



How do licensed psychotherapists in Germany feel about treating patients with posttraumatic stress symptoms? – an experimental study based on case vignettes

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ABSTRACT

Background: Previous research indicates that not all children, adolescents and adults suffering from PTSD receive psychotherapy and if they do, trauma is not always considered during therapy. One reason for this undertreatment might be a limited readiness of licenced psychotherapists (LPTs) to treat patients who have experienced a trauma and thus suffer from PTSD symptoms.

Objective: The aim of this study is to explore the association between the readiness of LPTs to treat patients with PTSD symptoms and different patients' and therapists' characteristics.

Method: We used case vignettes to assess the readiness of LPTs in Germany in a nationwide online survey ($N = 768$). The vignettes described patients with PTSD and were adapted to the age group mainly treated by the therapists (children/adolescents vs. adults). The patients' characteristics in the otherwise identical vignettes were randomized for patient gender (female vs. male) and symptom cluster (internalizing vs. externalizing). Rating scales were used to assess readiness. Additionally, therapists' characteristics (age, trauma-specific training, perceived fears/doubts, and objective barriers to treating the vignette patient) were assessed.

Results: The patients' characteristics did not influence the treatment readiness of the LPTs. Regarding therapists' characteristics, LPTs working mainly with children and adolescents, and those who had completed trauma-specific training reported a higher readiness to treat the vignette patient.

Conclusions: Regarding the treatment of patients suffering from PTSD symptoms of different ages, our study indicated that the assessed therapists' characteristics were more relevant for the treatment readiness of LPTs than the patients' characteristics of age or symptom type.

¿Cómo se sienten los psicoterapeutas licenciados en Alemania respecto a tratar a pacientes con síntomas de estrés postraumático? – Un estudio experimental basado en viñetas de casos

Antecedentes: Las investigaciones previas indican que no todos los niños, adolescentes y adultos que sufren de TEPT reciben psicoterapia, y si la reciben, el trauma no siempre es considerado durante la terapia. Una razón para este tratamiento insuficiente puede ser una limitada disposición de los psicoterapeutas licenciados (LPT por su sigla en inglés) para tratar pacientes que han experimentado un trauma y que por tanto sufren de síntomas de TEPT.

Objetivo: El objetivo de este estudio es explorar la asociación entre la disposición de los LPT para tratar pacientes con síntomas de TEPT y diferentes características de los pacientes y los terapeutas.

Método: Utilizamos viñetas de casos para evaluar la disposición de los LPT en Alemania en un estudio en línea a nivel nacional ($N = 768$). Las viñetas describían pacientes con TEPT y fueron adaptadas al grupo etario tratado principalmente por los terapeutas (niños/adolescentes vs adultos). Las características de los pacientes en las viñetas por lo demás idénticas fueron aleatorizadas por género de los pacientes (femenino vs masculino), y grupos sintomáticos (internalizantes vs externalizantes). Se utilizaron escalas para evaluar la disposición. Adicionalmente, fueron evaluadas las características de los terapeutas (edad, entrenamiento específico en trauma, miedos/dudas percibidos) y barreras objetivas para tratar al paciente de la viñeta).

Resultados: Las características de los pacientes no influyeron sobre la disposición a tratamiento de los LPT. En relación a las características de los terapeutas, los LPT que trabajaban principalmente con niños y adolescentes, y quienes habían completado un entrenamiento específico en trauma reportaron una mayor disposición para tratar al paciente de la viñeta.

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PALABRAS CLAVE

disposición a tratamiento; trastorno de estrés postraumático; características de los terapeutas; características de los pacientes; barreras de tratamiento; psicoterapeutas licenciados; síntomas de estrés postraumático externalizantes e internalizantes

关键词

治疗准备; 创伤后应激障碍; 治疗师特征; 患者特征; 治疗障碍; 执业心理治疗师; 外化和内化创伤后应激症状

HIGHLIGHTS

- In this nationwide study based on randomly presented case vignettes, therapists' characteristics like trauma-specific training or fears/doubt were more relevant for the readiness of licenced psychotherapists to treat patients with PTSD symptoms than patients' characteristics.

Conclusiones: En relación al tratamiento de pacientes de diferentes edades que sufren de síntomas de TEPT, nuestro estudio indicó que las características evaluadas de los terapeutas fueron más relevantes para la disposición a tratamiento de los LPT que las características de los pacientes respecto a edad y tipo de síntomas.

德国执业心理治疗师怎样看待治疗患有创伤后应激症状的患者?—— 一项基于案例记录的实验研究

背景: 先前研究表明,并非所有患有 PTSD 的儿童、青少年和成人都接受心理治疗,并且如果他们接受治疗,创伤在治疗过程中并不总被考虑在内。这种治疗不足的一个原因可能是执业心理治疗师 (LPT) 对治疗经历创伤并因此患有 PTSD 症状的患者的准备有限。

目的: 本研究旨在探讨 LPT 治疗患有 PTSD 症状的患者的准备情况与不同患者和治疗师特征之间的关联。

方法: 我们在一项全国性在线调查中使用案例记录来评估德国 LPT 的准备情况 ($N = 768$)。这些记录描述了 PTSD 患者,并匹配了主要由治疗师治疗的年龄组 (儿童/青少年与成人)。其他相同记录中的患者特征随机化为患者性别 (女性与男性) 和症状簇 (内化与外化)。使用评分量表评估准备情况。此外,还评估了治疗师的特征 (年龄、特定创伤培训、感知恐惧/怀疑以及治疗案例患者的客观障碍)。

结果: 患者特征不影响 LPT 的治疗准备情况。关于治疗师特征,主要治疗儿童和青少年的 LPT 以及那些完成了创伤特定培训的治疗师报告说,他们对于治疗案例患者准备更足。

结论: 我们的研究表明,对于不同年龄的 PTSD 症状患者的治疗,被评估的治疗师特征与 LPT 的治疗准备情况比患者年龄或症状类型特征更相关。

1. Introduction

About 21–23.8% of the population over the age of 14 (Hauffa et al., 2011; Maercker, Forstmeier, Wagner, Glaesmer, & Brähler, 2008; Maercker, Hecker, Augsburg, & Kliem, 2018) and 31.0% of children and adolescents in Germany reported at least one lifetime traumatic experience (Witt et al., 2018). Posttraumatic Stress Disorder (PTSD), a possible and clinically relevant consequence of traumatic events, had epidemiological prevalence rates of 1.5% to 2.9% among adults (Hauffa et al., 2011; Jacobi et al., 2014; Maercker et al., 2018) and 4.2% to 15.9% among children and adolescents (Alisic et al., 2014; Landolt, Schnyder, Maier, Schoenbucher, & Mohler-Kuo, 2013). The prevalence rates depended on the type and number of traumatic experiences (Alisic et al., 2014; Landolt et al., 2013; Maercker et al., 2018). Some but not all studies also reported a difference regarding gender with females suffering more often from PTSD (Alisic et al., 2014; Jacobi et al., 2014; Landolt et al., 2013; Maercker et al., 2008).

In general, only 28.8% of children and adolescents aged between seven and 17 presenting psychological symptoms received appropriate psychotherapy (Hintzpeter et al., 2014). For PTSD, there is also an undertreatment, as only 53.8% adolescents suffering from PTSD received psychotherapeutic treatment and, even if they did, this treatment did not always address their traumatic experiences (Vogel et al., 2021). In addition, many psychotherapies are not sufficiently evidence-based – this applies in general and to trauma therapy in particular. As potential reasons unfavourable attitudes towards evidence-based practice or insufficient training have been suggested (Borah, Holder, & Chen, 2017; Cook,

Thompson, Simiola, Wiltsey Stirman, & Schnurr, 2020; Johnson, Hoffart, Havik, & Nordgreen, 2016). A further problem may be that clinicians may underrecognize, and thereby potentially undertreat, symptoms of other mental health issues whenever a patient reports a traumatic experience. Clinicians focusing on the PTSD may disregard evidence-based interventions for diagnoses like obsessive-compulsive disorder or oppositional defiant disorder when a traumatic history is reported in case vignettes (Becker-Haimes, Wislocki, DiDonato, Beidas, & Jensen-Doss, 2021).

Different treatment barriers can be a reason why people suffering from mental illnesses do not receive appropriate treatment (Corrigan, Druss, & Perlick, 2014; Hannich, Barz, & Peikert, 2019; Pawils et al., 2017). One potential treatment barrier is the readiness of psychotherapists to work with patients who have experienced a trauma and thus suffer from PTSD symptoms. This means that a therapist perceives him- or herself as ready and willing to work in therapeutic context with a specific patient. This study contributes to a better understanding of why some mental diseases and patients remain under-treated by assessing treatment readiness as one potential reason for undertreatment. Thus, the results of this study can help to draw conclusion about possible interventions to increase treatment readiness among LPTs and therefore, decrease undertreatment of PTSD. To examine potential reasons that may influence the readiness of licenced psychotherapists (LPTs) to perform psychotherapy, Hannich et al. (2019) asked a total of 1707 LPTs in Germany about the reasons why they would refuse to treat a patient. Among the reasons mentioned were: lack of an indication for

treatment, specific mental disorders, patients' characteristics such as a lack of motivation, missing capacities on their own side, or no fit between the patients and themselves. The 'specific mental disorders' that were cited included addiction, personality disorders, and neurotic, somatoform or stress disorders like PTSD (Hannich et al., 2019). In the study by Hannich et al. (2019), psychodynamic therapists reported more frequently than their cognitive behavioural colleagues that they refused to treat neurotic or stress disorders including PTSD, whereas Schnell, Katte, and Gast (2015) did not identify any impact of the therapeutic approach on LPTs' treatment readiness in a study with 54 participants (Hannich et al., 2019; Schnell et al., 2015). The years of professional experience of LPTs did not seem to be linked to their readiness to treat patients with PTSD compared to other mental disorders (Hannich et al., 2019; Schnell et al., 2015).

Therapists also mentioned the quality of their training in treating trauma-related disorders and the review process of healthcare insurers as barriers, even if they reported generally high motivation for treating patients with PTSD symptoms. In the case of psychotherapists who had undergone special training for treating patients with PTSD symptoms, studies reported a significantly higher willingness to treat patients with complex PTSD (Schnell et al., 2015) and use evidence-based interventions during this treatment (Borah et al., 2017; Cook et al., 2020). Similar effects of training and increased knowledge could be observed for participants in training for trauma-informed care indicating that knowledge directly increased the affective commitment, defined as the willingness to implement change, to trauma-informed care (Sundborg, 2019). In contrast, a lack of trauma-specific training was associated with a lack of identification of trauma history and symptoms of PTSD among patients. Mental health care professionals might not ask patients about PTSD symptoms routinely, but did so more often if they had completed trauma-related training (Coyle et al., 2019). This reflects also in the different barriers to implement evidence-based trauma-specific intervention one's own practice. On the practitioners side, the lack of capacity for training as well as the attitudes or the belief in the intervention are relevant and change when psychotherapists receive training as they become more experienced with the intervention (Powell et al., 2020). The percentage of psychotherapists for children and adolescents who had completed trauma-specific training of some kind ranged from 10 to 15% (Hensel, 2013) to 65% (Pawils et al., 2017). At the same time, 35% of the psychotherapists who stated that they offered

some kind of trauma therapy for children and adolescents had not undergone any special training (Pawils et al., 2017).

Regarding patients' characteristics, we focused on patients' gender and symptom clusters. For gender, the administrative prevalence rates for adults differed between women (0.9%) and men (0.4%) (Bachmann, Czwikla, Jacobs, Fegert, & Hoffmann, 2021) although the epidemiological prevalence rates for the sexes did not differ (Maercker et al., 2008). A similar gender gap for administrative prevalence for some neurotic, stress and somatoform disorders including PTSD among children and adolescents was shown by (Pawils et al., 2017). Other studies in Germany likewise demonstrated that male patients had a lower probability of receiving psychotherapeutic treatment – not only because they sought it less but also due to psychotherapeutic preferences (Strauß, 2015).

Regarding the symptoms of PTSD, specific symptom clusters for adults (Armour, Fried, Deserno, Tsai, & Pietrzak, 2017; Ayer et al., 2011; Benfer et al., 2018; Birkeland, Blix, Solberg, & Heir, 2017; Birkeland, Greene, & Spiller, 2020; Horn et al., 2016; Pfeiffer et al., 2019) and adolescents were observed (Cao et al., 2020; de Haan et al., 2020). Among these PTSD clusters one can also differentiate between externalizing symptoms, such as hypervigilance, irritability or anger (de Haan et al., 2020; Pfeiffer et al., 2019; Spiller et al., 2017) internalizing symptoms such as re-experiencing (intrusions, flashbacks, nightmares), concentration impairment, negative trauma-related emotions, and difficulties falling asleep (Armour et al., 2017; Pfeiffer et al., 2019; Spiller et al., 2017). However, although different clusters of PTSD symptoms are well known, their association with treatment readiness among LPTs has never been investigated or experimentally examined. Furthermore, the potential expressions of PTSD symptom clusters might also be associated with gender even if the evidence is still inconsistent (Birkeland et al., 2017; Cao et al., 2019, 2020; Gay, Wisco, Jones, & Murphy, 2020). So, Cao et al. (2020) showed for adolescents that girls tended towards more internalizing reactions to trauma exposure while boys showed more externalizing rule-breaking behaviour (Cao et al., 2020).

This study aimed to assess the psychotherapists' readiness to offer trauma therapy, and possible barriers and fears on the therapists' side. Although there were already studies using case vignettes to assess treatment approaches to PTSD (van Minnen, Hendriks, & Olf, 2010), this study was to our knowledge the first to employ an experimental design to assess LPTs' treatment readiness towards specific case vignettes rather than using only subjective self-reports. In the case vignettes, we randomly manipulated gender (female vs. male) and symptom cluster (externalizing vs.

internalizing). Furthermore, the age of the patients in the case vignettes was adjusted to the predominantly treated population of the LPTs (adult vs. adolescent). The combination of all variables resulted in eight different case vignettes. Additionally, we included demographic and professional factors as potential factors that may influence therapists' treatment readiness, such as professional experience and trauma-specific training. In this study we understand trauma-specific training as training in any trauma-specific approach therapists self-classified as trauma therapy in the assessment. In particular, we advanced the following hypotheses: (1) In terms of patients' characteristics, the self-rated readiness of LPTs towards treating the vignette patient is higher for patients with mainly internalizing PTSD symptoms (1a) and higher for female patients (1b). (2) In terms of therapists' characteristics, the self-rated readiness of LPTs towards treating the case patients differs between LPTs predominantly working with children and adolescents versus those predominantly working with adults (2a), is higher among LPTs who have completed trauma-specific training compared to those who have not (2b), and is negatively correlated with self-perceived fears/doubts and self-perceived objective barriers regarding the case vignettes (2 c).

2. Methods

2.1. Ethics

The University's ethics board approved the study (approval number: 002–19). All interested LPTs were informed about the aims of the study and applicable data protection regulations. The participants had to give their informed consent before participating in the survey.

2.2. Recruitment and participants

The study was designed as a nationwide online survey among LPTs in Germany. We distributed the online survey in cooperation with regional and national psychotherapist associations (membership of these associations is compulsory for all LPTs). They informed their members about the survey in their regular newsletters and journals, via separate emails to all their members, via public notes on their homepages or internal cloud servers. Some associations on the federal state level referred us to the psychotherapist search on their homepages. The search function is designed to help patients find psychotherapists and the majority of therapists are listed there. In these cases, we searched their directories for publicly available email addresses and used them to contact all listed LPTs. As a result, the survey link was accessible to all German LPTs providing psychotherapy either in their own (outpatient) practice or a clinical inpatient setting. The information distributed during

the recruitment phase included information on the duration of the survey, the incentive given at the end, the requirement that only psychotherapeutic practitioners can participate, and a summary of the aim of the study. As the survey included different questionnaires, we did not include specific information about the PTSD focus of the case vignette. At the end, a total of $N = 850$ LPTs participated in the online survey. Of these, $n = 82$ participants were excluded from this analysis: $n = 68$ LPTs due to incomplete demographic data and $n = 14$ because they had not answered the items related to the case vignette. The final sample consisted of $N = 768$ psychotherapists.

2.3. Procedure

The anonymous online survey was presented in German with Qualtrics (Qualtrics, Provo, UT, 2020) and was accessible from February to September 2020. After giving their informed consent, the participants provided demographic and professional information. In this demographical section, we did not assess race, sexual orientation, or marital status as we did not consider these demographical factors in our study design. The participants were then presented with one of eight case vignettes, portraying a patient with symptoms of PTSD (see below). After the presentation of the vignette, the participating psychotherapists rated items relating to their personal readiness to take on the described patient (see below). At the end of the assessment, the participants were invited to enter their email address in a separate interface to receive a 10-euro voucher as an incentive.

2.4. Material

2.4.1. Measures

The participants provided information on the following sociodemographic and professional characteristics: age, gender, therapeutic approach (cognitive behavioural therapy: CBT; psychodynamic therapy, including psychoanalysis and depth therapy: PDT; systemic therapy: ST), time since approbation (the state-administered licencing exam), work setting, number of therapies per week, and additional trauma-specific training. Next, they were presented with the case vignette (see below). For the vignettes, they rated their level of readiness to offer treatment, personal concerns regarding such treatment and perceived objective barriers (such as administrative formalities regarding imbursement) on three separate single item visual analogue scales (VAS) ranging from 0 (very low) to 100 (very high):

- (A) VAS scale A – Readiness: Please rate your readiness to offer psychotherapy to the vignette patient.

- (B) VAS scale B – Fears: Please rate your personal fears/doubts regarding the treatment of the vignette patient.
- (C) VAS scale C – Perceived external barriers: Please rate the external barriers (such as reimbursement, demands of employer/ health care system, communication with administrative departments) you would expect to encounter during the treatment of the case patient.

2.4.2. Case vignettes

We developed eight parallel vignettes (71 to 73 words each) and varied the patient's gender (female vs. male), and type of symptoms of PTSD (internalizing vs. externalizing symptoms). In addition, we varied the patient's age (14 vs. 28 years) to cater for the therapists' usual clients as in Germany psychotherapist education is broken down into children and adolescent therapists treating patients up to the age of 21 and adult psychotherapists who usually treat patients over the age of 21. In the demographic questionnaire, LPTs reported whether they mainly treated patients over or below the age of 18. The case vignettes were presented for the appropriate ages: LPTs mainly working with minors were given the case vignettes with a 14-year-old patient and LPTs mainly working with adults the case vignettes with a 28-year-old patient. The other vignette characteristics of gender and symptom cluster were randomized among the participating LPTs. Two sample vignettes for externalizing and internalizing symptoms of a male 14-year-old are shown in Figure 1 (further case vignettes are available in the online supplementary, S1).

2.5. Statistical analyses

For the analyses of the first hypothesis regarding the manipulated variables of the case vignettes, we conducted a 2x2x2 ANOVA with readiness to treat the described patient as the dependent variable and the factors patients' gender (male vs. female), symptoms (externalizing vs. internalizing) and age-group normally treated by the therapist (adult vs. adolescent).

To test the second hypothesis, we used hierarchical regression models with treatment readiness as the dependent variable. In the first block we included the demographic characteristics: age of LPTs, number

of therapies per week, therapeutic approach (CBT vs. PDT vs. multiple vs. different), time since approbation, trauma-specific training (yes vs. no), and therapist's gender (male vs. female vs. diverse). All categorical variables in this block were dummy coded. In the second block we added self-rated fears (VAS scale B) and perceived external barriers related to the treatment of the case patients (VAS scale C). All factors were included at once by the *enter* selection option. To control for demographical differences among the LPTs who had attended trauma-specific training and those who had not, we performed additional t-tests and Chi-Square-Tests for LPTs' gender, age, time since approbation, and number of weekly therapy sessions.

3. Results

3.1. Descriptive statistics

The final sample of $N = 768$ LPTs had a mean age of 48.4 years ($SD = 11.2$, range 28–80 years). On average, the psychotherapists had been licenced for 11.9 years ($SD = 8.5$) and conducted 21.5 ($SD = 8.2$) therapeutic sessions per week. Most of the participants were women ($n = 567$; 73.4%), worked with patients over the age of 18 ($n = 581$; 75.7%) and in their own practice ($n = 599$; 78.0%). Cognitive behavioural therapy (CBT) was the most common therapeutic approach among the therapists ($n = 479$; 62.3%). Tables 1 and 2 provide detailed information on the sample characteristics. Based on data from the German health care system, there are currently 29.731 licenced psychotherapists or psychotherapists for children and adolescents in Germany. Additionally, there are 6.141 medicalpsychotherapists (Gesundheitsberichterstattung des Bundes, 2021). Regarding this national data our sample covers 2.1% of all psychotherapeutic practitioners in Germany. If we exclude the small number of medical psychotherapists the percentage increases to 2.4% of all licenced psychotherapist in Germany.

75.7% ($k = 581$) out of the $k = 768$ presented case vignettes described an adult person with PTSD symptoms and the remaining $k = 187$ (24.3%) adolescents. The age of the patients described in the vignettes was not a random factor but matched the age group which the LPTs reported as the one they normally

Jonas is a 14-year-old boy who was beaten, harassed, and attacked with a knife by older adolescents after attending a local festival with his cousin. His cousin subsequently died in hospital of the injury sustained during the attack. Since then, Jonas has manifested numerous difficulties.	
<u>Externalizing:</u>	<u>Internalizing:</u>
He is often angry and has temper tantrums. At school, he has difficulties because he does not follow rules. He is aggressive and motorically restless. Jonas is often involved in conflicts.	He is often sad and cries a lot. At school, he has difficulties because he finds it difficult to concentrate. He is anxious and has problems sleeping. Jonas is very socially withdrawn.

Figure 1. Examples of case vignettes – 14-year-old boy with externalizing or internalizing PTSD symptoms.

Table 1. Demographic information about the participating LPTs.

Variable	N = 768					
	n	M	SD	Mdn	Min	Max
Age (years)	767	48.4	11.2	48	28	80
Licensed for (years)	761	11.9	8.5	10	0	50
Own practice for (years)	595	11.5	9.8	8	0	40
Employed by a clinic/hospital since (years)	148	9.2	8.5	6	0	40
Therapy sessions per week	766	21.5	8.2	22	0	50

treat. The other patients' characteristics of gender and symptoms were randomized. $n = 470$ (61.2%)¹ of the presented case examples were female and $n = 393$ (51.2%) were described as suffering from internalizing symptoms.

The mean readiness to treat the presented patients (VAS scale A) was $M = 79.9$ ($SD = 22.0$), the personal fears/doubts (VAS scale B) $M = 24.9$ ($SD = 22.7$), and the perceived external barriers (VAS scale C) $M = 20.5$ ($SD = 22.3$), with ranges from the minimum of 0 to the maximum of 100, indicating a high variability among the LPTs' assessments (Table 3). Regarding the treatment readiness 14.5% of all LPTs reported a readiness lower than the scale mean of 50 ($n = 100$) and .3% ($n = 2$) had a readiness of 0.

3.2. Results of the ANOVA

Descriptive data of the readiness ratings for the 2x2x2 ANOVA are presented in Figure 2. In our first hypothesis on treatment readiness for the case patient, the ANOVA

Table 2. Demographic information about the participating LPTs.

Variable	N=768		Variable	N=768	
	n	%		n	%
Type of license			German Federal State		
Psychotherapist for children and adolescents	172	22.5	BW	62	8.1
Psychological psychotherapist	463	60.3	BY	130	16.9
PP also licensed for treating children and adolescents	82	10.7	BE	48	6.3
Medical psychotherapist	49	6.5	BB	22	1.4
Other	2	0.3	HB	59	7.7
Working in own practice			HH	19	2.5
Own practice	599	78.0	HE	37	4.8
No own practice	165	21.5	MV	7	0.9
Not specified	4	0.5	NI	108	14.1
Working in a clinic/hospital			NW	171	22.3
Clinic/hospital	155	20.2	RP	29	3.8
No clinic/hospital	506	65.9	SL	5	0.7
Not specified	107	13.9	SN	9	0.3
Approved for public health care insurance			SH	67	1.2
Approved	616	80.2	ST	2	8.7
Not approved	152	19.8	TH	4	0.5
Majority of patients			Therapeutic approach		
Under 18 years (<18)	187	24.3	CBT	479	62.3
Over 18 years (≥18)	581	75.7	PDT	241	31.4
Specific training			Multiple (including $n = 29$ with ST)	46	6.0
Trauma therapy (incl. EMDR)	311	40.5	Diferent	3	0.3
Other (e.g. Ego State, ACT, PMR)	359	46.7	Gender		
None or no specification	98	12.8	Female	564	73.4
			Male	203	26.4
			Diverse	1	0.2

Abbreviations: LPT – Licensed psychotherapist, CBT – Cognitive Behavioural therapeutic approach, PDT – Psychodynamic therapeutic approach (including psychoanalysis & depth psychology), ST – Systemic therapeutic approach, EMDR – Eye Movement Desensitization and Reprocessing, ACT – Acceptance and commitment therapy, PMR – Progressive Muscle Relaxation, German federal states (BW – Baden-Wuerttemberg, BY – Bavaria, BE – Berlin, BB – Brandenburg, HB – Bremen, HH – Hamburg, HE – Hesse, MV – Mecklenburg Western Pomerania, NI – Lower Saxony, NW – North Rhine-Westphalia, RP – Rhineland Palatinate, SL – Saarland, SN – Saxony, SH – Schleswig Holstein, ST – Saxony-Anhalt, TH – Thuringia).

Table 3. Descriptive statistics of all relevant dependent variables.

Variable	N = 768					
	n	M	SD	Mdn	Min	Max
Case example – Readiness to treat	690	79.9	22.0	87	0	100
Case example – Fears/doubt about treatment	642	24.9	22.7	17	0	100
Case example – Objective barriers	625	20.5	22.3	11	0	100

with the factors gender, symptom type and predominantly treated patients' age, the main model proved significant ($F(7, 682) = 4.01, p < .001, R^2_{Adjusted} = .030$, Table 4). A main effect for the age of the patients predominantly treated by the LPTs ($F(1, 682) = 15.06, p < .001, Partial \eta^2 = .022$) was observed: LPTs predominantly working with children and adolescents reported a higher readiness to treat the presented adolescent vignette patient ($M = 84.9, SD = 21.23$) than those predominantly working with adult patients who received the adult case vignette ($M = 78.0, SD = 22.06$). No main effect was observed for patients' gender ($F(1, 682) = .71, p = .400, Partial \eta^2 = .001$). No two-way or three-way interactions proved significant (Table 4).

3.3. Results of the hierarchical regression

The final hierarchical regression model for characteristics of the psychotherapists proved significant ($F(10, 508) = 19.65, p < .001$) with a $R^2_{Adjusted} = .27$ and a strong effect size of Cohen's $f^2 = .38$. The only predictor that contributed to the final model was the completion of trauma-specific training from the

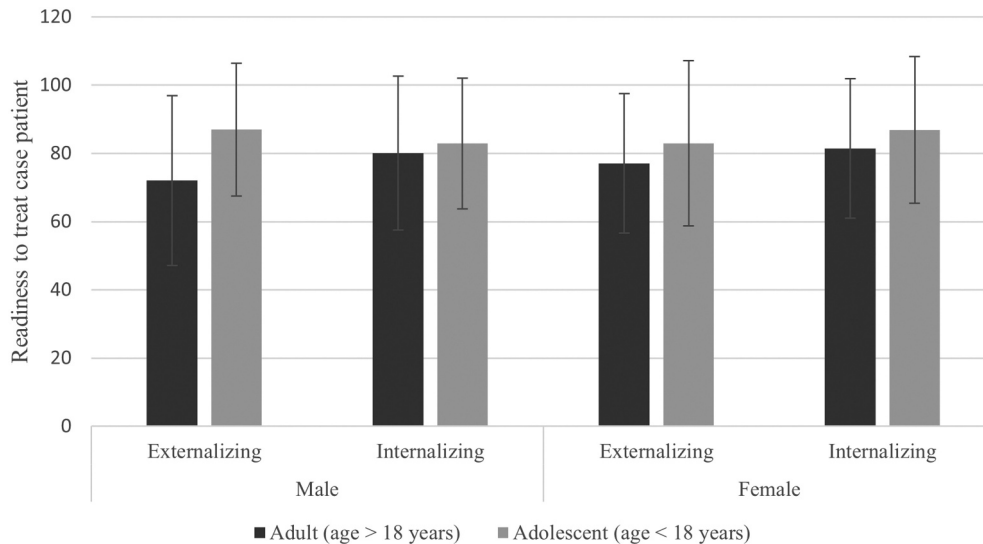


Figure 2. Descriptive results for LPTs' readiness to treat the case patient based on the following patients' characteristics: patients' age (<18 years vs. >18 years), gender (male vs. female), PTSD symptoms (externalizing vs. internalizing).

Table 4. Results of the ANOVA for LPTs' readiness to treat the case patient based on patients' characteristics (age, gender, symptoms).

Variable	SS	MS	F	p	Partial η^2
age ^{a,b} (<18 years; >18 years)	7097.94	7097.94	15.06	<.001	.022
gender ^b (female; male)	333.87	333.87	.71	.40	.001
symptoms ^b (internalizing; externalizing)	1284.56	1284.56	2.73	.10	.004
age x gender ^b	353.11	353.11	.75	.39	.001
age x symptoms ^b	1351.08	1351.08	2.87	.09	.004
gender x symptoms ^b	149.54	149.54	.32	.57	<.001
age x gender x symptoms ^b	1164.54	1164.54	2.47	.12	.004

Model: $F(7, 682) = 4.01, p < .001$, adjusted $R^2 = 0.03$.

Abbreviations: SS = sum of Squares. MS = mean square. df = degrees of freedom.

^aPredominantly treated age group (binary: psychotherapists for adults or for children and adolescents).

^bdf = 1; 682

first block and the self-perceived fears/doubts and objective barriers regarding the vignette patients from the second block. LPTs who had completed trauma-specific training reported a higher readiness ($\beta = 4.560, t(508) = 2.58, p = .010$). Regarding the second block, fears/doubts ($\beta = -.442, t(514) = -11.30, p < .001$) and perceived external barriers ($\beta = -.120, t(514) = -3.14, p = .002$) markedly lowered the readiness to treat the vignette patient (Table 5). The variables not significantly contributing to the final model were therapeutic approach, gender, years since licensure, number of therapeutic sessions per week, and the age of the LPTs. All non-significant predictors were from the first block of the hierarchical regression.

As trauma-specific training received by LPTs proved to be a significant contributor to the regression model, we analysed the demographic variables related to trauma-specific training. LPTs who had completed trauma-specific training were on average older ($t(666) = 7.11, p < .001$) and had, therefore, been licenced for

longer ($t(662) = 7.04, p < .001$) than LPTs with no specific training. Additionally, LPTs with trauma-specific training reported treating more patients per week than LPTs without the specific training ($t(667) = 2.90, p = .004$). They were more often licenced for multiple therapeutic approaches like CPT, PD and systemic therapy ($\chi^2(1, N = 670) = 13.28, p = .004$). No difference for trauma-specific training could be found for LPTs' predominantly treated patients' age ($\chi^2(1, N = 670) = .31, p = .575$) or the LPTs' gender ($\chi^2(1, N = 670) = .004, p = .947$). Furthermore, we also analysed the differences between LPTs with and without trauma-specific training with regard to the variables in block 2, self-perceived fears/doubts and objective barriers. For the self-perceived fears/doubt, LPTs with special training reported significantly fewer fears and doubts about treating the case patient ($t(555) = 4.48, p < .001$), while no effect of training was observed for the perceived external treatment barriers ($t(541) = -.67, p = .501$).

4. Discussion

Based on the observed high prevalence rates for PTSD among the society as well as the still existing undertreatment of mental diseases and among those also PTSD (Hauffa et al., 2011; Hintzpeter et al., 2014; Maercker et al., 2018; Pawils et al., 2017; Powell et al., 2020; Vogel et al., 2021; Witt et al., 2018), we conducted a nationwide online survey to examine LPTs' readiness to treat patients who have experienced a trauma and thus suffer from PTSD symptoms as a potential reason for this undertreatment. We used an experimental design to assess patients' characteristics impact on treatment readiness for PTSD patients among LPTs in Germany. We presented them with randomized patient vignettes varying patient gender and symptom type, and

Table 5. Final hierarchical regression model for LPTs readiness to treat the case patient.

	Perceived competence			R^2	R^2 Change	F	p
	B (SE)	p	standardized beta				
Intercept	100.51 (5.04)	< .001					
First Block				.047	.047	3.12	.002
Age of LPTs	-.23 (.12)	.063	-.12				
Trauma-specific training	-4.56 (21.77)	.010	-.10				
Gender (male)	1.58 (1.98)	.425	.03				
Number of therapy session per week	-.02 (.10)	.834	-.01				
Therapeutic approach (psychodynamic)	-.70 (1.96)	.719	-.02				
Years since licensure	.08 (.16)	.607	.03				
Second Block				.279	.232	19.65	<.001
Self-perceived fears/doubts	-.44 (.04)	<.001	-.45				
Self-perceived objective barriers	-.12 (.04)	.002	-.12				

observed no relationship between these patients' characteristics and LPTs' treatment readiness. Rather, different therapists' characteristics seemed to drive the readiness to treat the presented case patient: LPTs' working mainly with children and adolescents and those who had completed trauma-specific training reported a higher readiness, whereas LPTs' self-perceived fears/doubts and objective barriers were associated with reduced readiness.

LPTs who predominantly treat youngsters demonstrated more readiness to treat the vignette patient than those working mainly with adults. This effect might be due to the different trainings psychologists complete to become a LPT either for minors or adult patients as the two training programs may highlight different topics and mental disorders based on the prevalence rates among adults or children and adolescents (Alisic et al., 2014; Witt et al., 2018). Higher prevalence rates for PTSD among children and adolescents (Alisic et al., 2014; Witt et al., 2018) could also contribute to the observed difference, since LPTs predominantly working with children and adolescents may meet more patients with PTSD symptoms in their daily routine and thus be more accustomed to such patients. Future studies should explore potential reasons for this effect.

Neither the therapeutic approach nor the length of professional experience (in the sense of time since approbation) or LPTs' age were relevant for the attitudes towards a specific patient. The lack of association between therapeutic approach or professional experience and the treatment readiness is in agreement with previous research (Hannich et al., 2019; Schnell et al., 2015) and might indicate in combination with our results that not professional experience or the therapeutic approach, but personal life experience is more important regarding treatment readiness. Therefore, further research should additionally include not only LPTs but also psychotherapists in training (PiTs) to examine the effects of training and age. In these future studies, supervision should also be addressed as PiTs usually receive more frequent supervision than LPTs do.

In our nationwide study with 768 participants, we found a high general readiness of LPTs to treat the case patients which is in line with the findings of Schnell et al. (2015) in their study with a smaller sample of 54 participating LPTs (Schnell et al., 2015). Despite the overall high

readiness, our results also showed a large variability in readiness with a range from 0 to 100, indicating that even if the mean readiness was in the higher range of the scale there was also a subgroup of therapists who would not consider treating the presented patient at all.

LPTs who had completed trauma-specific training reported a higher readiness to work with the patients with PTSD symptoms in our vignettes. But as causality is lacking, this result did not allow the conclusion that the provision of training would increase readiness in all LPTs. This is because LPTs with a generally high motivation to treat patients who show symptoms of PTSD might simply be more likely to have attended trauma-specific training or training programs in general. In our sample, LPTs with trauma-specific training had longer professional experience in general as well as more current contact with patients. Furthermore, they were older, had received their approbation a longer time ago, and conducted more therapeutic sessions per week than those with no special training. They also differed in terms of the self-perceived fears/doubts towards treating the case patient, but not regarding the self-perceived objective barriers. Accordingly, training might also influence the fears and doubts of LPTs regarding trauma therapy and therefore mediate the effect on readiness.

As our study has shown, the experimentally assessed patients' characteristics of symptom clusters and gender did not influence LPTs' readiness to treat a patient with PTSD symptoms. However, further experimental research should vary additional relevant factors such as the nature and complexity of the trauma, PTSD symptoms and case presentation (e.g. PTSD versus CPTSD/complex post-traumatic stress disorder).

5. Limitations

The recruitment strategy guaranteed that all licenced German psychotherapists had a chance of seeing the study invitation. However, since participation was voluntary, self-selection probably took place which meant that LPTs interested in trauma therapy were more likely to participate in the study. Due to the variability in the health care systems, results may not be generalizable *in toto* to therapists in other countries.

6. Conclusions

This study was the first one to use an experimental design to assess which characteristics of patients who have experienced a trauma and thus suffer from PTSD influenced treatment readiness among LPTs. Our results indicated that the assessed therapists' characteristics were more relevant for LPTs' treatment readiness than the manipulated patients' characteristics. Among these therapists' characteristics, training, age of predominantly treated patients, as well as the self-perceived fears/doubts and objective barriers proved to be relevant contributors. But as causality for most therapists' characteristics was lacking, further research is needed to examine this causality. This research could also include PiTs to allow examining differing training status. From a practitioner's perspective, our results indicate that one way to reduce undertreatment of PTSD and maybe also other mental disorders might be the reduction of self-perceived fears/doubts among LPTs. This can also be initiated by training, as we see a correlative relationship among these factors. Therefore, offering trauma-specific training could on the one hand reduce fears/doubts among LPTs about trauma therapy and thus decrease undertreatment of PTSD and on the other hand, it can help to disseminate evidence-based and effective interventions for PTSD (Powell et al., 2020). A second conclusion from this study, might be, that objective barriers such as administrative formalities regarding imbursement should be reduced in the health care system to foster the readiness to treat patients suffering from PTSD.

Note

1. This unequal gender distribution was caused by technical issues.

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Authors' contributions

KG designed the study, recruited participants, gathered data, drafted the manuscript, and carried out the statistical analysis. AB and RR supervised the study. AB was involved in designing the study as well as in drafting and revising the manuscript. RE acted as advisor for the statistical analysis and interpretation of the results. All authors read, revised, and approved the manuscript and its final version.

Availability of data and material

The generated and analyzed data as well as the statistical code of the analyses are available from the corresponding author on request as they are not publicly available due to privacy reasons and ongoing analyses.

Disclosure statement

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

Ethics approval and consent to participate

The ethics board of the Catholic University Eichstätt-Ingolstadt approved the study in November 2019 (ethics approval number: 002-19). All participants gave their written informed consent to participate in the study.

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