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Agreement for posttraumatic stress symptoms among unaccompanied young refugees and professional caregivers

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ABSTRACT

Background: Prevalence rates for posttraumatic stress symptoms (PTSS) in unaccompanied young refugees (UYRs) are high. Research with biological parents indicates low agreement rates between self and caregiver reports for PTSS, although caregivers play an important role as gatekeepers to ensure appropriate treatment.

Objective: This study examines youth and caregiver agreement on the endorsement of different trauma types, the PTSS severity score and symptom clusters, as well as the potential association between youth factors (age, comorbidity, and duration in facility) and disagreement.

Method: The sample consisted of $N = 610$ UYRs, aged $M = 16.75$ ($SD = 1.33$, range: 12–20) years. Of these, 91.0% were male, and 43.4% were from Afghanistan, currently residing in German children and youth welfare facilities.

Results: Agreement rates across trauma types were poor (accidental trauma: Cohen's $k = .13$; community violence: Cohen's $k = .07$; domestic violence: Cohen's $k = .19$; sexual abuse: Cohen's $k = .38$). Agreement rates for the PTSS severity score ($ICC = .22$) and symptom clusters were poor (re-experiencing: $ICC = .27$; avoidance: $ICC = .02$; negative alterations in cognitions and mood $ICC = .12$; hyperarousal: $ICC = .25$), with youth reporting significantly higher scores. Regression models showed that having comorbid symptoms and a shorter duration in the facility were associated with higher disagreement at the PTSS severity score (Adjusted $R^2 = .21$) and across symptom clusters (re-experiencing: Adjusted $R^2 = .13$; avoidance: Adjusted $R^2 = .07$; negative alterations in cognitions and mood: Adjusted $R^2 = .16$; hyperarousal: Adjusted $R^2 = .16$). Age was not significantly associated with disagreement rates.

Conclusion: It is important to enhance the awareness and comprehension of caregivers regarding recognition of mental illnesses and their symptoms as well as assessing mental health among UYRs.

Acuerdo sobre los síntomas de estrés postraumático entre jóvenes refugiados no acompañados y sus cuidadores profesionales

Antecedentes: Las tasas de prevalencia de síntomas de estrés postraumático (SEPT) en jóvenes refugiados no acompañados (JRNA) son altas. Las investigaciones con sus padres biológicos indican bajas tasas de concordancia entre los reportes de SEPT de los jóvenes y los de sus cuidadores, aunque los cuidadores desempeñan un rol importante como intermediarios para garantizar un tratamiento apropiado.

Objetivo: Este estudio examina la concordancia entre los jóvenes y sus cuidadores en el apoyo de diferentes tipos de trauma, la puntuación de severidad en los SEPT y los grupos sintomáticos, así como en la potencial asociación entre factores de los jóvenes (edad, comorbilidad y tiempo de estancia en la instalación) y la discordancia.

Método: La muestra consistió en $N = 610$ JRNA, con una edad de $M = 16.75$ años ($DE = 1.33$, rango: 12–20 años). De estos, el 91.0% eran varones y el 43.4% eran de Afganistán, actualmente residiendo en instalaciones de bienestar infantil y juvenil en Alemania.

Resultados: Las tasas de concordancia entre los diferentes tipos de trauma fueron bajas (trauma accidental: k de Cohen = .13; violencia comunitaria: k de Cohen = .07; violencia doméstica: k de Cohen = .19; abuso sexual: k de Cohen = .38). Las tasas de concordancia para la puntuación de gravedad de los SEPT ($ICC = .22$) y los grupos sintomáticos fueron bajas (re-experimentación: $ICC = .27$; evitación: $ICC = .02$; alteraciones negativas cognitivas y del estado anímico: $ICC = .12$; hipervigilancia: $ICC = .25$), con los jóvenes reportando puntajes significativamente más altos. Los modelos de regresión mostraron que tener síntomas comórbidos y una estancia más corta en la instalación estaban asociados con mayor discordancia en la puntuación de severidad de los SEPT (R^2 ajustado = .21) y entre los grupos sintomáticos (re-experimentación: R^2 ajustado = .13; evitación: R^2 ajustado = .07;

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Síntomas de estrés postraumático; jóvenes refugiados no acompañados; cuidadores profesionales; concordancia; servicios de bienestar infantil

HIGHLIGHTS

- Agreement rates between unaccompanied young refugees and their professional caregivers on the endorsement of different trauma types were poor.
- Agreement rates for the posttraumatic stress symptom severity score and the respective symptom clusters were poor.
- Factors associated with higher disagreement on the posttraumatic stress symptom severity score and across symptom clusters were mental health comorbidity and a shorter duration in the facility.

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alteraciones negativas cognitivas y del estado anímico: R^2 ajustado = .16; hipervigilancia: R^2 ajustado = .16). La edad no se asoció significativamente con las tasas de discordancia.

Conclusión: Es importante potenciar la conciencia y comprensión de los cuidadores con respecto al reconocimiento de las enfermedades mentales y sus síntomas, así como la evaluación de la salud mental entre los JRNA.

1. Introduction

Even though unaccompanied young refugees (UYRs) come from diverse backgrounds and report different migration experiences, most have encountered at least one potentially traumatic event (PTE) before, during or after their migration (Jakobsen et al., 2014; Müller et al., 2019). A systematic review indicates that posttraumatic stress disorder (PTSD) prevalence rates for UYRs range from 4.6% to 43% (Daniel-Calveras et al., 2022). Upon arrival in Germany, UYRs are integrated into the Child and Youth Welfare System (CYWS) and are usually placed in residential group homes (Bundesamt für Migration und Flüchtlinge, 2022). Despite high prevalence rates, mental health service use among child welfare populations and UYRs is low (Bean et al., 2006; Janssens & Deboutte, 2009; Mitra & Hodes, 2019). If left untreated, posttraumatic stress symptoms (PTSS) may become a substantial risk factor for various physical and mental illnesses, potentially leading to chronic PTSD (Boscarino, 2004; Hiller et al., 2016). PTSS notably affects adolescents' neurodevelopment, impacting emotional regulation, reward processing, learning, decision-making, and social cognition (Cisler & Heringa, 2021). This highlights the importance of identifying and classifying PTSS to ensure early and appropriate treatments (Newman, 2002). Social workers serve as gatekeepers, identifying symptoms, providing essential emotional support, and referring UYRs to mental health specialists, as they lack parental guidance and are unfamiliar with the German health-care system (Goodman et al., 2010; Mai & Scheeringa, 2021; Sayal, 2006; Stiffman et al., 2004). However, caregivers do not always recognize the need for psychological treatment, as agreement rates for clinical screening measures between UYRs and their caregivers can be low (Bean et al., 2006; Bean et al., 2007). But reduced disagreement in PTSS is linked to a higher probability of receiving an adequate treatment (Wamser-Nanney, 2022).

1.1. Agreement for PTE types and PTSS

Agreement rates between children and their parents regarding exposure to PTEs tend to be poor with children consistently reporting higher levels of exposure across various contexts and samples (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Tingskull

et al., 2015). Agreement rates are the highest for sexual abuse among foster care and parent-youth dyads (Mai & Scheeringa, 2021; Stover et al., 2010).

Research suggests that internalizing symptoms like PTSD have lower agreement rates across observers compared to more visible externalizing disorders (Achenbach et al., 1987; Los Reyes et al., 2015). Regarding PTSS severity scores, multiple studies of traumatized children staying with biological parents or in other settings such as residential treatment facilities, showed low agreement rates (Exenberger et al., 2019; Wamser-Nanney, 2022; Wamser-Nanney & Campbell, 2021).

For PTSS clusters overall study results appear heterogeneous, though. Meiser-Stedman et al. (2007) found low agreement for re-experiencing, while others reported moderate-high agreement rates (Humphreys et al., 2017; Phipps et al., 2005; Stover et al., 2010). The avoidance agreement rates vary between low (Kassam-Adams et al., 2006; Meiser-Stedman et al., 2007) and moderate-strong (Erickson et al., 2017; Phipps et al., 2005). While Schreier et al. (2005) observed good agreement between children and caregivers for the hyperarousal cluster, others reported contrasting results (Erickson et al., 2017; Humphreys et al., 2017; Meiser-Stedman et al., 2007; Scheeringa et al., 2006; Stover et al., 2010). In a non-western sample, correlations were low for intrusion, avoidance, and hyperarousal (Exenberger et al., 2019). The cited research used DSM-IV and parent-child/adolescent reports only, with no methodological or sample reasons identified to explain significant study differences.

In most studies, children and adolescents reported higher levels of PTSS than their parents (Dyb et al., 2003; Meiser-Stedman et al., 2007; Oransky et al., 2013; Scheeringa et al., 2006) but also contrasting results exist (Humphreys et al., 2017; Wamser-Nanney & Campbell, 2021).

1.2. Factors influencing disagreement

Age's association with disagreement varies, showing mixed findings. Achenbach et al. (1987) found better agreement for ages 6–11 than 12–19, while Los Reyes et al. (2015) found no significant effect, potentially due to the inclusion of a greater number of studies and the use of more diverse youth and child self-report measures. Specifically for PTSS, studies with parents

and non-offending caregivers (relationship not specified) have shown that younger age was correlated with higher disagreement rates (Dyb et al., 2003; Mangold et al., 2022), while other research reported opposing findings (Shemesh et al., 2005) or no significant age-related effects (Exenberger et al., 2019). Given the inconsistency of the study results, a non-directional hypothesis will be tested.

Comorbidity of mental health diagnoses increased the discrepancy between parents and adolescents in recognizing externalizing problems and behavioural disorders (Jónsdóttir et al., 2022; Salbach-Andrae et al., 2009). Additionally, higher symptom severity was linked to disagreement for different mental health disorders (including PTSD) across several populations such as physicians, parents and foster-care dyads (Canuto et al., 2016; Mai & Scheeringa, 2021; Oransky et al., 2013; Radicke et al., 2021). However, studies that explore the influence of comorbidity on disagreement rates in PTSS screening outcomes are lacking.

Time spent together and quality of the caregiver-child relationship affect disagreement, with factors like connectedness and family warmth playing a crucial role (Dudley et al., 2023; Goodman et al., 2010; Treutler & Epkins, 2003; Wamser-Nanney & Campbell, 2021). Mental health care providers for immigrants and refugees highlight the importance of time spent together and established trust for effective trauma assessment (Wylie et al., 2018). Studies show that more time spent together reduces disagreement on internalizing problems among families (Treutler & Epkins, 2003), with closeness between professional caregivers and youth moderating the association in foster care settings (McWey et al., 2018).

1.3. Current study

Given the limited research with intercultural dyads and professional caregivers, our study seeks to examine their agreement on PTSS in UYRs and identify factors linked to disagreement. As in CYWS settings, disagreement correlates with diminished youth resilience, poorer treatment outcomes, and compromised psychological well-being, this study has a high clinical importance (Ceballo et al., 2001; Humphreys et al., 2017; Wamser-Nanney, 2022; Wojciak & Waid, 2021; Zimmerman & Pogarsky, 2011). We examined concordance rates for PTSS severity scores and different symptom clusters. Furthermore, the study investigated whether there was a significant difference in the reporting of PTSS severity scores and symptom cluster scores between youth – and caregiver report. Additionally, we examined whether the age of UYRs, the presence of comorbid symptoms, and the duration of stay in a CYWS facility are associated with disagreement on PTSS severity scores and symptom clusters.

2. Method

2.1. Participants

The final UYR sample consisted of $N = 610$ UYRs. Sample characteristics are presented in Table 1. The study population consisted of 555 males (91.0%), 50 females (8.2%), and 5 individuals who identified as belonging to a gender other than male or female (.8%). The age at baseline assessment ranged from 12 to 20 years ($M = 16.75$; $SD = 1.33$), 36.6% had a comorbid clinically elevated symptoms of other disorders (PTSD, depression, or anxiety disorder) and they had been living between 0 and 84 months in the current CYWS facility ($M = 9.98$; $SD = 10.92$). As professional caregivers were primarily responsible for more UYRs, they occasionally completed the questionnaire for more than one youth. Primarily because the study's main goals were centred on implementing and evaluating the stepped-care approach and the questionnaires were extensive, the duration of the caregiver's engagement with the respective youth and additional indicators assessing the relationship's quality were not assessed.

2.2. Procedure

The data was collected within the project BETTER CARE, a cluster-randomized controlled trial comparing a stepped-care model, including a preventive group intervention and trauma-focused cognitive behavioural therapy, with enhanced usual care (Rosner et al., 2020). We recruited CYWS facilities via

Table 1. Participants' sociodemographic characteristics ($N = 610$).

Age in years, M (SD)	16.75 (1.33)
Gender, n (%)	
Male	555 (91.00)
Female	50 (8.20)
Diverse	5 (.80)
Country/Region of origin n (%)	
Afghanistan	265 (43.44)
Syria	103 (16.89)
Iraq	23 (3.77)
Iran	22 (3.61)
Pakistan	8 (1.31)
West Africa ^{a)}	54 (8.85)
East Africa ^{b)}	48 (7.87)
North Africa ^{c)}	16 (2.62)
Central Africa ^{d)}	11 (1.80)
Eastern Europe ^{e)}	27 (4.43)
Other ^{f)}	33 (5.41)
Religion, n (%)	
Muslim	524 (85.90)
Christian	31 (5.10)
Buddhist	1 (.20)
Judaist	1 (.20)
Other	16 (2.60)
Length of stay in Germany in months, M (SD)	16.22 (18.75)
Duration of stay in facility in months, M (SD)	9.98 (10.92)

Note: ^{a)} Benin, Gambia, Ghana, Guinea, Mali, Nigeria, Senegal, Sierra Leone
^{b)} Eritrea, Ethiopia, Kenya, Somalia ^{c)} Algeria, Libya, Morocco, Sudan, Tunisia ^{d)} Angola, Cameroon, Congo ^{e)} Albania, Bulgaria, Romania, Serbia, Ukraine ^{f)} Azerbaijan, Bangladesh, Lebanon, Mongolia, Turkey, Vietnam, Yemen.

phone from youth welfare lists. The project was approved by the ethics committees at Ulm University (No. 243/19) and at Catholic University of Eichstätt-Ingolstadt (No. 004–19). Screenings were conducted in residential group homes for UYRs in Germany with the assistance of their caregivers. Prior to the assessment, UYRs were provided with comprehensive information about the study's objectives, procedures, and content. Inclusion criteria for participants were: (1) age between 12 and 20 years, (2) arrival in Germany as an unaccompanied minor, (3) application for asylum or intent to do so, (4) being cared for by a CYWS facility, (5) written informed consent by the participant and legal guardian (if under 16 years), and (6) report of at least one traumatic event according to the DSM-5 A criterion. Recruitment and screenings of UYRs took place between July 2020 and January 2024 in a total of $N = 58$ CYWS facilities. The onset of the COVID-19 pandemic in 2020 introduced daily life restrictions, affecting data collection procedures. Thus, assessments were carried out online or on-site, following hygiene protocols. Participants received 35-euro vouchers as a form of compensation.

2.3. Measures

The questionnaires for the participating UYRs were available in German, English, French, Arabic, Dari, Farsi, Pashto, Somali, Tigrinya, Russian, Ukrainian and Kurmanci. Interpreters, either in-person or via phone, were made available if necessary. Demographic information assessed age, gender, religion, length of residency in Germany and in CYWS facility, education and residential status. The caregivers only filled out a PTSS questionnaire for the UYRs, who additionally answered questions on demographics, depression, and anxiety.

2.3.1. Posttraumatic stress symptoms

The Child and Adolescent Trauma Screen (CATS-2) by Sachser et al. (2022) was used to assess PTSS in children and adolescents, in accordance with DSM-5 criteria. It assesses PTEs with a 15-item checklist, followed by 20 items assessing the PTSS severity score on a 4-point Likert scale. The DSM-5 PTSS severity score is the sum of items 1–20 (range 0–60), including only the highest score of items 9, 10, 15. Sachser et al. (2022) reported the cut-off score of 25 to be a clinically relevant and specific threshold for PTSD. Two parallel versions exist for self- and caregiver reports. The internal consistency in our sample was found to be excellent, with Cronbach's α of .91 for the youth report and .92 for the caregiver report.

2.3.2. Depressive symptoms

The Patient Health Questionnaire (PHQ-9) consists of nine items aligned with the DSM-IV criteria for

screening for depressive symptoms, rated on a 4-point Likert scale. Internal consistency for the youth report was high with Cronbach's α of .84. The PHQ-9 has been validated in a variety of contexts and languages, and for adolescents (Fonseca-Pedreiro et al., 2023; Kroenke et al., 2001; Kroenke et al., 2010).

2.3.3. Anxiety symptoms

The Generalized Anxiety Disorder Assessment (GAD-7), consists of seven items and evaluates anxiety symptoms on a 4-point Likert scale, based on DSM-IV criteria. This tool also showed high internal consistency ($\alpha = .88$) for the youth report and has been validated in numerous contexts, languages and for adolescents (Casares et al., 2024; Kroenke et al., 2010).

2.4. Data-analysis

All analyses were conducted with IBM SPSS Statistics for Windows version 29.0.1.0. We grouped items from the CATS-2 PTE checklist within the same trauma type according to Skar et al. (2021) as followed: exposure to accidental traumas or illness (natural disasters, serious accidents, traumatic loss, medical procedures), community violence (experiencing violence in the community, experiencing violent attacks, seeing violence in the community, bullying, cyberbullying), domestic violence (experiencing violence at home, seeing violence at home), and sexual abuse (sexual abuse online, sexual abuse offline) and subsequently recoded them into a nominal scale (experienced/not experienced). A level of significance of $p < .05$ (two tailed) was predetermined in all analyses.

2.4.1. Agreement

To assess the reliability of categorical agreement between respondents on trauma types, Cohen's kappa, sensitivity (caregivers' accuracy in identifying UYRs experiencing trauma type), and specificity analyses (accuracy in identifying UYRs not experiencing trauma type) were employed. Agreement for the PTSS severity score and symptom clusters were calculated with intraclass correlations (ICCs) using one-way random effects model and 'single rater' type. To quantify the magnitudes of biases we computed Cohen's d effect sizes. To improve comparability with previous research on agreement, participants were divided into three age categories: early adolescence (ages 12–15), late adolescence (ages 16–17), and young adulthood (ages 18–20). The tendency that the self-report states higher PTSS severity score and symptom cluster scores than the caregiver report was analyzed with t -tests.

2.4.2. Factors influencing disagreement

Multiple linear regression analyses were conducted to examine the contributions of age (continuous

variable), comorbidity, and duration in CYWS facility to disagreement in PTSS severity score and symptom clusters, considered separately. The dependent variables in the regressions were the respective disagreement rates which were determined by calculating the difference between the PTSS severity score and symptom clusters in youth minus caregiver reports. The duration in the CYWS facility needed to be logarithmically transformed due to a right-skewed distribution. Subsequently, all assumptions were met. Hierarchical linear models were calculated for the grouping within CYWS facilities. For all random slope analyses, the covariance parameters were either redundant or not significant. We therefore only reported the multiple linear regressions.

3. Results

3.1. Agreement on trauma types

In the full sample, a negligible and non-statistically significant agreement was observed for community violence ($k = .07$, $t(516) = 1.66$, $p = .10$), while all other trauma types showed a poor but statistically significant agreement (Table 2). The highest agreement rate was found for sexual abuse, which can be regarded as low to moderate according to the confidence

interval. Sensitivity analyses revealed the following: accidental trauma or illnesses (64.30%), community violence (87.98%), domestic violence (68.29%), sexual abuse (34.52%) and specificity analysis: accidental trauma or illnesses (56.25%), community violence (23.08%), domestic violence (52.10%), sexual abuse (96.30%).

3.2. Agreement for PTSS severity score and clusters

In the full sample, the PTSS severity score and all symptom clusters, besides avoidance ($ICC = .02$, $F(516, 517) = 1.04$, $p = .32$), showed a low but statistically significant agreement (Table 3). As $n = 71$ youth stayed in the facility for a very short period (0 – 1 month), we exploratively excluded them in a second analysis, but the agreement remained low: PTSS severity score $ICC = .22$; re-experiencing $ICC = .30$; avoidance $ICC = .05$; negative alterations in cognitions and mood $ICC = .09$; hyperarousal $ICC = .25$.

3.3. Caregivers' underreporting of PTSS severity score and clusters

For all outcomes the self-report stated significantly higher scores than the caregiver-report: severity

Table 2. Youth – caregiver agreement for trauma types.

Trauma category	Kappa	Only Youth report PTEs (%)	Only Caregiver report PTEs (%)	Both report PTEs (%)	Neither reports PTEs (%)
Accidental trauma or illnesses					
Full sample ($n = 517$)	.13**	156 (30.17)	35 (6.77)	281 (54.35)	45 (8.70)
12–15 years ($n = 73$)	.12	25 (34.25)	6 (8.22)	33 (45.21)	9 (12.33)
16–17 years ($n = 317$)	.12	109 (34.38)	18 (5.68)	161 (50.79)	29 (9.15)
18–20 years ($n = 127$)	.15	22 (17.32)	11 (8.66)	87 (68.50)	7 (5.51)
Community violence					
Full sample ($n = 517$)	.07	59 (11.41)	20 (3.87)	432 (83.56)	6 (1.16)
12–15 years ($n = 73$)	.37**	5 (6.85)	3 (4.11)	62 (84.93)	3 (4.11)
16–17 years ($n = 317$)	.02	38 (11.99)	10 (3.15)	267 (84.23)	2 (.63)
18–20 years ($n = 127$)	-.01	16 (12.60)	7 (5.51)	103 (81.10)	1 (0.79)
Domestic violence					
Full sample ($n = 517$)	.19**	111 (21.47)	80 (15.47)	239 (46.23)	87 (16.83)
12–15 years ($n = 73$)	.12	15 (20.55)	17 (23.29)	24 (32.88)	17 (23.29)
16–17 years ($n = 317$)	.17*	74 (23.34)	48 (15.14)	149 (47.00)	48 (15.14)
18–20 years ($n = 127$)	.31**	22 (17.32)	17 (13.39)	66 (51.97)	22 (17.32)
Sexual abuse					
Full sample ($n = 517$)	.38**	55 (10.64)	16 (3.09)	29 (5.61)	417 (80.66)
12–15 years ($n = 73$)	.51**	3 (4.11)	2 (2.74)	3 (4.11)	65 (89.04)
16–17 years ($n = 317$)	.30**	39 (12.30)	11 (3.47)	15 (4.73)	252 (79.50)
18–20 years ($n = 127$)	.51**	13 (10.24)	3 (2.36)	11 (8.66)	100 (78.74)

Note: * $p < .05$; ** $p < .001$.

Table 3. Youth–caregiver agreement on PTSS severity score and clusters.

	Mean Youth-Report (SD)	Mean Caregiver-Report (SD)	Mean difference (SD)	Cohen's <i>d</i> mean difference	ICC (95% CI)
PTSS severity score					
Full sample (<i>n</i> = 517)	24.19 (12.16)	17.32 (10.55)	6.86 (13.18)	.52	.22 (.14; .30)**
12–15 years (<i>n</i> = 73)	21.77 (11.56)	16.48 (10.46)	5.29 (15.53)	.34	–.04 (–.27; .19)
16–17 years (<i>n</i> = 317)	24.51 (12.47)	16.84 (10.47)	7.68 (12.88)	.60	.24 (.13; .34)**
18–20 years (<i>n</i> = 127)	24.75 (11.61)	19.02 (10.68)	5.72 (12.39)	.46	.30 (.13; .45)**
Re-experiencing					
Full sample (<i>n</i> = 517)	6.84 (4.04)	4.61 (3.45)	2.23 (4.18) ^{a)}	.53	.27 (.19; .35)**
12–15 years (<i>n</i> = 73)	6.00 (4.03)	4.18 (3.16)	1.82 (4.70) ^{b)}	.39	.10 (–.13; .32)
16–17 years (<i>n</i> = 317)	7.02 (4.08)	4.60 (3.56)	2.42 (4.21)	.58	.27 (.17; .37)**
18–20 years (<i>n</i> = 127)	6.88 (3.92)	4.88 (3.35)	2.00 (3.78)	.53	.36 (.20; .51)**
Avoidance					
Full sample (<i>n</i> = 517)	2.99 (1.91)	1.97 (1.66)	1.02 (2.39)	.43	.02 (–.07; .11)
12–15 years (<i>n</i> = 73)	2.88 (1.78)	1.81 (1.54)	1.07 (2.52)	.64	–.22 (–.43; .01)
16–17 years (<i>n</i> = 317)	2.97 (1.93)	1.89 (1.63)	1.08 (2.40)	.45	.003 (–.11; .11)
18–20 years (<i>n</i> = 127)	3.12 (1.92)	2.27 (1.77)	.85 (2.29)	.37	.17 (–.002; .34)*
Negative alterations in cognitions and mood					
Full sample (<i>n</i> = 517)	7.98 (4.48)	5.75 (4.05)	2.23 (5.43)	.41	.12 (.03; .20)**
12–15 years (<i>n</i> = 73)	6.97 (4.12)	5.64 (4.28)	1.33 (5.89)	.23	–.001 (–.23; .23)
16–17 years (<i>n</i> = 317)	8.08 (4.57)	5.50 (5.50)	2.57 (5.47)	.47	.10 (–.01; .21)*
18–20 years (<i>n</i> = 127)	8.32 (4.40)	6.45 (3.92)	1.87 (4.99)	.38	.22 (.05; .38)*
Hyperarousal					
Full sample (<i>n</i> = 517)	6.35 (3.84)	4.98 (3.25)	1.37 (4.22) ^{a)}	.33	.25 (.17; .33)**
12–15 years (<i>n</i> = 73)	5.86 (3.59)	4.80 (3.22)	1.07 (4.72) ^{b)}	.23	.03 (–.20; .25)
16–17 years (<i>n</i> = 317)	6.43 (3.98)	4.84 (3.25)	1.59 (4.08)	.39	.31 (.21; .41)**
18–20 years (<i>n</i> = 127)	6.43 (3.60)	5.43 (3.23)	1.01 (4.25)	.24	.21 (.03; .37)*

Note: One-way random effects, single measurement; ^{a)} *n* = 518; ^{b)} *n* = 74; * *p* < .05; ** *p* < .001.

score: $t(516) = 11.83$, $p < .001$; re-experiencing $t(517) = 12.25$, $p < .001$; avoidance $t(516) = 9.71$, $p < .001$; negative alterations in cognitions and mood $t(516) = 9.35$, $p < .001$, hyperarousal $t(517) = 7.40$, $p < .001$. Cohen's *d* effect sizes for mean differences between youth and caregiver reports were medium throughout, except for hyperarousal with a small effect size (Table 3).

3.4. Factors Influencing Disagreement

All regression models were significant: PTSS severity score ($F = 42.88$, $p < .001$, Adjusted $R^2 = .21$, $SE = 11.59$), re-experiencing ($F = 24.38$, $p < .001$, Adjusted- $R^2 = .13$, $SE = 3.87$), avoidance ($F = 12.79$, $p < .001$, Adjusted $R^2 = .07$, $SE = 2.30$), negative alterations in cognitions and mood ($F = 31.25$, $p < .001$, Adjusted $R^2 = .16$, $SE = 4.97$) and hyperarousal ($F = 30.55$, $p < .001$, Adjusted $R^2 = .16$, $SE = 3.80$). Comorbidity

and shorter duration in a CYWS facility were significantly related to higher disagreement for the PTSS severity score and symptom clusters. Age was not associated with disagreement for PTSS severity score and symptom clusters. Standardized beta coefficients in Table 4 show that comorbidity had the largest impact on disagreement.

4. Discussion

This study investigated the agreement between UYRS and professional caregiver reports of trauma types, PTSS severity score and symptom clusters, and factors influencing youth-caregiver disagreement.

4.1. Agreement

The agreement for all trauma types was poor, but not statistically significant for community violence. The

Table 4. Multiple linear regression models: Influential factors on youth-caregiver disagreement on PTSS severity score and symptom clusters.

	Regression coefficient <i>B</i>	<i>SE</i>	95% CI for <i>B</i>	<i>t</i>	<i>p</i>	Standardized Beta Coefficients
PTSS severity score						
Age	.44	.44	−.43; 1.31	1.00	.32	.05
Youth	11.93	1.10	9.77; 14.08	10.87	< .001	.44
Comorbidity						
Duration in CYWS facility	−5.91	1.51	−8.87; −2.95	−3.93	< .001	−.18
Re-experiencing						
Age	.12	.15	−.17; .41	.84	.40	.04
Youth	3.00	.37	2.28; 3.71	8.19	< .001	.35
Comorbidity						
Duration in CYWS facility	−1.49	.50	−2.48; −.51	−2.97	.003	−.14
Avoidance						
Age	.02	.09	−.16; .19	.17	.87	.01
Youth	1.28	.22	.85; 1.71	5.88	< .001	.26
Comorbidity						
Duration in CYWS facility	−.67	.30	−1.25; −.08	−2.23	.03	−.11
Negative alterations in cognitions and mood						
Age	.32	.19	−.05; .70	1.71	.09	.08
Youth	4.29	.47	3.37; 5.22	9.12	< .001	.38
Comorbidity						
Duration in CYWS facility	−2.44	.65	−3.71; −1.17	−3.78	< .001	−.18
Hyperarousal						
Age	−.02	.15	−.31; .26	−.16	.88	−.01
Youth	3.35	.36	2.64; 4.06	9.30	< .001	.39
Comorbidity						
Duration in CYWS facility	−1.31	.50	−2.28; −.34	−2.65	.01	−.12

highest agreement existed for sexual abuse, consistent with other studies and samples (Goldin et al., 2003; Mai & Scheeringa, 2021; Oransky et al., 2013; Stover et al., 2010; Tingskull et al., 2015). Despite the agreement being the highest, sensitivity was found to be low, indicating that youth who had experienced sexual abuse were rarely correctly identified. One potential explanation for this discrepancy is that sexual abuse is rarely disclosed to caregivers due to stigma and shame associated with it, which results in the caregivers' inability to accurately report it (Araujo et al., 2019). Conversely, the low specificity for community violence may be attributed to the high prevalence of community violence, which could result in false-positive identifications (Daniel-Calveras et al., 2022; Scoglio & Salhi, 2021). One explanation for the generally low agreement could be attributed to the fear of disclosing personal experiences and talking about PTEs, which can be considered an aspect of the avoidance behaviour commonly observed in individuals with PTSD or trust issues and fear of stigma (Mittra & Hodes, 2019). The low agreement rate is relevant from a practical perspective, as caregivers, when involved in asylum application interviews in Germany, are required to specify child-related reasons for fleeing, which are often found in the trauma types (BAMF – Bundesamt für Migration und Flüchtlinge, 2023).

The agreement for the PTSS severity score and all symptom clusters was poor consistent with the results from Exenberger et al. (2019). Nonetheless, the results for hyperarousal and re-experiencing are surprising, given that these encompass more externalizing and observable problems (Newman, 2002), such as physical reactions and sleep problems. Sleep problems are common among UYRs and should thus be well known by their caregivers (Bronstein & Montgomery, 2013; Müller et al., 2021). And these symptoms achieved moderate-good agreement in other samples (Charuvastra et al., 2010; Schreier et al., 2005). Although cross-study comparisons need to be drawn cautiously, our study's *ICC* matches those of treatment-seeking samples, non-refugee populations and youth with biological parents, despite additional challenges such as communication barriers and cultural differences (Humphreys et al., 2017; Wamser-Nanney & Campbell, 2022).

In line with previous studies, self-reports systematically showed higher PTSS severity scores and symptom cluster scores than the caregiver reports (Dyb et al., 2003; Meiser-Stedman et al., 2007; Oransky et al., 2013; Scheeringa et al., 2006). This suggests caregiver bias in underreporting UYRs symptoms. The low utilization of mental health services among this population may be attributed to caregivers'

underestimation of symptoms, which results in the referral of an insufficient number of UYRs to mental health professionals (Bean et al., 2006).

4.2. Factors influencing disagreement

Age was not a significant predictor for the PTSS severity score and symptom cluster disagreements, consistent with the most recent meta-analysis (Los Reyes et al., 2015). Descriptively, subgroup analyses of PTSS severity score and symptom clusters showed higher agreement rates in older age groups. As age was not a statistically significant predictor of disagreement, we assume that the age effect may only become relevant within more heterogeneous age groups. This is indicated by studies with participants ranging from primary school age to late adolescence, which found significant age effects and lower agreement in younger children (Mangold et al., 2022; Stover et al., 2010).

Having *comorbid* clinically elevated symptoms of other disorders led to higher disagreements and was the strongest predictor in all models. This is in line with past research with other mental health disorders (Jónsdóttir et al., 2022; Salbach-Andrae et al., 2009). The high disagreement of 12 points for the PTSS severity score in cases of comorbidity may be attributed to caregivers perceiving functionality in UYRs even after a clinical cut-off has been exceeded. Due to overlapping symptoms between PTSD, depression, and anxiety it may be challenging for caregivers without the relevant knowledge to distinguish them (Brady et al., 2000) and rate them as trauma-related PTSS, depression or anxiety symptoms (e.g. sleep problems).

Duration in the CYWS facility was a significant predictor of PTSS severity score and symptom cluster disagreement. Longer duration was associated with a decrease in disagreement, in line with our hypothesis and consistent with previous findings among biological parents and their children (Treutler & Epkins, 2003), although we were unable to control for the length of time UYRs and their caregivers knew each other. Avoidance had the lowest agreement rates and explained model variance, suggesting that especially internal avoidance might be the most challenging symptom for caregivers to monitor. Over time, it may become easier for caregivers to identify abnormalities, as they lack prior indicators related to the period before the PTEs, unlike biological parents. Furthermore, a trusting and stable relationship may be established over time, which may increase the likelihood of social sharing and help-seeking behaviour (Bean et al., 2006; Wylie et al., 2018).

4.3. Strengths, limitations and future research

The study comprises a large and heterogeneous sample, which was recruited in four German federal states and

included various CYWS facilities. This ensures a representative sample of the population and enhances the generalizability of our findings. Nevertheless, it cannot be ruled out that only facilities with the capacity and interest in improving mental health services for UYRs participated. Secondly, it is possible that the agreement rating was influenced by the differing interpretations or understandings of the measured items by UYRs and their caregivers, given their diverse cultural backgrounds and languages. Thirdly, the predominantly male sample limits the generalizability of the findings to females, who, due to higher mental health self-awareness, are also more likely to report PTSS (Haering et al., 2024). Fourthly, the study briefing, and informed consent may have prompted caregivers to be more attentive to potential symptoms. Fifthly, the CATS-2 is a brief screening instrument, and we lacked clinical interviews to test the validity of the self – or caregiver report. Sixthly, the study took place during COVID-19, which could have influenced the caregiver-youth relationship through different aspects such as social distancing or reduced capacities. As the regulations were implemented at the federal state level and differed from region to region and week to week depending on the incidence rates, it was not possible to control for this variable. Seventhly, we lacked data on the caregiver-youth relationship and caregiver reports on other trauma-related disorders. Seventhly, the impact of different data collection methods cannot be assessed, particularly due to youth switching from paper-and-pencil to online formats (or vice versa) during the screening and the almost exclusive use of paper questionnaires by Pashto-speaking youth, which might result in the test being significantly influenced by culture and region.

Future studies might consider the potential benefits of an online single-session intervention for new UYRs. This approach could help to reduce comorbid symptoms and compensate for the time needed to build a relationship (Schleider et al., 2020). Furthermore, it could be assessed qualitatively how caregivers perceive and interpret symptoms under specific circumstances. As CYWS facilities struggle with high staff vacancies and turnover, leading to increased workloads, less time for children and adolescents, diminished trust, and reduced stability (Strolin-Goltzman et al., 2010; Yamatani et al., 2009), future studies should include the influence of these facility factors on disagreement. Additionally, it should be analyzed whether caregivers' mental health and own traumatization may influence the observed disagreement (Exenberger et al., 2019).

4.4. Implications

Although caregivers are key gatekeepers to mental health care, previous studies have indicated that they experience adverse emotional reactions, including

helplessness, upon hearing the traumatic events narrated by UYRs (Lusk & Terrazas, 2015). Consequently, the low agreement rates observed in our study are not unexpected, as they may avoid this topic with the UYRs. The results indicate that there is a lack of agreement, particularly when comorbid clinically elevated symptoms of other disorders are present and when the youth has been staying in the facility for a relatively brief period. This highlights the importance of enhancing the awareness and comprehension of PTSS among caregivers in CYWS facilities. We therefore recommend offering more training in the recognition of mental illnesses, their symptoms, and the implementation and referral to effective interventions.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Ethical standards statement

The studies involving human participants were reviewed and approved by ethics committees at Ulm University (No. 243/19) and at the Catholic University of Eichstätt-Ingolstadt (No. 004–19). Written informed consent to participate in this study was provided by the participants and their legal guardians if necessary.

Clinical trial registration

German Clinical Trials Register DRKS00017453. Registered on 11 December 2019.

Data availability statement

The data that support the findings of this study are available from the corresponding author, [RR], upon reasonable request.

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