Mental Health of Unaccompanied Young Refugees:

The Role of Institutional Factors, Symptom Recognition, and Psychotherapeutic Treatment Access

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„Träume es. Tue es. Und du schaffst es.“

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Table of Contents

List of Abbreviations

UNHCR	United Nations High Commissioner for Refugees
CATS	Child and Adolescent Trauma Screen
CBITS	Cognitive Behavioral Intervention for Trauma in Schools
CYWS	Child and Youth Welfare Services
EMDR	Eye Movement Desensitization and Reprocessing
NET	Narrative Exposure Therapy
NICE	National Institute for Health and Care Excellence
PTEs	potentially traumatic events
PTSD	post-traumatic stress disorder
PTSS	post-traumatic stress symptoms
TF-CBT	Trauma-Focused Cognitive-Behavioral Therapy
UYRs	unaccompanied young refugees

List of Tables

Abstract

Unaccompanied young refugees (UYRs) are exposed to multiple stressors before, during, and after flight, placing them at heightened risk for mental health disorders such as post-traumatic stress symptoms (PTSS), depression, and anxiety. As UYRs are usually placed in residential group homes in the Child and Youth Welfare System (CYWS) in Germany, it is important to analyze the role of the institutional environment on UYR's mental health, as well as the symptom recognition and agreement with their caregivers concerning the symptomatology and how psychotherapeutic treatment can be facilitated. This dissertation synthesizes findings from three publications examining these research questions.

The first publication found that lower caregiver workload predicted reduced PTSS, depression, and anxiety, while UYR-specific accommodation was linked to lower PTSS after one year. Additionally, open group climate, defined as a supportive, warm, responsive, and respectful atmosphere, mediated the effect between physical facility characteristics (accommodation quality) and PTSS, depression, and anxiety, as well as between living in a UYR-specific group and PTSS and depression. The second publication showed low but statistically significant agreement between self- and caregiver reports, with self-reports consistently yielding higher scores regarding PTSS. Greater disagreement was associated with comorbid symptoms and shorter facility stays. The third publication qualitatively identified structured training programs, supportive caregivers and facilities, and skilled interpreters as key facilitators for psychotherapeutic treatment of UYRs from the perspective of psychotherapists.

Overall, this dissertation underscores the necessity of specialization across all fields. This includes trauma-informed care in UYRs-specific groups, widespread mental health screenings, training for caregivers and interpreters, and adequate staffing to ensure symptom recognition and service accessibility. Strengthening local partnerships between CYWS facilities and psychotherapists, along with implementing outreach approaches, can enhance access to mental health care. Policymakers must uphold facility standards, invest in staff resources, and support financial measures for interpreters and evidence-based interventions.

Part A.

The role of Institutional Factors, Symptom Recognition, and Psychotherapeutic Treatment Access for the Mental Health of Unaccompanied Young Refugees

1. Introduction

The aim of this dissertation is to contribute to the scientific understanding and improvement of mental health among unaccompanied young refugees, with a particular focus on institutional factors, symptom recognition, and access to psychotherapeutic treatment. To provide a solid foundation for this research, Chapter 1 presents an overview of key areas in the field through a synthesis of relevant reviews and meta-analyses, highlighting the most significant findings and gaps in current knowledge. Building on this background, Chapter 2 outlines the specific research questions addressed in this cumulative dissertation. The results of the included publications are then presented in Chapter 3. Finally, Chapter 4 discusses these findings both separately and in an integrated manner, offering a comprehensive perspective on their implications for research, policy, and practice.

1.1. Overview

Under international law, the 1951 Refugee Convention defines a refugee as someone who flees their country due to a well-founded fear of persecution based on race, religion, nationality, social group, or political opinion (United Nations High Commissioner for Refugees, 1951). According to the United Nations High Commissioner for Refugees (UNHCR) by October 2024 37.9 million people worldwide were refugees, meaning that they crossed borders to seek safety in another country. Among them the main countries of origin were the Syrian Arab Republic, Venezuela, Ukraine, and Afghanistan, while the countries hosting the largest numbers of refugees were Iran, Turkey, Colombia, Germany, and Uganda (UNHCR, 2024). In Europe in the year 2023, 41,000 asylum applications were from unaccompanied minors, which were seeking refuge in another country without the presence or protection of a parent, legal guardian, or adult relative (European Union Agency for Asylum, 2024). Germany is one of the European countries receiving most applications by unaccompanied minors and reported the highest number of unaccompanied minors in 2023, with 15,269. The majority of whom were male (94.5 %) and between 14 and 17 years old (Bundesamt für Migration und Flüchtlinge, 2024). This was the third highest number in the last fifteen years after 2015 (22,255) and 2016 (35,939) (Bundesamt für Migration und Flüchtlinge, 2024).

Although Article 22 of the United Nations Convention on the Rights of the Child guarantees refugee children "appropriate protection and humanitarian assistance", including the right to care when they arrive without parents or guardians, implementation varies from country to country. Most refugees flee to neighboring countries and remain in low- or middle-income countries with few resources, where they are more likely to be exposed to conflict, social and material stressors such as poverty, malnutrition and disease (Reed et al., 2012). European Union member states are obligated to prioritize the well-being of minors by providing them with a qualified representative and a caregiver. These individuals must receive adequate training during the asylum procedure (European Union, 2013, Directive 2013/33/EU). Specifically in Germany, support for unaccompanied minors is regulated by Social Code Book (Sozialgesetzbuch, SGB) VIII, which requires youth welfare offices to initiate protective custody proceedings while complying with immigration and asylum law.

1.2. Child and Youth Welfare Services

The Federal Office for Migration and Refugees explains the procedure for unaccompanied refugee minors in Germany as follows. As a first step, the minors are taken into the care of the local youth welfare office, which ensures that they are provided with suitable accommodation, usually in a "clearing house". Here, general examinations are carried out to determine their age (if they do not have identity papers) and to check the possibility of family reunification. After 14 days, they are distributed throughout the country to appropriate accommodation where they can stay for a longer period (or with foster families or relatives). It is ensured that guardianship is applied for, and that residence status is clarified, which may lead to the filing of an asylum application. The final guardian is decided by the family court, which lasts until the age of 18 and is the legal representative of the minor (BAMF - Bundesamt für Migration und Flüchtlinge, 2023).

In Germany, unaccompanied refugee minors are not accommodated in reception facilities or collective centers where adults and families live but remain under the care of the Child and Youth Welfare Services (CYWS), where they are mainly placed in residential group homes (Bundesamt für Migration und Flüchtlinge, 2022). As they can stay in these facilities until they reach the age of 21,

they are referred to as unaccompanied young refugees (UYRs). Residential groups can be either UYR-specific groups set up exclusively for UYRs or mixed groups with non-refugee youth (Zeller & Sandermann, 2017). However, the reduction of placement capacities for UYRs in the child welfare system in Germany, combined with a growing number of arriving UYRs, has led to deteriorating living conditions in CYWS facilities (Bundesfachverband unbegleitete minderjährige Flüchtlinge [BumF], 2022; Bundesfachverband unbegleitete minderjährige Flüchtlinge, 2024).

In order to accommodate all refugees, some federal states in Germany have lowered the minimum standards, including temporary placement options such as emergency shelters, unlicensed facilities, or asylum centers. These deviations often depend on the age of the minors (e.g. over 14 or 16 years) and sometimes require time limits or child welfare assessments, while at the same time allowing "socially experienced" or seemingly qualified persons to be employed in youth welfare services (Méndez de Vigo & Endres de Oliveira, 2024). The professional caregivers, mostly social workers or social pedagogues, are seen by UYRs as caregivers, integration helpers (for language and culture), and practical assistants (e.g. for transportation or homework assistance), which makes the job diverse, challenging, and requires cultural sensitivity and competence (Borho et al., 2023). A qualitative study by Hagues et al. (2021) of German social workers working with refugees found that they reported moderate levels of stress and that cross-cultural experiences rather than university courses were helpful in working with clients. Furthermore, social workers perceived it as important to gain cultural understanding and knowledge of the immigration law. A nationwide survey showed varying levels of job satisfaction among professionals working with UYRs, with 75 % mentioning a need for training in asylum and residence law and around 40 % in pedagogy, likely due to the high proportion of qualified non-specialists (Thomas, 2018). A systematic review found that working as a social worker in child protection can lead to burnout and compassion fatigue (McFadden et al., 2015). But, as noted above, CYWS agencies employ unqualified staff, as they struggle with high vacancy rates and staff turnover. These circumstances lead to increased workloads, less time with children and youth, decreased trust and stability, and thus no active promotion of mental health or well-being (Méndez de Vigo & Endres de Oliveira, 2024; Strolin-Goltzman et al., 2010; Yamatani et al., 2009). But these are important factors as the institutional setting and caregivers play a critical role in mental health care. Not only can

the type of placement be a risk or protective factor for UYRs' mental health (Höhne et al., 2022), also the caregivers themselves play a crucial role in accessing mental health services. They act as gatekeepers by recognizing symptoms and referring UYRs to mental health professionals, given the UYRs' unfamiliarity with the German health care system (Mai & Scheeringa, 2021; Sayal, 2006; Stiffman et al., 2004).

1.3. Mental Health of Unaccompanied Young Refugees

UYRs living in low- and middle-income countries experience higher rates of daily stressors and potentially traumatic events compared to those in high-income countries (Derluyn et al., 2023). Therefore, these situations are less comparable, and the following overview of the current literature refers only to high-income countries unless otherwise specified.

UYRs are at a higher risk for psychological distress (Daniel-Calveras et al., 2022) and report higher symptom scores than youth without a refugee background (Bean et al., 2007), thus they are a particularly vulnerable group. A systematic review found prevalence rates of post-traumatic stress disorder (PTSD) ranging from 4.6 % to 43 %, depression from 2.9 % to 61.6 %, anxiety from 32.6 % to 38.2 %, and conduct problems from 4 % to 14.3 % among UYRs (Daniel-Calveras et al., 2022). A study with adult refugees revealed that post-traumatic stress symptoms (PTSS) are often combined with depressive symptoms, but not vice versa (Lenferink et al., 2022). The prevalence of prolonged grief disorder in a German non-refugee population is approximately 1% (Rosner et al., 2021). In a cross-national analysis encompassing 24 prevalence studies, the prevalence of prolonged grief disorder among bereaved participants ranged from 5 to 16% (Comtesse et al., 2024b). In contrast the prevalence in refugee populations is around 30 %, with traumatic and multiple losses implying the death of first-degree relatives as a risk factor (Kokou-Kpolou et al., 2020). Recent studies indicate that refugees often develop a comorbid grief disorder and PTSS (Comtesse et al., 2024a; Lechner-Meichsner et al., 2024; Nickerson et al., 2014).

Although the prevalence of mental health disorders in refugee populations is high, there is also a surprisingly high level of resilience: in a longitudinal study, 88 % of participants who did not report

clinically significant symptoms despite experiencing PTEs still did not report any symptomatology at 6 months follow-up (Lenferink et al., 2022). Longitudinal studies examining the mental health outcomes of UYRs in post-flight contexts have shown heterogeneous results, which may be due to the complexity of the influencing factors discussed under 1.3.1. There may be a decrease in symptoms due to the reduction of stressors and stability in the host country (as reported e.g. by Behrendt et al. (2022) for anxiety symptoms and depression within two years and by Müller et al. (2019) for PTSS, depression and anxiety symptoms within one year). Another consequence of traumatic events is a late onset or worsening of symptoms, as reported for UYRs during their second year after resettlement (Smid et al., 2011). Furthermore, several studies showed that mental health symptoms in UYRs can remain stable over the period of 18 months (Vervliet et al., 2014) and 2.5 years (Jakobsen et al., 2017). While other studies revealed different patterns for different disorders, such as a decrease in depression but not in PTSS and anxiety within five years (Jensen et al., 2019) or a decrease in PTSS but not in depression and anxiety symptoms within one year (Hornfeck et al., 2024a).

Mental health symptoms in UYRs are of particular concern for several reasons. First, these symptoms can significantly impact neurodevelopment, affecting areas such as emotional regulation, reward processing, learning, decision-making, and social cognition during critical developmental periods (Cisler & Herringa, 2021). Second, untreated mental health problems at an early age are a significant risk factor for a range of physical (Boscarino, 2004) and mental health conditions, potentially culminating in chronic PTSD (Hiller et al., 2016). Third, poorer mental health conditions among refugees reduces the likelihood of paid employment and labor income (Dang et al., 2023), hinders language acquisition (Sondergaard & Theorell, 2004), and is associated with more integration difficulties (Schick et al., 2016).

1.3.1. Impact Factors on Mental Health of Refugee Children

According to the ecological model, refugees' mental health can be affected not only by traumatic experiences, but also by pre-, peri-, and post-migration stressors, which in part mediate the relationship between trauma and mental health (Miller & Rasmussen, 2010, 2017). In recent years, numerous studies and reviews have explored how these factors contribute to the mental health of

refugees. I conducted a brief umbrella review focusing on minor refugees in high-income countries, which included eight reviews and involved 81 studies and 61,997 participants (Daniel-Calveras et al., 2022; Fazel et al., 2012; Fernández-Pacheco Alises et al., 2024; Höhne et al., 2022; Mitra & Hodes, 2019; Oberg & Sharma, 2023; O'Higgins et al., 2018). Jahangiri et al. (2017) were excluded from this analysis because they only reported that they included 20 studies, but did not provide an overview of the included studies, nor could an accurate overview of the studies be obtained from the cited literature. Scharpf et al. (2021) were excluded due to the broad inclusion criteria with 41 studies from high-income countries and 22 studies from low-and middle-income countries. For information on low- and middle-income countries, readers are referred to Reed et al. (2012).

The results of the analysis are shown in Table 1. Several *sociodemographic* risk factors were identified, such as being unaccompanied, longer duration in the host country, communication barriers, female gender, and older age (Daniel-Calveras et al., 2022; Fazel et al., 2012; Fernández-Pacheco Alises et al., 2024). The meta-analysis by Daniel-Calveras et al. (2022) found significantly higher risks of PTSD for UYRs. Older refugees, in particular, may experience greater psychological distress due to reduced support from CYWS upon reaching adulthood and fear of deportation as their legal status becomes more precarious (Hanewald et al., 2020). In addition, stressful and potentially traumatic *life events*, such as exposure to pre-migration violence, but also perceived discrimination, post-migration violence, physical injuries, cultural and daily difficulties, and differences related to cultural background are risk factors for refugee children's mental health (Fazel et al., 2012; Fernández-Pacheco Alises et al., 2024; Höhne et al., 2022).

Having a non-permanent *residence status*, having an asylum application rejected, or living in the country undocumented are considered risk factors, while having a secure residence status is a protective factor (Daniel-Calveras et al., 2022; Fazel et al., 2012; Oberg & Sharma, 2023). The impact of the *educational background* has been less studied and is sometime controversial. The reported risk factors are having a school diploma, lower educational level and lower proficiency in the language of the host country. While self-reported positive school experiences, school attendance, educational attainment and a safe school environment are protective factors (Daniel-Calveras et al., 2022; Fazel et al., 2012; Höhne et al., 2022; Oberg & Sharma, 2023).

Despite the geographical distance, *family* members of UYRs remain an important pillar in their lives and often provide the most social support. Therefore, parental exposure to violence, and a lack of contact with the parents were risk factors (Fazel et al., 2012; Höhne et al., 2022). Having family contact and getting parental/family support and having family members in the host country are protective factors (Fazel et al., 2012; Höhne et al., 2022). *Social support* is an important factor in mental health. Feeling alone or isolated and experiencing low levels of social support can exacerbate mental health problems (Daniel-Calveras et al., 2022; Höhne et al., 2022). In contrast, self-reported support from friends, social interactions, caring relationships, strong mentorship, positive role models, and peers from the same cultural background can have a protective effect (Fazel et al., 2012; Fernández-Pacheco Alises et al., 2024; Höhne et al., 2022; Oberg & Sharma, 2023).

As the umbrella review shows, *accommodation* has a significant impact on refugees' psychological distress. In larger reception centers, with less support and more restricted and poor living conditions, with changes/instability of residence and without other UYRs the psychological distress is higher (Fernández-Pacheco Alises et al., 2024; Mitra & Hodes, 2019; O'Higgins et al., 2018). Living in foster care is perceived as protective, but only with people of the same ethnicity (Mitra & Hodes, 2019; Oberg & Sharma, 2023; O'Higgins et al., 2018). The meta-analysis by O'Higgins et al. (2018) showed a statistically significant preference for foster care in terms of better mental health outcomes. Living with one's family, in low-restrictive and high-support settings, and an integration of the cultural background into institutional programs is protective for the mental health (Fernández-Pacheco Alises et al., 2024; Höhne et al., 2022; Mitra & Hodes, 2019; O'Higgins et al., 2018).

Table 1. Overview of reviews (*n* = 7) summarizing studies investigating risk and protective factors for refugee children in high-income countries

Review	Populations	Risk factors for mental health	Protective factors for mental health	No of original research studies (participants) reporting mental health outcomes	No of original research studies (participants) not included in former reviews
Fazel et al., 2012	unaccompanied and accompanied refugee children	<u>Sociodemographic:</u> Female gender (mainly for internalizing and emotional problems) Being unaccompanied <u>Stressful life events:</u> Exposure to premigration violence Perceived discrimination Exposure to postmigration violence <u>Status of residence:</u> Several changes of residence in host country <u>Family:</u> Parental exposure to violence Poor financial support Single parent Parental psychiatric problems	<u>Accommodation:</u> Same ethnic-origin foster care <u>Social support:</u> Self-reported support from friends <u>Education:</u> Self-reported positive school experiences <u>Family:</u> High parental support and family cohesion	44 (5,776)	44 (5,776)
O'Higgins et al., 2018	unaccompanied refugee children	<u>Accommodation:</u> **Living alone / in large-scale reception centers** **Foster care with people with different ethnicity**	<u>Accommodation:</u> **Living in foster care / with family / high-support facilities** Foster care with people with same ethnicity	8(1,947)	3 (735)
Mitra & Hodes 2019	unaccompanied refugee children	<u>Accommodation:</u> **Lower support and more**	<u>Accommodation:</u>	6 (1,446)	1 (138)

		restricted living arrangements	High-support living arrangements Same ethnic background between youth and foster family		
Höhne et al., 2022	unaccompanied refugee children	Sociodemographic: ***Older age*** Younger age *Female gender* ***Longer time spent in host country*** Stressful life events: Number of Stressful life events/trauma **Having age dispute** **Physical injury** **Parents deceased** Number of postmigration stressful life events **Exposure to war traumata** **Cultural and daily hassles** **Experienced organized violence** **Experienced family violence** Discrimination Accommodation: Low support accommodation **Change of residence** **Without other UMR** High restricted reception setting Status of residence: **No permanent residence status** **Refusal of asylum claims** Social support: **Feeling alone/isolated**	Sociodemographic: *Female gender* *Longer time spent in host country* Individual competences: **Restraint and Defensiveness** **Cultural competence** **Everyday resources** **Language skills** Accommodation: Foster care Living with family member Ethnic foster family **Low restricted reception setting** Social support: **Social interaction** Social support Education: **Safe school environment** Family: **Family member in host country** **Family contact** Family support	27 (4,753)	16 (3,550)

		Education: **Having school diploma** **Low education level** Family: **No contact to family**			
Daniel-Calveraz et al., 2022	unaccompanied refugee children	Sociodemographic: Being unaccompanied Older age Female gender Male gender Stressful life events: Number of traumatic experiences High levels of daily hassles Status of residence: Pending or rejected asylum application Social support: Low levels of social support Education: **Lower proficiency in host countries' language**	Education: **School attendance** **Educational attainment**	5(482)	3 (375)
Oberg & Sharma, 2023	unaccompanied refugee children	Sociodemographic: Female gender Older age Stressful life events: Cumulative trauma and stress Accommodation: Low-support accommodation	Individual competences: **Level of resilience in pre- and peri-migratory experiences** Accommodation: Ethnic foster family Status of residence: **Secured refugee status**	15(2,031)	4(284)

		Status of residence: Refusal of asylum application Education: Low education level	Social support: Caring relationships **High support from mentors and social network**		
Fernández-Pacheco Alises et al., 2024	mainly unaccompanied refugee and migrant children, but also professionals working with them	Sociodemographic: Older age **Communication problems** **Not working or having low income or resources** Stressful life events: **Differences related to cultural background** Perceived discrimination Status of residence: **Undocumented** Accommodation: **Poor asylum center conditions and living conditions** **Residential instability** Social support: ***Attention to mental health needs/health care system***	Stressful life events: Stressful events Individual competences: **Positive evaluation of cultural identity** Accommodation: **Cultural background integration in facility programs** Social support: **Positive figures of interests** ***Attention to mental health needs/health care system*** **Peers of same cultural background**	14(51,139) [a)]	14(51,139)

Notes. We only included studies with the outcome „mental health" therefore the *N* reported in this table may not always agree with the *N* reported in the review. Bold: was not reported in former reviews. Italicized: was identified as both a risk and a protective factor in the same review.

[a)] The reported *N* excluded native born participants, that were recruited as a comparison group from two studies and one study conducted in a low-income setting.

The umbrella review revealed that UYRs are particularly vulnerable, and that several impact factors within the accommodation such as staff characteristics were not yet studied, although the accommodation condition influences the mental health even after years (Nickerson et al., 2022). In order to follow Miller and Rasmussen's (2010) integrative approach of first assessing daily stressors and facilitators, I searched in neighboring disciplines and in research conducted with adult refugees in order to generate new insights into influential factors that are located in the institutional setting.

The main concepts that were shown to be beneficial in the umbrella review for mental health in terms of placement were to stay in a same ethnic foster home, or, if this is not possible, to stay in low-restriction, high-support facilities with other UYRs, and to consider the cultural background. In this context, three aspects deserve further attention. First, *group size* can influence mental health, as smaller and less crowded environments may provide greater opportunities for enhanced social support (Mangrio & Zdravkovic, 2018; Whitsett & Sherman, 2017; Ziersch & Due, 2018). Second, staying in *UYR-specific groups* might be beneficial, as this may increase cultural sensitivity and access to targeted mental health services (Im & Swan, 2020; Ulrich et al., 2022), while mixed groups may foster mental health through integration, social interaction, and cultural competencies (Mahieu & van Caudenberg, 2020; Oppedal & Idsoe, 2015; Schwartz et al., 2010; Yoon et al., 2013). However, they may pose challenges for newly arrived UYRs due to potential communication barriers and perceived discrimination (Beißert et al., 2020; Fernández-Pacheco Alises et al., 2024). Third, *staff shortages* and high turnover rates in CYWS facilities (Hickmann & Koneberg, 2022) not only increase caregiver *workload* and mental health problems (Chan et al., 2021; McFadden et al., 2018; Yamatani et al., 2009) but also lead to decreased trust and stability among UYRs (Strolin-Goltzman et al., 2010; Yamatani et al., 2009), suggesting that these may negatively impact UYRs' mental health.

Furthermore, *group climate* plays a critical role in the well-being of children and adolescents in residential care. A warm and supportive relationship between caregivers and youth is paramount (Lemos et al., 2021; Sonderman et al., 2021). Such an environment is known as an open group climate, in contrast to a closed group climate, which is characterized by uneven power dynamics, disrespect, and punitive measures (Leipoldt et al., 2019; Sonderman et al., 2021; van der Helm et al., 2013). Open group climate often serves as a mediator between organizational characteristics and

mental health outcomes (Leipoldt et al., 2019). In this interplay, the *accommodation quality* may also play a relevant role in mental health care, as it is the space where youth live, interact, recover and spend most of their time (Karpenstein & Rohleder, 2022; Smith et al., 2014). However, studies of adult refugees have shown heterogenous results in this regard (Ellis et al., 2008; Schilz et al., 2023).

1.3.2. Agreement on Mental Health Symptoms

In addition to their important role in the context of mental health of UYRs within facilities, caregivers are also essential for referring individuals to mental health services. Caregivers' perceptions of mental health problems, as well as their attitudes towards seeking professional help, are relevant to adolescents' utilization of mental health services, which is why caregivers are also often being referred to as "gatekeepers" (Tsang et al., 2020; Villagrana, 2010). They need to be aware of and be able to identify posttraumatic stress symptoms and refer UYRs to mental health care professional, as caregivers are, due to parental absence, the main point of reference and UYRs are often unfamiliar with the health system (Burgess et al., 2023; Goodman et al., 2010; Mai & Scheeringa, 2021; Sayal, 2006; Stiffman et al., 2004). As the baseline psychopathology is the strongest predictor of follow-up psychopathology in longitudinal studies, it is of particular importance to assess mental health promptly to be able to provide suitable interventions (Bean et al., 2007). However, studies showed that agreement rates for caregivers and UYRs are low, and the need for mental health treatment is rarely recognized by caregivers (Bean et al., 2006; Bean et al., 2007).

Agreement can be divided into two areas: agreement on exposure to PTEs and agreement on PTSS. Studies consistently show that agreement rates between children and their parents regarding the child's exposure to PTEs is generally low, with children reporting higher exposure to traumatic events (Ceballo et al., 2001; Oransky et al., 2013; Stover et al., 2010; Tingskull et al., 2015). Surprisingly, within a child welfare population, Mai & Scheeringa (2021) found moderate to substantial agreement between youth and caregivers regarding exposure to traumatic events. Furthermore, agreement tended to be higher for sexual abuse than for other traumatic events (Mai & Scheeringa, 2021; Stover et al., 2010).

In general, agreement tends to be higher for externalizing disorders than for internalizing (Achenbach et al., 1987; Los Reyes et al., 2015). For PTSS, overall agreement rates on the severity score are low for parent-child reports (Wamser-Nanney & Campbell, 2021, 2022) and within a 13– to 18-year-old child welfare population (Mai & Scheeringa, 2021).

When focusing on the posttraumatic stress symptom clusters, the literature reveals heterogenous results, as can be seen in Table 2. Although all studies used DSM-IV and parent-child/adolescent reports in high-income countries, the results do not indicate the direction of agreement for re-experiencing, avoidance (and numbing), and hyperarousal. I was not able to identify methodological or sampling reasons that might explain the significant differences across studies. Data is lacking for negative cognitions and mood states, as this cluster was just added in the DSM-5 (Friedman, 2013). This highlights the need to analyze caregiver-youth agreement within a child welfare population and under the DSM-5.

Table 2. Overview of studies (n = 7) reporting agreement rates for posttraumatic stress symptom clusters

Study	Population	*N*	Re-experiencing	Avoidance (and numbing)	Hyperarousal
Phipps et al., 2005	Parent-child (children with cancer)	162	Moderate: r = .65***	Moderate: r = .57***	-
Schreier et al., 2005	Parent-child (children after mild to moderate pediatric trauma)	83	-	-	Good (not further specified)
Scheeringa et al., 2006	Parent-child (2 months after injury hospitalization)	24	Moderate: r = .48*	Moderate: r = .42*	Low: r =.23
Erickson et al., 2007	Parent-adolescent (adolescent cancer survivors)	26	Low: r = .36	Moderate/High: r = .66 ***	Low: r = .38
Meiser-Stedman et al., 2007	Parent-child (following single event trauma)	51	Low: Cohen's k = .22	Low: Cohen's k = .38	Moderate: Cohen's k = .45
Stover et al., 2010	Parent-child (early aftermath of a traumatic event)	76	High: PABAK = .85	Low: PABAK = .12	Low: PABAK = .04
Humphrey et al., 2018	Parent-child (randomized trial of cognitive behavior therapy)	141	High: r = 54***	High: r = 49***	Low: r = 29***

Notes. *p < .05, ***p < .001. The interested reader regarding low- middle income countries is referred to Exenberger et al., 2019.

When examining PTSS severity scores, caregivers tend to underreport PTSS compared to children and adolescents (Dyb et al., 2003; Meiser-Stedman et al., 2007; Oransky et al., 2013; Scheeringa et al.,

2006), although the opposite was observed in treatment-seeking samples (Humphreys et al., 2017; Wamser-Nanney & Campbell, 2021). In the context of UYRs, this seems particularly relevant as they face additional challenges, as professional caregivers do not have the same knowledge about the individuals' live as biological parents, potentially making it more challenging to identify psychopathology, as well as communication barriers and cultural differences. As a result, the quantity and quality of the relationship (Dudley et al., 2023; Goodman et al., 2010; Wamser-Nanney & Campbell, 2021), as well as lower levels of psychopathology (Mai & Scheeringa, 2021; Oransky et al., 2013; Radicke et al., 2021) are associated with less discrepancy. Therefore, the *duration of stay in the facility* as well as *comorbidity* are relevant impact factors that need to be studied. The role of *youth age* is a widely discussed topic, but the most recent meta-analysis by Los Reyes et al. (2015) found no significant effect. In the best interest of the UYRs, research and practice need to focus on minimizing the discrepancy between caregivers and youth and research is needed especially in the context of CYWS facilities.

1.4. Refugees' Mental Health Service Utilization

Studies have shown that mental health symptoms among refugees are often not sufficiently assessed and that few of those diagnosed receive (evidence-based) psychotherapy (Boettcher et al., 2021; Führer et al., 2020). Although refugees are at risk for mental health problems, in most Western resettlement countries refugees with permanent and secure visa status have access to mental health services at no or reduced cost. Despite its high effectiveness (Lamkaddem et al., 2014), the utilization of mental health service is low for the general refugee population (Lamkaddem et al., 2014), the child youth welfare population (Hurlburt et al., 2004), and UYRs (Mitra & Hodes, 2019). A closer look at utilization reveals that youth in the CYWS (MacDonald et al., 2024), as well as children in foster care (Vasileva & Petermann, 2017) and UYRs (Boettcher et al., 2021), are mostly referred to medical interventions such as psychiatrists, emergency departments or pediatric interventions, but less often to psychotherapists. To increase the likelihood of utilization and improvement of mental health services, there is an urgent need to provide services that are appropriately tailored to the mental health needs of UYRs (Bai et al., 2009). Once in psychotherapeutic treatment, the dropout rate for refugees is

comparable to that of the non-refugee population, which is around 20 % (Semmlinger & Ehring, 2022).

1.4.1. Challenges and Facilitators for Refugees' Mental Health Service Utilization

To summarize the findings from the previous sections, agreement on psychopathology is crucial for mental health service referral and recovery. Although evidence-based treatments have been shown to be effective, their utilization remains suboptimal. Therefore, this chapter seeks to explore the barriers and facilitators to the utilization of mental health services. A recent scoping review identified several *barriers for refugees in high-income countries*. The scoping review included ten systematic and scoping reviews, five of which included only refugees/migrants as participants and the other five reviews a mixed participant population including both refugees/migrants and mental health care providers. None of the reviews included UYRs. In this scoping review, Dumke et al. (2024) examined barriers from both the supply and demand sides. Many of the reviews focused on the demand side and found out that, on the one hand, a lack of knowledge and different cultural beliefs about mental health issues lead to a divergent understanding of mental health problems. On the other hand, a lack of knowledge about services, coupled with a lack of awareness of legal rights and difficulties in navigating the mental health system, further contribute to this phenomenon. In addition, the act of seeking help for mental health problems is associated with significant stigma, compounded by concerns about trust and confidentiality, as well as perceptions of acceptability and efficacy.

From a supply-side perspective, the availability and physical accessibility of mental health services, including funding for such services, were identified as practical, structural and policy barriers. In addition, language barriers, including communication difficulties and the availability and financing of qualified interpreters, as well as the treatment and cultural competence of psychotherapists, and stigma and discrimination were identified. In terms of communication difficulties, working with trained interpreters has been shown to yield comparable outcomes to treatment without interpreters (Brune et al., 2011; Hanft-Robert et al., 2023; Lambert & Alhassoon,

2015), but psychotherapists are still ambivalent about including interpreters (Hanft-Robert et al., 2023).

There is a lack of empirical evidence on the *provision of psychotherapy to UYRs*. Majumder et al. (2015; 2019), like the review above, reported different mental health concepts, mistrust, difficulties when interpreters are not included in the psychotherapy process, and difficulties in talking about emotions with women. In addition, Yim et al. (2024) reported that the risk of sudden relocation disrupts continuity of services and that psychotherapists are concerned about providing trauma-focused treatment to youth living in CYWS facilities, where they receive less support than in foster care. Logistics (e.g. long distance between the CYWS facility and the psychotherapist's office) can also impede access to psychotherapy, while UYR's symptom expressions may not meet Western diagnostic criteria. Yim et al. (2024) also mentioned that age disputes, which arise when authorities question a refugee's claimed age and potentially classify them as an adult, can block access to services during assessment, excluding them from child and adolescent mental health services while keeping them ineligible for adult services until their case is resolved.

Facilitators to mental health service utilization for refugees are an understudied field, with most of the literature focusing on barriers. To the best of my knowledge, there are three systemic reviews on this topic. None of these included unaccompanied young refugees. One review included twelve studies on refugee women and reported that independence and high self-efficacy, good service availability, combined with the provision of awareness about mental health and its services and social support, e.g. encouragement to see a mental health specialist, were seen as facilitators (DeSa et al., 2022). Another review[1] included 45 studies and analyzed cultural (culturally informed mental health care providers) and structural competencies (awareness of socio-political and economic factors), as well as professionalism (through training in specific treatments and cultural sensitivity) and collaboration with other organizations (e.g. with local welfare services) as necessary facilitators (Salam et al., 2022). The third review included 23 studies and focused only on the perspectives of mental health professionals in working with migrants and refugees in Europe (Peñuela-O'Brien et al., 2023). Facilitators highlighted

[1] DeSa et al. (2022) and Salam et al. (2022) are overlapping by four studies that were included in both reviews.

by Peñuela-O'Brien et al. (2023) were the importance of adopting a client-centered approach, tailoring sessions and pacing appropriately, and respecting and incorporating patients' cultural backgrounds. They also emphasized the importance of fostering a positive, trusting alliance with patients, prioritizing their immediate needs, collaborating effectively with other organizations or agencies, and valuing supervision to improve therapeutic outcomes.

Studies focusing specifically on *UYRs have identified several facilitators* with regard to mental health services. These include characteristics of the psychotherapist, such as having a sense of humor and a pleasant personality, as well as having a similar ethnic background to the patient (Majumder et al., 2019). In addition, a collaborative approach involving multiple agencies, as well as connections with social workers, healthcare professionals, and educators, have been found to be beneficial (Yim et al., 2024).

1.4.2. Digression I: Trauma-Treatment

The guidelines provided by the National Institute for Health and Care Excellence (NICE) for PTSD can also be applied to UYR. Specifically, it is recommended that children and adolescents with PTSD receive individualized trauma-focused cognitive-behavioral therapy interventions three months after the trauma, and Eye Movement Desensitization and Reprocessing (EMDR) if they don't respond to initial trauma-focused cognitive-behavioral interventions (National Institute for Health and Care Excellence, 2018). The predominant treatment approaches studied in refugee populations include Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) by Cohen et al. (2006; 2017), Narrative Exposure Therapy (NET) introduced by Schauer et al. (2011) and its adaptation for children, KIDNET (Schauer et al., 2017), and Eye Movement Desensitization and Reprocessing (EMDR) developed by Shapiro (1995). Reviews focusing on young refugees highlight the effectiveness of NET, TF-CBT, and EMDR, while emphasizing the urgent need for more randomized controlled trials and larger study samples to provide more definitive treatment recommendations for this specific population (Chipalo, 2021; Genç, 2022; Samarah, 2024).

From a broader perspective of trauma treatment, TF-CBT emerges as one of the most thoroughly researched interventions, demonstrating considerable efficacy and stability of treatment outcomes across meta-analyses and systematic reviews for children and adolescents (Morina et al., 2016; Thielemann et al., 2022; Thielemann et al., 2024; Wang et al., 2023; Xiang et al., 2021).

According to the manual by Cohen et al. (2006, 2017), the components of TF-CBT are represented by the acronym PRACTICE. It begins with a stabilization phase, in which coping skills are being taught, including *psychoeducation (P)* and parenting skills, *relaxation (R)* skills, *affective modulation (A),* and *cognitive coping (C)* skills. After this phase the *trauma narrative (T)* and processing is being prioritized. Finally, the last phase focuses on integration and treatment consolidation and consists of *in vivo/sensu exposure (I)*, *conjoint youth-caregiver sessions(C)* and *enhancing safety and future development (E)*. TF-CBT is implemented in most studies within 12 sessions (60-90 minutes each) (Thielemann et al., 2024). According to the manual, TF-CBT is a culturally sensitive approach (Cohen et al., 2017) and has been shown to be feasible for UYRs (Patel et al., 2024; Unterhitzenberger et al., 2019). A qualitative study focusing on psychotherapists' “on the fly adaptions” during adaptations were mainly minor and involved a flexible application of the TF-CBT module and highlighted the "crisis of the week" theme, addressing immediate concerns and challenges resulting from post-migration stressors (Unterhitzenberger et al., 2021).

1.4.3. Digression II: The ‘BETTER CARE’ Project

Although there are effective, evidence-based treatment approaches and high prevalence rates of mental health disorders among UYRs, the mental health utilization rates remain low. In light of these facts the ‘BETTER CARE’ project was created. This multicenter dissemination and implementation trial aims to improve the mental health of UYRs by overcoming common barriers to psychotherapy utilization, among other challenges. It is a cluster-randomized trial to compare a stepped care approach that includes screening, the preventive group intervention "Mein Weg" (English ‘My Way’) (Pfeiffer & Goldbeck, 2019), and individual TF-CBT (Cohen, 2017), with treatment as usual (Rosner et al., 2020). The approach was implemented in routine care, as screenings took place in CYWS facilities in six German federal states. After a facility expressed its’ interest, they participated in a digital information

session where they were informed about the current research on the mental health of UYRs and its influencing factors, the project and its components such as “Mein Weg” and TF-CBT. Once a facility decided to participate in the project, at least one person per institution (a so-called “mental health coordinator”) received a short training on trauma-informed assessment, details of the study and how to interpret the individual indication letters.

All participants received a screening (PTSS, depression, and anxiety symptoms) conducted by study staff and MHCs at their respective CYWS site, followed by a written indication letter. Participants in the ‘BETTER CARE’ condition received treatment recommendations for either “Mein Weg” (subclinical PTSS) or TF-CBT (clinically significant PTSS) if cut-off scores were exceeded. The CYWS sites were provided with lists of TF-CBT trained psychotherapists and interpreters who were themselves participating in the ‘BETTER CARE’ project. Participating psychotherapists first completed the German TF-CBT Web, a web-based training program (http://tfkvt.ku.de), and then received a two-day live online workshop, led by a TF-CBT trainer, focusing on treatment methods and special considerations for working with UYRs. Individual treatment took place in private practices and outpatient clinics, and while treating project participants, psychotherapists were also required to participate in biweekly live online case consultations led by TF-CBT trainers.

2. Description of the dissertation project

2.1. Relevance of the dissertation project

As shown in the previous chapters, most UYRs have experienced several potentially traumatic events, and their mental health is further influenced by post-migration factors. However, good mental health is essential during the transition to adulthood and integration into the host society (Schick et al., 2016). Therefore, this dissertation focuses on three main areas of interest. First, several reviews exist that examine impact factors on refugees' mental health, but the influence of the institutional environment on UYRs' mental health is largely unstudied. From previous research some potentially influential factors such as group-size (Mangrio & Zdravkovic, 2018; Whitsett & Sherman, 2017; Ziersch & Due, 2018), UYR-specific groups (Im & Swan, 2020; Ulrich et al., 2022), workload (Strolin-Goltzman et al., 2010), accommodation ratings (Ellis et al., 2008; Schilz et al., 2023), and group climate (Leipoldt et al., 2019), could be derived. Second, there are several studies that examine the agreement between biological parents and their children on children's posttraumatic stress symptoms, but studies that involve professional caregivers and intercultural dyads are lacking. Because agreement on symptoms correlates with a higher probability of receiving appropriate treatment (Wamser-Nanney, 2022), better treatment outcomes (Humphreys et al., 2017), and better psychological functioning (Ceballo et al., 2001), examining factors that lead to reduced disagreement is of high clinical importance. Third, with regard to the psychotherapeutic approach, studies on facilitators of mental health service utilization are scarce, and most studies report similar challenges, such as for example language barriers and financing (Dumke et al., 2024), which we have attempted to overcome in our stepped care research project 'BETTER CARE' as mentioned above (Rosner et al., 2020). In all mentioned topics, studies with UYRs are scarce or lacking. Consequently, the dissertation seeks to contribute to improving mental health outcomes for UYRs by providing new insights into institutional influences and psychotherapeutic approaches and informing policy and practice in the care and support structures.

2.2. Research questions

Derived from previous research and the relevance of the dissertation as described above, the following research questions were analyzed:

1) How do institutional factors (group size, UYR-specific groups, workload, staffing and accommodation ratings, and group climate) influence posttraumatic- stress, depression and anxiety symptoms in UYRs over the course of one year?
2) How high are the agreement rates for trauma types, PTSS severity score, and symptom clusters? Do the youth and caregiver reports differ significantly from each other in terms of PTSS severity score and symptom clusters? Is the age of UYRs, the presence of comorbid symptoms, and the duration of stay in a CYWS facility associated with disagreement on the PTSS severity score and symptom clusters?
3) Are the worries reported by psychotherapists prior to their participation in the 'BETTER CARE' project consistent with the barriers documented in the literature? What facilitators and challenges remain after the primary barriers were addressed by the project design? Do the reported facilitators and challenges differ between psychotherapists who completed TF-CBT with their patients and those whose patients terminated treatment prematurely?

3. Synopsis of the publications

3.1. Executive summary of Publication 1: It matters where they live - the role of institutional factors for the mental health of unaccompanied young refugees

Dietlinger, F. K. [#], Hornfeck, F. [#], Rosner, R., Pfeiffer, E., Sachser, C., & Kindler, H. (2025). It matters where they live - the role of institutional factors for the mental health of unaccompanied young refugees. *Child Protection and Practice*. (accepted April 16, 2025)

[#] shared first authorship

Background: In addition to potentially traumatic events, UYRs experience pre-, peri-and post-migration stressors. Upon their arrival in the host country, they rely for safety and stability on the local CYWS facility, where they are often accommodated in group homes. Highly supportive

accommodation and adequate and stable living conditions are known to be protective factors for refugees' mental health. Studies of institutionalized children and youth also report the impact of group size, specific groups, workload and staffing, quality of accommodation and group climate on mental health symptoms.

Methods: The study analyzed data from $N = 131$ UYRs ($M_{age} = 17.04$; $SD_{age} = 1.46$; 81.7 % male) residing in $N = 22$ residential group homes across Germany. These UYRs completed standardized questionnaires assessing their symptoms of posttraumatic stress, depression, and anxiety symptoms. In addition, facility directors or social workers provided information on the characteristics of the residential homes, while the research team assessed factors such as workload, staffing levels, and the quality of accommodation. Both were assessed at baseline. Standardized questionnaires were completed at baseline, and after six and twelve months. Data was analyzed using multiple regression analyses with variables that showed significant correlations and controlled for baseline sum scores and number of PTEs. We further conducted mediation analyses.

Results: Lower PTSS after one year were predicted by lower baseline PTSS sum score (ß = .62, $p < .001$) living in a UYR-specific group (ß = -.25, $p < .05$) and lower staff workload (ß = -.28, $p < .05$). Lower depression scores after one year were predicted by lower baseline amount of PTEs (ß = .24, $p < .10$) and depression score (ß = .24, $p < .10$) and lower workload (ß = -.29, $p < .05$). Lower anxiety scores after one year were predicted by lower staff workload (ß = -.25, $p < .05$). Open group climate after six months mediated the association between accommodation rating and PTSS, depression (marginally significant), and anxiety (marginally significant), as well as between UYR-specific group and PTSS and depression (marginally significant).

Discussion: The results of this study point to the importance of specialized groups that can ensure trauma-informed care and cultural sensitivity, as well as adequate staffing and caregiver workload for the mental health development of UYRs. In addition, CYWS facilities should ensure an open group climate characterized by openness and confidentiality, which can also be achieved through appropriate quality of housing and UYR-specific groups. Ensuring that the facility is equipped to meet the specific needs of UYRs and to promote their mental health is particularly important in the first years and months after arrival in the host country and should be considered by policy and practice.

3.2. Executive summary of Publication 2: Agreement for posttraumatic stress symptoms among unaccompanied young refugees and professional caregivers

Dietlinger, F. K., Müller, L. R. F., Pfeiffer, E., Sachser, C., & Rosner, R. (2024). Agreement for posttraumatic stress symptoms among unaccompanied young refugees and professional caregivers. *European Journal of Psychotraumatology*, *15*(1), 2416834. https://doi.org/10.1080/20008066.2024.2416834

Background: Posttraumatic stress symptoms are common among UYRs but pose a significant risk for adolescent neurodevelopment and other physical and mental health problems. Identification of PTSS is therefore important to enable early and appropriate treatment. As UYRs stay in CYWS facilities, lack mental health literacy and are often unfamiliar with the German health care system, they rely on the recognition of symptoms by their professional caregivers. Previous studies have shown low levels of agreement for PTSS severity scores and heterogeneous results for symptom clusters. Furthermore, the self-report tends to state higher scores than the caregiver-report. Results regarding the influence of the age of UYRs, the presence of comorbid symptoms and the length of stay in a CYWS facility on disagreement rates appear heterogeneous.

Methods: We compared youth-caregiver reports of $N = 610$ UYRs. The sample was mostly male (91.0 %), originally from Afghanistan (43.44 %) and the age ranged from 12 to 20 years ($M = 16.75$; $SD = 1.33$). In total 36.6 % had comorbid clinically elevated symptoms of other disorders (depression, or anxiety disorder). The UYRs were living between 0 and 84 months in the current CYWS facility ($M = 9.98$; $SD = 10.92$) across Germany. The main measure was the Child and Adolescent Trauma Screen (CATS-2) and data were analyzed using Cohen's kappa, sensitivity and specificity analyses, intraclass correlations, *t*-tests and multiple linear regression.

Results: In terms of trauma types, accidental trauma ($k = .13$, $p < .001$) and domestic violence ($k = .19$, $p < .001$) showed low but statistically significant agreement. Sexual abuse had the highest agreement ($k = .38$, $p < .001$), which can be considered low to moderate according to the confidence interval. The PTSS severity score ($ICC = .22$, $p < .001$) and the symptom clusters re-experiencing

(*ICC* = .27, $p < .001$), negative changes in cognitions and mood (*ICC* = .12, $p < .001$), and hyperarousal (*ICC* = .25, $p < .001$) showed low but statistically significant agreement. Self-report scores were significantly higher than caregiver report scores for the PTSS severity score and all symptom clusters. Comorbidity and shorter length of stay in the CYWS facility were significantly associated with higher disagreement scores for the PTSS severity score and all symptom clusters.

Discussion: The results of this study are largely consistent with previous research with biological parents. Although agreement was the highest, sensitivity for sexual abuse was found to be low, suggesting that young people who had experienced this were rarely correctly identified, probably due to under-reporting associated with stigma. Caregivers' underestimation of traumatic events and symptoms, combined with their gatekeeper position, may account for the insufficient referral of UYRs to mental health professionals. Factors such as caregiver misunderstanding due to comorbid symptoms of other mental health disorders and the length of stay in the facility also contribute to discrepancies in the recognition of trauma symptoms. The findings suggest a need for mental health assessments in CYWS facilities and training for caregivers in recognizing and addressing mental health issues.

3.3. Executive summary of Publication 3: Challenges and Facilitators in Treating Unaccompanied Young Refugees in a Dissemination Trial – A Qualitative Study with Psychotherapists

Dietlinger, F. K., Kasparik, B., Unterhitzenberger, J., Saupe, L. B., & Rosner, R. (2025). Challenges and Facilitators in Treating Unaccompanied Young Refugees in a Dissemination Trial – A Qualitative Study with Psychotherapists. *Child and Adolescent Psychiatry and Mental Health*, *19,* 25. https://doi.org/10.1186/s13034-025-00873-w

Background: Despite the existence of evidence-based and effective treatments for UYR (such as Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), utilization of mental health services is generally low. Commonly described barriers include lacking health literacy, lacking awareness of services, language barriers, lacking availability of mental health services and psychotherapists' competencies. The stepped care approach 'BETTER CARE' aimed to reduce barriers through training

for psychotherapists and interpreters, treatment recommendations for UYRs, and financial support for treatment and translation services when alternative funding was not available.

Methods: Using a qualitative methodology, this study conducted semi-structured interviews with $N = 20$ psychotherapists, including $n = 13$ females, who had an average licensure duration of 8.70 years ($SD = 5.96$, range: 1-23 years). The study examined the initial worries, challenges, and facilitators psychotherapists faced while treating UYRs as part of our project. We also assessed differences in the answers from completers' and non-completers' psychotherapists, following a mix of deductive and inductive coding.

Results: Psychotherapists reported prior worries that were mostly consistent with barriers reported in previous reviews (structural issues, language barriers, own competence). Project-related facilitators were the German TF-CBT Web online-training, the TF-CBT workshop and biweekly case consultations. Project-related challenges were mostly documentation. Structural facilitators were focused on the CYWS facility (compliant, supportive/accompanying treatment sessions) and the availability of interpreters. Structural challenges included time coordination, lack of clear responsible caregivers and long distance between facility and psychotherapy. Personal facilitators were rarely mentioned (good therapeutic alliance and openness) and personal challenges were not mentioned at all. Patient-related facilitators were mainly readiness for treatment and language skills, or if these were lacking, they were a challenge. Interpreter-related facilitators were accurate and transparent translation and a trusting but not too close relationship with the patient, which was seen as a challenge. Lack of accuracy and transparency in the translation was also seen as a challenge. Completers' psychotherapists were more likely to emphasize the positive aspects of the project, a positive therapeutic alliance and a trusting relationship between patient and interpreter. Non-completers' psychotherapists were more often confronted with structural difficulties, such as the lack of primary caregivers, greater distances, and grief symptoms among patients.

Discussion: Most of the common barriers could be diminished in our project as they were only mentioned as prior worries and mostly not as challenges during the project. As a result the training and resources provided by the 'BETTER CARE' project can be seen effective. However, the psychotherapists still mentioned barriers related to coordination, transport, patients' treatment

readiness, and qualified interpreters. Therefore, informed caregivers who can provide psychoeducation to UYRs and who are compliant with psychotherapeutic treatment, as well as qualified interpreters, are essential. Outreach approaches and collaboration between psychotherapists, caregivers and CYWS facilities can foster a supportive treatment environment.

4. Discussion and Conclusion

The dissertation focused on three research questions regarding the influence of institutional factors on the mental health of UYRs, the agreement between UYRs self- and caregiver-reported PTSS symptoms, and the facilitators and challenges of treating UYRs from the perspective of psychotherapists.

4.1. Discussion of Publication 1 Findings

The analyses of the first research question revealed that lower staff workload predicted lower PTSS, depression and anxiety scores after one year, although PTSS and depression scores were also influenced by the number of PTEs and baseline symptom scores. As this is, to the best of my knowledge, the first study to analyze this effect on UYRs in the CYWS, further investigation into the underlying causes is needed.

Group size did not predict mental health outcomes, as already outlined in the literature (e.g. Whitsett & Sherman, 2017). On the one hand, this could be due to methodological reasons, as this information was available only for 17 facilities with a high range of group sizes (6-44). Additionally, for example Mangrio and Zdravkovic (2018) dichotomized groups as either crowded or not crowded, resulting in a reduction of variability, thereby facilitating the identification of potentially significant effects. On the other hand, the group size is not the only determining factor, staff resources and the quality of the accommodation should also be considered. However, these data were not collected in our study.

Living in a *UYR-specific group* predicted lower PTSS after one year, when it was analyzed together with the baseline PTSS score and the workload within the regression analysis. This finding is

consistent with previous research highlighting the benefits of specialized residential groups with trauma-informed care approaches and culturally sensitive caregivers (Ulrich et al., 2022). Additionally, social workers in these facilities may have greater motivation and sensitivity in working with refugee children and youth. Combined with the results that open group climate mediated the association between UYR-specific groups and PTSS and depression (marginally), it can be hypothesized that in UYR-specific groups the inhabitants have a greater empathy towards each other as they often not only share the similar cultural background and collectivistic values, but also made similar experiences during their flight, which increases the social support within the group (Keles & Oppedal, 2022).

Another potential protective factor is less *workload*, which enables caregivers to provide more social support to the youth, a finding widely reported in the umbrella review conducted for this dissertation (Fernández-Pacheco Alises et al., 2024; Mitra & Hodes, 2019; O'Higgins et al., 2018). Furthermore, less workload can also affect the quality of care, including for example care that is tailored to the specific needs of the UYRs, which was found in a study with nurses (van Bogaert et al., 2017). Additionally, high workload predicts emotional exhaustion (McFadden et al., 2018), which can lead to mental health problems (Chan et al., 2021). These mental health problems for biological caregivers lead to a decrease in assessing youths physical health (Schneiderman et al., 2021) and determine mental health services utilization for their children (Villagrana, 2010). Therefore, less workload may also lead to a better mental health for caregivers, resulting in fewer mental health problems in traumatized children (Wong et al., 2013). Nevertheless, the findings should be approached with caution because of the way they were measured and a potential reciprocal relationship between staff/workload perceptions and mental health issues in UYRs. This issue is not exclusive to UYRs but extends to the wider population of children and adolescents living in CYWS facilities, as the literature has shown that dealing with children and adolescents who are depressed and traumatized can lead to more workload and higher staff turnover rates (Middleton & Potter, 2015).

Accommodation quality did not significantly predict UYRs' mental health outcomes, aligning with Ellis et al. (2008). However, better accommodation was significantly correlated with lower PTSS, depression, and anxiety in bivariate analyses, consistent with other studies highlighting the importance of communal areas for well-being (Easterbrook & Vignoles, 2015; Worsley et al., 2021). The lack of

significant regression results may stem from limited variance, as the average accommodation rating was high, reflecting better quality in CYWS facilities compared to adult reception centers (Baier & Siegert, 2018; Hajak et al., 2021). Accommodation quality was linked to a perceived open group climate, which led to reduced PTSS and, marginally, depression and anxiety after 12 months. This highlights the critical role of accommodation quality in fostering a supportive environment that can positively influence the mental health of UYRs over time. The connection between quality living conditions and a positive group climate underscores the need for careful consideration of accommodation standards in the treatment process.

Open group climate was not a significant predictor but after six months mediated the association between accommodation quality rating and PTSS, depression, and anxiety, as well as between UYR-specific group and PTSS and depression. Generally, an open group climate was associated with better mental health outcomes and, according to Leipoldt et al. (2019), it is a crucial factor for mental health in residential youth care. But as the effects were only marginally significant, further investigation is required. An open group climate, characterized by honesty, trust, and caregiver support (Strijbosch et al., 2014), can be improved through various means, such as providing adequate accommodation quality or, as mentioned earlier, UYR-specific groups, which can enhance the overall group climate. While those improvements may take time and effort due to financial, structural, or organizational constraints, the group climate may be a factor, that can be influenced through targeted educational and psychosocial interventions, as for example positive expectations and affective communication skills can also improve the group climate (Leipoldt et al., 2019).

4.2. Discussion of Publication 2 Findings

The second publication revealed low agreement rates between UYRs and professional caregiver reports of *trauma types* other than community violence, which did not show statistically significant agreement. These findings are consistent with previous research (Goldin et al., 2003; Mai & Scheeringa, 2021; Oransky et al., 2013; Stover et al., 2010; Tingskull et al., 2015), and could be due to the fear of disclosing and talking about PTEs, because of avoidance behaviors that are often part of the

symptomatology (Mitra & Hodes, 2019). For sexual abuse, sensitivity analyses appeared to be low, indicating that although the agreement rate is the highest, it is rarely correctly identified, which could be due to the stigma and shame especially associated with it (Araujo et al., 2019) and the fact that it is the PTE mentioned least often in the self-report. The lack of agreement for community violence combined with low specificity could be because most UYRs experienced community violence, making it difficult for caregivers to identify who did and who did not (Daniel-Calveras et al., 2022; Scoglio & Salhi, 2021).

We also found low agreement rates for *the PTSS severity score*, which is consistent with previous research with parents (Wamser-Nanney & Campbell, 2021, 2022) and a child welfare population (Mai & Scheeringa, 2021). This might be a potential explanation for the low utilization of mental health services among UYRs (Bean et al., 2006). The low agreement for all *symptom clusters* except avoidance, which was not statistically significant, is the first finding for the DSM-5 clusters and thus the first to describe agreement rates for negative changes in cognitions and mood. The lack of agreement for the avoidance cluster is only partially surprising, as it consists of two items, one measuring external and one internal avoidance (Sachser et al., 2022). In line with this, the low agreement rates for hyperarousal and re-experiencing are surprising, as these involve more externalizing and thus observable problems, which tend to reach higher agreement rates (Charuvastra et al., 2010; Newman, 2002; Schreier et al., 2005). A possible explanation could be that UYRs tend to hide the behavioral manifestations of their mental health disorders and show high levels of socialization (Prod'hom et al., 2024). Despite caregivers' underreporting of PTSS among UYRs and the caution required in cross-study comparisons, agreement rates in our study are consistent with those reported for treatment-seeking, non-refugee populations and youth with biological parents (Humphreys et al., 2017; Wamser-Nanney & Campbell, 2022).

Finally, *comorbidity* and *length of stay in the facility* were identified as factors influencing youth-caregiver disagreement, in line with previous research (Jónsdóttir et al., 2022; Salbach-Andrae et al., 2009). The significant disagreement on the PTSS severity score (12 points) in comorbid cases may be due to caregivers' difficulty in distinguishing between (overlapping) symptoms of PTSS, depression, and anxiety (Brady et al., 2000), leading them to perceive UYRs as functional even beyond clinical

thresholds. Additionally, especially in a transcultural context, the relationship may become more intimate over time, facilitating social sharing and help-seeking behaviors (Bean et al., 2006; Wylie et al., 2018). *Age* was not a significant predictor, consistent with the most recent meta-analysis (Los Reyes et al., 2015), but subgroup analyses showed higher agreement rates for older UYRs. Thus, the age effect may only be apparent in more heterogeneous age groups (Mangold et al., 2022; Stover et al., 2010).

4.3. Discussion of Publication 3 Findings

The analyses of the third research question revealed that worries reported by psychotherapists prior to their participation in the 'BETTER CARE' *project* were consistent with the barriers documented in the literature (structural issues, language barriers, and own competence) (Dumke et al., 2024). However, engagement in the project, which included access to the German TF-CBT Web online-training, workshops, and case consultations, appeared to mitigate many of the initial worries, particularly structural and personal. This is consistent with research highlighting the value of formal training for positive treatment outcomes (Asfaw et al., 2020; Espeleta et al., 2022) and the combination of different implementation strategies (Powell et al., 2014). In total 8 out of 18 participants did not experience any project-related challenges, with documentation being the main challenge mentioned, likely due to the need for detailed evaluation paperwork as part of the study design.

From a *structural perspective*, psychotherapists highlighted the crucial role of caregivers and the CYWS facility, with caregiver involvement also being an integral part of the TF-CBT rationale (Brown et al., 2020). This is consistent with research showing that parental presence at the first session and adolescents' ratings of parental treatment approval predict treatment dropout (Ormhaug & Jensen, 2018). However, characteristics of the institutional environment , such as workload and staff capacity, are factors that may prevent caregivers from being able to support and participate in the therapeutic treatment (McGuire et al., 2024). In addition, a lack of knowledge about PTSS and trauma treatment can prevent caregivers from initiating and supporting treatment. According to a German survey of staff

working with UYR, 51 % reported a need for further training in the area of "health and trauma" (Sundermeyer & Karpenstein, 2024).

On the *personal* level, the finding that a strong therapeutic alliance is facilitating is consistent with previous studies (Peñuela-O'Brien et al., 2023). A good therapeutic alliance can lead to reduced PTSS in TF-CBT (Ormhaug et al., 2014) and is also known to reduce dropout rates among refugees (Semmlinger & Ehring, 2022). The therapeutic alliance is of central importance, especially in the context of traumatized children and adolescents, as they often lose the reliable, caring relationship with their parents due to trauma (Cohen, 2017). This aspect holds immense significance for UYRs, particularly because they mostly arrive in the host country without their parents.

Patient-related factors that can act as facilitators or challenges have mainly focused on treatment readiness and language proficiency. A closer look at the scoping review by Dumke et al. (2024) reveals that the ‘BETTER CARE’ project probably did not sufficiently address the following challenges: refugees' understanding of mental illness, fear of stigma, and attitudes towards formal treatment (acceptability, efficacy, trust and confidentiality). ‘Tea Garden’ is a low-threshold, culture sensitive and transdiagnostic intervention, aiming at improving those barriers and could therefore be a promising intervention (Mewes et al., 2021), although empirical evidence is still missing. However, lack of mental health literacy was not mentioned as a challenge, so it is possible that the preparation and organization of the treatment within the project and the provision of information materials to caregivers were effective. In summary, more focus should still be placed on providing psychoeducation to caregivers and UYRs.

As language is often mentioned as a barrier or challenge, the role of *interpreters* is particularly important. Especially accurate and transparent translation is seen as helpful, as well as a good relationship between all parties, which is consistent with previous research including the views of psychotherapists, patients and interpreters (Mirdal et al., 2012). This publication highlights the issue of potentially problematic overly close relationships, pointing to cultural differences and discrepancies in expectations regarding the role of interpreters. In summary, a training program on translation in trauma-focused treatment may be beneficial to improve treatment effectiveness and teamwork (Müller et al., 2023).

Finally, the *comparison between completers' psychotherapists and non-completers' psychotherapists* emphasizes the topics discussed above, such as the positive aspects of the project, a positive therapeutic alliance, a trusting relationship between interpreter and patient, and structural difficulties. However, the significant distance between the private practices/outpatient clinics and the CYWS facility, as well as grief symptoms, mentioned only by non-completers' psychotherapists, warrant further attention. To overcome the barriers posed by distance, an outreach approach, in which psychotherapists visit patients at their preferred locations, may improve access and caregiver involvement (van Es et al., 2021), especially if conducted by psychotherapists trained and willing to work with UYR, given the lower willingness of German outpatient psychotherapists to treat refugees compared to non-refugees (Dumke & Neuner, 2023). Given the prevalence of comorbid grief disorder and PTSS among refugees (Comtesse et al., 2024a; Lechner-Meichsner et al., 2024), the inclusion of grief specific treatment in trauma treatment is critical. According to the authors of TF-CBT, trauma symptoms should be addressed before grief symptoms are treated, and supplementary grief focused modules can be found at the end of the TF-CBT manual (Cohen, 2017). A recent meta-analysis for children and adolescents suggests that grief-focused cognitive-behavioral psychotherapies (including TF-CBT) are effective in reducing grief and related posttraumatic stress symptoms (Hanauer et al., 2024).

4.4. General Discussion of Publication Findings and Implications

To summarize the key findings and practical recommendations from all three publications, I will highlight the recurring key themes identified across all studies.

Specialization is important for all stakeholders. This includes specialization in terms of creating groups specifically for newly arrived UYRs that provide trauma-informed care approaches and stability (publication 1). As agreement rates for PTSS were low, regular assessments through screening for PTSS, depression and anxiety symptoms are advisable (publication 2). However, if language skills are sufficient and there are no severe psychological or social behavioral problems, UYRs may benefit more from being placed in mixed group settings as they can serve as a source of

social support and provide informal learning that may facilitate integration into the host culture (Mahieu & van Caudenberg, 2020). Specialization also extends to the caregivers employed. They should ideally have access to low-threshold training opportunities on recognizing and addressing mental health symptoms (publication 2 and 3). For example, sleep problems can serve as an entry point, as they are often less stigmatized and culturally accepted (Müller et al., 2021; Pfeiffer et al., 2019). This is especially important as the results of our 'BETTER CARE' approach revealed that caregivers feel only moderately well-prepared to handle the mental health challenges faced by the youth in their care (Hornfeck et al., 2024b). Furthermore, providing low-threshold interventions such as 'Tea Garden' and 'Mein Weg' within the facility can lead to better mental health among UYRs (Pfeiffer et al., 2018). The specialization also applies to psychotherapists, as the interview study revealed that the 'BETTER CARE' project, and specifically the TF-CBT training approach, was seen as facilitating (publication 3). Specialized interpreters also play an important role in providing mental health care to UYRs with limited language skills, as their professionalism was seen as an important facilitator (publication 3). There exists for example a one-day TF-CBT-specific online training program for interpreters, that led to more knowledge and treatment-appropriate behaviors (Müller et al., 2023).

Resources on behalf of the CYWS facilities is an important point in terms of the influence of the institutional environment on mental health itself, the recognition of symptoms and the facilitation of psychotherapy. In this dissertation, the influence of resources in terms of staffing and the characteristics of the facility itself has been shown in several ways. However, in addition to its direct effect on mental health (publication 1), the workload of caregivers also influences the recognition of symptoms and the use of mental health services (publication 3). The interviews with the psychotherapists revealed that the support and compliance of the youth's caregivers was particularly important, as was their collaboration with the psychotherapist (publication 3). Interviews conducted with caregivers participating in our project revealed that staff shortages and turnover are perceived as a significant problem that complicates the implementation of psychotherapy in everyday practice (Hornfeck et al., 2024b). Strategies such as maintaining manageable caseloads, ensuring adequate staffing, fostering a supportive organizational culture, providing supervision, and offering professional

development opportunities are approaches that can reduce staff workload and turnover (Griffiths et al., 2020).

Local partnerships between CYWS facilities and psychotherapists, as well *as outreach approaches* by psychotherapists could be promising ideas, especially given the lower willingness of outpatient psychotherapists in Germany to treat refugees (Dumke & Neuner, 2023). Local partnerships can fill critical gaps by streamlining referrals to appropriate mental health services and alleviating the problem of scarce treatment space, thereby significantly improving access to and effectiveness of psychotherapeutic care for UYRs (Bai et al., 2009; Borbon et al., 2024). In addition, or alternatively, outreach approaches, in which psychotherapists visit UYRs at their preferred locations, can help overcome distance and coordination difficulties (publication 3), and facilitates recognition of clinical symptoms (publication 2) as well as access to care and caregiver involvement (Morroni et al., 2024; van Es et al., 2021). Implemented as an outreach approach, trauma-focused group-based psychotherapy, might also be an effective treatment option for UYRs in care (Auslander et al., 2020; Auslander et al., 2017).

Policymakers play a pivotal role in the implementation of these practical recommendations and in ensuring that UYRs not only achieve short-term mental health recovery, but are also healthier in the long term, with fewer health complications (Boscarino, 2004; Hiller et al., 2016), improved social integration (Schick et al., 2016), and increased employment and income opportunities (Dang et al., 2023). Based on the findings of this dissertation, several recommendations are made: the implementation of low-threshold specialized training programs for CYWS staff, psychotherapists, and interpreters (publication 2 and 3); the establishment of nationwide minimum standards for interpreters in psychotherapy contexts that ensure compliance with privacy and confidentiality standards (publication 3); the maintenance of current minimum standards for UYR facilities and the non-reduction of these standards (publication 1); the enhancement of staff resources available within CYWS facilities (publication 1 and 3); and the provision of financial support for the integration of interpreters and evidence-based interventions (publication 3).

4.5. Strengths and Limitations

This dissertation with its three publications has several strengths as it is addressing current research gaps and allows to develop a broader understanding of the CYWS including its facilities and caregivers in the multifaceted context of UYRs' mental health. Specifically, as suggested as future research directions by Dumke et al. (2024), because our studies examined structural factors (publication 1); included the perspectives of mental health service providers (publication 3); and provided a systemic perspective on facilitators regarding the interchange of intrapersonal, interpersonal, and structural constructs in terms of mental health service utilization (publication 3). Moreover, all studies comprised heterogenous and large samples for their respective study design, as publication 1 and 2 included UYRs from various countries and different CYWS facilities (22 facilities in publication 1 and 58 facilities in publication 2) located in different German federal states and publication 3 included twenty psychotherapists representing a range of backgrounds, experiences with UYRs, and regions across Germany. The samples of publication 1 and 2 are comparable to the population of registered UYRs in Germany (Deutscher Bundestag, 2020) and to other samples of UYR studies (Daniel-Calveras et al., 2022), particularly in terms of the high percentage of male participants, the age distribution, and the countries of origin. Additionally, publication 1 comprised a longitudinal design with three measurement points within a one-year study period, which is due to the lacking stability among this specific sample challenging and can thus be seen as an important strength.

Several limitations related to the sample warrant further attention, as the sampling may have influenced the results. First, the project may have attracted facilities that were either particularly committed to improving mental health services or dissatisfied with existing conditions, potentially skewing the findings (publication 1 and 2). Second, within the psychotherapeutic sample, a selection bias is possible, as only those psychotherapists with a particular interest in treating traumatized UYRs participated in the study (publication 3). Moreover, the sample composition presents additional limitations, as publication 1 and 2 had a predominantly male sample, which does not fully represent the experiences of female participants. It is likely that female UYRs may report mental health symptoms differently due to higher mental health self-awareness of such conditions (Haering et al.,

2024). Furthermore, the sample size for the longitudinal analyses was relatively small, and in combination with some marginally significant results, these findings should be interpreted with caution.

Several limiting factors were also identified in relation to the assessment. First, the assessment of PTSS, depression and anxiety relied on brief screening tools without clinical interviews for accurate diagnoses, which limits the validity of the results (publication 1 and 2). Second, the diverse cultural backgrounds and language differences of UYRs and their carers may have influenced understanding and responses to survey items, possibly introducing interpretation bias. In addition, the study briefing and informed consent that caregivers read and signed before participating may have led them to be more alert to potential symptoms (publication 2). Third, assessments of facility characteristics, staffing and accommodation conditions were based on single-point observations, neglecting the dynamic nature of CYWS, which are subject to regular change (Nilsen et al., 2023) (publication 1). Fourth, through the project all psychotherapists had free access to the German TF-CBT training and received a compensation for their documentation and participation in the case consultations, two psychotherapists of the publication 3 sample further received a full compensation of their psychotherapeutic sessions with the study patients. This arrangement may have led to socially desirable responses in the interviews (publication 3). Fifth, the responses provided by thirteen psychotherapists in the interviews may have been influenced by the prior experiences in working with traumatized UYRs (publication 3).

Further limitations emerged related to the data collection and analysis process. First, the cross-sectional design of publication 2 limits the ability to infer causal relationships or to examine changes over time. Second, the study lacked information on the caregiver-youth relationship and caregiver reports of other trauma-related disorders such as for example depression or anxiety symptoms. Third, assessments of workload and accommodation conditions were based solely on the study team's observations, providing only a snapshot of actual circumstances. While this method may be seen as more unbiased and emotionally neutral, it also carries the risk of over- or underestimating true conditions. Fourth, the analysis of whether the reported facilitators and challenges differed between completers' and non-completers' psychotherapists should be interpreted with caution, as the study only considered the completion status of the patients and not the degree of symptom reduction or adherence

to the TF-CBT manual. Fifth, publication 1 had a relatively small sample size and a high proportion of drop-outs over time. Although longitudinal studies with UYRs are challenging and high drop-out rates in this highly mobile population are common (e.g., Jakobsen et al., 2017), they limit the generalizability of the findings. The small sample size may have caused some only marginally significant results which need to be interpreted cautiously.

4.6. Future Empirical Directions

The findings of this dissertation, in conjunction with a review of existing literature in the field, provide a foundation for future research initiatives in different directions. It becomes apparent that the majority of refugees and accompanied refugee children are not accommodated within the CYWS, which offers a better quality of accommodation and care, but in adult reception centers. These shared accommodations are often located in remote, industrial, or commercial areas with limited living space per person (Baier & Siegert, 2018; Hajak et al., 2021). Future studies should thus analyze how these environments influence the mental health of adults, adolescents and children in these accommodations. Publication 1 revealed the importance of the group climate as a mediator in the adolescents' mental health, therefore it is suggested to examine further influential factors on the group climate (Leipoldt et al., 2019). As my umbrella review showed, ethnic placement in foster families is advantageous for the mental health of UYRs (Fazel et al., 2012; Höhne et al., 2022; Mitra & Hodes, 2019; O'Higgins et al., 2018), therefore the impact of caregivers with cultural similarities in the facility should be explored on the UYRs mental health outcomes. Future studies should further investigate how high staff vacancies and turnover within CYWS facilities, which lead to increased workloads, diminished trust among children and adolescents, and reduced stability (Strolin-Goltzman et al., 2010; Yamatani et al., 2009), along with caregivers' own mental health (Ghesquiere et al., 2008; Löchner et al., 2023), influence the mental health outcomes, symptom disagreement rates, and mental health service utilization of UYRs.

Additionally, longitudinal studies are needed, as they allow to better understand the mental health long-term effects of multiple relocations versus stability and caregiver connectedness in care settings (Traube et al., 2012; Woodall et al., 2023) as well as the effect of the transition from the

CYWS placement into adulthood (Oakly et al., 2018). Future studies should also examine the longitudinal effects of low-threshold training approaches for caregivers within the CYWS about mental health symptoms, treatment methods and influential factors. For the practical application of standard screenings for new adolescent arrivals at facilities, it is crucial to study if an initial screening increases mental health referrals and agreement rates between caregivers and adolescents over time, or if it is mainly through caregiver treatment involvement (Thielemann et al., 2024).

Regarding intervention studies, the following dissertation made clear that the CYWS facility is an immensely influential factor. Therefore, the effectiveness of 'Mein Weg' and the stepped-care approach as it was implemented in the 'BETTER CARE' project, should be evaluated. I suggest furthermore the evaluation of a psychoeducational approach such as for example 'Tea Garden' (Mewes et al., 2021). Since this would be another task that would need to be handled by the caregiver, future studies could explore the potential benefits of a single-session online intervention focused on psychoeducation that the UYRs could do on their own. This approach could help to compensate for the time needed to build a relationship, especially for newly arrived UYRs (Schleider et al., 2020). Another possibility could be the implementation of the Cognitive Behavioral Intervention for Trauma in Schools (CBITS) within CYWS facilities (Pfeiffer et al., 2024). To alleviate the strain on CYWS facilities and caregivers, it may be valuable to explore the feasibility and efficacy of CBITS as a school-based intervention, especially since most refugee children attend specialized preparatory or integration classes before transitioning into the German school system (Massumi et al., 2015). Although research is limited, early evidence suggests improvements in psychological symptoms (Layne et al., 2001) as well as socio-emotional and educational outcomes (Charbonneau et al., 2021) through school-based interventions. Furthermore, in terms of the TF-CBT, the impact of co-occurring symptoms of prolonged grief disorder warrants deeper examination, suggesting a need to investigate their influence on the effectiveness of trauma treatment. In this context, it is also advised to study the modifications psychotherapists have implemented in the TF-CBT manual for addressing the needs of UYRs residing in CYWS facilities.

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Part B

The Published Papers

Publication 1: Influential Institutional Factors Affecting Mental Health

Exact title	It matters where they live - the role of institutional factors for the mental health of unaccompanied young refugees
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It matters where they live - the role of institutional factors for the mental health of unaccompanied young refugees

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Abstract

Background: Child and Youth Welfare Service (CYWS) facilities are an essential source of support and recovery for unaccompanied young refugees (UYRs) with traumatic experiences. Their mental health is affected by pre-, peri-, and post-flight stressors, with the residential setting playing a crucial role in increasing or reducing these risks.

Objective: This longitudinal study aimed to analyze how institutional factors in CYWS facilities influence UYRs' mental health over a one-year period.

Participants and Setting: We included $N = 131$ UYRs ($M_{age} = 17.04$; $SD_{age} = 1.46$; 81.7% male) living in $N = 22$ residential group homes in Germany.

Methods: Standardized questionnaires were used to assess posttraumatic stress symptoms (PTSS), depression, and anxiety symptoms. Additionally, facility directors or social workers completed a questionnaire on facility characteristics, and the research team evaluated workload, staffing, and accommodation quality.

Findings: Lower staff workload predicted lower PTSS, depression, and anxiety scores among UYRs after one year. Living in UYR-specific groups also predicted lower PTSS scores. Open group climate after six months (T1) mediated the association between accommodation quality rating and PTSS, depression, and anxiety, as well as between UYR-specific group and PTSS and depression.

Conclusion: The institutional environment has an important impact on UYRs' mental health. An environment with sufficient staff, a high accommodation quality, and UYR-specific groups is beneficial for reducing the mental health burden.

Keywords: unaccompanied young refugees, PTSS, depression, anxiety, institutional factors, child welfare services

Abbreviations:

UYRs: Unaccompanied young refugees

CYWS: Children and youth welfare system

PTSD: Posttraumatic stress disorder

PTSS: Posttraumatic stress symptoms

PTEs: Potentially traumatic events

1. Introduction

Unaccompanied young refugees (UYRs) frequently report many potentially traumatic events before, during, and after their flight (Pfeiffer et al., 2022). After arriving in a European host country, they depend on local structures that guarantee security and stability. As stated in the Convention on the Rights of the Child (CRC, Article 22, Paragraph 1), every refugee child needs to receive adequate protection and humanitarian assistance (United Nations,1989). In 2022, 7.277 unaccompanied minor refugees arrived in Germany, where they were integrated into the Children and Youth Welfare System (CYWS) and placed primarily in residential group homes (Bundesamt für Migration und Flüchtlinge, 2022). Such facilities usually provide not only accommodation but also comprehensive care and support, thereby addressing the high rates of psychological distress observed in UYRs. A systematic review of studies on UYRs found prevalence rates ranging from 4.6 % to 43 % for posttraumatic stress disorder (PTSD), from 2.9 % to 61.6 % for depression, from 32.6 % to 38.2 % for anxiety, and from 4 % to 14.3 % for behavioral problems (Daniel-Calveras et al., 2022). Longitudinal studies on the trajectories of mental health outcomes among UYRs under post-flight conditions showed heterogeneous results. While some studies reported the stability of high mental health symptoms (Jakobsen et al., 2017; Vervliet et al., 2014), others reported declining symptom scores with still persistent high levels of psychological distress (Behrendt et al., 2022; Müller, et al., 2019; Pfeiffer et al., 2022) or different patterns for different disorders (Jensen et al., 2019).

The course of symptoms therefore appears to be influenced by several pre-, peri-, and post-migration factors. Post-migration stressors are among others the asylum process, and discrimination (Daniel-Calveras et al., 2022), but some aspects of the post-flight environment might also be beneficial for mental health, such as social support, cultural competences and language skills (Daniel-Calveras et al., 2022; Höhne et al., 2022, Oberg & Sharma, 2023). Since UYRs have often been separated from their families, CYWS facilities become their main point of contact and support, with facility staff being gatekeepers to social and practical assistance. This support can buffer the impact of potentially traumatic events (PTEs) on mental health (Höhne et al., 2022; Leipoldt et al., 2019; Sierau et al., 2019; Sonderman et al., 2021). A systematic review by Höhne et al. (2022) reported that low support accommodations are a risk factor for UYRs' mental health, as these are living arrangements

with minimal professional supervision and limited access to social, psychological or practical support. But few studies have examined the impact of the direct environment in the host country, namely, the facility in which UYRs live.

These facilities usually accommodate multiple groups, with varying group sizes. Therefore, one potential factor influencing the mental health of institutionalized children and adolescents is *group size.* In smaller, less crowded settings, the potential for enhanced social support is greater (Mangrio & Zdravkovic, 2018; Whitsett & Sherman, 2017; Ziersch & Due, 2018).

Another potential influencing factor concerns the setting where children and youth are placed. In Germany, UYRs are either placed in *UYR-specific groups* exclusively established for UYRs, or in mixed groups together with youth born in the host culture (Zeller & Sandermann, 2017). Mixed groups may be advantageous, as they can facilitate social interaction and integration (Mahieu & van Caudenberg, 2020). A few studies have reported that forming friendships with youth born in the host culture can enhance the process of acculturation (adoption of receiving culture practices while retaining heritage culture practices), cultural competencies, and positive mental health (Oppedal & Idsoe, 2015; Schwartz et al., 2010; Yoon et al., 2013). However, this advantageous effect may depend on language skills (Beißert et al., 2020). Conversely, individuals in mixed groups may be exposed to more experiences of discrimination by their group members, which can lead to higher levels of anxiety and depression (Baranik et al., 2018; Brenick et al., 2012). Moreover, the challenges faced by UYRs are, to some extent, unique and need specific support services, as they are confronted with structural obstacles and post-migration stressors (Ulrich et al., 2022). Consequently, UYR-specific groups have the potential to be more context-sensitive as well as trauma-informed (Im & Swan, 2020; Ulrich et al., 2022). However, to the best of our knowledge, no study has specifically investigated the impact of residing in UYR-specific groups on mental health.

The *workload and staffing* of professional caregivers in CYWS facilities can be challenging due to common staff shortages in the child welfare sector (Hickmann & Koneberg, 2022). This challenge is especially attributed to high staff turnover rates, high rates of vacant positions, lack of trained professionals, and scarce financial resources in the public sector (Bundesfachverband

unbegleitete minderjährige Flüchtlinge [BumF], 2022; European Union Agency for Asylum [EUAA], 2023; Hickmann & Koneberg, 2022; Yamatani et al., 2009). Consequently, the mental health of social workers can be negatively impacted by a high workload (Chan et al., 2021; McFadden et al., 2018), which represents an obstacle in providing adequate care to children and adolescents in need (Darwich et al., 2022; Tham & Meagher, 2009). High demands for caregivers can lead to burnout and thus to various negative care-recipient outcomes (Gérain & Zech, 2019). To the best of the authors' knowledge, so far, no studies have focused on this factor with respect to UYRs' mental health problems.

The *accommodation quality* of a facility lacks a clear definition but corresponds to several characteristics, such as the arrangement of corresponding rooms, design, and cleanliness. Accommodation, with its physical characteristics, is essential for mental health, as it is the environment where people are living, interacting and recovering (Karpenstein & Rohleder, 2022; Smith et al., 2014). A policy paper from a German refugee organization indicates that there is no nationwide standard of accommodation and care adequacy, as the situation is highly variable across the different federal states (Karpenstein & Rohleder, 2022). The results for refugees are scarce and heterogeneous. Ellis et al. (2008) found a significant negative correlation between housing adequacy and PTSD/depression symptoms. Conversely, Schilz et al. (2023) reported that poorer living conditions predicted higher posttraumatic stress symptoms (PTSS) and depression scores among refugees in the United States of America and Germany.

The *group climate* is particularly relevant for children and adolescents in residential care settings (Lemos et al., 2021). In prior studies with children born in the host country, the group climate was an important factor in ensuring a warm and safe environment and relationship with caregivers (Sonderman et al., 2021). Based on a classification by Sonderman et al. (2021), the group climate defines the quality of the social and physical environment, which is divided into closed and open climate. A closed climate is characterized by asymmetric power balances, a lack of respect, and punishment, whereas an open climate is characterized by a supportive, warm, responsive, and respectful atmosphere (Leipoldt et al., 2019; Sonderman et al., 2021; van der Helm et al., 2009). A

systematic review examined the associations between an open climate and improved mental health and psychosocial outcomes in therapeutic residential youth care, not focusing on refugee children. It emphasized the influence of organizational characteristics on the group climate and suggested that group climate may mediate the relationship between these characteristics and mental health (Leipoldt et al., 2019).

2. Study aims and Research Questions

It is important to examine specific institutional factors and inform practice and policy with broadly applicable recommendations for improvement, as the lack of national regulations for CYWS facilities in Germany leaves their management to the resources and discretion of individual states (Bauer-Blaschkowski, 2020). This work extends the findings published in prior studies focusing on the influence of post-migration factors on mental health (Hornfeck et al., 2023; Hornfeck et al., 2024). The aim of this study was to investigate the potential effects of institutional factors on symptoms of PTSS, depression, and anxiety among UYRs in CYWS facilities. Due to lacking or heterogeneous research regarding the investigated factors (group size, UYR-specific groups, workload, staffing and accommodation ratings, and group climate), our hypotheses were exploratory and non-directional.

3. Method

The study was approved by the ethics review boards of Ulm University (243/19) and Eichstaett-Ingolstadt University (004-19). The BETTER CARE study was registered in the German Clinical Trials Register (www.germanctr.de; registration number DRKS00017453), and the study protocol was published before data collection (Rosner et al., 2020).

3.1 Procedure

Data were derived from the trial mentioned above, and longitudinal data from a predefined subsample were analyzed. The study was conducted in CYWS facilities for UYRs in four German

federal states. After obtaining an agreement with CYWS facilities, mental health screenings with UYRs were organized with the help of social workers and other caregivers in the corresponding residential group homes. Prior to the assessment, UYRs and their legal guardians were required to provide informed consent. All study materials were available in eleven different languages covering most of the languages of the participants. If the content was not available in a required language or in case of illiteracy, interpreters were available via phone or on site to ensure understanding and to answer additional questions, thus ensuring voluntary participation and informed decision making. Moreover, a cartoon-video was provided with study information in different languages. The inclusion criteria for participants were as follows: 1) aged 12–20 years at baseline assessment, 2) arrived in Germany as an unaccompanied minor, 3) applied for asylum or intended to do so, 4) being cared for by a CYWS facility, 5) written informed consent provided by the participant and legal guardian (if < 16 years at baseline assessment (T0)), and 6) reported at least one traumatic event in line with the DSM-5 A criterion at baseline assessment. Recruitment and screenings of UYRs took place between July 2020 and July 2021 at 22 CYWS facilities. The outbreak of the COVID-19 pandemic in 2020 was accompanied by restrictions and consequences for everyday life in the following months and years and affected the data collection procedure. Assessments were therefore performed via online tools or on-site in compliance with strict hygiene standards. UYRs received compensation for taking part in assessments through a voucher (35€ for each assessment), and facilities received 60€ compensation per participating UYR. After T0 (N = 131), UYRs were screened again after six months (T1, n = 99; 75.6%) and 12 months (T2, n = 77; 58.8%).

3.2 Sample

The *UYR sample* consisted of N = 131 UYRs, living in 22 different CYWS facilities at T0. Only a few (n = 17) lived in non-residential care at T0, in so-called supervised independent living, where they receive less intensive care but remain connected to the CYWS facility. 81.7% of the participants (n = 107) were male, and one person (0.8%) indicated diverse genders. The age at baseline assessment ranged from 13 to 20 years (M = 17.04; SD = 1.46), and the participants had resided

between 1 and 90 months in Germany (M = 25.75; SD = 20.52). At baseline, 32.8% reported on an accepted asylum application signifying a permanent or temporary residence permit. The participants originated from 29 different countries, and most participants (n = 40; 30.5%) were born in Afghanistan (Table 1a).

In the *residential care facility sample*, N = 23 facility directors or social workers from N = 22 facilities completed the questionnaire. A total of 26.1% (n = 6) of them were male, and they were, on average, M = 44.00 years old (SD = 10.66). Twenty-one participants (91.3%) were in a leading position within the facility. The characteristics of the facilities can be seen in Table 1b and Table 1c.

- Insert Table 1a-c near here –

3.3 Measures

The current analyses combined data from two different surveys of UYRs and facility directors or social workers. They also included an external facility rating.

The questionnaires for the participating UYRs were available in the following languages: German, English, French, Arabic, Dari, Farsi, Pashto, Somali, Tigrinya, Russian, Ukrainian and Kurmanci. All questionnaires for UYRs were gathered at T0, T1 and T2. They were primarily completed on tablet computers via an online assessment tool. Demographic data included age, level of education, residential status, living situation/type of facility, and duration of living in Germany and in the current institution.

The *Child and Adolescent Trauma Screen (CATS-2)* (Sachser et al., 2022) was used to assess PTSS in children and adolescents according to the DSM-5 and ICD-11 criteria. In the present study, we used the included traumatic event checklist to assess the number of PTEs and used the DSM-5 total symptom score ranging from 0 to 60. Based on Sachser et al. (2022), a cut-off of 25 was set to indicate a clinically relevant PTSS. The internal consistency (Cronbach's α = .92 - .95) in our sample was found to be excellent.

The *Patient Health Questionnaire (PHQ-9)* (Kroenke & Spitzer, 2002; Kroenke et al., 2001) is a 9-item rating scale used to measure depressive symptoms. Based on the validation study, scores of 10 and higher are classified as clinically relevant (Kroenke et al., 2001). The PHQ-9 has been validated in many contexts and languages (Kroenke et al., 2001; Kroenke et al., 2010) and has shown good reliability (Cronbach's α = .83 − .89) in the current sample.

The *Generalized Anxiety Disorder Scale (GAD-7)* (Spitzer et al., 2006) is a 7-item rating scale based on the diagnostic criteria of the DSM-IV for generalized anxiety disorder. Scores of 10 or more indicate the presence of clinically relevant levels of anxiety. The GAD-7 has been validated in many contexts and languages (Kroenke et al., 2010). In our sample, good reliability (Cronbach's α = .81 - .95) was indicated.

A short version of the *Group Climate Instrument for Children* (GCIC) (Strijbosch et al., 2014), consisting of 14 items assessing open (9 items) and closed climate (5 items) in institutions, was used to assess the individual perspective of UYRs on the institutional climate. The items are rated on a 5-point Likert-type scale ranging from 1 (I do not agree) to 5 (I totally agree). The item ratings are summed up according to each scale. This questionnaire was developed for children and young adolescents aged 8 to 15 years and has been validated in the context of residential care settings in different countries (Backer, 2013; Strijbosch et al., 2014). In the current study, the open climate scale showed excellent reliability for the open scale (Cronbach's α = .93), but the value was unacceptable for the closed climate scale (Cronbach's α = .41), and it was therefore not used in the analyses.

The ***questionnaire for facility directors or social workers*** included questions regarding the group size and the type of group (binary variable for specific UYR group = 1) and was gathered before the assessment in the facility.

An ***external facility*** rating was conducted by multiple members of the study team, who were present at the initial assessments in the facilities. The number of ratings per facility varied between one and three raters, with a mean score calculated in case of discrepancies. Due to the high number of facilities and their wide-spread location, the composition of the study team varied between the

screenings. Therefore, the rating was done by different people to ensure that the rater was physically present at the facility. This rating encompassed three items about workload, staffing, and accommodation quality (“How do you evaluate the accommodation/staffing/workload of the social workers within the facility?”). The items were rated on a 5-point Likert scale, with 1 indicating a rating of "not adequate" and 5 indicating a rating of "adequate" after the T0 assessment.

3.4 Statistical Analysis

Analyses were performed using IBM SPSS Statistics version 22. According to Little’s missing completely random test, which included all the study variables, the missing data were completely random, $\chi 2(242) = 248.02$, $p = .38$. However, most of the missing data were due to wave nonresponse. Binary logistic regression revealed that attrition was not significantly related to sociodemographic characteristics (age and sex) or mental health outcomes (CATS-2, PHQ-9, or GAD-7 scores). Listwise deletion was applied to handle missing data. The descriptive statistics included the sociodemographic characteristics, means, standard deviations, and frequencies of all the study variables. Differences in mean scores were calculated using *t*-tests for dependent samples and univariate analyses of variance (ANOVAs). Associations among continuous variables were calculated using bivariate, point-biserial, and partial correlations (Pearson correlation coefficients (*r*) reported). Three multiple regression analyses were conducted to investigate the impact of institutional factors on UYRs’ mental health at T2. Only variables that showed significant correlations were included in the regression analyses. The data met the basic assumptions required for these types of analysis. All tests were two-tailed. An alpha significance level of $\alpha = 5$ % was reported as significant, and a level of $\alpha = 10$ % was reported as marginally significant. The regression analyses were controlled for the respective sum scores and number of PTEs before T0, as number of PTEs is not only a risk factor for PTSS (Sagaltici et al., 2020), but also for depression (Nosè et al., 2020) and anxiety (Ayazi et al., 2014).

Mediation analyses were conducted using the PROCESS macro developed by Hayes and colleagues (Hayes & Litttle, 2018; Preacher & Hayes, 2004). This macro uses ordinary least squares regression to yield unstandardized path coefficients for total, direct, and indirect effects. Bootstrapping

with 10,000 samples was employed to compute the confidence intervals and inferential statistics. The effects were considered significant when the confidence interval did not include zero.

4. Results

The descriptive characteristics of all included study variables are presented in Tables 1a-c. Regarding the available longitudinal data, UYRs' mental health outcomes from T0 and T2 and group climate from T0, T1, and T2 were included. This approach was chosen based on methodological considerations to realize both regression analyses and mediation analyses. No significant differences were found for the mental health outcomes regarding UYRs' gender and age.

A significant difference was found for PTSS scores between both waves, with UYRs showing lower symptom levels at T2, $t(80)= 2.32$; $p = .023$ compared to baseline scores. No differences were found for depression and anxiety scores between baseline and 12-month follow-up. Statistically significant correlations between both assessment time points were found for every area of mental health problems, PTSS: $r(81) = .58$, $p < .001$; depression: $r(81) = .42$, $p < .001$; anxiety: $r(81) = .37$, $p = .001$, indicating that UYRs with more problems at T0 also had higher scores at T2.

4.1. Prediction of UYRs' Mental Health Problems by Institutional Factors

As preliminary analyses, bivariate correlations were calculated between potential predictor variables and mental health outcomes. These results are presented in Table 2, and show the bivariate correlations between PTSS, depression, and anxiety at T0 and T2 and the relevant study variables. Correlational analyses revealed that lower PTSS levels at T2 were significantly associated with UYR-specific groups, better workload, staffing and accommodation ratings and more open group climate (T1). Lower depression symptoms at T2 were significantly associated with UYR-specific groups, better workload, staffing and accommodation ratings, and more open group climate (T0, T1). Lower anxiety symptom scores were significantly associated with better workload, staffing and accommodation ratings, and more open group climate at T1. Moreover, marginally significant negative correlations were found between group size and depression and anxiety scores.

- Insert Table 2 near here –

To investigate the contribution of institutional factors to UYRs' levels of mental health problems, three hierarchical multiple regression models with total PTSS, depression, and anxiety scores at T2 as dependent variables were conducted. Only factors at least marginally significantly associated with the outcome variables were included. Owing to a high intercorrelation between the factors workload and staffing ($r = .80$, $p < .001$), only the variable for workload was included in the regression analyses to avoid problems related to multicollinearity. The results of all hierarchical multiple regression models are presented in Table 3.

In the regression model for **PTSS scores at T2**, the number of PTEs and PTSS scores at T0 were controlled in the first step. The institutional factors of UYR-specific groups, workload and accommodation ratings were included in the second step. The group climate at T1 was entered in the third step. Multiple regression analysis explained a significant portion of the variance, $R^2 = .55$, $F(6, 53) = 10.83$, $p \leq .001$. The regression model revealed that PTSS levels at baseline significantly predicted PTSS scores one year later and, in combination with the number of PTEs, explained 32.8% of the variance. Furthermore, the factors UYR-specific group and higher workload rating were significant predictors, accounting for 22.1% of the variance. These results indicate lower PTSS scores for UYRs in specific groups and with lower workload levels of the staff.

In the regression model for **depression scores at T2**, the number of PTEs and depression scores at T0 were controlled for in the first step. The institutional factors of group size, UYR-specific groups, workload and accommodation ratings, and group climate at T0 were included in the second step. The group climate at T1 was entered in the third step. Multiple regression analysis explained a significant portion of the variance, $R^2 = .48$, $F(8, 51) = 5.99$, $p < .001$. The regression model revealed that depression levels at baseline and the number of PTEs marginally significantly predicted depressive symptom scores one year later and explained 30.1% of the variance. A robustness test for this research result was conducted by increasing the sample size via Bootstrapping. It revealed that depression levels at baseline and the number of PTEs did not significantly predict depressive symptom scores.

Furthermore, the factor higher workload rating was a significant predictor for higher depression scores of UYRs, accounting for 17.9% of the variance.

In the last regression model for the level of **anxiety scores at T2**, the number of PTEs and anxiety scores at T0 were controlled in the first step. The group size, workload and accommodation ratings were entered in the second step. Finally, the group climate at T1 was entered in the last step. Multiple regression analysis explained a significant portion of the variance, $R^2 = .33$, $F(6, 53) = 4.34$, $p = .001$. Anxiety scores at T0 and the number of PTEs explained 16.4% of the variance but did not predict the outcome variable significantly independently. The institutional factors included in step two contributed to the explained variance with 14.6%. In the final model, lower anxiety symptom scores at T2 were significantly predicted by a better workload rating.

- Insert Table 3 near here –

4.2. Mediation of Open Climate on Accommodation Quality and Mental Health

Based on the intercorrelations (see Table 2), we used Model 4 to test a simple mediation model. The model included the accommodation rating and UYR-specific group as predictors, the open climate at T1 as a mediator, and the PTSS, depression, and anxiety scores at T2 as the outcome, as can be seen in Figure 1. None of the other potential models met the requirements of a true mediation relationship.

First, the effect of the accommodation rating on mental health outcomes was observed (PTSS: B = -6.62, $p < .001$; depression: B = -3.53, $p < .001$; anxiety: B = -2.95, $p < .001$). After the mediator (open climate T1) was entered into the model, the accommodation rating significantly predicted the mediator (B = 0.39, $p = .005$), and the open climate significantly predicted PTSS (PTSS: B = -3.76, $p = .036$) and marginally significantly predicted depression and anxiety (depression: B = -1.46, $p = .101$; anxiety: B = -1.52, $p = .055$). Finally, we found that the open climate scale significantly mediated the effect of the accommodation rating on mental health outcomes: indirect effect PTSS: ab = -1.48, 95%

CI [-3.019, -0.387]; depression: *ab* = -.57, 95% CI [-1.294, -0.038]; anxiety: *ab* = -.60, 95% CI [-1.271, -0.061].

Second, an effect of the factor for UYR-specific groups on mental health outcomes was observed (PTSS: B = -9.21, p = .002; depression: B = -3.73, p = .013). After the mediator (open climate) was entered into the model, the UYR-specific group significantly predicted the mediator (B = 0.47, p = .028), and the open climate significantly predicted PTSS and marginally depression (PTSS: B = -4.22, p =.019; depression: B = -1.79, p =.054). Finally, we found a significant indirect effect of the factor UYR-specific group on mental health outcomes mediated by the open climate scale: PTSS: *ab* = -1.97, 95% CI [-3.956, -0.379]; depression: *ab* = -.84, 95% CI [-1.938, -0.076].

- Insert Figure 1 near here –

5. Discussion

This study examines the impact of institutional factors on PTSS, depression, and anxiety among UYRs in CYWS facilities. Although PTSS and depression scores were influenced by the number of PTEs and baseline symptom scores, institutional factors and, specifically, staff workload had a substantial effect on mental health outcomes over time.

Regarding the impact of the *group size* on UYRs' mental health, the findings do not indicate a clear association as expected from the literature review (e.g., Whitsett & Sherman, 2017). A marginally significant correlation was observed between decreased depression and anxiety scores and a smaller group size. However, within the multiple regression analyses, this factor did not significantly predict mental health problems anymore. The discrepancy between our results and those of Mangrio and Zdravkovic (2018) may be attributed to differences in the methodology, which involved dichotomization based on the number of individuals within a facility and categorizing them as either crowded or not crowded. This approach resulted in a reduction of variability, thereby facilitating the identification of potentially significant effects. Our study indicates that the number of young people in

a facility is not the sole determining factor. Additional factors may also be relevant, such as staff resources and accommodation quality (e.g., areas that promote privacy and interaction). Consequently, greater attention should be paid to occupancy rates and their conformity with legal standards. However, these data were not collected in our study.

Moreover, placement in *UYR-specific groups* was significantly correlated with decreased depression and PTSS scores. However, it only contributed to decreased PTSS scores when it was analyzed together with other factors within the regression analyses. This finding is consistent with previous research highlighting the benefit of specialized residential groups with trauma-informed care approaches and culturally sensitive caregivers, wherein individual needs can be more adequately addressed (Ulrich et al., 2022). Furthermore, within groups comprising solely UYRs, there might be greater comprehension and empathy towards each other's living circumstances, particularly among individuals with collectivistic values, thereby augmenting the available social support within a group (Keles & Oppedal, 2022). Another point is that UYR-only group homes are intentionally designed for unaccompanied youth refugees and may therefore have specific competencies and resources in caring for them. Moreover, social workers who chose specifically these facilities as workplace may have a higher motivation and sensitivity in working with refugee children and youth. These interpretations align with the results of our mediation model, which demonstrated that UYR-specific groups fostered a more open group climate after six months, thereby reducing PTSS and marginally depression symptoms after 12 months. However, once language proficiency is sufficient and there are no severe psychological or social behavioral issues, UYRs may benefit more from staying in mixed groups, as they can serve as a source of social support and provide informal learning, which may facilitate integration into the host culture (Mahieu & van Caudenberg, 2020).

In accordance with the theoretical model from Gérain and Zech (2019), workforce shortage within the facility was associated with worse mental health outcomes in all three domains. In the regression models, a lower *workload of the involved staff* led to reduced PTSS, depression, and anxiety scores in UYRs after one year, even when other institutional factors were considered. For anxiety, it even was the only significant predictor in the analysis. As research findings on this association are

barely available, the underlying mechanisms warrant further study. It might be assumed that the relation was mediated by the social workers' behavior towards UYRs and the quality of care as indicated in a study with nurses that reported that workload affects the quality of care (van Bogaert et al., 2017). However, the results must also be interpreted cautiously due to the assessment methodology and the possible mutual association between staffing/workload ratings and mental health problems among UYRs. This phenomenon applies not only to UYRs but also to the general CYWS facility population, as the challenges presented by depressed and traumatized children and adolescents may lead to increased workload and staff turnover (Middleton & Potter, 2015). Moreover, a prior study among nurses has identified resilience as a moderating factor in the relationship between workload and job outcomes (Lanz & Bruk-Lee, 2017). Resilience has been defined by the authors as an emotional strength that allows for positive adaptation in the face of significant challenges or adversity. Another study showed that mental health among caregivers is linked to reduced mental health issues in traumatized children (Wong et al., 2013). As this is, to the authors' knowledge, the first study to examine the influence of workload and staffing on mental health outcomes among UYRs in residential care, the importance of these findings is notable.

Accommodation quality did not significantly predict UYRs' mental health outcomes in line with the results of Ellis et al. (2008), who reported no significant relationship between housing quality and PTSS for adolescent refugees in the United States. However, better accommodation quality significantly correlated with decreased PTSS, depression and anxiety symptom scores in terms of bivariate correlations. This association aligns with findings from other authors, who noted the importance of adequate communal areas for well-being (Easterbrook & Vignoles, 2015; Worsley et al., 2021). One reason why the regression did not reach significance could also be the lack of variance in the analysis, as the average rating for accommodation quality was 4.4 (range 3-5), with a standard deviation of only .74. This, in turn, could be contextually explained by the fact that there is less variability and better quality in CYWS facilities than in adult reception centers, which are often located in remote, industrial, or commercial areas with limited living space per person (Baier & Siegert, 2018; Hajak et al., 2021). Now that some German federal states have lowered the minimum standards for accommodating UYRs (Méndez de Vigo & Endres de Oliveira, 2024), future studies

should analyze the influence of institutional factors in less supportive and not child-adequate environments on mental health. However, accommodation quality was linked to the perceived open group climate after six months, which in turn led to reduced PTSS and marginally also to reduced depression and anxiety symptoms after 12 months. While these findings suggest that accommodation quality may indirectly influence UYRs' mental health, more research is needed as the observed associations for depression and anxiety only reached marginal significance.

Another explanation might be that the institutional factors mentioned above also interact with each other, although this was not statistically analyzed in this study. For instance, larger group sizes may lead to poorer accommodation quality, and both may increase caregiver workload, reducing the time and attention available to support individual youth (Yamatani et al., 2009, Ziersch et al., 2018).

A setting where UYRs experienced an *open group climate* at the six-month follow-up was found to be correlated with better mental health outcomes in terms of PTSS, depression, and anxiety, but it was not a significant predictor for all three outcome measures in the multiple regression models. Nevertheless, the results highlight the crucial mediating role of group climate on UYRs' mental health for PTSS. Further investigation is required to elucidate the mediating effect on depression and anxiety, as the observed effects were only marginally significant. This finding is consistent with the conclusions drawn in the review by Leipoldt et al. (2019) and highlights the central role of the social climate in relation to various determinants and outcomes, as well as the positive effects of an open group climate. In this study, an open climate included an atmosphere of honesty, trust, and caregiver support (Strijbosch et al., 2014) potentially making social workers more approachable and thus contributed to mental health improvement within one year.

Previous published reviews summing up studies on refugee youth in several high-income countries have highlighted the significant impact of the institutional environment on mental health focusing primarily on factors such as placement in large-scale reception centers, the role of social support or multiple relocations (Fernández-Pacheco Alises et al., 2024; Nielsen et al., 2008; Mitra & Hodes, 2019; O'Higgins et al., 2018; Oberg & Sharma, 2023). However, studies have largely been limited to these aspects, with less attention given to operationalized aspects of the facility, where the

following study provides new insights especially into how UYR-specific groups, caregiver workload, accommodation quality, and group climate influence the mental health of UYRs.

5.1. Practice and Policy Implications

Although international and national guidelines provide a solid framework to protect UYRs, the responsibility is often diffused at the federal and state levels, leading to unmet standards. For example, in Germany, reduced placement capacities coupled with a growing number of arriving UYRs, led to poorer living conditions in CYWS facilities and the undermining of minimum standards in recent years (BumF, 2022; BumF, 2024; EUAA, 2023). This is particularly concerning since the current study highlights the importance of an adequate institutional environment to reduce high levels of mental health problems among UYRs.

It is essential that federal and state policies in Germany ensure the financing of adequate staffing and accommodation conditions within CYWS. Instead of placing UYRs in temporary placement options such as emergency shelters, unlicensed facilities or asylum centers with "socially experienced" or seemingly qualified employees (Méndez de Vigo & Endres de Oliveira, 2024), it is important to give every UYR the right to be placed in well-staffed groups and to ensure that staff-youth ratios are adequate to allow for meaningful interactions and individualized care, which are critical for long-term mental health outcomes. It is also recommended that UYRs should be placed in UYR-specific groups, particularly in the early stages, with the aim to ensure stability in a familiar setting with trauma- and flight-sensible conditions. These groups should be staffed by caregivers trained in trauma-informed care, including, for example, knowledge of mental health symptoms and their recognition, as well as low-threshold interventions such as the preventive group intervention "My Way" (Pfeiffer & Goldbeck, 2019). This training should be ensured through annual mandatory training seminars and provide not only skills, confidence and competence, but also lead to reduced workload and psychological distress of caregivers (Acker & Lawrence, 2009). Staff workload and turnover may also be reduced through strategic approaches such as maintaining manageable caseloads, ensuring

sufficient staffing, fostering a supportive organizational culture, providing supervision, and providing professional development opportunities (Griffiths et al., 2020).

While improvements in the accommodation quality, the establishment of UYR-specific groups and the reduction of workload may take time and effort due to financial, structural, or organizational challenges, the group climate may be a factor, that can be influenced even with few resources. To improve group climate, training for caregivers and social workers on fostering trust, honesty, and emotional support can be implemented alongside peer-led activities such as sport or group games, and mentorship programs (Leipoldt et al., 2019). Additionally, low-cost interventions such as regular feedback sessions, or anonymous/confidential feedback forms, can foster an open climate within the facility and could help create a supportive and positive group atmosphere (Leipoldt et al., 2019).

Overall, future research is needed to examine the impact of working conditions in CYWS settings on the mental health of UYRs. In addition, examining the impact of interventions and staff characteristics as determinants of group climate is critical to understand their influence on youth mental health.

5.2. Strengths and Limitations

This study has three notable strengths. First, it comprises a longitudinal design with three measurement points within a one-year study period. Second, it includes a diverse sample. The study included UYRs from various countries and 22 different CYWS facilities located in four German federal states. The sample is comparable to the population of registered UYRs in Germany (Deutscher Bundestag, 2020) and to other samples of UYR studies (Daniel-Calveras et al., 2022), particularly in terms of the high percentage of male participants, the age distribution, and the countries of origin. Third, as this is one of the first studies examining the impact of the institutional environment on mental health in the unique context of UYRs, it can help to guide policy and practice how to improve facilities for refugee children and youth. However, more research is needed in this field to understand the underlying processes more deeply.

However, this study also has several limitations. First, the questionnaires utilized for the assessment of PTSS, depression, and anxiety were brief screening instruments, and we lacked clinical interviews to obtain valid diagnoses. Second, it cannot be ruled out that the participating facilities constitute a selective sample, with either better human resources or an exceptionally high degree of dissatisfaction with the current conditions in their facility. Third, the assessment of workload, staffing, and accommodation conditions relied on the assessment of the study team, which provides only a snapshot of the actual situation. While this approach may be more objective and less emotionally biased, it still carries the risk of underestimating or overestimating actual conditions. Fourth, the assessment of facility characteristics was conducted only once, and CYWS facilities are subject to constant changes, including regular staff turnover, fluctuations in workload, and group size (Nilsen et al., 2023). Consequently, the initially assessed characteristics may have changed during follow-up assessments of the UYR sample. Furthermore, some participating UYRs no longer lived in the same facility as at baseline and might have been subjected to changed living conditions at T2. Fifth, given that some German federal states have decreased the minimum standards for accommodating UYRs (Méndez de Vigo & Endres de Oliveira, 2024), the study results cannot be generalized to UYRs residing in other settings than CYWS facilities, such as reception centers for adults. Sixth, because the participants were predominantly male, the findings may not directly apply to females. Seventh, our relatively small sample size and the high proportion of drop-outs over time may limit the generalizability of our findings, and results that are only marginally significant should be interpreted with caution. However, longitudinal studies with UYRs are challenging and high drop-out rates are common due to their high mobility, and the rate is comparable to other longitudinal studies (e.g., Jakobsen et al., 2017). Nevertheless, this attrition could introduce potential bias if those who dropped out differ systematically from those who remained, particularly in characteristics relevant to the study outcomes. But a previous analysis showed that attrition was not significantly related to sociodemographic characteristics, mental health outcomes or post-migration variables (Hornfeck et al., 2024). Future research with larger, more diverse samples and strategies to minimize attrition will be essential to confirm and extend these findings. Eight, the analyses are based on self-reported data and the measures used are brief screening instruments with the risk of over- or under inclusivity of UYRs

with mental health problems. Despite the high validity of these questionnaires, they are not sufficient to obtain reliable diagnoses. Therefore, it is recommended that future studies include clinical interviews or triangulate data sources.

5.3. Conclusion

The results demonstrate that placing UYRs in specific groups with staff facing adequate workload and staffing ratios is crucial for long-term mental health outcomes. In addition, CYWS facilities should ensure an open group climate defined by high levels of openness and confidentiality. This goal can be achieved, on the one hand, through the provision of adequate accommodation conditions (such as welcoming common areas) and, on the other hand, through a post-arrival setting that takes the individual needs of often traumatized children and youth into account. This is particularly important in the first years and months after arrival in the host country. In summary, UYRs need a place where they feel welcomed and validated and where caretakers have the time and capacities to react to the specific needs of these young people. Policy and practice should focus on measures that help to create an environment where benevolent experiences can emerge, and resilience can grow.

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Tables

Table 1a *Descriptive characteristics of participating UYRs*

	n	*M* (*SD*); range	% (*n*)
Gender male	131		81.7 (107)
Age	131	16.95 (1.46); 13-20	
School attendance (years)	131	4.81 (3.23); 0-13	
Secure residence status	131		32.8 (43)
Residential care (vs. non-residential care services)	131		87.0 (114)
Duration of living in Germany (months)	130	25.75 (20.52); 1-90	
Duration of living within the facility (months)	131	16.05 (13.49); 0-72	
Number of PTEs	131	6.56 (3.05); 1-14	
CATS-2 T0	131	24.56 (11.46); 1-56	
PHQ-9 T0	131	8.69 (5.55); 0-24	
GAD-7 T0	131	7.10 (4.80); 0-19	
CATS-2 T2	81	21.19 (10.93); 0-54	
PHQ-9 T2	81	8.02 (5.71); 0-25	
GAD-7 T2	81	5.96 (4.74); 0-19	
GCIC Open climate mean T0	131	3.93 (0.84); 1-5	
GCIC Open climate mean T1	89	3.81 (0.81); 1-5	
GCIC Open climate mean T2	70	3.78 (0.74); 2-5	

Note. GCIC Group Climate Instrument for Children, CATS-2 Child and Adolescent Trauma Screen 2, PHQ-9 Patient Health Questionnaire-9, GAD-7 Generalized Anxiety Disorder Scale-7

Table 1b *Descriptive characteristics of participating facilities*

	n	*M* (*SD*); range	% (*n*)
Group size	17	16.41 (11.63); 6-44	
UYR-specific group*	15		66.7 (10)
Years of experience with UYRs	14	7.43 (4.16); 2-19	

Note. *1 = yes

Table 1c *Descriptive characteristics of facility ratings by study team members*

	n	*M* (*SD*); range
Accommodation (1-5)*	15	4.4 (0.74); 3-5
Staffing (1-5)*	17	3.18 (1.38), 1-5
Workload (1-5)*	18	2.89 (1.37). 1-5

Note. *5 = adequate

Table 2 *Bivariate correlations between study variables*

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1) Group size	.013	**-.215***	.153	**-.208***	.019	.020	.154	**.396*****	**-.240***	-.142	-.156	-.068	-.168	-.141	**-.206**$^{+}$	**-.206**$^{+}$
2) UYR-specific group	-	.051	.154	.141	**.293***	**.231**$^{+}$	**.334****	**.357*****	**.437*****	-.134	-.083	.025	.090	**-.381****	**-.318****	-.185
3) Gender		-	.053	-.050	**-.208***	-.182	.095	-.102	-.013	.072	.091	**.157**$^{+}$	.087	.007	-.051	.004
4) Age			-	.110	.110	.183	**.269***	**.265****	.144	.058	.078	.041	.006	.083	.018	.053
5) GCIC Open climate T0				-	**.433*****	**.444*****	.117	-.064	.133	**-.232****	**-.185***	**-.284****	**-.182***	-.181	**-.281***	-.162
6) GCIC Open climate T1					-	**.698*****	**.268***	.009	.118	**-.244***	**-.308****	**-.309****	**-.287****	**-.366****	**-.304***	**-.351****
7) GCIC Open climate T2						-	.210	-.094	.043	**-.274***	**-.238***	**-.309****	-.181	**-.200**$^{+}$	-.158	-.103
8) Accommodation rating							-	**.256****	**.201***	-.119	**-.185**$^{+}$	-.087	**-.165**$^{+}$	**-.423*****	**-.450*****	**-.421*****
9) Staffing rating								-	**.804*****	-.153	-.080	-.015	-.031	**-.397****	**-.451*****	**-.430*****
10) Workload rating									-	-.098	-.010	.005	.040	**-.351****	**-.391****	**-.321****
11) Number of PTEs										-	**.600*****	**.419*****	**.427*****	**.422*****	**.469*****	**.384*****
12) CATS-2 T0											-	**.736*****	**.783*****	**.581*****	**.541*****	**.497*****
13) PHQ-9 T0												-	**.811*****	**.395*****	**.417*****	**.375****
14) GAD-7 T0													-	**.340****	**.360****	**.366****
15) CATS-2 T2														-	**.813*****	**.829*****
16) PHQ-9 T2															-	**.794*****
17) GAD-7 T2																-

Note. n = 58-131, GCIC Group Climate Instrument for Children, CATS-2 Child and Adolescent Trauma Screen 2, PHQ-9 Patient Health Questionnaire-9, GAD-7 Generalized Anxiety Disorder Scale-7; $^{+}p < 0.10$ $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

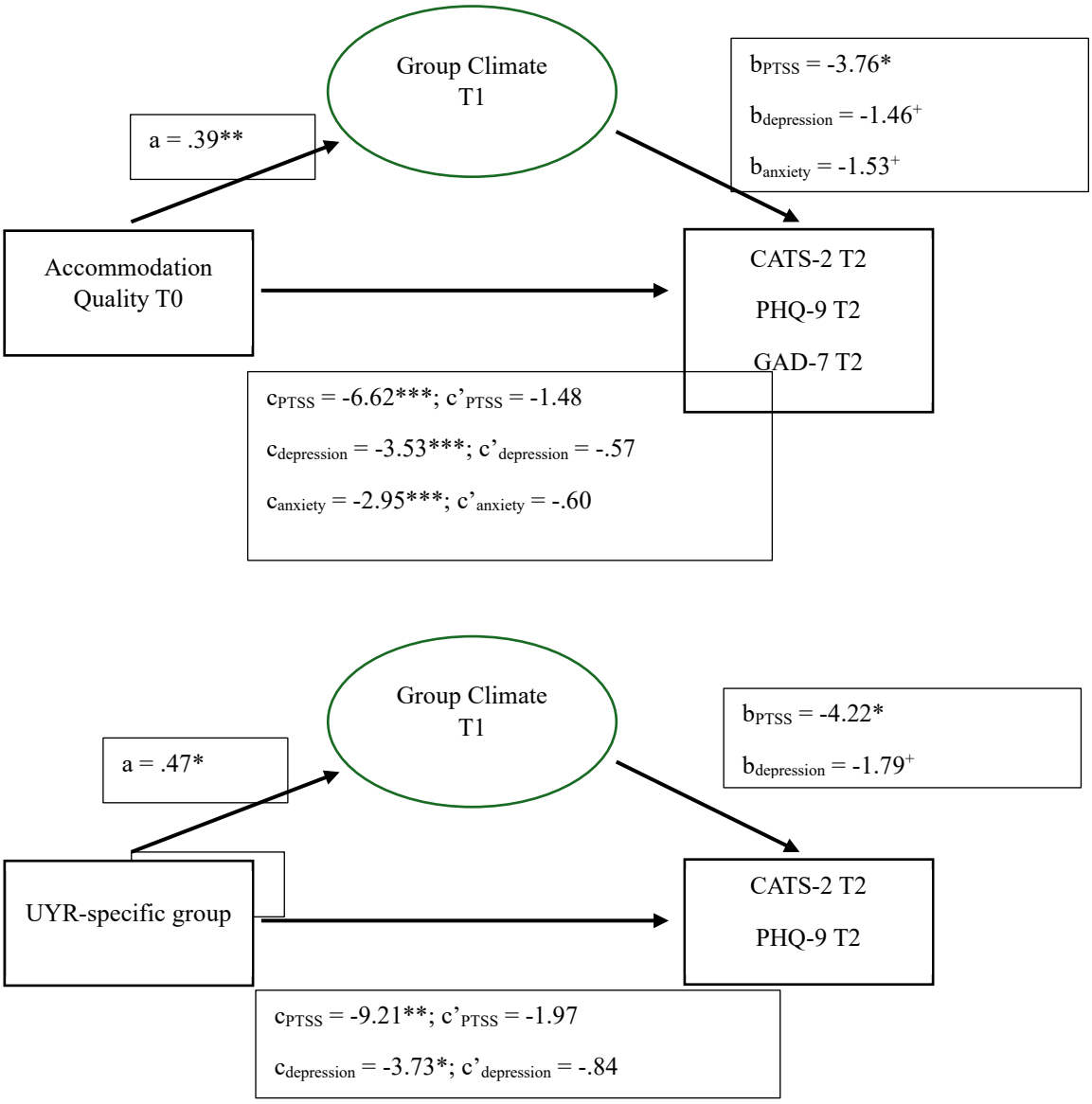
Table 3 *Hierarchical Multiple Regression models predicting CATS-2, PHQ-9, and GAD-7-scores at T2*

	CATS-2 (n = 60)		PHQ-9 (n = 60)		GAD-7 (n = 60)	
Predictors	ΔR^2	ß	ΔR^2	ß	ΔR^2	ß
Step 1	**.328*** **		**.301*** **		**.164** **	
Number of PTEs		-.149		**.241**$^{+}$		**.088**
CATS-2/PHQ-9/GAD-7 T0		**.621*** **		**.237**$^{+}$		**.192**
Step 2	**.221*** **		**.179** **		**.146** *	
Group size				-.107		-.152
UYR-specific group		**-.251***		-.137		
Workload rating		**-.275***		**-.288***		**-.249***
Accommodation rating		**-.087**		-.147		-.156
GCIC open climate T0				-.162		
Step 3	**.002**		**.004**		**.019**	
GCIC open climate T1		**-.048**		**.079**		**-.156**
Total $\boldsymbol{R^2}$	**.551*** **		**.484*** **		**.329*** **	

Note. GCIC Group Climate Instrument for Children, CATS-2 Child and Adolescent Trauma Screen 2, PHQ-9 Patient Health Questionnaire-9, GAD-7 Generalized Anxiety Disorder Scale-7; $^{+}p < 0.10$ $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

Figures

Figure 1 *Institutional factors and mental health: group climate as mediator*



Note. N = 60-62, CATS-2 Child and Adolescent Trauma Screen 2, PHQ-9 Patient Health Questionnaire-9, GAD-7 Generalized Anxiety Disorder Scale-7

Publication 2: Trauma Symptom Agreement

Exact title	Agreement for posttraumatic stress symptoms among unaccompanied young refugees and professional caregivers
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My contribution	I designed the study and co-coordinated the data collection, study procedure and conducted parts of the data collection. I performed the data preparation and analysis, drafted the manuscript, and initiated and finalized the publication process.
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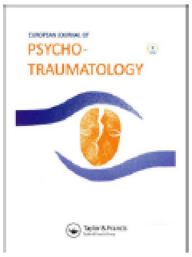

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Agreement for posttraumatic stress symptoms among unaccompanied young refugees and professional caregivers

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BASIC RESEARCH ARTICLE

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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 estadía 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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PALABRAS CLAVE
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 & Herringa, 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 healthcare 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 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-Pedrero 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 (α = .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 *d* mean difference	*ICC* (95% CI)
PTSS severity score					
Full sample ($n = 517$)	24.19 (12.16)	17.32 (10.55)	6.86 (13.18)	.52	.22 (.14; .30)**
12–15 years ($n = 73$)	21.77 (11.56)	16.48 (10.46)	5.29 (15.53)	.34	−.04 (−.27; .19)
16–17 years ($n = 317$)	24.51 (12.47)	16.84 (10.47)	7.68 (12.88)	.60	.24 (.13; 34)**
18–20 years ($n = 127$)	24.75 (11.61)	19.02 (10.68)	5.72 (12.39)	.46	.30 (.13; .45)**
Re-experiencing					
Full sample ($n = 517$)	6.84 (4.04)	4.61 (3.45)	2.23 (4.18)[a)]	.53	.27 (.19; .35)**
12–15 years ($n = 73$)	6.00 (4.03)	4.18 (3.16)	1.82 (4.70)[b)]	.39	.10 (−.13; .32)
16–17 years ($n = 317$)	7.02 (4.08)	4.60 (3.56)	2.42 (4.21)	.58	.27 (.17; .37)**
18–20 years ($n = 127$)	6.88 (3.92)	4.88 (3.35)	2.00 (3.78)	.53	.36 (.20; .51)**
Avoidance					
Full sample ($n = 517$)	2.99 (1.91)	1.97 (1.66)	1.02 (2.39)	.43	.02 (−.07; .11)
12–15 years ($n = 73$)	2.88 (1.78)	1.81 (1.54)	1.07 (2.52)	.64	−.22 (−.43; .01)
16–17 years ($n = 317$)	2.97 (1.93)	1.89 (1.63)	1.08 (2.40)	.45	.003 (−.11; .11)
18–20 years ($n = 127$)	3.12 (1.92)	2.27 (1.77)	.85 (2.29)	.37	.17 (−.002; .34)*
Negative alterations in cognitions and mood					
Full sample ($n = 517$)	7.98 (4.48)	5.75 (4.05)	2.23 (5.43)	.41	.12 (.03; .20)**
12–15 years ($n = 73$)	6.97 (4.12)	5.64 (4.28)	1.33 (5.89)	.23	−.001 (−.23; .23)
16–17 years ($n = 317$)	8.08 (4.57)	5.50 (5.50)	2.57 (5.47)	.47	.10 (−.01; .21)*
18–20 years ($n = 127$)	8.32 (4.40)	6.45 (3.92)	1.87 (4.99)	.38	.22 (.05; .38)*
Hyperarousal					
Full sample ($n = 517$)	6.35 (3.84)	4.98 (3.25)	1.37 (4.22)[a)]	.33	.25 (.17; .33)**
12–15 years ($n = 73$)	5.86 (3.59)	4.80 (3.22)	1.07 (4.72)[b)]	.23	.03 (−.20; .25)
16–17 years ($n = 317$)	6.43 (3.98)	4.84 (3.25)	1.59 (4.08)	.39	.31 (.21; .41)**
18–20 years ($n = 127$)	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 *B*	*SE*	95% CI for *B*	*t*	*p*	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 (Mitra & 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 in 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 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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Publication 3: Treatment Challenges and Facilitators

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Challenges and facilitators in treating unaccompanied young refugees with posttraumatic stress disorder in a dissemination trial: a qualitative study with psychotherapists

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Abstract

Background Unaccompanied young refugees (UYRs) report high rates of post-traumatic stress, depression and anxiety, and low mental health service utilization. Studies have examined the experiences of psychotherapists and refugees in psychotherapy, focusing on barriers. Our stepped-care approach aims to reduce barriers through comprehensive support, such as training and case consultation for psychotherapists and interpreters, and treatment recommendations for UYRs.

Methods A qualitative design with semi-structured interviews was employed, with 20 psychotherapists, of whom 13 were females. All psychotherapists participated in the 'BETTER CARE' project, which included trauma-focused cognitive-behavioral therapy training and case consultations. We analyzed psychotherapists' initial worries, challenges, and facilitators in treating UYRs with posttraumatic stress disorder, and compared the responses of completers' and non-completers' psychotherapists, following a mix of deductive and inductive coding.

Results Psychotherapists expressed worries similar to those documented in the literature on barriers (such as organizational challenges, emotional stress, and uncertainty about working with interpreters) prior to participating in the project. Major facilitators were the components offered by the project, such as online training, workshop and case consultations. In addition, support from the facility and caregivers and the provision of skilled interpreters who translated accurately and transparently, as well as patients' treatment readiness and language proficiency, were seen as facilitators or, when lacking, as challenges. Completers' psychotherapists were more likely to emphasize the positive aspects of the project, a positive therapeutic alliance and patients' trusting relationship with the interpreters as facilitators. In contrast, non-completers' psychotherapists were more likely to encounter structural difficulties, such as the lack of primary caregivers, greater distances, and grief symptoms among patients.

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Conclusions Our findings indicate that enhancing the knowledge of psychotherapists, caregivers, and interpreters through specialized training is important for effective trauma treatment with UYRs. This training should result in increased patient readiness, caregiver support, and fostering a cooperative treatment environment, while also building a trusting relationship between patient, psychotherapist, and interpreter. As initial worries were largely unconfirmed, and completers' psychotherapists benefited more from the projects' offers, we recommend similar approaches.

Trial registration: German Clinical Trials Register DRKS00017453. Registered on 11 December 2019.

Keywords Unaccompanied young refugees, Psychotherapy, Challenges, Facilitators, Worries, Interpreters, Psychotherapists, Child welfare services, TF-CBT

Background

Unaccompanied young refugees (UYRs) experience multiple stressors before, during, and after their flight [1, 2] and report high rates of post-traumatic stress disorder (PTSD; 4.6–43.0%), depression (2.9–61.6%), and anxiety (32.6–38.2%) [3]. Therefore, it is important that they receive appropriate interventions, as untreated posttraumatic stress symptoms (PTSS) can increase the risk of a wide range of physical and mental health conditions and chronic posttraumatic stress disorder [4, 5]. In light of the high needs, it is essential that evidence-based mental health care is available for this vulnerable group [6]. Trauma-focused cognitive-behavioral therapy (TF-CBT), developed by Cohen et al. [7], is recognized as an established treatment for PTSD in children and adolescents. The efficacy of TF-CBT has been demonstrated in meta-analyses and is recommended in international guidelines [8–10]. Studies have also demonstrated feasibility and efficacy in refugee and UYR populations [11, 12].

Despite the availability of treatment options, the use of mental health services among asylum seekers is low [3, 13–16]. Furthermore, studies on psychotherapy retention rates among UYRs are lacking, but a meta-analysis of adult refugees suggests a dropout rate of about 20%, which is comparable to non-refugee populations [17]. The difficulties of access and early dropout observed in this population can be attributed to several barriers. On the one hand, UYRs have complex needs, lack of trust in institutions and professionals, lack of awareness of mental health issues, lack of knowledge about the health care system, perceived discrimination, fear of stigma, and language barriers [16, 18–24]. On the other hand, they face additional structural barriers such as a lack of resources, legal restrictions/asylum status, and accessibility issues in terms of reaching psychotherapists and getting appointments [20, 22, 24, 25].

Additional barriers exist on the part of psychotherapists. Some psychotherapists are perceived as reluctant, lacking awareness, cultural competence and capacity, and have negative attitudes towards refugees, as reported by experts and refugees [16, 19, 22]. Previous research on psychotherapists' experiences of working with refugees identified a mixed response to the use of interpreters [26]. The efficacy of interpreter assisted treatment has been demonstrated to yield outcomes that are comparable to those achieved in the absence of interpreters [26–28]. Psychotherapists themselves have reported several challenges during the psychotherapeutic process with refugees, including high bureaucratic and organizational effort, cultural challenges (different explanatory models of illness), different expectations of therapy, funding difficulties (intervention and interpreter), and communication and trust issues [29–32].

Given the existence of numerous qualitative studies examining psychotherapists' experiences in treating migrants or refugees (e.g. [29, 31, 32]) and the lack of studies on facilitators of psychotherapy with UYRs, this study is unique as it was part of a stepped care approach called 'BETTER CARE' [33]. This project is a multicenter dissemination and implementation trial that aims to improve the mental health of UYRs, to implement TF-CBT and to reduce barriers to psychotherapy utilization. Consequently, this study may provide new insights into additional relevant factors. Therefore, we sought to assess whether the concerns reported by psychotherapists prior to their participation in the 'BETTER CARE' project were consistent with barriers documented in the literature. We also examined reported facilitators and challenges after the primary barriers were removed by the project design, and whether these differed between psychotherapists whose patients completed the TF-CBT and those who terminated prematurely.

Methods

Study context

The data were collected as part of the multicenter, cluster-randomized controlled trial 'BETTER CARE' [33]. The trial and all subprojects were approved by the ethic committees of Ulm University (No. 243/19) and Catholic University of Eichstätt-Ingolstadt (No. 004-19). The main aim of the trial is to compare a stepped-care model, including the preventive group intervention "My Way" [34] and TF-CBT [7], with treatment as usual. Participating UYRs were recruited through Child and Youth

Welfare Services (CYWS) facilities via welfare lists. A mental health screening was conducted on each adolescent to assess the presence of PTSS, depression, and anxiety symptoms. If cut-off scores were exceeded, treatment recommendations were made for either My Way (PTSS subclinical) or TF-CBT (PTSS clinically significant). The CYWS facilities were provided with lists of nearby TF-CBT-trained psychotherapists and interpreters who were themselves participating in the BETTER CARE project. Although interpreters were trained as part of the project, none of them accompanied treatments in this subsample due to long distances or other reasons of unavailability.

Inclusion criteria for psychotherapists in the project were: licensed child and adolescent psychotherapist or psychological psychotherapist; willingness and written informed consent to participate and willingness to treat up to three UYRs with PTSS. As a first step, the psychotherapists did the German TF-CBT Web, a web-based training programme (http://tfkvt.ku.de) which is enhanced with culturally tailored materials. It has previously shown effectiveness and acceptance among psychotherapists [35]. Afterwards, they received a two-day online live workshop, led by a TF-CBT trainer, focusing on treatment methods and special considerations for working with UYRs. This included the importance of cultural aspects in TF-CBT, such as maintaining an open attitude of not knowing and navigating between cultures, as well as psychoeducation on confidentiality and psychotherapy in general, and the involvement of interpreters and professional caregivers as a bridge to the facility. Psychotherapists treating project participants were required to participate in bi-weekly live online case consultations led by TF-CBT trainers. Case consultations were conducted in same groups of two to six psychotherapists. Once the psychotherapists had completed their first case, they were eligible to participate in the follow-up interview, the period between the workshop and the interview were $M = 333.94$ days ($SD = 170.74$, range: 136–650 days, 2 missings). To participate in the interview, they had to sign an additional consent form.

Procedure

The interviews were conducted between September 2021 and February 2024. Participants did not receive any form of compensation for the interview. The duration of the interviews was between 22 and 54 min. All interviews were documented through audio recordings and subsequently transcribed word-by-word. Any information in the interview transcripts that could potentially identify the participants or UYRs was removed to ensure anonymity. The individual online interviews were conducted by BK and FD, who both held master's degrees in clinical psychology, using the online video platform 'ZOOM' with end-to-end encryption. Both interviewers were research assistants in the 'BETTER CARE' project and were responsible for recruiting psychotherapists and organizing the training and case consultations, but they were not trainers/supervisors.

Participants

The sample consisted of 20 psychotherapists, of whom 13 were female and 13 had previous experience in treating UYRs (Table 1). All psychotherapists had been licensed psychotherapists for at least one year ($M = 8.70$; $SD = 5.96$, range: 1–23 years). 18 participants were child and adolescent psychotherapists. Only two were psychological psychotherapists, one of whom also held an additional license as a child and adolescent psychotherapist. In Germany, psychological psychotherapists are professionals who, after obtaining a degree in psychology, have completed an extensive postgraduate training program in psychotherapy, specializing in the treatment of either adults, youth, or both. A total of 17 psychotherapists specialized in cognitive-behavioral therapy and three specialized in psychodynamic psychotherapy. Seven psychotherapists had only one or more non-completers and no ongoing or successfully completed TF-CBT, while six psychotherapists had only one or more psychotherapy completers and no ongoing or non-completed TF-CBT. The psychotherapists treated in total 33 study patients. Consisting of five females and 28 males, with ages ranging from 13 to 19 years ($M = 16.18$, $SD = 1.17$). Among them, 32 patients were residing in CYWS facilities, while one patient stayed in a so-called supervised independent living, where youth receive less intensive care but remain connected to the CYWS facility. All patients underwent a two-step diagnostic procedure. Following referral due to elevated screening scores, each patient received a clinical diagnosis by the psychotherapist. In total, 22 patients were diagnosed with PTSD alone; six with PTSD and a moderate depressive episode; two with PTSD and a mild depressive episode; and one with PTSD and a chronic pain disorder. The diagnostic information for two patients is missing. The data do not show a clear distribution that would indicate that either psychotherapists or patients are predominantly located in urban or rural areas. Since none of the accompanying interpreters participated in the BETTER CARE training, we do not have socio-demographic data on the interpreters.

Interview

The interviews followed a semi-structured format, following an interview guide developed specifically for this study (see Additional file 1). The interview questions were designed based on the knowledge of treatment challenges as found in the literature (e.g. [36]). The preliminary interview guide was subjected to a review process involving team members, all of whom were licensed

Table 1 Participants' Sociodemographic characteristics

ID	Gender	Educational background	Theoretical background	Experiences since licensure (years)	Previous experience in treating UYRs	No of treated UYRs in the project		
						Dropout	Completed	On-going
T1	M	Psychology, Social Pedagogy	CBT	8	Yes	2	0	0
T2	F	Social Pedagogy	PP	23	No	1	1	0
T3	F	Pedagogy	CBT	5	Yes	1	1	0
T4	M	Social Work, Social Pedagogy	PP	8	No	0	3	0
T5	F	Psychology	CBT	20	Yes	1	0	0
T6	M	Social Pedagogy	CBT	8	Yes	2	1	0
T7	M	Education	CBT	6	Yes	0	2	0
T8	F	Social Work	CBT	6	No	0	1	1
T9	F	Social Work	CBT	6	No	0	1	0
T10	F	Social Pedagogy, Social Work	PP	18	Yes	0	1	1
T11	M	Pedagogy	CBT	6	Yes	1	0	0
T12	F	Social Pedagogy	CBT	7	Yes	1	0	1
T13	F	Social Work	CBT	4	No	1	0	0
T14	F	Pedagogy	CBT	5	Yes	0	1	0
T15	F	Social Pedagogy	CBT	1	Yes	0	1	0
T16	F	Social Work	CBT	9	Yes	0	2	0
T17	M	Psychology	CBT	4	No	1	1	0
T18	F	Psychology	CBT	11	No	1	0	0
T19	F	Psychology	CBT	16	Yes	1	0	0
T20	M	Pedagogy	CBT	3	Yes	1	0	0

M: Masculine; F: Feminine; CBT: Cognitive Behavior Therapy; PP: Psychodynamic Psychotherapy

psychotherapists with expertise in treating UYRs, and qualitative research. This resulted in an adjusted interview guide, based on the feedback received. The final version was piloted in a test interview with a fellow psychotherapist and included questions about previous experience in treating traumatized children and youth, and traumatized UYRs. It also inquired about experiences with the 'BETTER CARE' stepped-care approach, specifically the facilitators and challenges relevant to the implementation of TF-CBT with UYRs, treatment fidelity, and sustainability of the training and study. All interviews were conducted in German.

Data analysis

The data were transcribed using the software "amberscript", the transcripts were then proofread and corrected by the team members and analyzed according to the focused interview analysis by Kuckartz and Rädiker [37]. After an initial familiarization with the content of the transcripts, the coding process combined inductive and deductive approaches, supplemented by analytical memos to discuss unclear expressions. Two authors developed a preliminary codebook from four interviews, which was refined through ongoing analysis with input from a third author, reaching consensus on codes after review and a calculated inter-rater reliability of $k = 0.78$. Discrepancies in coding were discussed and resolved, resulting in a defined code list that was analyzed using MAXQDA24. Codes that were mentioned only once were grouped under the code "other" and reported with two examples each. The frequencies were reported according to the function "Code Frequencies—Valid Percent" in MAXQDA 24. The frequencies of specific codes within the dataset were then examined in relation to the total number of valid codes, excluding interviews that did not address this topic. A comparison was made between the facilitators and challenges mentioned by psychotherapists with patients who completed TF-CBT (completers' psychotherapists) and those with patients who prematurely terminated TF-CBT (non-completers' psychotherapists). This was based on the rule of "counting each hit in a document only once" and a minimum difference of two mentions between the groups in the number of codes.

Results

Psychotherapists who had experience in working with UYRs mentioned the following experiences: referral through the CYWS institution/school context, challenging life circumstances (such as traumatic experiences in the host country that prompted them to seek treatment), and uncertainty in treatment and dealing with cultural differences. The worries psychotherapists expressed prior to their involvement in the project were mainly related to structural barriers, such as organizational difficulties and uncertain residency status; personal concerns such as high emotional strain and cultural competence; and patient-related issues, such as poor language skills,

unreliable attendance, and severity of psychopathology, as seen in Additional file 2.

The study revealed that participants identified various factors, including project-related, structural, personal, patient-, and interpreter-related aspects, as either facilitating or challenging the implementation of psychotherapy with UYRs. Table 2 provides an overview of the categories and subcategories identified in the interviews regarding the facilitators and challenges that emerged. In the following text, all categories that were identified during the analysis are presented in italic font. In Additional file 3, Add3-Table 1–Table 5 present all results with codes, frequencies, and examples.

Project-related facilitators and challenges

Project-related aspects were most frequently reported as facilitators, as shown in Add3-Table 1 (see Additional file 3). First, the biweekly live online *case consultations*, which were funded by the project, were identified as the most important facilitator due to their dual efficacy in providing assistance and fostering provided group-based learning. In addition, the case consultations were perceived as enhancing and facilitating adherence because "[…] she [the supervisor] was always able to give good tips on what one can do to perhaps find one's way back a little bit." (T4). It also allowed for flexibility within fidelity and was a space "[…] where you can reflect on patients again […]" (T18). Participants also expressed appreciation for the supervisors' expertise and ability to help when needed. Other facilitators of the case consultations were, for example, collegial interaction and appreciation by the supervisors. The only negative aspect of case consultations was the lack of opportunities for peer interaction. "That is, not only the individual communicates with the [supervisor], but that the others can also participate a bit… if they have questions or if they have suggestions or a feeling about it. That it's more of a group setting, instead of just being spectators while two talk to each other. I would wish for that a bit more, or I could express it as a point of criticism." (T4).

Second, another important component was the *TF-CBT workshops*, which were not only mentioned as being generally effective but, according to the psychotherapists, also provided important knowledge about the manual, as one has "[…] now experienced in the workshop what it can look like." (T4). They also emphasized the good structure of the workshop. Other facilitators were, for example, the opportunity to ask questions and the online implementation. "And then the workshop. It was fantastic. First of all, online, and then also just the two of us. I mean, it doesn't get much better than that." (T9). Participants did not mention any challenges related to this. For five people, *both the case consultation combined with the workshop* was the most helpful aspect of the study.

Third, the *provided materials* were facilitating. The general provision, and especially the availability of worksheets and translated materials, were perceived as beneficial for facing challenging circumstances: "[…] whenever I thought I was floundering, I thought, okay, then I'll cling to what the worksheets provide." (T16). Some psychotherapists stated that the materials were not effective, for example, in a situation where the patient "[…] was already 20 years old and knew a lot, I rather worked with materials from the adult sector or with materials I produced myself." (T5).

Fourth, the *German TF-CBT Web*, which the participants were required to complete as a preliminary step, served as a facilitator in the training process, providing not only knowledge but also video examples and an initial overview that could be revisited as often as necessary. "So, for almost every session, before every module, I reviewed and read through the module again. Also, I watched one or the other video again." (T4). The accessibility and flexibility of the website, coupled with its comprehensive content, made it an ideal learning resource. The other facilitator mentioned was that it gave a first insight into conducting TF-CBT. The challenge mentioned was that the program was too extensive, and one psychotherapist further stated, "I'm not much of an online learner. It annoys me." (T18).

In addition to the components provided by the study, participants also recognized the benefit of using a *manualized and evidence-based treatment*. "Okay, so this is, of course, a manual, so to speak. There are aspects, so to speak. It's about doing it just like that. And that's exactly it, no more and no less. So that is, that is, I find it quite okay again, because then, both I and the therapist, uh the patient knows what he is getting, so to say." (T1). The *provision and funding of interpreters* by the project, as well as the *financial compensation for the psychotherapists*, were seen as beneficial. In addition, the *preparation and initiation of the treatment* "[…] through the making of contact and assignment of patients, this greatly eases the situation." (T5) were mentioned. The psychotherapists also appreciated the *availability of contact persons* that "[…] you could always ask [via email] if anything was missing and certainly the contact with the study center as well." (T19). The *digital implementation* of all aspects of the study was an additional factor that facilitated the implementation. Other facilitators mentioned were for example, the spontaneous and uncomplicated study participation and "[o]f course, without 'BETTER CARE' it wouldn't have happened, and it's somehow, I would say nice, to be part of such a network. So, I benefit from it too and everything that is done about it." (T15).

Eight psychotherapists reported no challenges related to the study, and two psychotherapists did not respond. In addition to the *documentation effort*, another challenge

Table 2 Facilitators and challenges in working with UYRs

Facilitators	Frequency	Challenges	Frequency
Project-related		**Project-related**	
		No challenges[b]	8 (44.4%)
Case consultations[a]			
General effectiveness	12 (60.0%)		
Group-based learning	8 (40.0%)		
Increases adherence	7 (35.0%)		
Enables flexibility within fidelity	5 (25.0%)		
Reflecting about patient	5 (25.0%)		
Supervising person as competent contact person	4 (20.0%)		
TF-CBT Workshop[a]			
General effectiveness	4 (20.0%)		
Conveys important knowledge	4 (20.0%)		
Structure of the workshop	2 (10.0%)		
Both case consultations and workshop[a]	5 (25.0%)		
Material[a]		Material[b]	
General availability of material	12 (60.0%)	Material not adequate	3 (15.0%)
Availability of worksheets	5 (25.0%)		
Availability of translated materials	5 (25.0%)		
German TF-CBT Web[a]		German TF-CBT Web[b]	
General effectiveness	4 (20.0%)	Too extensive	2 (10.0%)
Video examples	3 (15.0%)		
Repeated use possible	2 (10.0%)		
Flexibility	2 (10.0%)		
Manualized and evidence-based treatment[a]	9 (45.0%)	Documentation[b]	7 (35.0%)
Provision/Funding of interpreters[a]	8 (40.0%)	Lacking information on organizational aspects[b]	4 (20.0%)
Financial compensation for psychotherapists[a]	8 (40.0%)	Knowledge decay[b]	2 (10.0%)
Preparation and Initiation of treatment[a]	7 (35.0%)		
Availability of contact persons[a]	5 (25.0%)		
Digital implementation[a]	3 (15.0%)		
Structural		**Structural**	
CYWS facility aspects[c]		CYWS facility aspects[a]	
Supporting/accompanying the treatment sessions	7 (38.9%)	Lacking clear primary clearly responsible caregiver	7 (35.0%)
High treatment compliance from caregivers/facility	8 (44.4%)	Lacking therapy compliance from caregivers/facility	3 (15.0%)
Supportive caregivers in everyday life	5 (27.8%)	Caregiver-imposed outcome pressure	2 (10.0%)
Collaboration and exchange between caregivers and psychotherapist	3 (16.7%)	Lacking caregiver/conjoint sessions	4 (20.0%)
Knowledge about PTSD/psychotherapy	2 (11.1%)	Lacking knowledge about PTSD/psychotherapy	3 (15.0%)
Facilitating transportation[c]	2 (11.1%)	Logistical access issues	4 (20.0%)
Availability of interpreters [c]	9 (50%)	Long distance between facility & psychotherapy [a]	7 (35.0%)
Use of supplemental materials[c]	4 (22.2%)	Difficult time coordination[a]	8 (40.0%)
Location of the practice[c]	2 (11.1%)	Increased effort[a]	6 (30.0%)
		Technical issues[a]	4 (20.0%)
		Lacking clear responsibility from Youth Welfare Office[a]	4 (20.0%)
		Unreliability of public transportation[a]	2 (10.0%)
Personal		**Personal**	
Good therapeutic alliance[d]	6 (46.2%)		
Openness to treat UYRs[d]	3 (23.1%)		
Patient-related		**Patient-related**	

Table 2 (continued)

Facilitators	Frequency	Challenges	Frequency
Treatment readiness[e]	6 (54.5%)	Lacking treatment readiness[f]	5 (33.3%)
Language proficiency[e]	2 (18.2%)	Lacking language proficiency[f]	9 (60.0%)
		Concerns regarding family[f]	6 (40.0%)
		Complex daily challenges[f]	4 (26.7%)
		Grief[f]	2 (13.3%)
		Lacking educational background[f]	2 (13.3%)
Interpreter-related		**Interpreter-related**	
Precise word-for-word translation [f]	6 (40.0%)	Lacking word-for-word translation [g]	6 (60.0%)
Transparency[f]	6 (40.0%)	Own therapeutic needs[g]	4 (40.0%)
Trusting bond with patient[f]	6 (40.0%)	Relationship with patient too close[g]	3 (15.0%)
Caring/likeable interpreter[f]	6 (40.0%)	Remote interpreters [g]	3 (15.0%)
Experienced/Trained interpreter[f]	5 (33.3%)	Interpreters wish to act as co-therapist[g]	2 (10.0%)
Cultural mediator[f]	4 (26.7%)		
Language mediator[f]	3 (20.0%)		
Remote interpreter[f]	3 (20.0%)		
Long-term continuity[f]	2 (13.3%)		

[a]Interviews with code $n = 20$
[b]Interviews with code $n = 18$
[c]Interviews with code $n = 19$
[d]Interviews with code $n = 13$
[e]Interviews with code $n = 11$
[f]Interviews with code $n = 15$
[g]Interviews with code $n = 10$

was the *lack of information on organizational aspects* and *knowledge decay* between the training and seeing of the first patient. "I just found it a bit difficult until the first patients arrived. Naturally, you then slip back into your daily routine, because, yes, I also treated many patients and then that part slips away again. I found that a shame, because it then required more effort from me, so to say." (T2). Other challenges mentioned included a lack of support from study staff members for structural problems and inappropriate diagnostic tools.

In conclusion, the main project-related facilitators were case consultations and the availability of materials that was each mentioned by 60% of the participants, followed by manualized and evidence-based treatment (45%). The main obstacle was the documentation (38.9%).

Structural facilitators and challenges

Structural aspects were reported as both facilitators and challenges, with some codes overlapping as can be seen in Add3-Table 2 (see Additional file 3). Most of the structural aspects mentioned were related to the *CYWS facilities*. As facilitators, the psychotherapist mentioned when "[…] always the same primary caregiver [was] involved […]" (T11), as well as high treatment compliance by the caregivers and/or the facility. When this was not the case, it was also mentioned as a challenge. Furthermore, the provision of caregiver assistance with activities of daily living was identified as a crucial element, "[…] because they had a good caregiver network, I didn't have to worry about things like school, residence permits, or anything else, but I could focus on the therapy." (T16). Collaboration, caregiver-therapist sharing, and knowledge about PTSS and psychotherapy were helpful; conversely, absent caregivers or shared sessions and knowledge gaps were challenging. On the one hand, facilitating transportation was helpful, "[although] it often didn't work out well for them to participate in person, but they really made an effort to ensure that he… that he was taken to his appointments, so that he was picked up. They always registered in advance. So, the facility was very committed, and I believe it also made things easier." (T3). On the other hand, logistical access issues when caregivers were unable to provide transportation, were relevant challenges. Other facilitators related to the CYWS facility were e.g. when "[they] […] had a very clear information system in the house, that they did it like hospitals and kept the files online, and no matter who you talked to, they knew exactly what had been discussed with the previous person. Which is not a matter of course with the facilities." (T7) and less personal fluctuation. In addition to the aforementioned challenges, psychotherapists identified pressure from caregivers as a significant difficulty, as "[…] [they] hope for quick help from the therapist, kind of like this'fix it quickly so things run smoothly'." (T18). Other facility-related challenges included the need to work in shifts, absenteeism, and the difficulty of reaching caregivers and patients by phone.

In addition to the CYWS–related aspects, the *availability of interpreters* emerged as an important facilitator, as was the *use of supplemental materials* and the *location of the practice* when "[…] the practice is perhaps relatively central. The thing with the train station, I believe, is also quite good […]" (T1). Other structural facilitators were, for example, the uncomplicated approval of the treatment by the health insurance: "[t]he approval was really quick and completely hassle-free, and for the first one, he then started training, and so the youth welfare office practically handed it over to the health insurance. And then I just got the remaining hours approved by the health insurance. That was totally easy, totally relaxed. It went really well." (T3) and offering double lessons at the end of the day.

Other challenges besides the CYWS facility were the *distance between the facility and the psychotherapeutic practice*. In addition, psychotherapists' *increased effort* and a difficult *time coordination* were identified as challenging, for example, "[…] to synchronize the interpreter's schedule and mine, and if it didn't work out on a certain day, we usually didn't find any alternative dates. Because we were both fully booked, and it just didn't work out." (T7). Those who provided digital treatments during the Covid-19 pandemic also encountered *technical problems*. For a significant number of patients, the cost of psychotherapy was covered by the Youth Welfare Office, and in this area the psychotherapists mentioned a *lack of responsibility*. This was explained as follows: "I have to clarify it in advance. But nothing comes back from there. Like, how often I have called and sent emails. In every phone call, I'm put off, referred to someone else. It's really, really difficult." (T4). Finally, the *unreliability of the public transportation* was also a challenge. Other challenges mentioned were, for example, the lack of clear responsibility of the legal guardian and uncertainty about the residence status.

One psychotherapist did not mention any structural facilitators. The most important facilitators were availability of interpreters (50%), high compliance of caregivers/facilities (44%), and when caregivers supported/accompanied treatment sessions (39%). The main challenges were time coordination (40%), a lack of clear responsible caregivers (35%), and long distance between facility and psychotherapy (35%). The most important facilitators and challenges were focused on the CYWS facility and its caregivers and their commitment to psychotherapy.

Personal facilitators and challenges

Add3-Table 3 (see Additional file 3) shows that personal facilitators or challenges were rarely mentioned. Only 13 psychotherapists named personal facilitators, most commonly the ability to form a *good therapeutic working alliance*. Furthermore, participants indicated that it was beneficial to be *open to treating UYRs*, as "I also like treating refugees! But it might make things a bit easier, indeed." (T1). Other facilitators mentioned were, for example, when "[someone] already knew the caregiver before 'BETTER CARE' and the interpreter as well, and yes, it was just a good foundation that [they] had already established beforehand." (T12).

Personal factors that posed a challenge to the treatment of UYRs were rarely mentioned. Only five psychotherapists reported such occurrences, and no recurring themes emerged. Therefore, we provide selected examples, including a wrong impression of the need for a interpreter and impatience. One psychotherapist articulated her experience as follows: "So, I can be a bit impatient sometimes, I then have to hold myself back and say, maybe this isn't the topic for today after all. We need to take a step back again." (T15).

Patient-related facilitators and challenges

The psychotherapists mentioned more patient-related challenges than facilitators, as can be seen in Add3-Table 5 (Additional file 3). The main themes were *therapy readiness* and *language proficiency*. These were identified as both facilitators and challenges, depending on their presence or absence. One psychotherapist explained the lack of treatment readiness as follows: "We then revisited the symptoms, yes, I believe, this concept of allowing oneself to be helped was not yet acceptable to him. He was not at that point yet." (T18). Another psychotherapist described the lack of language skills in this way: "I actually found the language barrier difficult, even though, of course, a interpreter could have been used, but there was no acceptance on the part of the patient, at least at that time." (T13). Other patient-related facilitators included, for example, being likeable and cognitively talented.

Additional challenges were *concerns about the family*, as "[…] he somehow needs certainty over this'my family is coming or not coming' in order to either deal with the fact that they are not coming, or if they do come, then the traumatic issues will resurface for him. At the moment, all of this doesn't come up at all, it has no meaning for him." (T3). Furthermore, *complex daily challenges* such as "[…] the turbulence of their everyday lives. Yes. Youth welfare and trauma have the potential to make everyday life unstable." (T20) hindered a stable therapeutic process. Psychotherapists mentioned that for some patients, *grief* was a more prominent factor, impeding their ability to process the trauma. Finally, a *lack of educational background* made it difficult for the patients to complete the worksheets. Other mentioned patient-related challenges were, for example, the presence of a rigid mindset and stuttering.

Nine psychotherapists did not mention any facilitators and five did not mention any challenges. Overall, therapy readiness (facilitator: 54.5%, challenge: 33.3%) and language proficiency (facilitator: 18.2%, challenge: 60.0%) were the most frequently mentioned factors that can facilitate or hinder psychotherapy with UYRs.

Interpreter-related facilitators and challenges

As can be seen in Add3-Table 5 (see Additional file 3), the concept of *precise, word-for-word translation* was perceived as a facilitator, while its absence was perceived as a challenge. A *transparent* communication with psychotherapists about the interpreters' inability to provide word-for-word translation was seen as beneficial, for example when "[…] he also always asked again and said, when he mentioned: well, you know, this and that in the language is difficult to explain. May I, so, he also asked, even if it went beyond the translation […]" (T18). Similarly, *experienced and trained interpreters* were seen as advantageous. A *trusting bond* including "[…] the human aspect, meaning that one could tell that the young people also liked talking with this interpreter. That was also very important. And they actually treated him like an uncle." (T7). Nevertheless, some psychotherapists noted that a *too close relationship* was difficult for the treatment, as one psychotherapist had "[…] the impression that some young people tend to bond more with the interpreter than with me." (T16). The *likeability and care* exhibited by interpreters facilitated the treatment for example when "[…] she participated, truly participated with her heart […]" (T4). In addition to serving as language mediators, the interpreters also served as *cultural mediators*, which "[…] was positive, clearly, that was also a form of cultural mediation alongside the linguistic, I would say." (T17). The use of *remote interpreters* was perceived as both a facilitator and challenge. One psychotherapist described "[…] the switch to the online interpreter was better because, due to, because the computer was there, it was a bit more in the background." (T11) while another one saw that "[t]he difficult part was that he was only available by phone, so to speak. I didn't find that very helpful. I do think it's good to be able to see the person. So, it wasn't good that he didn't manage to do it with a phone [means: video]." (T1). In addition, the *interpreter's long-term continuity* in the process, coupled with his involvement in other contexts, proved to be advantageous in terms of acquiring more information about the patient. Other interpreter-related facilitators mentioned were, for example, flexibility and reliability.

Besides the challenges described above, when interpreters had their *own therapeutic needs* and when they wanted to *act as a co-therapist* for example "[…] when they did not just perform their task but tried to act therapeutically themselves or became too emotional […]" (T6) was seen as a challenge to the treatment. Other challenges mentioned were, for example, short notice cancellations and multiple interpreters for one patient.

With regards to the role of facilitators in working with interpreters, five participants did not respond, while only ten psychotherapists responded to the question of challenges. In summary, it is evident that the priority for psychotherapists is the accuracy (facilitator: 40.0%, challenge: 60.0%) and transparency (facilitator: 40%) of the translation. Although establishing a trusting bond with patients was seen as beneficial (40.0% each), maintaining a balance is crucial, as a bond that is too close was seen as a challenge (15.0%).

Comparison of completers' psychotherapists vs. non-completers' psychotherapists

A comparison of the facilitators and challenges mentioned by six completers' psychotherapists versus seven non-completers' psychotherapists indicated the following.

Project-related aspects Completers' psychotherapists were more likely to emphasize the effectiveness of case consultations (83.3% vs. 26.8%) and the provision of interpreters (66.7% vs. 14.3%). Only completers' psychotherapists mentioned the usefulness of worksheets (33.3%) and online learning videos (33.3%). Documentation challenges were more commonly reported by completers' psychotherapists (66.7% vs. 14.3%). Non-completers' psychotherapists were more likely to emphasize the benefits of manual and evidence-based methods (57.1% vs. 33.3%).

Structural aspects Completers' psychotherapists perceived supplemental materials as facilitating (50%) and lacking clear responsibilities from Youth Welfare Offices (33.3%) as challenging. These issues were not addressed by non-completers' psychotherapists. Non-completers' psychotherapists were more likely to report unclear responsibility of primary caregivers (42.9% vs. 16.7%), distance issues (57.1% vs. 16.7%), and additional effort reported (42.9% vs. 16.7%).

Personal aspects Completers' psychotherapists reported the beneficial impact of a positive therapeutic alliance (50.0% vs. 14.3%) more often, while only non-completers' psychotherapists indicated that willingness to treat UYRs was a significant factor (28.6%). There were no notable differences between challenges.

Patient-related aspects There was no notable difference between the facilitators. Only completers' psychotherapists reported a lack of educational background as a challenge (33.3%), while only non-completers' psy-

chotherapists reported grief as a significant challenge in implementing TF-CBT (28.6%).

Interpreter-related aspects Only for completers' psychotherapists, a trusting relationship between the interpreter and the patient (50%) and long-term continuity (33.3%) were important factors. No remarkable differences in challenges were noted.

Discussion

This study contributes to the current literature by exploring the experiences of psychotherapists working with UYRs in a dissemination and implementation trial. It further provides new insights into the facilitators of trauma treatment in a refugee population, after efforts have been made to address several care-related barriers as part of the 'BETTER CARE' project.

We aimed to examine whether psychotherapists reported the *same worries before participating* in the project as reported in the literature. We found partial evidence, especially for structural and psychotherapist-related worries, such as organizational and residency issues [22], the involvement of interpreters [24], cultural competence [19, 25], and emotional burden for the psychotherapist [38]. Patient-related worries were also reported, such as language barriers [16, 22, 30] and unreliable attendance, which may be due to different cultural concepts of time [24]. However, a quarter reported no worries, indicating openness and low prejudice towards psychotherapy with UYRs in our sample.

Because the *project* attempted to address primary structural barriers, the study found that initial worries largely did not re-emerge as challenges, with psychotherapists facing mainly coordination issues, but not the anticipated emotional distress or problems related to interpreters and cultural competences. Patient-related worries, particularly language skills, persisted, while issues such as attendance and severe psychopathology were less prominent. Thus, it appears that the inclusion of resources such as the German TF-CBT Web, workshops, and case consultations significantly facilitated the delivery of psychotherapy to UYRs. Therefore, we can conclude that psychotherapists who were interested in learning evidence-based treatment methods and treating UYRs responded positively to the combination of an online learning platform and a workshop, although a potential bias in the interpretation of the results should be considered, as those who were not interested in online training and (UYR) trauma treatment did not participate in the project. The results align with research highlighting the value of formal training for positive treatment outcomes [29, 39] and the combination of a variety of strategies [40]. In addition, psychotherapists highlighted the benefits of preparing and organizing psychotherapy through the project, in addition to support by the project staff. This included initiatives such as: a brief training for a mental health coordinator to act as a contact person within the CYWS facility, making phone calls to determine whether UYRs recommended for treatment were interested in psychotherapy, and if so, making further phone calls to verify if these adolescents received a psychotherapy slot. The project is considered a successful approach, as evidenced by the fact that eight out of 18 participants reported no challenges associated with the project. The primary challenge identified, documentation, is likely due to the extensive project-specific paperwork required for a detailed evaluation and thorough understanding of the treatment process. Challenges related to the TF-CBT treatment approach could be addressed by providing organizational information about common issues related to psychotherapy funding and interpreters within the learning platform, and by providing separate materials for younger children and adolescents.

From a *structural perspective*, psychotherapists emphasized the importance of caregivers supporting and/or accompanying psychotherapy, which is also an integral part of the TF-CBT manual [41]. This is particularly important because, in addition to providing emotional and practical support, they are relevant as models of resilient coping mechanisms and protection against future harm [41]. The psychotherapists in our study agreed on this part with the manual that points out the immense impact of caregiver inclusion during the psychotherapeutic process. In addition, a supportive infrastructure within the facility, which includes not only facilitating transportation to psychotherapists, but also caregiver compliance and knowledge about PTSS and psychotherapy, was seen as critical to UYRs' treatment attendance and compliance. McGuire et al. [42] identified several potential reasons for the lack of caregiver support and involvement, including limited staff availability for one-on-one support, placement nature that occasionally prevents caregiver presence, instability within the support network, and scenarios where the youth preferred to exclude their caregivers. Compounding these challenges, the location of the psychotherapeutic practice, and the distance between it and the facility, along with unreliable public transportation, were also highlighted as significant challenges in our study, suggesting remote or outreach psychotherapy as an alternative. Remote psychotherapy received mixed reviews in our study; some psychotherapists highlighted problems stemming from the lack of personal contact and a secure space, which are vital for effective treatment. This issue was particularly pronounced when psychotherapy was conducted solely via online platforms during the Covid-19 pandemic, while the patients were often located in shared

rooms. This created situations in which they might avoid sharing traumatic events, especially since many of these experiences are associated with feelings of guilt and shame. Therefore, an outreach approach, in which psychotherapists meet patients at home or at a location of the patient's choice, may reduce barriers and facilitate caregiver involvement [43]. Additionally, under such circumstances, psychotherapists could ensure that psychotherapy takes place in a safe space for the patient. If this is done by psychotherapists who are interested and trained in working with UYRs, it could also help facilitating the process of bringing them into psychotherapy, especially as the willingness of outpatient psychotherapists in Germany to treat refugees is lower than that of non-refugee patients [44].

The psychotherapists interviewed were less likely to mention *personal factors*. The most important factor was the ability to build a strong relationship with patients. This finding is consistent with studies indicating that a strong therapeutic relationship is an important component of TF-CBT, leading to reduced PTSS [45], with the alliance being particularly important at mid-treatment. Ormhaug et al. [45] also found that a positive alliance also led to more efficient treatment, with fewer sessions. In addition to facilitating psychotherapy, a positive alliance may also reduce dropout rates among refugees, as shown in a recent review with refugees [17]. To strengthen the alliance, studies by Colucci et al. [24] and Mirdal et al. [36] further emphasize the need for mental health professionals to use presence-focused, adolescent-friendly approaches and to provide psychoeducation. Psychoeducation plays an important role in the process of establishing a strong alliance with refugee patients, as they often come from a different cultural background, have a different explanatory model and different expectations of psychotherapy [29]. Promoting psychoeducation can help to build trust and safety by providing clear information.

The most important *patient-related factors* influencing the psychotherapeutic process were readiness for psychotherapy and language skills. The significance of these factors has also been reported by previous research [16, 22, 30] and reflects prior worries articulated by psychotherapists in the current study. The findings indicate that the project team's involvement in the preparation and initiation of psychotherapy was perceived positively by psychotherapists, leading to patients who were better informed and had undergone a pre-selection process. In fact, each participant received a letter post-screening that included treatment recommendations based on their sum scores. Based on this, utilizing digital screening tools that offer automatic treatment recommendations and ideally, the contact details of trained psychotherapists nearby, is advisable. In addition, knowledge of psychotherapy and PTSS among CYWS staff was seen as beneficial. Therefore, it appears that staff training is important to enable them to provide psychoeducation to UYRs and to increase readiness for psychotherapy. Summarizing the results, the information and screening approach implemented in the 'BETTER CARE' project can be considered successful, especially as the commonly discussed mental health illiteracy among refugees [29] was not reported as a challenge in this study. Patient-related challenges included family concerns or daily challenges. These are known to be important factors that also influence well-being [46], underlining the need to address them and achieve early improvements in psychotherapy, as noted by Mirdal et al. [36] and Colucci et al. [24]. Although language proficiency is not mandatory, it greatly facilitates effective psychotherapy. However the lack of b language skills were experienced as challenging by psychotherapists in our study.

Given the importance of language proficiency, it's not surprising that the provision of trained *interpreters* was mentioned several times as being helpful. A trusting, collaborative relationship between interpreter, patient and psychotherapist was reported not only by psychotherapists, but also in a study that included the views of all three parties [36]. For psychotherapists, accurate translation skills and transparency are important, but so are the interpreters' soft skills such as building trust with the patient and showing empathy. It is noteworthy that psychotherapists in our study also indicated that an overly close bond could be problematic. This finding also aligns with Mirdal et al. and Vivino et al. [36, 47], both of whom reported interpreter involvements that exceeded western expectations regarding the professional distance. This highlights possible cultural differences and conflicting expectations regarding the role of the interpreter. As the majority of patients and their interpreters originate from collectivist societies where community involvement is more important, group identity may be incompatible with the "neutrality" required by individualistic psychotherapists [24, 48]. To reduce potential problems, it is suggested that a training program for interpreters be implemented, that focuses on translation in trauma-focused psychotherapy, particularly with regard to the rationale behind the trauma narrative. This knowledge could lead to more accurate translations and improve the quality of collaboration within the therapeutic triad [49]. Finally, the results of the interviews show that the inclusion of interpreters is advantageous because interpreters can foster a trusting relationship and are able to show empathy and provide a comfortable and safe environment for the patient, which is essential in the therapeutic context. In addition, they serve not only as language mediators, but also as cultural mediators, enhancing communication in ways that artificial intelligence translation applications cannot replicate. Moreover, the use of

most AI translation tools is not advisable as they often process data externally and risk data breaches. Comparing answers from *completers' psychotherapists and non-completers' psychotherapists* regarding *facilitators*, revealed that completers' psychotherapists benefited from resources such as case consultations, worksheets, videos, and interpreters funded and provided by the project. These psychotherapists also formed stronger alliances with patients and trusted long-term relationships with interpreters. This bond may also have served as a source of social support, a factor that facilitates psychological well-being [3]. Following the advice of Colucci et al. [24] to consider patient-preferred interpreters in psychotherapy may prove beneficial. In contrast, non-completers' psychotherapists benefited less from the projects' resources, mentioning the manual and evidence-based treatment and willingness to treat UYRs as facilitators, possibly reflecting socially desirable behavior. In addition, it is possible that the psychotherapists felt less secure and thus preferred more guidance, which could be provided by the manual, even though five out of seven had worked with UYRs before.

The challenges reported by *completers' psychotherapists and non-completers' psychotherapists* showed that the challenges faced by completers' psychotherapists do not necessarily lead to premature termination, but become more apparent with longer treatment duration, such as more contact with the Youth Welfare Office and more complex study documentation. In addition, the lack of educational background may become more pronounced during the cognitive processing module, which appears later in TF-CBT. Non-completers' psychotherapists also mentioned more structural challenges, such as the absence of a primary responsible caregiver and distant locations, as well as an increased effort for psychotherapists. This highlights the role of caregivers in successful trauma treatment and is consistent with research with primarily biological parents showing that their presence at the first session and adolescents' assessment of parents' treatment approval predicted treatment dropout [50]. An additional challenge for non-completers' psychotherapists was the presence of an ongoing grief process. Given the prevalence of comorbid grief disorder and PTSS among refugees [51, 52], the integration of grief-specific treatment components is essential. The use of grief specific components during the TF-CBT treatment is also incorporated into the manual [7]. Research on the treatment of trauma and grief among UYRs is limited; however, a recent meta-analysis for children and adolescents suggests that grief-focused cognitive-behavioral psychotherapies are effective in reducing grief and related post-traumatic stress symptoms [53].

In summarizing key findings and offering practical implications, we have chosen to integrate our findings into Michaels et al's [54] "Socio-Ecological Model of Mental Health & Well-Being" which allows us to identify individual, organizational, and policy dimensions essential for successful trauma treatment. At the core of this model is the *individual*, the UYR, where treatment readiness and language proficiency serve as key facilitators. Subsequently, *interpersonal relationships* are a relevant factor, including the social support network, which comprises, for example, the CYWS facility and its caregivers. In this context, the support and compliance of the aforementioned individuals were of particular significance, as was their collaboration with the psychotherapist and their knowledge. For practical implications both the individual and interpersonal levels should be considered. It becomes evident that trauma-informed care is a recommended approach, which should include education and training for caregivers about symptomatology and trauma treatment. This will increase mental health literacy among caregivers and UYRs, and may result in greater mental health service use, treatment readiness, and higher treatment compliance among caregivers. These topics were all mentioned as facilitators within this study. At the *organizational* level, it is recommended that local partnerships are established between psychotherapists and CYWS facilities to decrease some of the structural challenges such as logistical, distance and coordination issues, which were also suggested by Borbon et al. [55] as part of their lessons learned for trauma-informed care with UYRs. At the *community* level, the use of skilled interpreters was seen as a facilitator and is recommended. Ideally, they are already known to the patient and can facilitate understanding of cultural differences, while building a trusting relationship with the patient and providing social support. Lastly, the *policy* makers have a huge responsibility, and our recommendation is the provision of resources, training and standards for CYWS facilities, psychotherapists and interpreters. CYWS need to be provided with the personal resources and above-mentioned training in order to be able to accompany treatment sessions and facilitate transportation, this is of particular importance, as the German federal states have lowered the minimum standards within UYR facilities [56]. Furthermore, we propose that psychotherapists get the ability to implement an outreach approach in collaboration with local partners. Finally, our recommendation is to implement country-wide requirements for interpreters in psychotherapy, ensuring adherence to data protection and confidentiality standards.

This study has several strengths, such as conducting interviews with twenty psychotherapists representing a range of backgrounds, experiences with UYRs, and regions across Germany. However, several limitations warrant further attention. First, it is possible that the experiences of the thirteen psychotherapists who had

previously treated traumatized UYRs may have influenced the responses given in the present interviews. Second, although all invited psychotherapists participated, the sample is not representative of all psychotherapists because it only included those interested in treating traumatized UYRs. Third, the project funded treatment provided by two psychotherapists, as the UYRs did not yet have health insurance to cover the costs due to the ongoing asylum process. All psychotherapists had free access to German TF-CBT web training and were paid for documentation and case consultations. This arrangement may have led to socially desirable responses in the interviews. Fourth, the mode of interpreting (face-to-face, video, or telephone) may have influenced the triangular relationship and the development of a trusting relationship and thus the responses regarding interpreter-related facilitators and challenges need to be interpreted with caution. Fifth, the analysis of whether the reported facilitators and challenges differed between completers' psychotherapists and non-completers' psychotherapists should be interpreted with caution, as we considered only the completion status of patients and not the extent of symptom reduction or adherence to the manual.

It is recommended that future research include the perspectives not only of patients, but also of their caregivers and interpreters. It would be beneficial to gain further insight into how they perceive the patient-interpreter relationship. This could include whether they perceive challenges in an overly close relationship, or whether such perceptions differ between collectivist and individualist cultures. The possibility of further integrating interpreters into the therapeutic process may also be explored. In addition, the role of comorbid prolonged grief disorder symptoms in trauma-focused treatment requires further attention, with a recommendation to explore how they affect the efficacy of trauma treatment. In this regard, we also recommend an analysis of the adaptations that psychotherapists have made to the TF-CBT manual when working with UYRs in CYWS settings.

In conclusion, there are numerous facilitating factors for the psychotherapy of UYRs that should be addressed at the individual, interpersonal, organizational, community, and especially at the policy level. In particular, specialized training should be provided to psychotherapists on evidence-based treatment, to caregivers on the process and content of trauma-focused therapy, and to interpreters on effective collaboration and translation within treatment. Additionally, the supervision of psychotherapists and the compliance of caregivers are of immense importance.

Abbreviations

UYRs	Unaccompanied young refugees
CYWS	Children and Youth Welfare System
PTSS	Posttraumatic Stress Symptoms
TF-CBT	Trauma-Focused Cognitive Behavioral Therapy

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s13034-025-00873-w.

Additional file 1. Interview guide. The file comprises the original interview guide used in this study.

Additional file 2. Qualitative Results on the Worries before Participating in the Project. The file contains tables of codes, frequencies, and examples of worries that psychotherapists had before participating in the project.

Additional file 3. Qualitative Results of Project-Related, Structural, Personal, Patient-, and Interpreter-Related Facilitators and Challenges Treating Unaccompanied Young Refugees. The file includes tables with codes, frequencies, and examples of project-related, structural, personal, patient-related, and interpreter-related facilitators or challenges.

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Author contributions

LS and RR conceived the study. FD, BK, JU and LS were involved in the analysis. FD drafted the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

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.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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Publisher's Note

List of Publications

Original Research

(Publications marked "*" are part of the cumulative dissertation)

* **Dietlinger, F.**, Müller, L. R. F., Pfeiffer, E., Sachser, C., & Rosner, R. (2024). Agreement for posttraumatic stress symptoms among unaccompanied young refugees and professional caregivers. *European Journal of Psychotraumatology*, *15*(1), 2416834. https://doi.org/10.1080/20008066.2024.2416834

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* **Dietlinger, F.**, Kasparik, B., Unterhitzenberger, J., Saupe, L., & Rosner, R. (2025). Challenges and facilitators in treating unaccompanied young refugees in a dissemination trial – a qualitative study with psychotherapists. Children and adolescent psychiatry and mental health. *Child and Adolescent Psychiatry and Mental Health, 19,* 25. https://doi.org/10.1186/s13034-025-00873-w

* **Dietlinger, F.**[#], Hornfeck, F. [#], Rosner, R., Pfeiffer, E., Sachser, C., & Kindler, H. (2025). It matters where they live - the role of institutional factors for the mental health of unaccompanied young refugees. *Child Protection and Practice*. (accepted April 16, 2025) [#] shared first authorship

Hornfeck, F., **Dietlinger, F.**, Kasparik, B. (accepted). Es kommt auf das Umfeld an! – Wie stationäre Wohngruppen die psychische Gesundheit von unbegleiteten jungen Geflüchteten verbessern können. *Forum Erziehungshilfen*.

Dietlinger, F., Kasparik, B**.**, Unterhitzenberger, J., & Rosner, R. (in prep.). Treating Unaccompanied Young Refugees with TF-CBT – Insights from an Implementation Trial.

Conference Contribution

Dietlinger, F., Hornfeck, F., Müller, L.; Pfeiffer, E., Sachser, C., Kindler, H. & Rosner, R. (2025, June 14). Recovery from posttraumatic stress for unaccompanied young refugees within an institutional environment: influential factors and caregiver-youth symptom-agreement [Presentation]. ESTSS 2025: Exploring new approaches for healing and recovery in times of global uncertainty and extreme stress. Tbilisi, Georgia.

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Die unterzeichnete Person versichert hiermit, dass Promotionsversuche bislang nicht unternommen wurden; ein Promotionsverfahren bislang nicht abgeschlossen wurde; die vorliegende Dissertation in gleicher oder anderer Form in einem anderen Prüfungsverfahren nicht vorgelegen hat. Zu einem früheren Prüfungsverfahren mache ich folgende Angaben:

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Result of the examination: _____

Dissertation topic: _____

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