Title page

Validation Study of the Swedish Child Post-Traumatic Cognitions Inventory in Maltreated Children

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Disclosure statement

The authors report there are no competing interests to declare.

Highlights

• The self-report questionnaire Child Post-Traumatic Cognitions Inventory is a reliable and valid instrument for assessing dysfunctional post-traumatic cognitions in maltreated children

• Two types of post-traumatic cognitions are central in children and adolescents after traumatic events: ‘the world is dangerous’, and ‘I am incompetent’

• Post-traumatic cognitions may be transdiagnostic constructs not unique to the diagnosis of post-traumatic stress disorder

Cover letter

December 28, 2024,

To the readers,

Data in this study was derived from a RCT in ordinary child and adolescent mental health services (CAMHS) during 2012 to 2014 by the first author Ole Hultmann (registered at www.isrctn.com with number ISRCTN58027256). The results of the treatment study was published in 2022 (Hultmann et al., 2022). CPTCI was translated, back-translated and approved by Richard Meiser-Stedman in 2011. Children and young people responded to the CPTCI questionnaire as part of the assessment for the RCT.

Background

Prior studies offer support for the CPTCI, but still the validity of the two-factor structure remains uncertain, as some studies report poor model fit to the data or do not include key indices or model comparisons. Previous studies show varying degrees of support for the use of the two-factor model with children and youth with repeated interpersonal trauma or maltreatment. Differences in participant characteristics, frequency and type of trauma, timing of assessments are possible explanations for the challenges in replicating the two-factor structure. The Swedish translation of the CPTCI measure (CPTCI-Swe) has not been validated. This study seeks to investigate the role of dysfunctional PTCs in maltreated CAMHS-patients subjected to intimate partner violence (IPV) and/or child abuse (CA).

Method

The 77 participants were between nine and 17 years old and 52 of the patients met DSM-IV criteria for PTSD, diagnosed with the structured interview K-SADS. Exposure to physical abuse was reported by 49 participants, 64 reported witnessing IPV, and 42 patients reported double exposure. In addition, participants responded to the Trauma Symptom Checklist for Children.

Confirmatory factor analyses (CFA) were performed on the 25-item and 10-item versions of the CPTCI. The unique associations between model factors and TSCC subscales served as indicators of convergent validity and the quantified differences in factor mean scores between patients with PTSD and those with subclinical PTSD served as indicator for discriminant validity.

Results

The two-factor solution of the CPTCI-25 and CPTCI-10 provided good and excellent fit to the data, respectively. Internal consistency for the subscales (CPTCI-SW and CPTCI-PC) in both the long and short version subscale exhibited good internal consistency except for the CPTCI-SW in CPTCI-10 which demonstrated questionable internal consistency.

For the CPTCI-25, the CPTCI-PC scale converged with TSCC-PTS and TSCC-depression, but not with TSCC-anxiety. The CPTCI-SW scale converged with PTS and anxiety but not with depression. For the CPTCI-10, the CPTCI-PC scale converged with PTS and depression but not with anxiety. The CPTCI-SW only converged with depression and not with PTS or anxiety.

Neither CPTCI-25 nor CPTCI-10 could discriminate between patients with a PTSD diagnosis and those with subclinical PTSD, assessed with K-SADS.

When we regressed the model factors on continuous K-SADS PTSS scores, the CPTCI-25 emerged as a significant predictor of moderate strength, but the CPTCI-10 did not.

Discussion

Overall, the results from the CFA support the theoretical validity of the CPTCI as a two-component construct, capable of capturing two distinct but related aspect of dysfunctional PTCs in children and adolescents exposed to IPV and/or CA.

The CPTCI-PC subscale for both CPTCI-25 and CPTCI-10 and the CPTCI-SW subscale for the CPTCI-25 showed good internal consistency. Our small sample might be an explanation to the low reliability on the CPTCI-SW subscale of the CPTCI-10.

Overall, convergent validity for both the CPTCI-25 and CPTCI-10 is considered established, although our results were not as consistent as previous studies across both subscales and internalising psychopathology. The statements of the four items in the CPTCI-SW subscale of the CPTCI-10 might overlap with a depressed mindset explaining why these four specific dysfunctional PTCs were closely related to the items in the TSCC-Dep.

The lack of discriminative validity in the CPTCI-Swe contrasts with findings from earlier studies. Child maltreatment is linked to a variety of psychopathology both from the internalising and externalising spectrum and dysfunctional PTCs might serve as a transdiagnostic risk factor.

The Swedish version of the CPTCI (CPTCI-Swe) has been used by clinicians for over a decade but it has not yet been validated. A validation study is desirable considering extensive application of the measure in clinical settings. The small sample size is a limitation of our study. The results from the CFA should be considered preliminary indicators of a two-factor division of PTCs in minors exposed to IPV and/or CA.

The two dimensions of dysfunctional PTCs can be helpful for clinical assessment, monitoring, and treatment planning. We recommend that the CPTCI is used in conjunction with validated PTSS/PTSD screeners.

More validation studies on the CPTCI-10 are needed to explore its value in screening psychopathology and monitoring treatment progress.

More research is needed on the role of dysfunctional PTCs as a transdiagnostic mechanism in children and adolescents with experiences of repeated exposure to trauma and maltreatment.

Sincerely yours,

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Hultmann, O., Broberg, A. G., & Axberg, U. (2022). A Randomized Controlled Study of Trauma Focused Cognitive Behavioural Therapy Compared to Enhanced Treatment as Usual with Patients in Child Mental Health Care Traumatized from Family Violence. *Children and Youth Services Review*, 106716. https://doi.org/https://doi.org/10.1016/j.childyouth.2022.106716

1. Background

Child maltreatment is a risk factor for long-lasting mental and physical health issues (Buckingham & Daniolos, 2013). Importantly, even the same type of maltreatment experience with similar contextual variables (length of experience, perpetrator, age of victim, etc.) does not necessarily lead to the same outcome, called multifinality (McLaughlin et al., 2020). One of the possible mental health outcomes is posttraumatic stress disorder (PTSD). The well-established Cognitive model of PTSD by Ehlers and Clark (2000) highlights an interplay between trauma and individual characteristics, cognitive processing during trauma, the nature of the trauma memory, and appraisals about the trauma and its consequences. Difficulties with the trauma memory (e.g., poor intentional recall, vivid unintentional reexperiencing) and extremely negative appraisals lead to a sense of serious current threat which encourages dysfunctional short-term coping behaviour that impedes recovery and maintains PTSD. The current threat can be external (the world is dangerous), internal (I am incompetent), or both. Foa and Rothbaum (Foa & Rothbaum, 2001) conclude that there might be two distinct pathways through which patients develop those extremely negative appraisals. Both pathways are related to an extreme, rigid worldview. The first involves perceiving oneself as extremely competent and the world as extremely safe before the trauma. The traumatic experience is inconsistent with this view and might change the self-image and view of the world to the other extreme. The second involves perceiving oneself as extremely incompetent and the world as extremely dangerous prior to the traumatic event, with the index event further reinforcing these beliefs. A meta-analysis supported the strong role of extremely negative appraisals in PTSD in children, adolescents, and adults (Gómez de La Cuesta et al., 2019). Sensitivity checks confirmed that this relationship was true irrespective of intentional vs. unintentional trauma and single vs. multiple exposure. However, they concluded that further studies addressing multiple trauma populations were of interest. A systematic review on maltreated children and adolescents by Wiseman et al. (2021) supported the relevance of cognitive models (including trauma memory, appraisals, and post-trauma cognitive or behavioural responses) for this population. However, they also recommended more research on all cognitive processes following child maltreatment.

Research on extremely negative appraisals in children and adolescents exposed to trauma or maltreatment has mainly been driven by the Child Post-Traumatic Cognitions Inventory (CPTCI; Meiser-Stedman et al., 2009). The instrument captures two dimensions of dysfunctional posttraumatic cognitions (PTCs): Permanent and Disturbing Change (CPTCI-PC) and Fragile Person in a Scary World (CPTCI-SW). Meiser-Stedman and colleagues (2009) found that minors who had witnessed or been directly subjected to physical assault presented with higher rates of dysfunctional PTCs, compared to survivors of motor vehicle accidents. Validation studies of the CPTCI with samples primarily exposed to interpersonal traumata have been conducted in Brazil (Lobo et al., 2015), Germany (de Haan et al., 2016), Iran (Hoseini et al., 2021), Korea (Lee et al., 2018), and the Netherlands (Diehle et al., 2015). While these studies offer support for the instrument, the validity of the two-factor structure remains uncertain, as some studies report poor model fit to the data or do not include key indices or model comparisons. Explanations for the repeated challenges in replicating the two-factor structure of the CPTCI include differences in participant characteristics, frequency and type of trauma, timing of assessments, and possible variations in cultural and linguistic appraisals of danger (Lee et al., 2018).

The validated short form of the CPTCI-10 (McKinnon et al., 2016) might be more suitable as a screener or for repeated assessments such as treatment monitoring. The authors concluded that it would be important to further explore its psychometric properties in clinical samples and samples exposed to natural disaster, war, and abuse. Lee and colleagues (2018)

found that the two-factor structure of the CPTCI-10 replicated in a sample of Korean children and adolescent survivors of sexual violence.

This study seeks to investigate the role of dysfunctional PTCs in maltreated Child and Adolescent Mental Health Services (CAMHS) patients subjected to intimate partner violence (IPV) and/or child abuse (CA). A Swedish translation of the CPTCI measure (CPTCI-Swe) has been available in Sweden but has not been validated yet. Previous studies show varying degrees of support for the use of the two-factor model with children and youth with repeated interpersonal trauma or maltreatment. Therefore, we see a need to investigate the psychometric properties of the CPTCI-25 and CPTCI-10 in a sample exposed to IPV and/or CA.

We hypothesised that the construct validity would be demonstrated by replicating the two-factor structure of the English versions (original and short-form) of the CPTCI through confirmatory factor analyses. Additionally, we hypothesised that dysfunctional PTCs assessed with the CPTCI-Swe would be moderately associated with symptoms of posttraumatic stress (PTSS), depression and anxiety, supporting convergent validity. Finally, we hypothesised that higher scores on the CPTCI-Swe would significantly predict the likelihood of receiving a PTSD diagnosis compared to a subclinical PTSD disorder, demonstrating discriminant validity.

2. Method

2.1 Participants

Outpatient CAMHS patients (N = 77) between 9 and 17 years old (M = 13.41, SD = 2.34) completed the CPTCI-Swe before treatment. Forty-seven (61.8%) of the patients were girls. Data was collected in the study *Identification and treatment of children exposed or subjected to intimate partner violence or child abuse in Sweden* during the period 2011 – 2014 and filed in the registry ISRCTN: 58027256. Ethical approval was granted by the regional ethical committee (D.nr 166-11). Patients were included in the treatment study if either the patient or the accompanying parent reported at least two instances of physical, psychological or sexual abuse, as measured by a modified version of the Conflict Tactics Scale (CTS; Straus et al., 1994). Patients also had to present with at least one symptom from each cluster in the DSM-IV diagnosis of PTSD (i.e., re-experiencing, avoidance and arousal) and at least five symptoms in total (assessed using the K-SADS interview, see Measures).

Fifty-two (67.5%) patients met diagnostic criteria for PTSD according to the DSM-IV, while 25 (32.5%) displayed subclinical PTSD. Forty-nine (63.6%) patients reported exposure to physical assault, 64 (83.1%) reported witnessing IPV, and more than half of the sample (n = 42, 54.5%) reported double exposure. In addition, 18 (23.4%) patients reported co-occurring sexual victimization alongside exposure to IPV (n = 6), abuse (n = 2), or both (n = 10). The mean number of exposures to different trauma types reported in the K-SADS interview was 4 (range 1-13, SD = 2.07). A high degree of stressors was present in the patients' social environments: 45 (58.5%) lived with only one parent, and 19 (24.7%) were placed in foster care or institutionalised. Fifteen (19.5%) patients were foreign-born. Employment information was available for 73 of participating parents and 28 (38.6%) depended on government financial aid (social welfare) for their livelihood. Parents (N = 70) varied in educational level. Nine years or less of compulsory schooling was the highest level of education for 13 (18.6%) of participating parents, whereas 33 (37.1%) had completed between two and four years of upper secondary schooling. Twenty-four (34.3%) were university educated.

2.2 Measures

Posttraumatic Cognitions

The CPTCI is a self-report questionnaire that assesses dysfunctional posttraumatic cognitions in children and adolescents. The original version (CPTCI-25) consists of 25 items and the short-form (CPTCI-10) consists of 10 items drawn from the original version. Both versions are composed of two subscales, *Permanent and Disturbing Change* and *Fragile Person in a Scary World*. The two subscales consist of 13 and 6 items (CPTCI-PC), and 12 and 4 items (CPTCI-SW), respectively. Items in the CPTCI-PC pertain to an insult to the individual's sense of self and future. Items in the CPTCI-SW pertain to a sense of ongoing physical threat and personal weakness. Items are rated on a Likert scale with (1) *Don't agree at all*, (2) *Don't agree a bit*, (3) *Agree a bit*, and (4) *Agree a lot*. The score ranges from 25 to 100 for the CPTCI-25, and 10 to 40 for the CPTCI-10. Higher scores indicate more dysfunctional PTCs. The original study by Meiser-Stedman and colleagues (2009) reported good psychometric properties for the CPTCI-25: for the CPTCI-PC subscale Cronbach's α = 91 – 93, and for the CPTCI-SW subscale α = 86 – 88; test-retest reliability for the CPTCI-PC ranged between r = .76 - .78, and the CPTCI-SW ranged between r = .70 - .72. For the CPTCI-10, McKinnon et al. (2016) reported good internal consistency for the CPTCI-PC (α = .91), CPTCI-SW (α = .81), and the full scale (α = .92).

PTSD

The prevalence of PTSD among the patients was examined using the Swedish version of the Schedule for Affective Disorders and Schizophrenia for School Aged Children – Present and Lifetime Version (Kiddie-SADS-PL; Kaufman et al., 1997). The K-SADS is a semi-structured diagnostic interview used to capture psychiatric conditions in children and adolescents according to the criteria in DSM-IV (American Psychiatric Association, 1994). One subscale includes questions about trauma exposure and PTSD symptoms. The screening questions addresses past experiences of various traumatic events. The symptom questions address symptoms of the three different diagnostic clusters: re-experiencing, avoidance, and hyperarousal, as well as one question about the level of everyday functioning. Only symptom scores (not functioning level) were used for calculations of PTSD prevalence in the current study. The questions are rated on a scale using 0 – 2 points. 0 points indicate that no information is available, 1 point suggests that the symptom is not present, and 2 points indicate that the symptom is present. The patient meets the criteria for PTSD if at least one re-experiencing symptom, three symptoms of persistent avoidance, and two hyperarousal symptoms are present. In addition, the twenty symptom questions (again excluding functioning level) of the K-SADS were summed to create a continuous variable indexing clinician-rated PTSS.

Self-reported trauma reactions

Self-reported trauma reactions were examined with the Swedish version of the Trauma Symptom Checklist for Children (TSCC; Nilsson et al., 2008). The TSCC consists of 54 items and six subscales that examine different aspects of trauma-related symptoms. Items are scored between 0 and 4.

Post-traumatic stress (PTS). The PTS-subscale consists of 10 items relating to painful memories, cognitions and nightmares. Prior studies have found the total scale and PTS-subscale to possess good internal consistency: Cronbach's α = .94 and .89, respectively (Nilsson et al.,

2008). In the present study, internal consistency was assessed using model-based omega. The PTS-subscale displayed good internal consistency in the present sample (ω = .82).

Anxiety. Self-reported anxiety was measured using the anxiety subscale of the TSCC. The anxiety scale consists of 9 items and possesses good internal consistency: Cronbach's a = .84 (Nilsson et al., 2008). Internal consistency was good in the present sample (ω = .81).

Depression. Self-reported symptoms of depression were measured using the depression subscale of the TSCC. The depression scale consists of 9 items and possesses good internal consistency: Cronbach's a = .88 (Nilsson et al., 2008). Internal consistency was good in the present sample (ω = .87).

2.3 Statistical Analyses

Descriptive statistics were obtained using the Statistical Package for Social Sciences (SPSS, version 28). Confirmatory factor analyses (CFA) and structural equation models (SEM) were fitted to the data using the lavaan (Rosseel, 2012) R package. Model parameters were estimated using a robust variant of a diagonally weighted least squares estimator (Muthén & Muthén, 2007). This was due to non-normal discrete item distributions and small sample size. Missing data was handled using multivariate imputation by changed equations as implemented in the mice (Van Buuren & Groothuis-Oudshoorn, 2011) package. Model goodness-of-fit (GoF) was evaluated by considering cut-off criteria for several fit indices: a Comparative Fit Index (CFI) ≥ .950, Tucker Lewis Index (TLI) of ≥ .950, Root Mean Square Error of Approximation (RMSEA) of ≤.060, Standardized Root Mean Square Residual of ≤.080, and a χ^2-test statistic with a significance level of p >.05 (indicating global fit). Global fit represents how well the observed covariance matrix aligns with the implied covariance matrix, which is derived from the CFA (Prudon, 2015). Differences in model fit between the one- and two-factor solutions of the 25- and 10-items versions of the CPTCI-Swe were formally evaluated using the correction proposed by Satorra and Bentler (2010). Item factor loadings were considered satisfactory if standardized regression weights were greater than or equal to .30. Previous validation studies have used Cronbach's alpha to assess internal consistency, whereas we opted for model-based omega (Jöreskog, 1971). This is because Cronbach's alpha relies on strong assumptions regarding the measurement model and is generally a biased estimator of scale reliability (McNeish, 2018).

Convergent and discriminant validity was evaluated in a SEM by regressing the derived model factors (latent variables identified through CFA) on theoretically relevant covariates (i.e., TSCC subscales, PTSD diagnosis). The unique associations between model factors and TSCC subscales served as indicators of convergent validity and factor mean differences between patients with PTSD and subclinical PTSD quantified discriminant validity. For model identification, we fixed the factor variances to one in the CFA models, and one of the factor loadings per factor to one in the SEM.

3. Results

3.1 Confirmatory factor analysis

Fit indices and parameter estimates for the four models of the CPTCI-Swe are presented in Table 1 and Table 2, respectively (descriptives and item correlations are shown in appendix).

CPTCI-25. The one-factor solution of the CPTCI-25 did not provide a satisfactory fit to the data. The only fit index within acceptable range according to the predetermined cut-off criteria was the RMSEA, but even here the 90% CI upper boundary was too high. The χ^2-test was significant, rejecting the null-hypothesis of perfect fit, and the SRMR was also too high. Both the CFI and TLI were too low but higher than .900, which has been considered acceptable in other studies with more lenient standards. At the item level, all standardized factor loadings were significant ($p \leq .003$), and the strength of the relationship was greater than or equal to $\beta = .32$ for all items. The two-factor solution of the CPTCI-25 displayed a significantly better fit compared to the one-factor solution: $\Delta\chi^2(1) = 4.71$, $p=.030$. The χ^2-test was insignificant, indicating global model fit. Again, the RMSEA was within acceptable range, but the 90% CI exceeded the upper boundary by two decimal points. The CFI and TLI were slightly below the cut-off criteria, and the SRMR was too high. In this model, item factor loadings were all significant ($p \leq .002$) and greater than or equal to $\beta = .35$ for all items (see Table 2). The correlation between the two factors was $r = .82$ ($p < .001$). At this stage, we abandoned the one-factor solution and focused only on the two-factor solution in subsequent analyses.

CPTCI-10. Both the one-factor solution and the two-factor solution of the CPTCI-10 provided good fit to the data by reaching the predetermined cut-off criteria for all fit indices. The two-factor solution had a marginally better fit compared to the one-factor solution, but the improvement was not statistically significant: $\Delta\chi^2(1) = 2.61$, $p=.106$. For the one-factor solution, standardized factor loadings were all significant ($p \leq .011$) and greater than or equal to $\beta = .38$, except for item 10 ($\beta = .27$). For the two-factor solution, standardized factor loadings were all significant ($p \leq .006$) and greater than or equal to $\beta = .32$ (see Table 2). The correlation between the two factors was $r = .79$ ($p < .001$). In subsequent analyses, we favoured the two-factor solution due to its established reputation as a valid model in the existent literature.

3.2 Internal consistency

For the CPTCI-25, the total scale ($\omega = .93$) and the CPTCI-PC subscale showed excellent internal consistency ($\omega = .91$), while the CPTCI-SW subscale exhibited good internal consistency ($\omega = .86$). For the CPTCI-10, the total scale ($\omega = .84$) and the CPTCI-PC subscale exhibited good internal consistency ($\omega = .82$), while the CPTCI-SW subscale demonstrated questionable internal consistency ($\omega = .66$).

Table 1 *Confirmatory factor analyses: fit indices for one- and two-factor models of the 25- and 10-item versions of the CPTCI-Swe*

Model	χ^2	*df*	*p*	CFI	TLI	SRMR	RMSEA	90% CI
			>.05	>.950	>.950	<.080	<.060	
CPTCI-25 one-factor	326.09	275	.019	.912	.904	.090	.049	.022; .069
CPTCI-25 two-factor	307.78	274	.078	.942	.936	.085	.040	.000; .062
CPTCI-10 one-factor	39.18	35	.288	.978	.972	.068	.040	.000; .094
CPTCI-10 two-factor	33.47	34	.493	1.000	1.000	.060	.000	.000; .082

Note. χ^2 chi-square statistic, *df* degrees of freedom, *CFI* Comparative Fit Index, *TLI* Tucker Lewis Index, *SRMR* Standardized Root Mean Square Residual, *RMSEA* Root Mean Square Error of

Approximation, *90% CI* 90% confidence interval for RMSEA, *CPTCI* Child Post-Traumatic Cognitions Inventory.

Table 2 *Estimates from one- and two-factor solutions fitted to the CPTCI-25 and CPTCI-10 scales*

CPTCI item	One-factor solution						Two-factor solution					
	CPTCI-25			CPTCI-10			CPTCI-25			CPTCI-10		
	Est.	SE	Std. est.	Est.	SE	Std. est.	Est.	SE	Std. est.	Est.	SE	Std. est.
CPTCI-PC												
4. My reactions since the frightening event mean I have changed for the worse.	.56	(.13)	.49	.53	(.13)	.46	.57	(.13)	.50	.54	(.13)	.47
6. My reactions since the frightening event mean something is seriously wrong with me	.54	(.11)	.59	.59	(.11)	.64	.55	(.11)	.61	.59	(.11)	.65
8. Not being able to get over all my fears means that I am a failure.	.52	(.10)	.60				.54	(.10)	.62			
13. My reactions since the frightening event mean I will never get over it.	.73	(.09)	.68				.75	(.09)	.70			
14. I used to be a happy person but now I am always sad.	.74	(.10)	.64	.81	(.10)	.70	.76	(.10)	.66	.82	(.10)	.71
16. I will never be able to have normal feelings again.	.73	(.10)	.74	.70	(.12)	.70	.76	(.10)	.76	.71	(.12)	.72
17. I'm scared that I'll get so angry that I'll break something or hurt someone.	.68	(.10)	.59				.69	(.10)	.61			
19. My life has been destroyed by the frightening event.	.79	(.08)	.69	.80	(.08)	.70	.82	(.08)	.72	.83	(.08)	.72
20. I feel like I am a different person since the frightening event.	.75	(.10)	.66				.77	(.10)	.68			
21. My reactions since the frightening event show that I must be going crazy.	.61	(.10)	.67	.62	(.10)	.68	.64	(.10)	.70	.64	(.10)	.70
22. Nothing good can happen to me anymore.	.59	(.09)	.68				.61	(.09)	.71			
23. Something terrible will happen if I do not try to control my thoughts about the frightening event.	.65	(.10)	.67				.68	(.10)	.70			
24. The frightening event has changed me forever.	.70	(.09)	.60				.72	(.09)	.72			
CPTCI-SW												
1. Anyone could hurt me.	.49	(.12)	.45				.53	(.12)	.48			
2. Everyone lets me down.	.57	(.11)	.57				.61	(.11)	.60			
3. I am a coward.	.44	(.12)	.46				.46	(.13)	.48			
5. I don't trust people.	.52	(.10	.46	.42	(.12)	.38	.56	(.11)	.51	.47	(.12)	.42
7. I am no good.	.68	(.11)	.64	.73	(.11)	.69	.72	(.11)	.68	.83	(.11)	.78
9. Small things upset me.	.47	(.11)	.43				.51	(.11)	.48			
10. I can't cope when things get tough.	.31	(.11)	.32[a]	.27	(.11)	.27[b]	.35	(.11)	.35[c]	.32	(.11)	.32[d]
11. I can't stop bad things from happening to me.	.54	(.11)	.52				.60	(.11)	.57			
12. I have to watch out for danger all the time.	.69	(.11)	.56				.75	(.12)	.60			

15. Bad things always happen.	.57	(.11)	.57	.64	(.09)	.65	.61	(.11)	.61	.73	(.10)	.74
18. Life is not fair.	.65	(.10)	.55				.70	(.10)	.60			
25. I have to be really careful because something bad could happen.	.77	(.08)	.68				.84	(.08)	.74			

Note. All p values <.001 unless otherwise stated.[a] p = .003, [b] p = .011, [c] p = .002, [d] p = .006. CPTCI-10 CPTCI-25

3.3 Convergent validity

The CPTCI model factors were regressed on TSCC subscales to evaluate convergence between dysfunctional PTCs and self-reported trauma reactions. Regression coefficients for the associations between CPTCI-Swe subscales and each respective subscale of the TSCC are presented in Table 3. Regarding the CPTCI-25, the CPTCI-PC subscale displayed significant moderate associations with self-reported PTSS (*Std.est* = .45) and depressive symptoms (*Std.est* = .49), and a non-significant weak negative association with anxiety. The CPTCI-SW subscale exhibited significant but weak associations with PTSS (*Std.est* = .23) and anxiety (*Std.est* = .10), and a strong non-significant association with depression. For the CPTCI-10, the CPTCI-PC subscale results followed the same pattern as the CPTCI-25, with significant moderate associations with PTSS (*Std.est* = .45) and depression (*Std.est* = .46), and a non-significant weak negative association with anxiety. The CPTCI-SW subscale of the CPTCI-10 displayed a significant strong relationship with symptoms of depression (*Std.est.* = .74), a non-significant weak association with PTSS, and a weak and non-significant negative association with anxiety.

Table 3 *Parameter estimates of dysfunctional post-traumatic cognitions on self-reported trauma reactions*

CPTCI version	Factor	TSCC subscale	*Est.*	*SE*	*p*	*Std.est*
CPTCI-25	CPTCI-PC	PTS	.06	.02	.001	.45
		Anxiety	-.03	.02	.213	-.17
		Depression	.06	.02	.001	.49
	CPTCI-SW	PTS	.04	.02	.041	.23
		Anxiety	.02	.02	.019	.10
		Depression	.08	.02	.092	.53
CPTCI-10	CPTCI-PC	PTS	.06	.02	.001	.45
		Anxiety	-.03	.02	.218	-.19
		Depression	.06	.02	.004	.46
	CPTCI-SW	PTS	.01	.02	.588	.09
		Anxiety	-.01	.02	.563	-.08
		Depression	.12	.02	.001	.74

Note. CPTCI Child Post-Traumatic Cognitions Inventory, *CPTCI-PC* Permanent and Disturbing Change subscale, *CPTCI-SW* Fragile Person in a Scary World subscale, *TSCC* Trauma Symptom Checklist for Children, *PTS* TSCC subscale Posttraumatic stress. Parameter estimates denote unique associations between CPTCI subscales and TSCC subscales while controlling for the effect of the other TSCC scales.

3.4 Discriminant validity

We explored the capacity of the CPTCI-25 and CPTCI-10 to discriminate patients with a PTSD diagnosis (assessed with K-SADS) from those with subclinical PTSD. Results from the SEM showed that none of the two CPTCI subscales were able to predict a diagnosis of PTSD based on the observed group differences in CPTCI subscale mean scores (see Table 4). Despite the insignificant results, all subscales pointed in the expected direction, except for the Scary World subscale of the CPTCI-10 that displayed a negative association with PTSD diagnosis.

The failure to establish discriminant validity for PTSD diagnosis prompted exploratory follow-up analyses to more closely examine the relationship between dysfunctional PTCs and PTSS assessed by clinicians. This was done by regressing CPTCI scores on continuous K-SADS PTSS scores (see Table 4). As displayed in Appendix B, patients with PTSD presented with more severe clinician-rated PTSS compared to patients with subclinical PTSD. For the CPTCI-25, both the CPTCI-PC (*Std. est.* = .26, p = .034) and the CPTCI-SW (*Std. est.* = .35, p = .007) subscales were significantly moderately related with clinician-rated PTSS scores. For the CPTCI-10, the strength of association between the CPTCI-PC subscale and clinician-rated PTSS was similar but non-significant. For the CPTCI-SW subscale, the association with clinician-rated PTSS was weak and non-significant.

Table 4 *Parameter estimates of post-traumatic cognitions on clinician-rated PTSD and PTSS*

CPTCI version	Factor	K-SADS	*Est.*	*SE*	*p*	*Std.est*
CPTCI-25	CPTCI-PC	PTSD	.26	.21	.214	.34
		PTSS	.05	.02	.034	.26
	CPTCI-SW	PTSD	.37	.21	.069	.45
		PTSS	.07	.03	.007	.35
CPTCI-10	CPTCI-PC	PTSD	.26	.20	.195	.37
		PTSS	.04	.02	.060	.23
	CPTCI-SW	PTSD	-.05	.24	.833	-.06
		PTSS	.03	.03	.336	.15

Note. CPTCI Child Post-Traumatic Cognitions Inventory, *CPTCI-PC* Permanent and Disturbing Change subscale, *CPTCI-SW* Fragile Person in a Scary World subscale, *K-SADS* Kiddie Schedule for Affective Disorders and Schizophrenia, *PTSS* Post-traumatic stress symptoms, *PTSD* Post-traumatic stress disorder
Parameter estimates denote unique associations between CPTCI subscales and K-SADS PTSD (dichotomous) and PTSS (continuous).

4. Discussion

This study investigated the psychometric properties of the original and short-version of the Child Post-Traumatic Cognitions Inventory (CPTCI-25 and CPTCI-10) in a homogenous sample of Child and Adolescent Mental Health Services patients subjected to intimate partner violence and/or child abuse. To our knowledge, it is the first validation study of the CPTCI on a sample where exposure to IPV and/or CA was the primary source of trauma. Overall, the results indicate that the CPTCI-25 and CPTCI-10 are appropriate measures for assessing dysfunctional PTCs in this population. In contrast to previous validation studies, neither the

CPTCI-25 nor the CPTCI-10 could differentiate between patients with full vs. subclinical PTSD diagnosis.

Hypothesis 1 addressed the construct validity. Given the small sample size and the novel, homogenous clinical sample in terms of trauma characteristics, we applied stringent criteria for evaluating the CFA model fit. The CFA results for the CPTCI-25 indicated that the two-factor solution did not meet the pre-determined cut-off criteria for good model fit. However, the model fit for a two-factor solution was superior to a one-factor solution. Moreover, all items had satisfactory factor loadings ($\beta \geq .3$). Despite the potential for model improvement, we therefore consider the construct validity of the CPTCI-25 – based on all fit indices – as satisfactory. Regarding the CPTCI-10, the two-factor solution demonstrated excellent fit across all fit indices. Overall, the results from the CFA support the theoretical validity of the CPTCI as a two-component construct, capable of capturing two distinct but related aspect of dysfunctional PTCs in children and adolescents exposed to IPV and/or CA.

Additionally, we explored internal consistency. The CPTCI-PC subscale for both CPTCI-25 and CPTCI-10 and the CPTCI-SW subscale for the CPTCI-25 showed good internal consistency. The CPTCI-SW subscale of the CPTCI-10 returned questionable results ($\omega = .66$). The CPTCI-SW subscale has consistently exhibited lower reliability compared to the CPTCI-PC across previous studies (e.g., McKinnon et al., 2016; Meiser-Stedman et al., 2009), but is remarkably low in the present study, nonetheless. With only four scale items, one plausible explanation is that our small sample did not contain enough data points to detect the higher reliability observed in previous studies. Regardless, the value is still within considered acceptable range.

Hypothesis 2 tested the convergent validity using SEM regression analyses with the TSCC subscales PTS, depression, and anxiety as dependent variables. For the CPTCI-25, the CPTCI-PC subscale had significant moderate associations with PTSS and depression. The association with anxiety was weak, non-significant, and negative, which contrasts with findings of significant positive zero-order correlations of moderate strength from Lobo et al. (2015) that also used the TSCC to measure anxiety. The associations of the CPTCI-SW subscale with PTSS and anxiety were weak but significant, and moderate but non-significant with depression. Regarding the CPTCI-10, results for the CPTCI-PC subscale were in line with the CPTCI-25: significant moderate associations with PTSS and depression, and a non-significant negative association with anxiety. For the CPTCI-SW subscale of the CPTCI-10, the results differed from the CPTCI-25: weak, non-significant association with PTSS, weak, non-significant, negative association with anxiety, and a strong significant association with depression. The statements of the four items in the CPTCI-SW subscale of the CPTCI-10 might overlap with a depressed mindset (e.g., “I am no good”, “I can’t cope when things get tough.”). This might explain why these four specific dysfunctional PTCs were more closely related to the items in the TSCC-Dep than the TSCC-PTS scale. To our knowledge, in previous validation studies, correlational analyses of the CPTCI with various measures of PTSS, anxiety, and depression consistently showed moderate to strong associations across the CPTCI-25 subscales. Our findings indicate that the CPTCI subscales, although often highly correlated, should not be seen interchangeably but seem to relate to different trauma-related psychopathology. The CPTCI-PC subscale seems to be most closely related to PTSS, whereas the CPTCI-SW subscale seems to be most relevant for depression. To sum up: our findings support significant relationships between dysfunctional PTCs and psychopathology, although our results were not as consistent as previous studies across both subscales and internalising psychopathology. Nevertheless, we consider convergent validity for both the CPTCI-25 and CPTCI-10 established.

In some studies, partial correlations between CPTCI and PTS were analysed, controlling for anxiety and depression either separately (e.g., de Haan et al., 2016), or simultaneously (e.g., Lee et al., 2018). No consensus appears to exist of what constitutes an acceptable partial

correlational strength. In the original study, Meiser-Stedman et al. (2009) correlated the CPTCI with two separate self-report measures of PTSS (CRIES-C and CPSS) while controlling for depression scores. They found partial correlations ranging between r = .31 - .35 for the CRIES-C and r = .51 - .63 for the CPSS to suffice for establishing convergent validity. In the present study, individual model factors were regressed on each TSCC scale while simultaneously controlling for the effect of the remaining two scales. Every CPTCI-Swe scale converged satisfactorily with TSCC-PTS, except the CPTCI-SW subscale of the CPTCI-10 that only converged with TSCC-Dep.

Regarding hypothesis 3 on discriminative validity, neither subscale in the CPTCI-25 nor CPTCI-10 emerged as a significant predictor when modelled with the K-SADS PTSD diagnosis as the outcome variable. This lack of discriminative validity in the CPTCI-Swe contrasts with findings from earlier studies (e.g., de Haan et al., 2016; McKinnon et al., 2016; Meiser-Stedman et al., 2009). In studies demonstrating discriminant validity, patients with PTSD reported significantly higher levels of dysfunctional PTCs compared to patients with subclinical PTSD. This pattern was observed in research focusing on interpersonal traumas (de Haan et al., 2016), as well as in studies where the majority of patients had experienced non-interpersonal traumas (McKinnon et al., 2016). In the present study, the levels of dysfunctional PTCs were clinically significant in both patients with and without PTSD diagnosis according to the cut-off criteria presented in McKinnon et al. (2016): mean scores above 46-48 and 16-18 for the CPTCI-25 and CPTCI-10, respectively. One explanation might be that dysfunctional PTCs are as relevant in our sample as in samples with single incident trauma but maybe they are not specific for PTSD. Child maltreatment is linked to a variety of psychopathology both from the internalising and externalising spectrum (McLaughlin et al., 2020) and dysfunctional PTCs might serve as a transdiagnostic risk factor. It is also possible that for children and adolescents with maltreatment history, established cognitive models need to be expanded with other transdiagnostic mechanisms (McLaughlin et al., 2020). However, previous studies on the relevance of cognitive models in child maltreatment supported the association of dysfunctional PTCs with PTSS (Wiseman et al., 2019). Another explanation could be an informant discrepancy, as the clinician-assessed K-SADS PTSS captures symptoms from an external diagnostic perspective, whereas the CPTCI reflects self-reported dysfunctional PTCs from the children themselves. However, we found comparable associations between dysfunctional PTCs and continuous levels of self-reported PTSS and clinician-rated PTSS. Finally, as discussed in many other child trauma and maltreatment studies before, the differentiation between full PTSD diagnosis and sub-clinical PTSD diagnosis in children and adolescents might be a weak indicator for clinical relevance (Cohen & Scheeringa, 2009).

When regressing K-SADS PTSS on the CPTCI-25 subscales, both emerged as significant predictors, with CPTCI-SW showing the strongest association. In contrast, neither subscale of the CPTCI-10 was a significant predictor. As detailed in Appendix A, nine CPTCI items correlated significantly with K-SADS PTSS, with the strongest correlations found in the CPTCI-SW subscale. Notably, K-SADS PTSD was only significantly correlated with item 11 ('I can’t stop bad things from happening to me') from CPTCI-SW and the TSCC anxiety scale. The strongest associations for K-SADS PTSS were also observed with CPTCI-SW items and the TSCC anxiety scale, suggesting that the measures converge on the anxiety component of PTSD. This indicates that the predictive utility of the CPTCI primarily pertains to its capacity to identify dysfunctional PTCs about future danger (i.e., anxiety) post trauma, rather than depressive symptoms or a sense of having changed for the worse. The lack of significance for CPTCI-10 predictors reflects its inclusion of only two items that correlated positively with K-SADS PTSS, both belonging to the CPTCI-PC subscale.

4.1 Strengths and limitations

The Swedish version of the CPTCI (CPTCI-Swe) had not been validated which is desirable given that clinicians have been using this measure for a decade. Our validation study of both the CPTCI-25 and CPTCI-10 in a homogenous sample of children and adolescents exposed to IPV and/or CA contributes to the knowledge of the appropriateness of the CPTCI for maltreated children. The small sample size is a limitation of our study. While promising, the results from the CFA should therefore be considered preliminary indicators of a two-factor division of PTCs in minors exposed to IPV and/or CA.

4.2 Clinical implications

Although the CPTCI-25 and CPTCI-10 showed mixed results for their associations with PTSD/PTSS, anxiety, and depression, we recommend the use of this Swedish version in clinical settings. Our findings highlight to explore both subscales and not relying on a total score alone. The two dimensions of dysfunctional PTCs can be helpful for clinical assessment, monitoring, and treatment planning. We recommend that the CPTCI is used in conjunction with validated PTSS/PTSD screeners such as the Child and Adolescent Trauma Screen (CATS; Sachser et al., 2017). Moreover, distress after trauma and maltreatment experiences can also manifest in any other disorder and this is why transdiagnostic measures might be most useful for screening purposes. In our study, children and adolescents exposed to IPV and/or CA had elevated levels of dysfunctional PTCs which were not specifically related to PTSD. Therefore, it seems important to assess, monitor, and address dysfunctional PTCs in this population, irrespective of whether a PTSD diagnosis is met or focused on in treatment. When clinicians are interested in the depth of the child's dysfunctional PTCs, for example when designing treatment, we will recommend the use of the CPTCI-25. The 10-item version can be used when the clinician is restricted in time or patients are reluctant to engage in a longer assessment administration. The 10-item version might also be more useful for screening purposes, e.g. within child protection services or schools.

4.3 Future research

The current study could not replicate previous consistent findings on moderate to strong associations of dysfunctional PTCs with PTSD/PTSS, depression, and anxiety. Additional research on cohorts with maltreatment experiences is needed to establish whether the CPTCI is sufficient for this population or whether an extension of the constructs assessed in the CPTCI would be useful. More validation studies on the CPTCI-10 are needed to explore its value in screening psychopathology and monitoring treatment progress.

4.5 Conclusions

We explored the psychometric properties of the Swedish 25-item and 10-item versions of the CPTCI (CPTCI-Swe) in a sample of children and adolescents exposed to IPV and/or CA. Our findings supported the two-factor structure in both versions. In contrast to previous validation studies, we found mixed results for the associations of dysfunctional PTCs with PTSS, depression, and anxiety. Moreover, the CPTCI subscales behaved differently with internalising psychopathology and should therefore not be used interchangeably. More research is needed on the role of dysfunctional PTCs as a transdiagnostic mechanism in children and adolescents exposed repeatedly to trauma and maltreatment experiences.

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Data availability statement

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

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Supplemental online material

Appendix A: Total sample measurement means and standard deviations

Table A1 *Total sample measurement means and standard deviations*

Variable	Total sample ($N = 77$)	
	M	*SD*
CPTCI-25		
Total	52.23	15.83
CPTCI-PC	24.82	9.27
CPTCI-SW	27.41	7.83
CPTCI-10		
Total	20.74	6.65
CPTCI-PC	11.50	4.55
CPTCI-SW	9.24	2.91
TSCC ($N = 76$)		
PTS	10.94	5.50
Anxiety	7.25	5.09
Depression	8.02	5.65
K-SADS PTSS	10.36	4.15

Note. CPTCI Child Post-Traumatic Cognitions Inventory, *CPTCI-PC* Permanent and Disturbing Change subscale, *CPTCI-SW* Fragile Person in a Scary World subscale, *TSCC* Trauma Symptom Checklist for Children, *PTS* Posttraumatic stress, *K-SADS* Kiddie Schedule for Affective Disorders and Schizophrenia, *PTSS* Posttraumatic stress symptoms.

Appendix B: Measurement means and standard deviations by PTSD diagnosis

Table B1 *Measurement means and standard deviations by PTSD diagnosis*

Variable	PTSD (n = 52)		Subclinical PTSD (n = 25)	
	M	*SD*	*M*	*SD*
CPTCI-25				
Total	54.27	15.91	47.98	15.10
CPTCI-PC	25.77	9.23	22.84	9.23
CPTCI-SW	28.50	7.87	25.14	7.38
CPTCI-10				
Total	21.26	6.71	19.66	6.53
CPTCI-PC	11.97	4.55	10.52	4.46
CPTCI-SW	9.29	2.84	9.14	3.11
TSCC				
PTS	11.76	5.76	9.34	4.61
Anxiety	8.39	5.17	4.92	4.12
Depression	8.23	5.80	7.60	5.42
K-SADS PTSS	12.54	2.70	5.84	2.75

Note. CPTCI Child Post-Traumatic Cognitions Inventory, *CPTCI-PC* Permanent and Disturbing Change subscale, *CPTCI-SW* Fragile Person in a Scary World subscale, *TSCC* Trauma Symptom Checklist for Children, *PTS* Posttraumatic stress, *K-SADS* Kiddie Schedule for Affective Disorders and Schizophrenia, *PTSS* Posttraumatic stress symptoms, PTSD Posttraumatic stress disorder.

Appendix C: Correlation matrix for 25 items in the CPTCI-Swe

Table C1 *Correlation matrix for 25 items in the CPTCI-Swe*

Item	4	6	8	13	14	16	17	19	20	21	22	23	24	1	2	3	5	7	9	10	11	12	15	18	25
4	1	.47**	.30**	.49**	.29**	.26**	.30**	.37**	.37**	.29**	.19	.29*	.37**	.18	.29*	.26*	.23*	.24*	.24*	.12	.28*	.21	.26*	.28*	.18
6	.47**	1	.53**	.37**	.36**	.40**	.36**	.43**	.40**	.56**	.38**	.48**	.26*	.31**	.21	.33**	.18	.49**	.20	.12	.24*	.31**	.41**	.21	.35**
8	.30**	.53**	1	.43**	.39**	.43**	.33**	.50**	.39**	.56**	.48**	.53**	.36**	.33**	.39**	.47**	.19	.55**	.08	-.01	.18	.20	.23*	.27*	.35**
13	.49**	.37**	.43**	1	.41**	.56**	.34**	.57**	.48**	.40**	.39**	.44**	.44**	.37**	.41**	.27*	.28*	.29*	.25*	.24	.28*	.35**	.33**	.28*	.34**
14	.29**	.36**	.39**	.41**	1	.50**	.37**	.52**	.42**	.41**	.40**	.41**	.48**	.12	.29*	.40**	.25*	.54**	.28*	.19	.23*	.31**	.44**	.29**	.35**
16	.26**	.40**	.43**	.56**	.50**	1	.44**	.65**	.50**	.47**	.58**	.53**	.55**	.34**	.57**	.38**	.27*	.42**	.26*	.04	.33**	.29**	.48**	.27*	.46**
17	.30**	.36**	.33**	.34**	.37**	.44**	1	.38**	.36**	.40**	.47**	.58**	.25*	.31**	.32**	.31**	.31**	.27*	.31**	.28*	.34**	.33**	.27*	.31**	.32**
19	.37**	.43**	.50**	.57**	.52**	.65**	.38**	1	.53**	.56**	.45**	.50**	.44**	.32**	.34**	.42**	.16	.40**	.12	.17	.19	.28*	.32**	.29**	.34**
20	.37**	.40**	.39**	.48**	.42**	.50**	.36**	.53**	1	.54**	.38**	.30**	.61**	.29*	.34**	.34**	.33**	.37**	.37**	.17	.33**	.32**	.22	.39**	.29*
21	.29**	.56**	.56**	.40**	.41**	.47**	.40**	.56**	.54**	1	.57**	.56**	.37**	.11	.34**	.18	.25*	.42**	.16	.12	.25*	.43**	.47**	.38**	.47**
22	.19	.38**	.48**	.39**	.40**	.58**	.47**	.45**	.38**	.57**	1	.62**	.32**	.13	.46**	.24*	.30**	.54**	.28*	.21	.24*	.34**	.60**	.43**	.49**
23	.29*	.48**	.53**	.44**	.41**	.53**	.58**	.50**	.30**	.56**	.62**	1	.32**	.35**	.43**	.27*	.31**	.38**	.12	.14	.35*	.37**	.37**	.19	.50**
24	.37**	.26**	.36**	.44**	.48**	.55**	.25**	.44**	.61**	.37**	.32**	.32**	1	.28*	.38**	.30*	.11	.43**	.25*	.06	.36*	.23*	.26*	.43**	.17
1	.18	.31**	.33*	.37**	.12	.34**	.31**	.32**	.29*	.11	.13	.35**	.28*	1	.25*	.18	.25*	.23*	.21	.26*	.38**	.46**	.09	.18	.42**
2	.29*	.21	.39**	.41**	.29*	.57**	.32**	.34**	.34**	.34**	.46**	.41**	.38**	.25*	1	.16	.27*	.33*	.31**	.06	.41**	.22	.38**	.35**	.28*
3	.26*	.33**	.47**	.27*	.40**	.38**	.31**	.42**	34**	.18	.24*	.27*	.29*	.18	.16	1	.19	.42**	.09	.10	.30**	.16	.20	.24*	.22

Table C1 *Correlation matrix for 25 items in the CPTCI-Swe*

5	.23*	.18	.19	.28*	.25*	.27*	.31**	.16	.33**	.25*	.30**	.31**	.11	.25*	.27*	.19	1	.33**	.45**	.22	.32**	.33**	.27*	.38**	.42**
7	.24*	.49**	.55**	.29*	.54**	.42**	.27*	.40**	.37**	.42**	.54**	.38**	.43**	.23*	.33**	.43**	.33**	1	.23*	.32**	.29*	.21	.52**	.47**	.44**
9	.24*	.20	.08	.25*	.28*	.26*	.31**	.12	.37**	.16	.28*	.12	.25*	.21	.31**	.09	.45**	.23*	1	.35**	.50**	.38**	.14	.36**	.34**
10	.12	.12	-.01	.24*	.19	.04	.28*	.17	.17	.12	.21	.14	.06	.26*	.06	.10	.22	.32**	.35**	1	.39**	.27*	.27*	.28*	.31**
11	.28*	.24*	.18	.28*	.23*	.33**	.34**	.19	.33**	.25*	.24*	.35**	.36**	.38**	.41**	.30**	.32**	.29*	.50**	.39**	1	.31**	.21	.44**	.41**
12	.21	.31**	.20	.35**	.31**	.29**	.33**	.28*	.32**	.43**	.34**	.37**	.23*	.46**	.22	.16	.33**	.21	.38**	.27*	.31**	1	.29*	.33**	.67**
15	.26*	.41**	.23*	.33**	.44**	.48**	.27*	.32**	.22	.47**	.60**	.37**	.26*	.09	.38**	.20	.27*	.52**	.14	.27*	.21	.29*	1	.41**	.40**
18	.28*	.21	.27*	.28*	.29**	.27*	.31**	.29**	.39**	.38**	.43**	.19	.43**	.18	.35**	.24*	.38**	.47**	.36**	.28*	.44**	.33**	.41**	1	.33**
25	.18	.35**	.34**	.34**	.35**	.46**	.32**	.34**	.29*	.47**	.49**	.50**	.17	.42**	.28*	.22	.42*	.44**	.34**	.31**	.41**	.67**	.40**	.33**	1

Note. CPTCI-Swe Child Post-Traumatic Cognitions Inventory Swedish version. The items are presented in the order of their appearance in the instrument. Specifically, items 4, 6, 8, 13, 14, 16, 17, 19, 20, 21, 22, 23, and 24 belong to the first subscale, CPTCI-PC (Permanent and Disturbing Change). The remaining items (1, 2, 3, 5, 7, 9, 10, 11, 12, 15, 18, 25) are part of the second subscale, CPTCI-SW (Fragile Person in a Scary World). ** p <.01, * p <.05