

The impact of parental dysfunctional posttraumatic cognitions on child and adolescent cognitions following road traffic accidents and burn injuries

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1. Background

In paediatric research, studies have predominantly shown that co-occurring child and parental posttraumatic stress symptoms (PTSS) are associated. A number of studies have identified parental PTSS as a predictor of child symptoms. Empirical evidence on mechanisms of this child-parent association is, however, still limited.

Dysfunctional posttraumatic cognitions (PTCs) are considered a key process in the development and maintenance of PTSS (Ehlers & Clark, 2000) and provide a possible mechanism of associated child and parental PTSS following child trauma.

Aim of the study

The aim was to examine the longitudinal child-parent relation of dysfunctional PTCs with a particular focus on the impact of parental cognitions on child and adolescent cognitions in an accidental trauma population.

2. Method

Study design

- 108 children and adolescents (aged 7–16 years) and their parents were assessed within four weeks (T_1) and three months (T_2) posttrauma (sample characteristics in Fig.1).
- Child Post-Traumatic Cognitions Inventory (CPTCI; Meiser-Stedman et al., 2007) and Post-Traumatic Cognitions Inventory (PTCI; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999).
- *Inclusion criteria:* treatment at the University Children's Hospital for road traffic accidents and burn injuries, ≥ 7 years of age, sufficient command of German.
- *Exclusion criteria:* severe comorbid head injuries (Glasgow Coma Scale < 9), developmental disorder in child's medical history, > 2 weeks intensive care, loss of someone in the accident, questionable cases of child abuse.

Statistical analysis

- Data analysis included data collected from January 2016 to mid-January 2018.
- Cross-lagged panel design (CLPD), bivariate analysis with selection of confounding variables Age, Socioeconomic Status (SES), and Parental Presence at Accident (PPA).
- Missing data in the CLPD were handled using Full Information Maximum Likelihood (FIML).

Characteristics	Subgroup	Percentage (%)
Gender	Male	56.5%
	Female	43.5%
Age	$M = 11.4$ ($SD = 2.54$)	
Nationality Child	Swiss	70.4%
	Other	29.6%
Socioeconomic status	Possible range: 0–12	
	Sample range: 3–12	
	$M = 8.9$ ($SD = 2.52$)	
Prior trauma/s	No prior trauma	51.9%
	$1 \leq$ prior traumas	46.3%
	Missing	1.8%
Type of accident	Road traffic accident	70.4%
	Burn injury	29.6%
Injury Severity Score	Possible range: 0–75	
	Sample range: 0–29	
	$M = 3.4$ ($SD = 3.94$)	
Parental presence at accident	No parent	62.0%
	One or both parents	32.4%
	Missing	5.6%

Fig.1: $N = 108$. M = mean. SD = standard deviation.

3. Results

- Maternal and paternal PTCs were moderately associated at T_1 but not at T_2 . Child and parental PTCs were not significantly correlated at either time point.
- Paternal PTCs at T_1 moderately predicted maternal PTCs at T_2 . No other significant cross-lagged predictions were found.
- Child and maternal PTCs showed a moderate to strong stability. A non-significant (moderate) stability was found for paternal PTCs (see Fig.2).

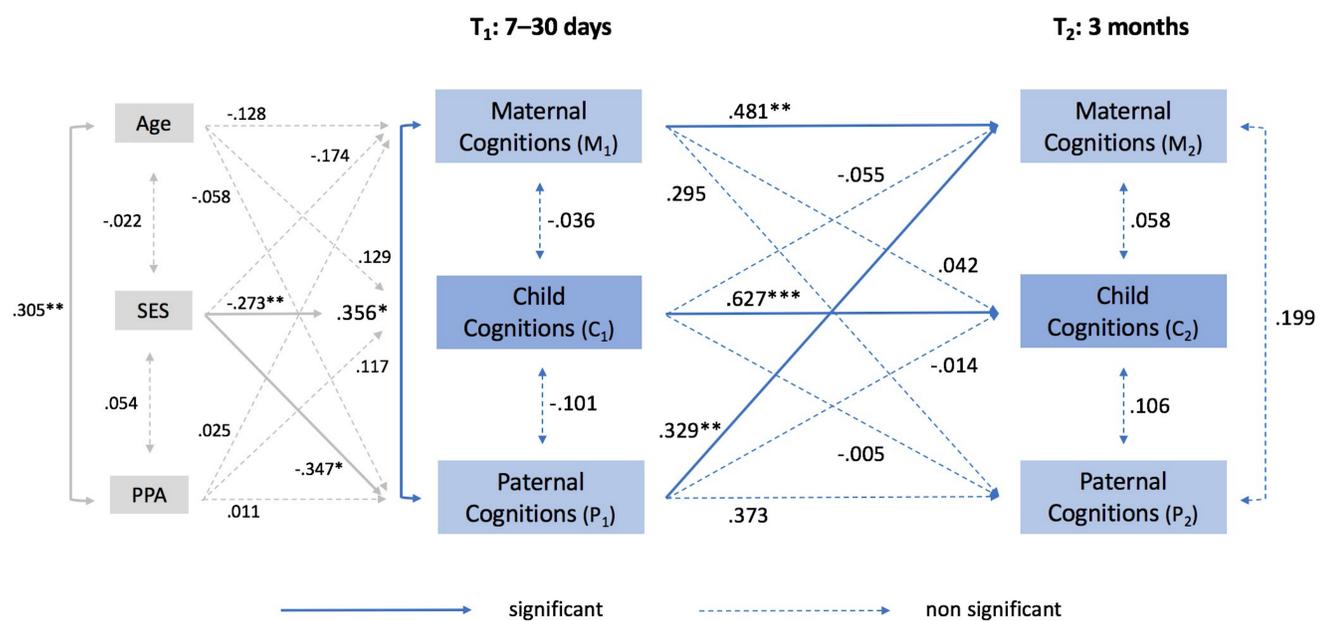


Fig.2: Results of the CLPD_{total} with confounding variables Age, SES, and PPA. Correlations are represented with double-headed arrows and regressive paths with single-headed arrows. Standard maximum likelihood parameter estimates. Fit indices: non-significant χ^2 (9, 108) = 11.196, $p = .263$; RMSEA = 0.043 (90% CI 0.000 – 0.112); SRMR = 0.041; CFI = 0.967; TLI = 0.908. * $p < .05$, ** $p < .01$, *** $p < .001$.

4. Strengths

- The PTC study is, to our best knowledge, the first study to examine the longitudinal association of dysfunctional PTCs in children and parents.
- Normal distribution of age in the sample suggests generalisability of findings for different age groups of school-aged children and adolescents.
- State-of-the-art approach to disentangling child and parents' assessment by employing direct child self-reports.
- Dysfunctional PTCs were assessed with validated measures for children (CPTCI) and adults (PTCI).

5. Limitations

- No validation of measurement model by means of a confirmatory factor analysis prior to fitting of structural model.
- CLPD fails to account for stabilities of trait-like constructs (see last limitation; Hamaker, Kuiper, & Grasman, 2015).
- Differences in children's and parents' data collection (face-to-face interviews vs. parents' paper-pencil questionnaires; variable time gap between assessments of children and parents) might have affected their comparability.
- Underrepresentation of subgroups in the sample (e.g., severely injured children, lower class families) may limit generalisability for general population.
- Preexisting dysfunctional cognitive schemes of individuals could have affected dysfunctional PTCs related to the accident.

Conclusions

Child PTCs were not associated with maternal and paternal cognitions in this study, which indicates independent responses to paediatric trauma. Parental cognitions were cross-sectionally and longitudinally related, with moderate effects reported for mothers and fathers correlating at baseline (T_1) and for fathers predicting mothers at follow-up (T_2).

6. Implications

- Independent child and parental responses to trauma warrant separate clinical evaluation of child and parental PTSS.
- Stability of PTCs support the proposed early-targeted interventions for at-risk individuals exhibiting high levels of PTCs after trauma (Hiller et al., 2016).
- Fathers' prediction of mothers' PTCs implies the need for increased involvement of fathers in family-based interventions.
- Further research with larger samples and different trauma populations is required.

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