



ELSEVIER

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

The effect of parental emotional abuse on the severity and treatment of PTSD symptoms in children and adolescents

Chris Hoeboer^{a,b,*}, Carlijn de Roos^{c,2}, Gabrielle E. van Son^{d,3},
Philip Spinhoven^{a,e,4}, Bernet Elzinga^{a,4}

^a Leiden University, Institute of Psychology, Section Clinical Psychology, Leiden, the Netherlands

^b Parnassiagroep, PsyQ The Hague, the Netherlands

^c Amsterdam University Medical Centre, Department of Child and Adolescent Psychiatry, Amsterdam, the Netherlands

^d Rivierduinen, Department for Quality of Care, the Netherlands

^e Leiden University Medical Center, Department of Psychiatry, the Netherlands

ARTICLE INFO

Keywords:

Abuse
Maltreatment
Neglect
PTSD/posttraumatic stress disorder
Treatment
Child/adolescent
Trauma

ABSTRACT

Background: Maltreatment by a primary caregiver is an important risk factor for the development of PTSD symptoms. Whereas meta-analyses indicate that parental emotional abuse is one of the most common forms of maltreatment, the impact of emotional abuse on PTSD symptoms and treatment effectiveness is still unclear, especially in children.

Objective: We aimed to investigate the impact of parental emotional abuse on PTSD symptom severity and effectiveness of trauma treatment in children and adolescents.

Method: In an outpatient sample ($N = 287$, mean age = 15.5 years), emotional abuse, index traumatic event, and PTSD symptoms were assessed at baseline. Thereafter, patients received evidence-based treatment for trauma-related symptoms embedded in a broader (systemic) treatment package. In a subsample ($n = 130$, mean age = 15.3 years) PTSD symptoms were assessed again 6 and 12 months after baseline.

Results: Emotional abuse (rather than any other type of maltreatment) was associated with more severe PTSD symptoms in all symptom clusters. This was independent of whether emotional abuse was reported as index traumatic event or not. Moreover, PTSD symptoms were significantly reduced 6 months after the start of trauma-focused treatment, and emotional abuse was associated with more severe PTSD symptoms over the course of treatment.

Conclusions: These findings underline the detrimental nature of emotional maltreatment in the context of PTSD symptomatology and treatment effectiveness. This calls for routine assessment of parental emotional abuse in the diagnostic phase, even when this is not the reason of referral.

* Corresponding author.

E-mail addresses: c.m.hoeboer@fsw.leidenuniv.nl (C. Hoeboer), c.deroos@debascul.com (C. de Roos), g.vanson@rivierduinen.nl (G.E. van Son), Spinhoven@fsw.leidenuniv.nl (P. Spinhoven), Elzinga@fsw.leidenuniv.nl (B. Elzinga).

¹ Leiden University, Institute of Psychology, section Clinical Psychology, 3332 AK Leiden, the Netherlands.

² Amsterdam University Medical Centre, Department of Child and Adolescent Psychiatry, 1105 AZ Amsterdam, the Netherlands.

³ Rivierduinen, Department for Quality of Care, 2333 ZZ Leiden, the Netherlands.

⁴ Leiden University, Institute of Psychology, section Clinical Psychology, 3332 AK Leiden, the Netherlands.

<https://doi.org/10.1016/j.chiabu.2020.104775>

Received 5 March 2020; Received in revised form 7 August 2020; Accepted 8 October 2020

0145-2134/© 2020 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license

(<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Previous research on the relationship between childhood maltreatment and PTSD has examined how different types of maltreatment relate to PTSD (Ackerman, Newton, McPherson, Jones, & Dykman, 1998; Arias & Pape, 1999; Street & Arias, 2001; Widom, 1999). Childhood maltreatment is defined as any act or failure to act of the primary caretaker of the child which provides a risk of emotional or physical harm for the child (Gilbert et al., 2009). Most studies differentiate between physical abuse (e.g., hitting), emotional abuse (e.g., insults), physical neglect (e.g., failure to provide nutrition), emotional neglect (e.g., failure to respond to feelings of the child) and sexual abuse (e.g., unwanted touching). Note that the term 'psychological maltreatment' is also commonly used, which refers to a repeated pattern or extreme incident(s) of caretaker behavior that violates the basic psychological needs of a child, thereby including both emotional abuse and neglect (Brassard, Hart, Baker, & Chiel, 2019). In this context, especially sexual and physical abuse have been frequently investigated, while the effects of emotional abuse and emotional neglect have been studied less (see for exceptions: Carr, Martins, Stingel, Lemgruber, & Juruena, 2013; De Bellis & Van Dillen, 2005; Spertus, Yehuda, Wong, Halligan, & Seremetis, 2003; Yroni et al., 2020).

One of the reasons why emotional abuse may have received less attention is that the diagnosis of PTSD is per definition linked to exposure to a traumatic event; the A-criterion of the DSM-5 (APA, 2013). This A-criterion defines the index trauma as 'exposure to actual or threatened death, serious injury or sexual violence'. Hence, according to the definition of the DSM-5 emotional abuse does not fulfill the A-criterion (APA, 2013). Nevertheless, several studies have reported that the severity of reported emotional abuse is related to more severe PTSD symptoms, both in children and adults (Bremner, Vermetten, & Mazure, 2000; Egeland, 2009; Nothling, Suliman, Martin, Simmons, & Seedat, 2019; Spertus et al., 2003; Sullivan, Fehon, Andres-Hyman, Lipschitz, & Grilo, 2006; Wekerle et al., 2001). For example, while in an inpatient sample severity of PTSD symptom clusters was correlated with all of the different forms of childhood maltreatment (except for emotional neglect), emotional abuse showed the strongest associations and emerged as the only significant predictor (Sullivan et al., 2006). In line, emotional abuse was a significant predictor of PTSD symptom severity in a treatment seeking sample of adolescents, while all other forms of childhood maltreatment were not (Nothling et al., 2019).

This is particularly relevant given that meta-analyses across the globe have indicated that emotional abuse is the most prevalent form of maltreatment (Stoltenborgh, Bakermans-Kranenburg, & van IJzendoorn, 2013; Stoltenborgh, Bakermans-Kranenburg, Alink, & van IJzendoorn, 2015). Emotional abuse frequently co-occurs with other types of childhood maltreatment. Especially emotional abuse, emotional neglect and physical abuse tend to occur together (Brown, Rienks, McCrae, & Watamura, 2019; Kim, Mennen, & Trickett, 2017).

Given the high prevalence of emotional abuse and its detrimental effects it is important to further elucidate the specific nature of the link between emotional abuse and PTSD symptoms. On the one hand, the experience of parental emotional abuse itself may be of such a traumatic nature that it may directly lead to the development of PTSD symptoms, such as intrusions, nightmares, avoidance ('direct model'). Alternatively, emotional abuse may also be indirectly linked to PTSD symptoms in such a way that the context of parental emotional abuse affects the severity of PTSD symptoms related to an *independent* traumatic event, such as a car accident or physical injury ('indirect model'). When children experience a traumatic event in a context of parental emotional abuse, it is likely that they will not receive the social support that is usually provided by parents after such an event (Green et al., 2000; Margolin & Vickerman, 2007; Vranceanu, Hobfoll, & Johnson, 2007). Subsequently, these children may be less resourceful in dealing with the trauma(s), which may maintain and exacerbate PTSD symptoms (Cohen & Hien, 2006; Sanchez, McCormack, & Howell, 2015). This indirect model is supported by several meta-analyses showing that a lack of social support is a predictor of the development of PTSD, both in children and adolescents (Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012) and in adults (Brewin, Andrews, & Valentine, 2000). In addition, exposure to parental emotional abuse has been associated with the development of inadequate emotional regulation skills, such as rumination and a lack of emotional acceptance (Burns, Jackson, & Harding, 2010), which are in turn risk factors for the development of PTSD symptoms (Tull, Barrett, McMillan, & Roemer, 2007). Knowing reliably under which conditions parental emotional abuse makes a child or adolescent more likely to develop PTSD symptoms is of both academic and clinical interest. If clinicians know when children and adolescents are most likely to be affected following exposure to adverse events, prevention and intervention may be better tailored, leading to better outcomes.

The first purpose of this study is to investigate the 'direct' and 'indirect' model linking (self-reported) parental emotional abuse to the severity of PTSD symptoms in children and adolescents in a Dutch outpatient sample ($n = 287$). We expected that the severity of emotional abuse is associated with increased PTSD symptom severity in all domains in line with previous studies (Gibb, Chelminski, & Zimmerman, 2007; Spertus et al., 2003; Sullivan et al., 2006). We investigated whether this holds true for children and adolescents reporting emotional abuse as index trauma (direct model) or other types trauma as index trauma (indirect model). The second purpose of this study is to investigate whether parental emotional abuse hampers the effectivity of the treatment of PTSD symptoms ($n = 130$). We expect this to be the case, as parents may not be supportive of the treatment and/or may even hinder attendance, and children may have developed less adequate emotion regulation styles to process that trauma(s) effectively. For the treatment of PTSD in children, the first treatments of choice are individual Trauma-focused Cognitive Behavioral Therapy (TF-CBT) and Eye Movement Desensitization and Reprocessing (EMDR) (Powers, Halpern, Ferenschak, Gillihan, & Foa, 2010). Both treatments are effective in reducing the severity of PTSD symptoms (ISTSS Guidelines Committee, 2018)

2. Method

2.1. Participants

The study sample consisted of children and adolescents who received evidence-based treatment for trauma-related symptoms by qualified psychologists of a Dutch mental healthcare institution (GGZ Rivierduinen Leiden) between February 2012 and April 2015. Anonymized data were collected in the context of Routine Outcome Measurements (ROM) at pretreatment, 6-months and 12-months after start of the treatment. All participants were included who agreed on their ROM data being used for research purposes. For the first part of this study, all participants who filled in the Childhood Trauma Questionnaire (CTQ) and the Children's Responses to Trauma Inventory (CRTI) measuring PTSD symptom severity before treatment were included ($n = 287$). For the second part, all participants were included who had at least one additional assessment of the CRTI ($n = 130$) after treatment had started. The complete sample ($n = 287$) had a mean age of 15.5 years ($SD = 1.99$, range = 9–23 years) with 67 % girls (see for descriptives of the complete sample on the CRTI, CDI and CTQ Table 1, and for clinical diagnoses Appendix 2). The sample with additional assessments ($n = 130$) had a mean age of 15.3 ($SD = 2.10$, range = 10–20 years) with 73 % girls. The study protocol was approved by the ethical committee of Leiden University (CEP16-0622/246).

2.2. Procedure

All participants received treatment as usual for their trauma-related symptoms. This included evidence-based treatment, with a first choice of treatment for individual trauma-focused psychotherapy (trauma-focused Cognitive Behavioral Therapy or EMDR) embedded in a broader (systemic) treatment package. During the treatment Routine Outcome Monitoring (ROM) data were collected by independent ROM assistants. The data were stored and analysed anonymously.

Information about the index trauma was based on the CRTI. When this was missing or ambiguous, we used information from the intake report or treatment plan, where the index trauma was identified by the patients' psychologist. In case information was still ambiguous even after consulting the intake report or treatment plan (e.g. when information was too general, such as 'childhood maltreatment by parents' without specification), we used information from the subscales of the CTQ to infer the content of the maltreatment. Two researchers (CH and BE) independently categorized the index trauma as either 'parental emotional abuse' or 'independent index trauma'. Index trauma was categorized as parental emotional abuse when it was listed by the child as emotional abuse, verbal abuse or emotional maltreatment, or when it included any of the following actions of the parent to the child: 1) name-calling or saying belittling words; 2) saying hurtful or insulting things; 3) bullying; 4) verbal aggression; or 5) verbal threats, or when it included verbal assaults to the other parent. Other forms of maltreatment, including verbal abuse and bullying outside the household (e.g., by peers at school), stressful life events and other problems which did not necessarily involve emotional abuse (e.g., parental divorce, attachment problems) were not coded as parental emotional abuse. In 23 (8 %) out of the 287 cases, initial information from the CRTI, intake report and treatment plan was insufficient for one of the researchers to categorize the index trauma. This was resolved through discussion or by obtaining additional information from the intake report, treatment plan or CTQ. Five of the 287 index traumas (2 %) were scored differently by the two researchers, which was resolved through discussion. In all these cases consensus was obtained. Appendix 1 provides the depository for categorization of parental emotional abuse versus independent index trauma.

2.3. Measures

2.3.1. Childhood trauma questionnaire (CTQ)

A Dutch version of the short form of the Childhood Trauma Questionnaire (CTQ) was used to assess emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse on a five-point Likert scale (1 = never to 5 = very often). The CTQ assesses

Table 1
Descriptive statistics from the CRTI, CDI and CTQ.

	Mean	SD	Range
CRTI total	88.63	26.00	34–150
Re-experiencing	17.36	6.50	7–35
Arousal	16.91	5.59	6–30
Avoidance	29.53	9.67	11–50
Other	24.85	8.59	10–46
CDI total	16.17	9.38	0–56
CTQ			
EA	10.29	4.77	5–25
EN	12.35	4.75	5–25
PA	6.71	3.02	5–22
PN	7.70	2.96	5–21
SA	7.49	5.09	5–25

CRTI = Children's Responses to Trauma Inventory, re-exp. = re-experiencing, CDI = Children's Depression Inventory, CTQ = Childhood Trauma Questionnaire, EA = Emotional Abuse, EN = Emotional Neglect, PA = Physical Abuse, PN = Physical Neglect, SA = Sexual Abuse.

childhood maltreatment with 5 items per subscale (total subscale score could range between 5–25) with a total of 25 items. The subscale emotional abuse included for example items: ‘People in my family called me things like stupid, lazy or ugly’ and ‘People in my family said hurtful or insulting things to me’. The questionnaire had a good criterion-validity in a sample of adolescents in both a clinical and healthy sample (Bernstein et al., 2003). In the current sample, the internal reliability of the subscales was comparable to previous studies: the internal reliabilities of the subscales on emotional abuse ($\alpha = .83$), physical abuse ($\alpha = .76$), sexual abuse ($\alpha = .95$), and emotional neglect ($\alpha = .86$) were relatively high, while the subscale for physical neglect had a relatively low internal reliability: ($\alpha = .62$), comparable to previous studies (between $\alpha = .61$ and $\alpha = .78$, Bernstein et al., 2003). For illustrative purposes, cut-off scores were used to categorize participants into no (score 5–8), mild (score 9–12) and moderate-severe (score 13–25) levels of reported emotional abuse (see Bernstein & Fink, 1998).

2.3.2. Children’s responses to trauma inventory (CRTI)

The CRTI questionnaire is a Dutch self-report questionnaire measuring post-traumatic stress symptoms in children and adolescents after a traumatic event (identified index trauma) with four subscales: re-experiencing, avoidance, hyperarousal, child-specific reactions, and a total score which can be used for diagnosing PTSD. The subscale child-specific reactions is not part of the DSM-5 criteria, but it accounts for specific symptoms in children or adolescents, such as guilt. The questionnaire consists of 39 items with five-point Likert scales (Alisic, Eland, & Kleber, 2006) and showed moderate to high reliability. Convergent and discriminant validity was demonstrated in a previous study (Alisic & Kleber, 2010). In the current sample, the reliability of subscales for re-experiencing ($\alpha = .86$), avoidance ($\alpha = .87$), other child-specific reactions ($\alpha = .84$) and total PTSD score ($\alpha = .95$) was high and the reliability of the subscale for arousal was moderately high ($\alpha = .79$). In addition to the symptoms of PTSD, the index trauma is assessed as well (see procedure for details).

2.3.3. Children’s depression inventory (CDI)

Since negative alterations in cognitions and mood were added as fourth cluster to the PTSD symptoms in the DSM-5 (APA, 2013), depressive symptoms have been included in the current analyses, using the CDI. The CDI consists of 27 items which were all scored on three-point scales (no, mild or clear symptom). The questionnaire measures cognitive, affective and behavioral depressive symptoms. The total score gives an indication about the severity of the depressive symptoms (Kovacs, 1992). Previous studies indicated adequate-high reliability and showed convergent and discriminant validity (Carey, Faulstich, Gresham, Ruggiero, & Enyart, 1987; Rotundo & Hensley, 1985). In the current sample, the reliability of the total CDI score was high ($\alpha = .88$).

2.4. Data analyses

We performed a general linear model with gender, age and all types of child maltreatment as independent variables and PTSD symptoms (4 separate clusters of the CRTI and depressive symptoms based on the CDI) as dependent variables to assess whether child maltreatment, and emotional abuse in particular, was significantly related to PTSD symptom severity. We first checked the multivariate results to assess whether the independent variables were related to any of the dependent variables before interpreting the effect of the independent variables for all outcomes separately to avoid false positives due to multiple testing. All types of childhood maltreatment that showed a significant relationship in the multivariate analyses were added as covariates in subsequent analyses.

Then, we performed three general linear models with: 1) emotional abuse (CTQ) as independent variable (regardless of whether participants reported it as index trauma) 2) index trauma as independent variable and 3) with the main effects and interaction term between emotional abuse (CTQ) and index trauma as independent variables. All models have PTSD symptoms (CRTI symptoms and the CDI) as dependent variables and gender and emotional neglect as covariates.

Finally, we performed a stepwise multilevel analysis to investigate the relationship between emotional abuse (CTQ) and treatment effectiveness in terms of PTSD symptoms. Hereto, an unconditional means model was first tested with total PTSD symptoms as dependent variable and no predictors added (so only random intercepts) to determine the intraclass correlation, which gives an indication of the dependencies among the observations (Hox, 2002). Thereafter, we added the fixed and random effect of time, followed by emotional abuse, interaction between time and emotional abuse, index trauma, gender, interaction between gender and time, age and emotional neglect. We disregarded parameters which did not improve model fit based on the likelihood ratio test (West, Ryu, Kwok, & Cham, 2011). All models were fitted with the lme4 package in R and with a FML estimation method (Bates, Machler, Bolker, & Walker, 2015).

There were some missing data (<1 %) on the CRTI and CTQ. When more than two items were missing, the participant was disregarded for the relevant analyses ($n = 7$; see Table 1 for missing data per subscale). When only one item was missing, the mean of the other items of the same subscale was imputed ($n = 12$). This resulted in 280 patients in the multivariate analyses with all subscales of the CTQ, 284 patients in the multivariate analyses including emotional abuse and emotional neglect only and 130 patients in the analyses on treatment effectiveness. Multicollinearity was not problematically high, as the tolerance of all independent variables was larger than 0.4 and the variance inflation factor was smaller than 2.5.

3. Results

3.1. Association between emotional abuse and PTSD symptom severity

We found that emotional abuse was significantly associated with the severity of PTSD symptoms $F(5) = 7.25, p < 0.001, \eta^2 = .12$

and was most strongly related to PTSD symptom severity on all subscales of the CRTI and depressive symptoms (all p -values < .001 and largest effect size) compared to other types of childhood maltreatment. Physical abuse, physical neglect and sexual abuse were not significantly related to PTSD symptom severity. Emotional neglect: $F(5) = 3.21, p = 0.08, \eta^2 = .06$ and gender: $F(5) = 4.88, p < 0.001, \eta^2 = .08$) were also associated with severity of PTSD symptoms in the multivariate analysis. Hence, Table 2 shows the effect of emotional abuse, emotional neglect and gender on PTSD symptoms for all outcomes separately (CRTI subscales and CDI). When correcting for gender and emotional abuse, emotional neglect was associated with less re-experiencing symptoms and less other child-specific reactions, while the correlation coefficient between emotional neglect and re-experiencing symptoms ($r = .07$) and other child-specific reactions ($r = .06$) was positive. This may be explained by the high correlation between emotional neglect and emotional abuse ($r = .68$).

3.2. Direct versus indirect model

In the second analysis, we investigated whether PTSD symptom severity was different for individuals who reported emotional abuse as the index trauma versus those who reported an independent trauma (e.g., a car accident). Type of index trauma (emotional abuse versus other traumatic event) was not associated with PTSD symptoms: $F(5) = 2.25, p = .050$. Emotional abuse (as general context; measured with the CTQ) did not influence the relationship between the type of index trauma (emotional versus other traumatic event) and PTSD symptoms: $F(5) = .82, p = .539$. Thus, although emotional abuse was related to more severe PTSD symptoms, it had no different impact on PTSD symptom severity for participants who reported emotional abuse as index trauma compared to participants who reported other traumas (see Fig. 1 for illustration of the mean PTSD symptoms from individuals reporting no ($n = 127$), mild ($n = 83$) and moderate-severe ($n = 77$) emotional abuse as index trauma versus other traumatic events).

3.3. Relationship between emotional abuse and treatment effectiveness

Analyses on treatment effectiveness was based on 130 participants with 2 assessments, of whom 27 also had a third measurement. Participants with one measurement (at intake) reported slightly more emotional abuse ($M = 10.69, SD = 4.94$) compared to participants with more than 1 measurement ($M = 9.81, SD = 4.53$): $Wald = 6.56, p = .010$. All other factors (gender, PTSD symptoms at intake, other reported maltreatment and age) were not significantly different between the two groups. Additionally, there were no statistical differences between participants with two versus three measurements in terms of reported maltreatment, age, gender, PTSD symptoms at intake or decrease in PTSD symptoms from intake to first post-measurement (see Appendix 3).

All assumptions of the final multilevel model were met. The intraclass correlation was considerably high ($r = .39$), indicating considerable dependency in the data caused by multiple measurements within persons (Table 3).

Table 4 shows the results of the final model. As expected, PTSD symptoms significantly decreased over time: $b = -19.14, t(64) = -9.45, p < .001$. In addition, emotional abuse was related to the severity of PTSD symptoms: $b = 2.91, t(131) = 5.81, p < .001$, consistent with our baseline findings. The estimated parameter of emotional abuse was 2.91, indicating that for every point of increase in reported emotional abuse, the total CRTI score was on average 2.91 higher. The interaction between emotional abuse and time (effect of treatment) was a trend in the hypothesized direction ($b = .87, t(93) = 1.89, p = .061$), indicating that the PTSD symptom decrease over time tended to be smaller for participants who reported more severe levels of emotional abuse. Fig. 2 shows an illustration of the relationship between emotional abuse and PTSD symptoms over time based on the observed data with participants subdivided into no, low and moderate-severe levels of emotional abuse at intake. Only a small number of participants received longer treatment with a second post-measurement 12 months after start of treatment ($n = 26$) so this measurement is not included in the figure.

Table 2

Results of a general linear model with PTSD symptoms as dependent variables (all subscales from the CRTI and depressive symptoms from the CDI) and emotional abuse (EA) and emotional neglect (EN) and background variables (i.e., age, gender, other CTQ subscales) as independent variables. Note: we only show predictors in the table with significant multivariate effects because of multiple testing.

Outcome	Parameter	b	Std. Error	t	p	η^2
Re-experiencing	EA	.51	.10	4.87	< .001	.08
	EN	-.26	.10	-2.47	.014	.02
	Gender	2.10	.78	2.69	.008	.03
Avoidance	EA	.88	.15	5.85	< .001	.11
	EN	-.19	.15	-1.29	.198	.01
	Gender	3.14	1.13	2.78	.006	.03
Arousal	EA	.44	.09	4.88	< .001	.08
	EN	-.16	.09	-1.78	.076	.01
	Gender	1.85	.67	2.75	.006	.03
Other child-specific reactions	EA	.75	.13	5.68	< .001	.10
	EN	-.43	.13	-3.23	.001	.04
	Gender	4.75	.99	4.78	< .001	.08
Depression	EA	.57	.15	3.86	< .001	.05
	EN	.15	.15	.99	.320	.00
	Gender	3.76	1.11	3.41	.001	.04

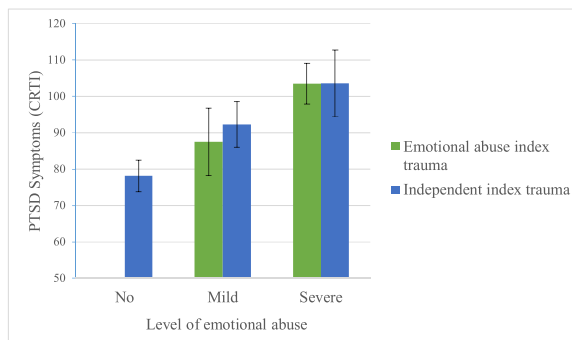


Fig. 1. Mean PTSD symptoms with 95 % confidence interval for individuals reporting no, mild or severe emotional abuse (CTQ) with either emotional abuse as index trauma or an independent index trauma.

Table 3

Summary of the step-wise multilevel analysis of the impact of time, emotional abuse, index trauma, gender, and emotional neglect on PTSD symptoms (as assessed with the CRTI).

Model	AIC	BIC	LL	χ^2	Df	p
1	2723	2734	-1358	-	-	-
2	2658	2672	-1325	67.04	1	< .001
3	2656	2678	-1322	6.13	2	.047
4	2629	2654	-1307	29.01	1	< .001
4.1	2627	2656	-1306	3.47	1	.063
4.2	2630	2660	-1307	.13	1	.722
5	2612	2642	-1298	18.23	1	< .001
5.1	2614	2647	-1298	.04	1	.851
5.2	2614	2647	-1298	.40	1	.532
6	2609	2642	-1295	5.53	1	.019

N.B. In italic the factors that were not significant and therefore disregarded and in bold the parameters in the final model.

Table 4

Summary of the fixed effects from the final multilevel model of the impact of emotional abuse, time, gender and emotional neglect on PTSD symptoms (as assessed with the CRTI).

	Estimate	Standard error	t-value	p
Intercept	72.22	3.92	18.41	
Emotional abuse	2.91	.50	5.81	< .001
Time	-19.14	2.03	-9.45	< .001
Gender	15.84	3.63	4.36	< .001
Emotional neglect	-1.10	.46	-2.39	.018

* $p < .05$; ** $p < .01$; *** $p < .001$.

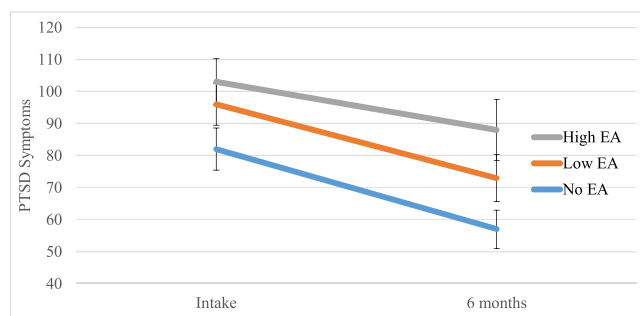


Fig. 2. Illustration of the effect of emotional abuse (EA) on PTSD symptoms (as assessed with the CRTI) over time with emotional abuse subdivided into no, low and high (moderate-severe) emotional abuse ($N = 130$).

4. Discussion

The main aim of this study was to investigate the 'direct' and 'indirect' effects of parental emotional abuse on PTSD symptom severity in children and adolescents and to determine whether parental emotional abuse hampered effective treatment of the children's PTSD symptoms. Parental emotional abuse was frequently reported since about 29 percent of the participants reported mild-moderate levels of emotional abuse and 27 percent reported severe levels of emotional abuse. Notably, for 26 percent of the children/adolescents, emotional abuse was the index trauma. We found that emotional abuse was associated with increased PTSD symptom severity of all PTSD clusters and was most strongly related to PTSD symptoms compared to other forms of childhood maltreatment. These results are in line with earlier findings which showed that self-reported emotional abuse is related to more severe PTSD symptoms in children and adults (Bremner et al., 2000; Burns et al., 2010; Spertus et al., 2003; Sullivan et al., 2006; Teicher, Samson, Polcari, & McGreenery, 2006; Watts, Leeman, O'Sullivan, Castleberry, & Baniya, 2020; Wekerle et al., 2001). Moreover, recent studies also found that emotional abuse was the most relevant predictor of PTSD symptoms in adults compared to other forms of childhood maltreatment (Taillieu, Browndridge, Sareen, & Afifi, 2016; Vang, Shevlin, Karatzias, Fyvie, & Hyland, 2018). This emphasizes the importance to assess parental emotional abuse in a clinical settings in children and adolescents and the need to further elucidate how parental emotional abuse can have such a detrimental effect and how the harmful consequences of emotional abuse can be treated and/or prevented.

As a first step in identifying the processes involved in the pervasive effects of emotional abuse, our findings showed that the negative impact of emotional abuse is general, since it increased PTSD symptom severity independent of the type of the index trauma. An explanation might be that parental emotional abuse affects several fundamental resources needed to deal with a traumatic event. Previous research has already shown that parental emotional abuse is the strongest predictor of poor emotional regulation capabilities in adolescents (Burns et al., 2010) and that poor emotional regulation capabilities are related to PTSD symptoms (Tull et al., 2007). Additionally, emotional abuse is also related to a lack of social support from the family (Vranceanu et al., 2007), while social support from the parents can protect against the effects of stressors (Lougheed, Koval, & Hollenstein, 2016). Therefore, even after traumatic events that are unrelated to the emotional abuse itself, emotional abuse can indirectly result in more severe PTSD symptoms as parents may provide less social support to deal with the traumatic event or via a lack of effective emotional regulation capabilities as a result of exposure to emotional abuse. In addition, emotionally abusive parents may also provide obstructive or maladaptive interpretations of the traumatic event to the child that are known to be associated with more severe PTSD such as attributions of self-blame, appraisals about the cause of the trauma and attributions about the perceived dangerousness of the world (Palosaari, Punamaki, Peltonen, Diab, & Qouta, 2016; Reichert & Flannery-Schroeder, 2014; Woodward et al., 2015), for example by saying that the traumatic event was the child's fault or that they should be ashamed. Posttraumatic cognitions like these might even mediate the negative influence of childhood maltreatment on adverse mental health outcomes in general (Reichert & Flannery-Schroeder, 2014). Note that most studies focused on adolescents and adults who already show PTSD symptoms, while the pathway towards these symptoms is underinvestigated. Future studies might follow adolescents who suffer from parental emotional abuse before they show mental health complaints to study what factors contribute to and protect against the development of mental health problems.

Additionally, in the current study patients' PTSD symptoms decreased over the course of the treatment. Patients with higher levels of emotional abuse suffered from more severe PTSD symptoms at baseline and showed more severe PTSD symptoms over the course of treatment. Given the uncontrolled design of the present study it remains undecided to what extent treatment prevented a worse outcome in these patients or whether emotional abuse might even hamper the effectiveness of treatment. However, provided that our findings will be replicated in a future controlled trial, these findings suggest that children reporting parental emotional abuse start and end treatment with more severe PTSD symptoms. Especially six-month after start of the treatment these children still had severe PTSD symptoms. This emphasizes the need for extra or more treatment options for children and adolescents who experience emotional abuse. In this case, therapists may consider involving parents to improve the social and emotional home environment and minimize parental emotional abuse, for example with systemic therapy (Carr, 2019). Parents may also need to receive individual psychotherapy or psycho-education to address and change abusive behavior and learn techniques on how to emotionally support their child (Lundahl, Nimer, & Parsons, 2006).

This study has some limitations. Firstly, present PTSD symptoms were measured, while emotional abuse was measured about the past and was based on self-report, which can differ from the perception of parents or clinicians. Moreover, PTSD symptom severity might influence the self-report of emotional abuse. Nevertheless, self-reports of patients seem to be a reliable indicator compared to reports via other sources (Winegar & Lipschitz, 1999). Secondly, this study was performed in a natural outpatient mental health setting with an uncontrolled design, precluding strong conclusions based on a comparison with a control condition. Also, the number of treatment sessions differed between children and children may have had different treatment ingredients. Nevertheless, this natural setting also has advantages, such as a high external validity of the results to patients in outpatient mental health institutes. Thirdly, the number of patients with a treatment duration of 12-month was small and we did not follow patients after treatment. Future studies are needed to establish the long term effectiveness of treatment for children who experienced emotional abuse.

5. Conclusion

Our study underlines the detrimental effects of parental emotional abuse for the severity of PTSD symptoms of children and adolescents, emphasizing the importance to address this in clinical assessment and treatment. Especially health care specialists who are in the position to detect emotional abuse, such as general practitioners, psychologists, family guardians and social workers, could contribute to more awareness and detection of emotional abuse. Since parental emotional abuse is an important risk factor for more

severe PTSD symptoms in children and adolescents with a trauma history, independent of the type of trauma of referral, it is important to assess for current and past emotional abuse. In case emotional abuse is reported by a child, it is recommended that this is addressed in treatment, for example by including the parents to prevent further emotional abuse and by enhancing the quality of family interactions in general and emotional support more specifically. There is a clear lack of specific individual and family programs for children and adolescents who grow up with parental emotional abuse, which emphasizes the need to develop and investigate programs that are effective in enhancing social family support and the home environment and reduce parental emotional abuse. Moreover, since emotional abuse frequently co-occurs with other types of maltreatment, such as emotional neglect, it is also important to assess psychological maltreatment more broadly, hence including emotional neglect. In addition, future research is needed to elucidate whether social support, emotion regulation styles and negative schema's provided by the parent on guilt and shame mediate the relationship between emotional abuse and PTSD symptoms. If this is the case, treatment programs may be promoted that specifically target these processes.

Data availability statement

The data that support the findings of this study are available from GGZ Rivierduinen. Restrictions apply to the availability of these data, which were used under license for this study. Data are available from the corresponding author with the permission of GGZ Rivierduinen.

Declaration of Competing Interest

The authors report no declarations of interest.

Acknowledgements

The study was supported by the Netherlands Organization for Scientific Research (Bernet Elzinga: VICI grant, no. 453-75-006) and ZON-MW (Bernet Elzinga, Implementation Grant, no 100002211).

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.chiabu.2020.104775>.

References

- Ackerman, P. T., Newton, J. E. O., McPherson, W. B., Jones, J. G., & Dykman, R. A. (1998). Prevalence of post traumatic stress disorder and other psychiatric diagnoses in three groups of abused children (sexual, physical, and both). *Child Abuse & Neglect*, *22*(8), 759–774.
- Alicic, E., & Kleber, R. (2010). Measuring posttraumatic stress reactions in children: A preliminary validation of the children's responses to trauma inventory. *Journal of Child & Adolescent Trauma*, *3*.
- Alicic, E., Eland, J., & Kleber, R. J. (2006). *Children's responses to trauma inventory-revised version [Schokverwerkingslijst Voor Kinderen-Herziene Versie]*. Zaltbommel/Utrecht, The Netherlands: Institute for Psychotrauma in collaboration with Utrecht University and University Medical Center Utrecht.
- APA. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.) Washington, D.C.
- Arias, I., & Pape, K. T. (1999). Psychological abuse: Implications for adjustment and commitment to leave violent partners. *Violence and Victims*, *14*(1), 55–67.
- Bates, D., Machler, M., Bolker, B. M., & Walker, S. C. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*(1), 1–48.
- Bernstein, D. P., & Fink, L. (1998). *CTQ childhood trauma questionnaire. A retrospective self-report. Manual*. Harcourt, San Antonio: The Psychological Corporation.
- Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., Handelsman, L., Medrano, M., Desmond, D., & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect*, *27*(2), 169–190.
- Brassard, M. R., Hart, S. N., Baker, A. A. L., & Chiel, Z. (2019). *The APSAC monograph on psychological maltreatment (PM)*. from <https://www.apsac.org>.
- Bremner, J. D., Vermetten, E., & Mazure, C. M. (2000). Development and preliminary psychometric properties of an instrument for the measurement of childhood trauma: The Early Trauma Inventory. *Depression and Anxiety*, *12*(1), 1–12.
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, *68*(5), 748–766.
- Brown, S. M., Rienks, S., McCrae, J. S., & Watamura, S. E. (2019). The co-occurrence of adverse childhood experiences among children investigated for child maltreatment: A latent class analysis. *Child Abuse & Neglect*, *87*, 18–27.
- Burns, E. E., Jackson, J. L., & Harding, H. G. (2010). Child maltreatment, emotion regulation, and posttraumatic stress: The Impact of Emotional Abuse. *Journal of Aggression, Maltreatment & Trauma*, *19*, 801–819.
- Carey, M. P., Faustich, M. E., Gresham, F. M., Ruggiero, L., & Enyart, P. (1987). Children's Depression Inventory: construct and discriminant validity across clinical and nonreferred (control) populations. *Journal of Consulting and Clinical Psychology*, *55*(5), 755–761.
- Carr, A. (2019). Family therapy and systemic interventions for child-focused problems: The current evidence base. *Journal of Family Therapy*, *41*(2), 153–213.
- Carr, C. P., Martins, C. M. S., Stingel, A. M., Lemgruber, V. B., & Juruena, M. F. (2013). The role of early life stress in adult psychiatric disorders a systematic review according to childhood trauma subtypes. *The Journal of Nervous and Mental Disease*, *201*(12), 1007–1020.
- Cohen, L. R., & Hien, D. A. (2006). Treatment outcomes for women with substance abuse and PTSD who have experienced complex trauma. *Psychiatric Services*, *57*(1), 100–106.
- De Bellis, M. D., & Van Dillen, T. (2005). Childhood post-traumatic stress disorder: An overview. *Child and Adolescent Psychiatric Clinics of North America*, *14*(4), 745–772.
- Egeland, B. (2009). Taking stock: Childhood emotional maltreatment and developmental psychopathology. *Child Abuse & Neglect*, *33*(1), 22–26.

- Gibb, B. E., Chelminski, I., & Zimmerman, M. (2007). Childhood emotional, physical, and sexual abuse, and diagnoses of depressive and anxiety disorders in adult psychiatric outpatients. *Depression and Anxiety, 24*(4), 256–263.
- Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Child Maltreatment 1 Burden and consequences of child maltreatment in high-income countries. *Lancet, 373*(9657), 68–81.
- Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B., Petty, R. M., Stockton, P., et al. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of Traumatic Stress, 13*(2), 271–286.
- Hox, J. J. (2002). *Multilevel analysis: Techniques and applications*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- ISTSS Guidelines Committee. (2018). *Posttraumatic stress disorder prevention and treatment guidelines methodology and recommendations*. Oakbrook Terrace (IL), USA: Author.
- Kim, K., Mennen, F. E., & Trickett, P. K. (2017). Patterns and correlates of co-occurrence among multiple types of child maltreatment. *Child & Family Social Work, 22*(1), 492–502.
- Kovacs, M. (1992). *The children's depression inventory (CDI) manual*. New York: Multi-Health Systems.
- Lougheed, J. P., Koval, P., & Hollenstein, T. (2016). Sharing the burden: The interpersonal regulation of emotional arousal in mother-daughter dyads. *Emotion, 16*(1), 83–93.
- Lundahl, B. W., Nimer, J., & Parsons, B. (2006). Preventing child abuse: A meta-analysis of parent training programs. *Research on Social Work Practice, 16*(3), 251–262.
- Margolin, G., & Vickerman, K. A. (2007). Post-traumatic stress in children and adolescents exposed to family violence: I. Overview and issues. *Professional Psychology, Research and Practice, 38*(6), 613–619.
- Nothling, J., Suliman, S., Martin, L., Simmons, C., & Seedat, S. (2019). Differences in abuse, neglect, and exposure to community violence in adolescents with and without PTSD and depression. *Journal of Interpersonal Violence, 34*(21–22), 4357–4383.
- Palosaari, E., Punamaki, R. L., Peltonen, K., Diab, M., & Qouta, S. R. (2016). Negative social relationships predict posttraumatic stress symptoms among war-affected children via posttraumatic cognitions. *Journal of Abnormal Child Psychology, 44*(5), 845–857.
- Powers, M. B., Halpern, J. M., Ferenschak, M. P., Gillihan, S. J., & Foa, E. B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review, 30*(6), 635–641.
- Reichert, E. L., & Flannery-Schroeder, E. (2014). Posttraumatic cognitions as mediators between childhood maltreatment and poorer mental health among young adults. *Journal of Child & Adolescent Trauma, 7*(3), 153–162.
- Rotundo, N., & Hensley, V. R. (1985). The children's depression scale. A study of its validity. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 26*(6), 917–927.
- Sanchez, M. M., McCormack, K. M., & Howell, B. R. (2015). Social buffering of stress responses in nonhuman primates: Maternal regulation of the development of emotional regulatory brain circuits. *Social Neuroscience, 10*(5), 512–526.
- Spertus, I. L., Yehuda, R., Wong, C. M., Halligan, S., & Seremetis, S. V. (2003). Childhood emotional abuse and neglect as predictors of psychological and physical symptoms in women presenting to a primary care practice. *Child Abuse & Neglect, 27*(11), 1247–1258.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R. A., & van IJzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review, 24*(1), 37–50.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2013). The neglect of child neglect: A meta-analytic review of the prevalence of neglect. *Social Psychiatry and Psychiatric Epidemiology, 48*(3), 345–355.
- Street, A. E., & Arias, I. (2001). Psychological abuse and posttraumatic stress disorder in battered women: Examining the roles of shame and guilt. *Violence and Victims, 16*(1), 65–78.
- Sullivan, T. P., Fehon, D. C., Andres-Hyman, R. C., Lipschitz, D. S., & Grilo, C. M. (2006). Differential relationships of childhood abuse and neglect subtypes to PTSD symptom clusters among adolescent inpatients. *Journal of Traumatic Stress, 19*(2), 229–239.
- Taillieu, T. L., Brownridge, D. A., Sareen, J., & Afifi, T. O. (2016). Childhood emotional maltreatment and mental disorders: Results from a nationally representative adult sample from the United States. *Child Abuse & Neglect, 59*, 1–12.
- Teicher, M. H., Samson, J. A., Polcari, A., & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *The American Journal of Psychiatry, 163*(6), 993–1000.
- Trickey, D., Siddaway, A. P., Meiser-Stedman, R., Serpell, L., & Field, A. P. (2012). A meta-analysis of risk factors for post-traumatic stress disorder in children and adolescents. *Clinical Psychology Review, 32*(2), 122–138.
- Tull, M. T., Barrett, H. M., McMillan, E. S., & Roemer, L. (2007). A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behavior Therapy, 38*(3), 303–313.
- Vang, M. L., Shevlin, M., Karatzias, T., Fyvie, C., & Hyland, P. (2018). Dissociation fully mediates the relationship between childhood sexual and emotional abuse and DSM-5 PTSD in a sample of treatment-seeking adults. *European Journal of Trauma & Dissociation, 4*(4), 173–178.
- Vranceanu, A. M., Hobfoll, S. E., & Johnson, R. J. (2007). Child multi-type maltreatment and associated depression and PTSD symptoms: The role of social support and stress. *Child Abuse & Neglect, 31*(1), 71–84.
- Watts, J., Leeman, M., O'Sullivan, D., Castleberry, J., & Baniya, G. (2020). Childhood emotional maltreatment and post-traumatic stress disorder in the context of centrality of the event and intrusive rumination. *Rehabilitation Counseling Bulletin*.
- Wekerle, C., Wolfe, D. A., Hawkins, D. L., Pittman, A. L., Glickman, A., & Lovald, B. E. (2001). Childhood maltreatment, posttraumatic stress symptomatology, and adolescent dating violence: Considering the value of adolescent perceptions of abuse and a trauma mediational model. *Development and Psychopathology, 13*(4), 847–871.
- West, S. G., Ryu, E., Kwok, O. M., & Cham, H. (2011). Multilevel modeling: Current and future applications in personality research. *Journal of Personality, 79*(1), 2–50.
- Widom, C. S. (1999). Posttraumatic stress disorder in abused and neglected children grown up. *The American Journal of Psychiatry, 156*(8), 1223–1229.
- Winegar, R. K., & Lipschitz, D. S. (1999). Agreement between hospitalized adolescents' self-reports of maltreatment and witnessed home violence and clinician reports and medical records. *Comprehensive Psychiatry, 40*(5), 347–352.
- Woodward, M. J., Eddinger, J., Henschel, A. V., Dodson, T. S., Tran, H. N., & Beck, J. G. (2015). Social support, posttraumatic cognitions, and PTSD: The influence of family, friends, and a close other in an interpersonal and non-interpersonal trauma group. *Journal of Anxiety Disorders, 35*, 60–67.
- Yrondi, A., Aouizerate, B., Bennabi, D., Richieri, R., D'Amato, T., Bellivier, F., et al. (2020). Childhood maltreatment and clinical severity of treatment-resistant depression in a French cohort of outpatients (FACE-DR): One-year follow-up. *Depression and Anxiety*.