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# Trauma-Focused Cognitive–Behavioral Therapy (TF-CBT) for Interpersonal Trauma in Transitional-Aged Youth

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**Objective:** Posttraumatic stress disorder (PTSD) following interpersonal trauma in transitional-aged youth (TAY), aged 15 to 25, is highly prevalent; however, evidence-based interventions have rarely been studied. Method: A single-group pre-/posttest study was conducted at headspace Sunshine, Melbourne, Australia, evaluating the feasibility, acceptability, safety, tolerability, and potential clinical effectiveness of trauma-focused cognitive-behavioral therapy (TF-CBT). Results: An intent-to-treat analysis was conducted for N = 20 participants (65% female, n = 13) who attended a mean of 15 TF-CBT sessions over 25 weeks. At the end of treatment, only 1 of the 16 participants with a baseline PTSD diagnosis still met diagnostic criteria. Significant improvements were also noted for self-report measures of PTSD (d = -.83), anxiety (d = -.74), and depression (d = -.76). A minority of participants reported a brief exacerbation in symptoms of PTSD (n = 8) and anxiety and depression (n = 5) during stabilization and directly before and/or after the trauma-narration phase. However, all symptoms resolved at the end of treatment. The majority of participants (85%, n = 17) rated the intervention as helpful. Conclusion: Regardless of the expected temporary symptom exacerbation, the results indicated that TF-CBT was safe, tolerable, and acceptable. Transitional-aged youth is an emerging area of research. With limited research available on this age group to inform evidence-based practice, it is recommended that a randomized controlled trial is conducted to determine if TF-CBT (Cohen et al., 2017) can be effectively translated to this underresearched age group.

#### **Clinical Impact Statement**

The present study suggests that trauma-focused cognitive-behavioral therapy is feasible, acceptable, and potentially clinically effective for youth (aged 15-25) attending primary mental health services who have been exposed to interpersonal trauma (i.e., child physical or sexual abuse, maltreatment, or neglect). Although a minority of young people reported a slight exacerbation in trauma-related symptoms during treatment, most were willing to recommend the intervention to a peer who was experiencing mental ill health following interpersonal trauma. Evaluation of this model in a randomized trial is now indicated.

Keywords: trauma-focused cognitive-behavioral therapy, transitional-aged youth, interpersonal trauma, posttraumatic stress, depression

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participation in this study. Simon Rice and Sarah Bendall contributed equally to the supervision, writing review and editing. Judith Cohen and Laura Murray served in a supporting role for investigation. Carsten Schley served in a supporting role for the funding acquisition and project administration. Mario Alvarez-Jimenez served in a supporting role for supervision.

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Exposure to developmentally adverse interpersonal traumatic stressors (e.g., sexual, physical, or emotional abuse; neglect or maltreatment) is not only common but also peaks during late adolescence and young adulthood. Although the estimates of traumaexposure rates vary depending on the type of trauma, sample, and informant source, up to 82% of young people report exposure to one or more interpersonal traumas by the time they reach age 23 (Breslau, 2004). Interpersonal trauma exposure has substantial adverse effects on mental health that can persist into adulthood (Anda et al., 2006). Transitional-aged youth (TAY) are young people aged in the late adolescence to young adulthood phase (i.e., 15-25 years; Wilens & Rosenbaum, 2013); this group is uniquely vulnerable to and at increased risk for the early onset or worsening of trauma-related symptoms, including posttraumatic stress disorder (PTSD; Alisic et al., 2014; Kessler et al., 2017). However, symptoms extend well beyond PTSD (Ford, 2018), with functional impairment, increased sexual revictimization and substance abuse (Ford et al., 2010), depression (Infurna et al., 2016), anxiety (Hamilton et al., 2016), and suicidality (Sachs-Ericsson et al., 2017).

In light of the potentially severe long-term effects of interpersonal trauma exposure, early intervention is needed to prevent chronic symptoms and impaired functioning (Skehan & Davis, 2017; Wamser-Nanney et al., 2016). Psychological treatments are available for PTSD, with large effect sizes reported in the treatment of adults exposed to child sexual abuse (Ehring et al., 2014) and medium effect sizes reported in the treatment of children and adolescents exposed to child sexual and physical abuse (Gutermann et al., 2016).

Current evidence-based guidelines only recommend TF-CBT (Cohen et al., 2017) for children and adolescents up to the age of 18 (Bisson et al., 2019; National Institute for Health and Care Excellence, 2018). With a lack of evidence for its use among TAY, additional research is critically needed to ensure its use within this population. Despite being a group at high risk of both experiencing trauma and the mental health consequences of trauma, there is little intervention research in the TAY population, with only one randomized controlled trial (RCT) of developmentally adapted cognitive processing therapy (D-CPT) published to date. In this trial, D-CPT was reported to be effective for PTSD, depression, borderline symptoms, behavior problems, and dissociation in TAY following sexual and physical abuse (Rosner et al., 2019). Research is required to understand whether adaptations of TF-CBT developed for children and adolescents are effective in TAY.

TF-CBT is a manualized, phase-based therapy (Cohen et al., 2017) that has been reviewed widely (Gutermann et al., 2016; Morina et al., 2016) among children and adolescents (aged 3–18). TF-CBT has demonstrated flexibility in its application across multiple populations and has been successfully implemented in non–English-speaking countries (Goldbeck et al., 2016), low-income countries (Murray et al., 2015), and culturally and spiritually diverse settings (Wang et al., 2016). TF-CBT has, however, not yet been used among TAY. The present pilot study, therefore, aimed to address this gap by investigating the feasibility, acceptability, safety, and tolerability, as well as potential clinical effectiveness, of TF-CBT in TAY with PTSD symptoms following interpersonal trauma. This is a first step toward validating this approach in this population.

Given the existing evidence base of the effectiveness of TF-CBT in reducing symptoms of PTSD, depression, and anxiety in children and adolescents (Lenz & Hollenbaugh, 2015; Morina et al., 2016); we hypothesized that TF-CBT would be (a) feasible; (b) acceptable; (c) safe and tolerable; and (d) associated with reduced symptoms of PTSD, anxiety, depression, and suicidality and improved of quality of life (see Table 1 for operational definitions) in a group of TAY aged 15–25.

# Method

# **Study Design**

The current study employed a single-arm pre-/posttest study design, including two additional assessments during the intervention phase. We followed the Consolidated Standards of Reporting Trials (CONSORT) guidelines (Schulz et al., 2010; see Figure 1 in the online supplemental materials). The study was designed with a sufficient sample to determine the feasibility of a larger RCT within a headspace youth mental health service system (Thabane et al., 2010).

# **Participants and Setting**

Participants were young people referred to the study from either service intake or from the current caseload of psychiatrists and psychologists employed at headspace, Sunshine. The headspace model of care provides government-funded, accessible, integrated, youth-friendly, community-based mental health support services to adolescents and young adults (aged 12-25; Rickwood et al., 2015). To enhance research and clinical success, the study was implemented within a trauma-informed model of care (Bunting et al., 2019). To this extent, the study included leadership, stakeholder, and consumer engagement, including collaboration between research, leadership, and clinical teams; educating clinicians within on principles of trauma-informed care; undertaking consumer consultation and engagement in research design; offering participants and parents choice in care (e.g., involving family where appropriate); and sensitivity to cultural needs, including the creation a safe environment, that is, changes to the waiting area and consulting rooms (Bendall et al., 2020).

# **Inclusion and Exclusion Criteria**

Broad inclusion criteria were adopted to reflect the clinical characteristics of young people with interpersonal trauma histories: *Interpersonal trauma* was defined per the definition offered by Anda et al. (2006, p. 177): "the intentional injury ... and included physical, sexual or emotional abuse; physical or emotional neglect; exposure to domestic violence, household substance abuse or mental illness; parental separation or divorce, incarceration of a household member or experience of bullying."

Inclusion criteria were (a) age 15 to 25 years inclusive; (b) exposure to at least one interpersonal trauma confirmed and worst events coded using the Life Events Checklist (LEC; Gray et al., 2004); (c) at least subthreshold diagnosis for PTSD, operationalized as a score of at least 1 on the severity score for each of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM*–5; American Psychiatric Association [APA], 2013) criteria

Table 1				
A Priori Criteria for Feasibility Accentability	Safety	and Potential	Clinical	Effectiveness

Domain	Outcome measure (assessment method/materials)	Measurement time point(s)
Feasibility	20 young people recruited within 6 months of the study (study records)	T4
2	60% of participants completed $\geq$ 5 sessions of therapy (study records)	T4
	More than 50% of participants completed all relevant treatment components (TF-CBT Fidelity Checklist)	T4
Acceptability	Therapeutic alliance achieved and maintained, indicated by scores of at least 5/7 for each partici- pant (WAI)	T2, T3, T4
	More than 80% of young people (and caregivers) would recommend TF-CBT to a friend or family member (questionnaire)	T4
Safety and tolerability	No increase in the frequency of self-harm behavior (DSHI) from baseline to each subsequent time point for each participant <sup>a</sup>	T1, T2, T3, T4
	End-of-session SUDS increased by $\leq 3$ (compared with start-of-session SUDS) for each session for each participant	Every session
	No more than a 10-point increase in total PTSD symptom score (PCL-5) from baseline (T1) to each subsequent time point for each participant	T1, T2, T3, T4
	No change in categorical anxiety or depression symptom severity rating (i.e., from moderate to severe, DASS-21) from baseline (T1) to each subsequent time point for each participant	T1, T2, T3, T4
Potential clinical effectiveness	Primary measure: Loss of PTSD diagnosis (CAPS-5). Secondary measures: Statistically signifi- cant change pre to post self-report measures for PTSD (PCL-5), anxiety and depression (DASS-21), suicidality (ASIQ), and quality of life (AQoL-8D)	T1, T4

*Note.* T4 = end of treatment; TF-CBT = trauma-focused cognitive-behavioral therapy; T2 = pretrauma narration; T3 = posttrauma narration; WAI = Working Alliance Inventory; DSHI = Deliberate Self-Harm Inventory; T1 = baseline; SUDS = Subjective Units of Distress Scale; PTSD = posttraumatic stress disorder; PCL-5 = PTSD Checklist for *DSM*-5; DASS-21 = Depression Anxiety Stress Scale; CAPS-5 = Clinician-Administered PTSD Scale for *DSM*-5; ASIQ = Adult Suicidal Ideation Questionnaire; AQoL-8D = Assessment of Quality of Life–Eight Dimension Version. <sup>a</sup> A 10-point change has been suggested as a minimum threshold for determining clinically meaningful change (Weathers et al., 2013b).

using the Clinician-Administered PTSD Scale for *DSM*–5 (CAPS-5; Weathers et al., 2013a).

Exclusion criteria were (a) documented current acute psychotic disorder according to the *DSM*–5; (b) documented developmental disorder (i.e., autism spectrum disorder) according to the *DSM*–5; (c) a substance use dependency, operationalized as high levels of substance indicated by a score of  $\geq$  27 for any substance using the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST; World Health Organization [WHO], 2002); (d) high risk for self-harm or suicidality, operationalized as a score of  $\geq$  31 on the Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds, 1991), combined with an endorsement of all critical scale items and clinical opinion; and (e) insufficient command of the English language (i.e., to participate in assessment [read] and treatment [converse]). Participants were considered to have dropped out if they attended less than five sessions of the planned treatment.

## Procedure

Ethical approval was received from the University of Melbourne Human Research Ethics Committee (approval: 1851696.1). The study was conducted in accordance with the Declaration of Helsinki. Participants interested in the study met with the research assistant for the consenting process, prior to which they were informed of the nature and purpose of the study, pilot procedures, risks, benefits, and confidentiality. Following informed consent (and parental informed consent for those < 18 years), participants were assessed for eligibility and potential enrollment in the study. Participants were recruited from December 2018 to June 2019. The treatment phase commenced in January 2019 and concluded at the end of October 2019. Poststudy clinical assessments were conducted between July and November 2019. Participants received AUD\$30 per hour for their participation in the baseline and end-of-treatment assessments. All assessments were administered by a research assistant who was not involved in any other part of the study. The research assistant, a registered psychologist, received training in the administration of all instruments in accordance with the research protocol.

# Measures and Assessment Materials

Detailed a priori quantitative criteria were established to assess the feasibility, acceptability, safety, and potential clinical effectiveness of this study. Data were collected at four time points: before the start of therapy (T1), before commencing the trauma narration (T2; see Intervention section), after completing the trauma narration (T3), and at the end of treatment (T4; see Table 1).

## Semistructured Interviews

PTSD symptom severity and diagnostic status were assessed at T1 and T4 using the CAPS-5. The internal consistency and test-retest reliability of the CAPS-5 have been established as  $\alpha = .90$  and  $\kappa = .83$ , and interrater reliability has been established as  $\kappa = .78-1.00$  (Weathers et al., 2018). Lifetime exposure to trauma was determined using the LEC at T1. The LEC has reported an internal consistency of  $\alpha = .94$  (Gray et al., 2004). Comorbid mood or anxiety disorder was determined using the Structured Clinical Interview for *DSM*-5 Axis I Disorders (SCID-I; First et al., 2015) at T1. The SCID's severity scales have demonstrated internal consistency (all Cronbach's alphas > .80), test-retest reliability, and concurrent and predictive validity (Shankman et al., 2018). The Colombia Suicide Severity Rating Scale (C-SSRS; Posner et al., 2011) was used to screen for current suicide risk at baseline. The

intensity of ideation subscale has demonstrated moderate to strong internal consistency ( $\alpha = .73$ ; Posner et al., 2011).

# Self-Report Measures

A self-rating of PTSD symptom severity was obtained using the PTSD Checklist for *DSM*–5 (PCL-5, Weathers et al., 2013b). PCL-5 scores have exhibited internal consistency ( $\alpha$  = .94) and test–retest reliability (r = .82; Blevins et al., 2015). Depression and anxiety symptoms were assessed using the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995), with  $\alpha$ s = .97 and .92, respectively, for depression and anxiety (Antony et al., 1998).

Current and lifetime substance use were assessed using the ASSIST (WHO, 2002). The ASSIST has demonstrated good internal consistency of  $\alpha > .82-91$  and test–retest reliability of  $\kappa = .90$  (Marsden et al., 2002). The Personality Inventory for *DSM*–5 Brief Form (PID-5-BF; Krueger et al., 2013) was used as a screen for personality disorders. Previous Cronbach's alpha for the PID-5-BF total score was  $\alpha = .83$  (Fossati et al., 2017), and test–retest reliability was d = -.12 (Al-Dajani et al., 2016). Quality of life was determined using the Assessment of Quality of Life—Eight Dimension (AQoL-8D, Richardson et al., 2011) questionnaire, with  $\alpha = .54-.95$  and 1-month test–retest reliability of  $\kappa = .89$  (Maxwell et al., 2016).

The Deliberate Self-Harm Inventory (DSHI; Gratz, 2001) was used to assess and monitor deliberate self-harm  $\alpha = .82$ , with 1-month test-retest reliability of  $\phi = .68$ , p < .00 (Gratz, 2001). Suicide ideation was assessed using the ASIQ. The Cronbach alpha value for the ASIQ was  $\alpha = .97$ , and test-retest reliability was r = .86 (Reynolds, 1991).

Pre- to postsession distress was measured using the Subjective Units of Distress Scale (SUDS). The SUDS is a self-rating of distress scale ranging from 0 (*complete relaxation*) to 100 (*maximum distress*) (Wolpe & Lazarus, 1966).

The therapeutic alliance was monitored using the Working Alliance Inventory (WAI; Horvath, 1991). Previous Cronbach's alpha values for the WAI were  $\alpha = .93$  (participant) and  $\alpha = .87$  (therapist; Hatcher et al., 2019). The test–retest reliability was r = .93 (Hanson et al., 2002).

# Intervention

TF-CBT is a short-term component-based intervention summarized by the acronym PRACTICE, which stands for psychoeducation and parenting skills, relaxation skills, affective expression and modulation skills, cognitive coping skills, trauma narration and processing, in vivo mastery of trauma reminders, conjoint youth–parent sessions, and enhancing safety and future development (Cohen et al., 2017). These components comprise three treatment phases: Phase 1, stabilization skills (psychoeducation/ parenting skills; relaxation, affect modulation, and cognitive coping skills); Phase 2, trauma narration (talking about trauma, sharing trauma narrative with parent [if appropriate], and cognitive processing of the trauma memories); and Phase 3, integration phases (in vivo mastery, conjoint youth–parent sessions, enhancing safety and future development).

Therapy typically consists of 12–20 sessions and up to 25 sessions for more complex cases. TF-CBT integrates principles from cognitive, behavioral, interpersonal, and family systems therapy.

Each component is ideally provided to the children or youth and parent in parallel sessions, with conjoint sessions also included. In this study, TF-CBT treatment duration and phase proportionality were consistent with the TF-CBT application for complex trauma (Cohen et al., 2012). As such, half of the treatment sessions focused on the stabilization phase (Session 1-10), and a quarter of the sessions focused on trauma narration and processing (Session 11-15) and integration (Session 16-20). Parallel or conjoint sessions with parents (or partners) were included where applicable and adjusted to meet the specific developmental needs of TAY. The most significant adjustment was that the young people were invited to include a parent (or partner) in therapy but were given autonomy to decide if they wanted to involve another person. This differs from TF-CBT for younger ages, where the inclusion of a carer or parent is an essential component of the treatment (Cohen et al., 2017).

Treatment was provided by a single clinician who completed a TF-CBT web-based training program (https://tfcbt2.musc.edu), attended a 2-day TF-CBT training presented by the developers of the treatment (Cohen et al., 2012), and participated in the required number of TF-CBT consultation calls (Cohen et al., 2017). The clinician received ongoing consultation by an approved TF-CBT trainer (Laura Murray) via teleconference to support fidelity to the model.

# **Statistical Methods**

Intervention feasibility and acceptability were determined using descriptive statistics (e.g., counts, means, and standard deviations). Treatment benefit (change to PTSD diagnosis) was evaluated via McNemar's chi-square test, and an intent-to-treat analysis was conducted. Outliers were analyzed, and given the small sample size, any outliers were not removed. All baseline scores were normally distributed, as assessed by the Shapiro–Wilk's test ( $p \ge .05$ ). In contrast, end-of-treatment CAPS-5 (p = .017), DASS depression (p = .018), and DASS anxiety (p = .014) scores were not normally distributed. Given this, the Wilcoxon signed-rank test was used to evaluate change. Within-group effect sizes (T1–T4) were calculated by dividing the absolute (positive) standardized test statistic *z* by the square root of the number of pairs in the analysis (Rosenthal, 1994).

#### Results

Of the 24 referrals received, 4 referrals were deemed ineligible following baseline assessments, as a result of age or symptom severity. This resulted in n = 20 (the recruitment target) eligible consenting participants who commenced TF-CBT (see Table 1 in the online supplemental materials). The mean age of participants was 19.5 years (standard deviation [*SD*] = 3.2, range = 15–25). The majority of participants were female (65%, n = 13).

All participants included in the study reported exposure to multiple lifetime traumas. All Criterion A "worst events" reported were interpersonal traumas. When asked to specify which event they perceived as most disturbing or severe ("worst event/s"), participants reported physical assault (40%, n = 8), sexual assault or abuse (35%, n = 7), loss (including loss by suicide; 15%, n = 3), and emotional abuse (10%, n = 2). The majority of participants (80%, n = 16) met the *DSM*–5 (APA, 2013) diagnostic criteria for PTSD. Most participants had one or more comorbid condition, including anxiety disorders (45%, n = 9), borderline personality disorder (55%, n = 11), and mood disorder (20%, n = 4). Problematic substance use was also common. At baseline, 65% (n = 13) of the participants reported suicide ideation (ASIQ), with one participants reporting a history of at least one prior suicide attempt. All participants reported deliberate self-harm (DSHI) that started at a young age.

# Feasibility

Study outcome criteria for feasibility were met in terms of both recruitment (i.e., 20 participants in 6 months) and retention (i.e., 90%, n = 18, of participants completing at least five sessions of TF-CBT). The mean treatment duration was 15.44 sessions (SD = 4.78, range = 15-25), with participants completing 60–90 min of TF-CBT either weekly or fortnightly over an average of 25 weeks (SD = 3.57). Fidelity was maintained, with the majority of participants (85%, n = 17) completing all mandatory treatment components measured using the TF-CBT Fidelity Checklist (Deblinger et al., 2014). Additionally, the two therapy dropouts occurred in the 6th and 10th participants to be referred into the study, suggesting that therapist skill and confidence in TF-CBT were not associated with participant dropout. Three participants with a mean age of 16.33 (SD = 1.15, range = 15–17) invited a parent to participate in TF-CBT. Two participants dropped out of treatment. One participant did not return after the first session of therapy, and the second did not return after Session 5. Both young people indicated that talking about their trauma experiences was difficult and that this contributed to their dropout from therapy (see Eastwood et al. [in press] for detail).

# Acceptability

Acceptability criteria were met. For participants who completed TF-CBT (n = 18), a positive working alliance (as indicated by a score of  $\geq 5$  on the WAI) was achieved early in treatment and maintained until the end of treatment, with participants rating their overall experience at 5 or higher (see Table 2).

Data collected from participants via the end-of-study questionnaires indicated that 85% of young people (n = 17) would recommend TF-CBT to a friend or family member who had experienced interpersonal trauma.

# Table 2

Working .	Alliance	Outcomes	(n	=	18)
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	T2 M (SD)	T3 M (SD)	$\begin{array}{c} { m T4} M \left( {SD}  ight)$
WAI—Participant <sup>a</sup>	6.05 (0.85)	6.38 (0.59)	6.24 (0.64)
WAI—Clinician <sup>a</sup>	5.59 (0.81)	5.71 (0.53)	5.64 (0.53)

*Note.* T2 = pretrauma narration; T3 = posttrauma narration; T4 = end of treatment; WAI = Working Alliance Inventory.

<sup>a</sup> Scores ranged from 0 to 7, with higher scores indicating a positive working alliance.

## Safety and Tolerability

There was no incidence of threatened, attempted, or observed suicide. A decrease in self-harming behavior was noted at the end of Phase 1, and this was sustained throughout all phases of TF-CBT. The SUDS was used to measure self-reported levels of distress at the start and end of each session. There was no instance where the pre-to-post SUDS exceeded the 3-point a priori safety and tolerability measure. A mean pre-to-post increase in SUDS of = 1.3 was reported for the study. A minority of participants reported transient symptom exacerbation during the trauma-narration phase (see Table 3).

Symptom exacerbation is a common phenomenon, particularly among youth with complex trauma (Cohen et al., 2012), and commonly occurs during the first two phases of treatment, with symptom exacerbation associated with an increased acknowledgment of trauma symptoms as trust in the therapist increases and trauma avoidance decreases during treatment. In our study, PTSD symptom exacerbation was reported for six participants. For one participant, PTSD scores increased by 17 points over the stabilization phase and by 32 points over the narration phase (i.e., 41 at T1, 58 at T2, 73 at T3; see Table 3 for symptom ranges); symptoms then normalized, with an end-of-treatment score of 21 (T4) reported for this participant. One participant reported an increase of 10 points before the commencement of trauma narration (T2), and four participants reported an increase of between 13 and 23 points after the trauma narration (T3; mean increase = 14 points). All participants scored below PTSD diagnosis at the end of treatment (T4). For anxiety and depression, 11 changes in categorical scores were reported in eight participants. Across all cases, symptoms increased before the commencement of the traumanarration phase, and in some cases (n = 4) symptom exacerbation continued through trauma narration. The most significant changes were observed in symptoms of anxiety, with three participants reporting symptoms of extreme anxiety (against a baseline of mild to moderate anxiety) before the commencement of the trauma-narration phase. At the end of treatment, one participant reported ongoing symptoms of mild anxiety, and another reported moderate levels of ongoing depression.

# **Potential Clinical Effectiveness**

The number of participants meeting DSM-5 (APA, 2013) diagnosis criteria for PTSD (CAPS-5) decreased from n = 16 to n = 1 at the end of treatment, McNemar  $\chi^2$  (1, N = 20), p < .001. Of the four participants with subthreshold PTSD, the mean CAPS-5 severity score decreased from 18 (SD = 4) to 6 (SD = 2).

Similar improvements were noted in self-report measures for symptom severity of PTSD. Significant improvements were also observed for anxiety and depression but not for suicidality and quality of life (see Table 4). Effect sizes ranged from moderate to large.

#### Discussion

We investigated TF-CBT for TAY with symptoms of PTSD and comorbid anxiety and depression following interpersonal trauma. To our knowledge, TF-CBT is only the second trauma-focused intervention to be evaluated for the treatment of TAY following

	T1 to	T1 to T2 T1 to		Т3	T1 to	T1 to T4	
Safety/tolerability criteria (assessment method)	%	n	%	Ν	%	п	
Increase in total PTSD symptom score (PCL-5) <sup>a,b</sup>	11%	2	29%	5	6%	1	
Categorical change anxiety or depression (DASS-21) <sup>c</sup>	29%	5	23%	4	11%	2	
Increase in self-harm frequency (DSHI) <sup>d</sup>	0%		0%		0%		

*Note.* T1 = baseline; T2 = pretrauma narration; T3 = posttrauma narration; T4 = end of treatment; PTSD = posttraumatic stress disorder; PCL-5 = PTSD Checklist for DSM-5; DASS-21 = Depression Anxiety Stress Scale; DSHI = Deliberate Self-Harm Inventory.

<sup>a</sup> Scores ranged from 0 to 80, with higher scores indicating greater severity of symptoms. <sup>b</sup>A 10-point change has been suggested as a minimum threshold for determining clinically meaningful change (Weathers et al., 2013b). <sup>c</sup> Depression symptom severity ranges: normal (0–9 points), mild (10–13 points), moderate (14–20 points), severe (21–27 points), and extremely severe (28+ points). Anxiety symptom severity ranges: normal (0–7 points), mild (8–9 points), moderate (10–14 points), severe (15–19 points), and extremely severe (20+ points). <sup>d</sup> Scores ranged from 0 to 17, with higher scores indicative of more severe self-harming behavior.

exposure to interpersonal trauma. TF-CBT has been widely disseminated, with successful results in children and adolescents. The findings from this study suggest that TF-CBT may also have promise in treating older adolescents and young adults. The results indicate that TF-CBT is feasible and acceptable. We achieved high retention rates, and participants were almost unanimous in indicating that they would recommend TF-CBT to fellow young people experiencing mental ill-health following interpersonal trauma. Important safety and tolerability themes, consistent with the delivery of exposure-based therapies, were noted. Preliminary clinical benefits are suggested by the large statistically significant reduction in PTSD, anxiety, and depressive symptoms and the accompanying reductions in self-harming behaviors. Although we cannot make causal attributions, all participants who met the DSM-5 (APA, 2013) diagnosis criteria for PTSD (n = 16) and who participated in TF-CBT achieved remission from PTSD at the end of treatment. One participant who dropped out from treatment remained diagnostic at the end of treatment. Given the single-group design, these results must be interpreted with caution and require evaluation in a controlled study. That said, the present study compares favorably with results observed for developmentally adapted cognitive processing therapy (D-CPT) for 14- to 21-year-old young people (mean age = 18.8) following sexual and physical abuse, which found large pre/post effect sizes for posttraumatic stress (CAPS- CA, d = 1.45, p < .001) and depression (Child Depression Inventory, d = .78, p < .001) after 30.3 (SD = .48) sessions of treatment (Matulis et al., 2014). An RCT of D-CPT also found large effects for PTSD, depression, borderline symptoms, behavioral problems, and dissociation (Rosner et al., 2019). Additionally, D-CPT included 14 therapists compared with the single therapist involved in TF-CBT, and although therapists' prior experience and gender do not necessarily make a difference in the implementation of TF-CBT, this difference is worth noting (Pfeiffer et al., 2020).

Differences in the duration and intensity of treatment in D-CPT and TF-CBT are noteworthy. In our study of TF-CBT for TAY, we were able to complete a course of TF-CBT in an average of 15 (SD = 4.77) sessions of 60 to 90 min (mean 57 min). This is in contrast with D-CPT, which was completed over 30.30 (SD = .48) sessions of 30 to 60 min. Although session intensity and treatment duration did not appear to affect participant attrition in D-CPT, daily treatment attendance was required during the cognitive-processing phase of D-CPT. This may not be feasible within a resource-constrained community mental health setting or where young people and families need to balance treatment attendance with educational and social-economic participation.

A positive therapeutic alliance, which is critical for participant attrition and the achievement of positive therapeutic outcomes (Ovenstad et al., 2020), was maintained throughout treatment,

Change Between Baseline (T1) and End of Treatment	(T4) for Clinical Outcome Variables (N = 20)
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		Baseline (T1)		E	End of treatment	(T4)		
	α	М	SD	α	М	SD	Р	D
CAPS-5 <sup>a</sup>	0.71	31.05	(9.02)	0.84	10.78	(7.81)	<.001	-0.81
PCL-5 <sup>b</sup>	0.90	46.85	(14.65)	0.95	21.65	(15.87)	<.001	-0.83
DASS-21: Anxiety <sup>c</sup>	0.86	9.80	(4.97)	0.84	4.20	(3.62)	<.001	-0.74
DASS-21: Depression <sup>d</sup>	0.67	10.95	(4.75)	0.60	4.05	(3.38)	.001	-0.76
ASIO <sup>d</sup>	0.98	45.85	(33.11)	0.95	28.25	(16.38)	.014	-0.55
AQoL-8D <sup>e</sup>	0.90	55.91	(11.86)	0.90	67.00	(25.33)	.067	41

*Note.* CAPS-5 = Clinical Administered PTSD Scale for *DSM-5*; PCL-5 = PTSD Checklist for *DSM-5*; DASS-21 = Depression Anxiety Stress Scale; ASIQ = Adult Suicidal Ideation Questionnaire; AQoL-8D = Assessment of Quality of Life–Eight Dimension Version.

<sup>a</sup> A 10-point change has been suggested as a minimum threshold for determining clinically meaningful change (Weathers et al., 2013b). <sup>b</sup> Scores ranged from 0 to 80, with higher scores indicating greater severity of symptoms. <sup>c</sup> Depression symptom severity ranges: normal (0–9 points), mild (10–13 points), moderate (14–20 points), severe (21–27 points), and extremely severe (28+ points). Anxiety symptom severity ranges: normal (0–7 points), mild (8–9 points), moderate (10–14 points), severe (15–19 points), and extremely severe (20+ points). <sup>d</sup> Raw scores ranged from 0 to 31, with higher scores suggested for further evaluation of being at risk for suicide behavior. <sup>e</sup> Scores ranged from 0 to 100, with higher scores indicative of better social functioning.

with no therapeutic ruptures occurring at any phase of TF-CBT. Although a small number of participants reported temporary exacerbation in trauma-related symptoms of PTSD, anxiety, and depression during the stabilization and trauma-narration phases, within-session levels of distress were well managed, with pre-topost SUDS remaining below 3 (M = 1.3), and there was no increase in suicidal or self-harming behaviors from baseline. In contrast, in their study of D-CPT, neither Matulis et al. (2014) nor Rosner et al. (2019) reported on therapeutic-alliance outcomes or self-harming behaviors; however, Matulis et al. (2014) did briefly report on suicidality. Additionally, although reference was made to the nonsignificant between-group differences for PTSD (CAPS-CA, g = .01) at midpoint, neither study (Matulis et al., 2014; Rosner et al., 2019) provided an overview of systematic changes in the clinical presentation of participants (i.e., suicidality, self-harm, PTSD, anxiety, or depression) across the separate phases of therapy, and no data were presented on participants' subjective experience of D-CPT.

Our study is the first to our knowledge to have quantitatively monitored and systematically reported on symptom exacerbation over the course of trauma treatment for TAY. Symptom changes, therefore, need to be considered within this context. Our qualitative exploration of trial participants' experiences of TF-CBT showed that they found talking about trauma deeply challenging and emotionally painful (Eastwood et al., in press). Some found that talking about trauma in sessions elicited distress that affected their everyday functioning. However, the difficulty and distress associated with processing trauma therapeutically were not only expected by participants but also were conceptualized as being important for recovery.

In our study, although some participants experienced symptom exacerbation, no participant who commenced the trauma-narration phase dropped out of therapy. There are specific practices in TF-CBT that may help young people to manage the difficulty of the narration phase. Some of these include an opportunity to master emotional regulation and cognitive coping skills and skills to manage stress during early sessions of treatment. These TF-CBT practices, together with the involvement of young people in symptom monitoring (Lavik et al., 2018), appeared to empower young people, offered transparency, and enhanced safety, which are critical in working with youth.

# Limitations

It is necessary to consider several limitations of this study. These include the single-group, single-site design with a small sample size and the lack of follow-up period. The study was also not preregistered. A single clinician provided therapy, and although positive results were observed, it remains unclear if the results could be repeated with multiple and less experienced clinicians. Another limitation is the use of the CAPS-5 and PCL-5 in adolescent populations. Because our study age range spanned adolescents and adults, if we were to use one measure, we had to choose either the adult or the child and adolescent version of the CAPS. After consultation with our youth advisory group, we chose the adult version as most applicable to our group. In the absence of a randomized design, we cannot rule out the possibility that participants would have improved if they have received treatment as usual. Future research should include RCTs to evaluate the

efficacy of TF-CBT in this population that are adequately powered and include long-term outcomes.

# Conclusion

This study was the first to pilot trial TF-CBT in TAY with PTSD following exposure to interpersonal trauma. The results suggest that TF-CBT is feasible, acceptable, safe, and tolerable. Furthermore, this study lends preliminary proof-of-concept support to TF-CBT as a potentially effective intervention for TAY with an interpersonal trauma history. The next step is to conduct an RCT to examine the efficacy of TF-CBT on PTSD and comorbidities in this population. All young people experiencing the mental health effects of interpersonal trauma have a right to quality, evidencebased care. Further research would inform evidence-based treatment guidelines, hence offering insight into appropriate treatment strategies to address symptoms of PTSD and common comorbidities early and to offer TAY who have been exposed to interpersonal trauma an opportunity to reach their full potential in adult life.

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