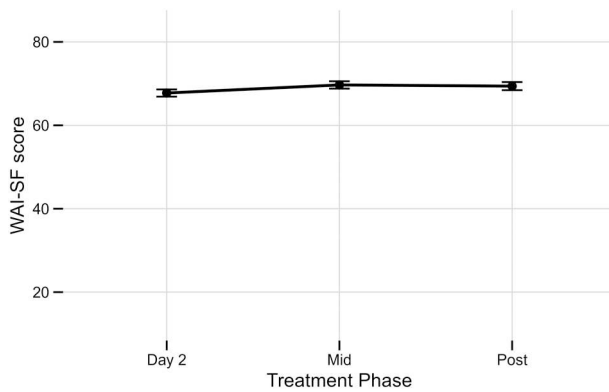


Figure 3. Development of the working alliance during treatment (N = 133).

Note: Mid = after the first two treatment days; WAI-SF = Working Alliance Inventory-Short Form; possible score range = 12–84. Available WAI-SF assessments: day 2, $n = 130$; mid-treatment, $n = 130$; post-treatment, $n = 123$.

the WAI-SF subscales (Goals, Tasks, Bond) across treatment points are presented in Table 3. Post-hoc analyses of the WAI-SF subscales showed a pattern consistent with the overall WAI-SF findings: after FDR correction, significant increases from day 2 to mid-treatment were observed for the Goals, Tasks, and Bond subscales, whereas no significant changes from mid- to post-treatment were found.

3.4. Relationship between therapeutic alliance and PTSD symptom reduction ($n = 133$)¹

Higher PCL-5 scores at an earlier time point predicted lower WAI-SF scores at the subsequent time point ($\beta = -0.176$, $SE = 0.04$, $p \leq .001$). In the second model, higher WAI-SF scores at an earlier time point predicted lower subsequent PCL-5 scores ($\beta = -0.423$, $SE = 0.11$, $p \leq .001$). Interactions with time were not significant in either model.

3.5. Influence of baseline patient characteristics on therapeutic alliance: subgroup analyses

Baseline PTSD symptom severity (PCL-5) was not significantly associated with WAI-SF scores at any time point ($n = 132$; $p = .862$), and there was no significant interaction with time ($ps > .811$). In addition, no significant differences in WAI-SF scores were found between patients with ($n = 63$) versus without a history

of childhood sexual abuse ($n = 40$; $ps > .097$) (LEC-5), and there was no significant time $\times$ group interaction ($ps > .268$). BSPC scores ($n = 132$) showed no significant associations with WAI-SF scores at any time point; the mid-treatment estimate ($\beta = -0.181$, $p = .056$) was the strongest but remained non-significant, and no significant interaction with time was found ($p > .504$). Patients with an insecure attachment style ($n = 104$) versus a secure attachment style ($n = 13$) (RQ) showed no significant differences in WAI-SF scores at any time point ($ps > .154$), nor were there significant time $\times$ group interactions ($p > .351$). Furthermore, no differences in WAI-SF scores were found between patients with ($n = 6$) and without autism ($n = 126$; $ps > .325$), nor was there a significant time $\times$ group interaction ($p > .096$).

3.6. Patient preference for therapist consistency: development and outcome associations

At pre-treatment, many participants had no clear preference. Preferences were not stable over time and shifted predominantly towards the rotating team format. Full transition patterns are presented in Table 4. Pre-treatment preferences were not significantly associated with post-treatment WAI-SF or PCL-5 scores ($ps > .511$), controlling for baseline PCL-5 scores.

3.7. Rupture-repair and perceived relational fit: impact on alliance and symptoms ($n = 123$)

Of the 123 participants who completed the post-treatment questionnaire, 13 indicated uncertainty about experiencing a rupture and were therefore excluded from the rupture analyses, leaving 110 participants (no rupture, $n = 96$; resolved rupture, $n = 8$; and unresolved rupture, $n = 6$). Controlling for baseline PCL-5 scores, significant group differences were found in post-treatment WAI-SF scores, $F(3, 105) = 7.418$, $p < .001$, $\eta^2 = .17$. FDR-corrected pairwise comparisons showed that both rupture groups reported lower alliance scores than the no-rupture group ($ps < .010$), whereas no significant difference emerged between resolved and unresolved ruptures. Similarly, post-treatment PCL-5 scores differed significantly across rupture categories, $F(3, 105) =$

Table 3. Descriptive statistics for WAI-SF subscale scores across treatment phases.

	WAI-SF Goals subscale		WAI-SF Tasks subscale		WAI-SF Bond subscale	
	M	SD	M	SD	M	SD
Day 2 ($n = 130$)	22.97	3.80	23.01	3.64	21.71	3.52
Mid-treatment ($n = 130$)	23.60	3.79	23.63	3.56	22.45	3.68
Post-treatment ($n = 123$)	23.59	3.85	23.34	3.99	22.47	4.15

Note: WAI-SF = Working Alliance Inventory-Short Form, possible range per subscale: 4–28.

Table 4. Transition of patient preferences from pre- to post-treatment ($N = 122$).

Pre-treatment preference	Post-treatment preference		
	Fixed therapist	Rotating therapist	No preference
Fixed therapist	15 (37.5%)	14 (35.0%)	11 (27.5%)
Rotating therapist	0 (0%)	14 (93.3%)	1 (6.7%)
No preference	7 (10.4%)	32 (47.8%)	28 (41.8%)

8.761, $p < .001$, $\eta^2 = .14$, with participants in the unresolved rupture group reporting significantly higher scores than those in the other groups ($ps < .050$). For the analyses on perceived relational fit, responses on the 5-point item and a follow-up question were categorised into five groups: *perceived fit* ($n = 69$), *neutral* ($n = 21$), *no perceived fit-resolved* ($n = 9$), *no perceived fit-unclear resolution* ($n = 16$), *no perceived fit-unresolved* ($n = 8$). Controlling for baseline PCL-5 scores, significant group differences were observed in post-treatment WAI-SF scores, $F(5, 116) = 5.09$, $p < .001$, $R^2 = 0.18$. FDR-corrected pairwise comparisons indicated that participants who reported a relational fit reported significantly higher alliance scores than all other groups ($ps < .05$), whereas no significant differences emerged between the neutral and no perceived fit-subgroups. For PTSD symptoms post-treatment, the overall model including the perceived fit group and baseline PCL-5 scores was significant, $F(5, 116) = 3.982$, $p = .002$, $R^2 = .15$, however post-hoc FDR-corrected pairwise comparisons between the relational fit groups did not remain significant after correction for multiple testing.

4. Discussion

This study shows that a therapeutic alliance can be established and maintained in intensive trauma-focused treatment with therapist rotation, as alliance ratings increased early in the treatment and subsequently stabilised. Small but consistent bidirectional associations were observed, with higher symptom severity predicting weaker subsequent alliance and stronger alliance predicting greater later symptom reduction. Exploratory analyses showed that baseline patient characteristics did not hinder alliance development and that patient preferences were unrelated to outcomes. Finally, unresolved ruptures were linked to both weaker alliances and poorer symptom outcomes.

Our findings on alliance development are partly in line with our hypothesis that the therapeutic alliance increases during intensive trauma-focused treatment. The trajectory observed – an early increase followed by stabilisation – extends previous findings on rotation formats. Van Minnen et al. (2018) showed that good alliances can be formed in an intensive programme with extensive therapist rotation, although alliance was only assessed post-treatment. Opriel et al. (2024) observed positive alliance trajectories in a more limited rotation format involving two therapists. Our study adds to this literature by examining how alliances develop and are sustained over time in a larger rotation model, where patients may work with up to eight different therapists across sessions, rotating each 2-h session. Furthermore, although we

did not directly compare alliance scores in a rotation format with those in traditional formats, the overall alliance ratings we observed per item ($M = 5.75$) were comparable to the average ratings ($M = 5.81$) reported in a meta-analysis that focused on therapeutic alliance in regular trauma-focused treatment for PTSD (Howard et al., 2022). This suggests that alliances in a therapist rotation model do not appear weaker than those in traditional treatment settings, although future research is required to directly test this assumption.

In addition, we found bidirectional associations between alliance and PTSD symptoms, in that higher symptom severity predicted weaker subsequent alliance, and a stronger alliance predicted lower later symptoms. Although these effects were statistically significant, they were small in magnitude but broadly consistent with prior evidence of reciprocity in traditional therapy (Xu & Tracey, 2015) and robust overall associations between alliance and outcomes (Flückiger et al., 2018). However, these results differ from those of Opriel et al. (2024), who observed no reciprocity in a two-therapist rotation model. This discrepancy may be explained by differences in the study design (RCT vs. observational longitudinal), sample size, and therapist team size. Taken together, our findings suggest that alliance plays a modest but consistent role in the rotation model.

Exploratory analyses of baseline patient characteristics (PTSD severity, childhood sexual abuse, paranoia, attachment style, and autism) suggested that these factors did not hinder the development of the therapeutic alliance, which is in line with findings from traditional one-to-one therapy (Howard et al., 2022; Keller et al., 2010; Van Minnen et al., 2018). Patient preferences regarding therapist consistency shifted towards a rotating team format, but were unrelated to treatment outcomes. This is in line with a recent meta-analysis showing no overall effect of preferences on outcomes (Eigenhuis et al., 2024). However, patient preferences are not uniform constructs, and preferences specifically concerning therapist consistency (fixed versus rotating therapists) have not previously been examined. Analyses of rupture-repair dynamics and perceived relational fit indicated that rupture group was associated with post-treatment PTSD symptoms, with higher symptom levels observed in the unresolved rupture group. Both resolved and unresolved ruptures were related to weaker therapeutic alliance. In contrast, lower perceived relational fit was associated with lower therapeutic alliance but did not significantly predict post-treatment PTSD symptoms after controlling for baseline PTSD symptom severity. These findings are consistent with prior work indicating that rupture-repair processes are associated with both therapeutic alliance and symptom outcomes (Eubanks, 2022; Eubanks

et al., 2018). Overall, the present results suggest that relational processes were associated with alliance development and, in the case of ruptures, also with symptom outcomes. However, given the exploratory nature of these analyses and the small subgroup sizes, conclusions should be drawn with caution.

This study has several strengths. The relatively large sample size and repeated measurement design allowed us to adequately examine the development of alliance and its relation to symptom change over time. Moreover, the study was conducted in a real-world clinical setting, which enhanced its ecological validity. Finally, this study addressed gaps in the literature by examining alliance development, subgroup differences and rupture-repair processes in a therapist-rotation format. However, several limitations should be acknowledged. The most important limitation is that this was not a randomised controlled trial directly comparing a therapist rotation format with a fixed-therapist condition within the same intensive treatment setting. Consequently, no causal inferences can be drawn regarding the specific impact of therapist rotation on alliance and treatment outcomes. Subgroup analyses (e.g. dismissive attachment, autism, ruptures, no perceived relational fit) were exploratory and based on small subsamples, which limits the robustness of these findings and warrants caution in their interpretation. The sample may also represent a specific subgroup of patients who seek or are referred for intensive trauma-focused treatment. The sample was characterised by a predominance of women and high rates of sexual and physical violence. In addition, a procedural error occurred in the attachment style measure: the forced-choice item identifying participants' primary style was inadvertently omitted at the start of data collection, leaving only the rating scales to be completed. After this was detected, the missing item was added. For participants who did not receive the forced-choice item, attachment style was derived by selecting the highest-rated style or coded as 'mixed' when ratings were tied. Autism was assessed using a single self-report diagnosis item, limiting the reliability of conclusions regarding autism-specific effects. Given the limited empirical evidence on autism and therapeutic alliance (Brewer et al., 2021), specifically in trauma-focused treatment, future studies using validated autism assessments are needed to clarify and extend the findings of this study. Finally, rupture-repair items were developed specifically for this study and have not yet been validated, which should be considered in light of the broader literature indicating the absence of a gold standard measure (Eubanks, 2022; Eubanks et al., 2018). These items were collected only after treatment, which may have influenced retrospective reporting.

In summary, the findings of the present study suggest that therapist rotation does not prevent the

development of alliances, even among diverse subgroups. Although the bidirectional effects of symptom change were small, the alliance remained an important therapeutic factor in the rotation model. Therapists should remain attentive to ruptures and address them to optimise outcomes. Future controlled studies directly comparing therapist rotation with fixed-therapist formats are needed to determine whether meaningful differences exist between these models regarding alliance and treatment outcomes and to evaluate and replicate exploratory findings on subgroup differences, patient preferences, and rupture-repair processes more robustly. Our results suggest that therapeutic alliances in intensive trauma-focused care, even with session-to-session therapist rotation, are clinically meaningful.

Note

1. Sensitivity analyses including participants who discontinued treatment ($n = 11$) yielded substantively similar results for the main mixed-effects models. Of these participants, eight had at least one available alliance assessment and were therefore retained in these models. Parameter estimates and statistical significance remained comparable.

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Disclosure statement

De Jongh receives income from published books on EMDR therapy and from education in trauma-focused therapies. Matthijssen also receives income from teaching trauma-focused therapies. All authors are employed at PSYTREC. The authors declare no conflicts of interest.

Data availability statement

The data include sensitive clinical information and, therefore, cannot be openly shared. De-identified data can be made available by the corresponding author upon reasonable request in line with privacy and ethical requirements.

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