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Recognizing Traumatization in Children Aged 4 to 8: A Pilot Validation Study of the Odense Child Trauma Screening (OCTS) Measure in Lithuania

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Abstract

Early identification of children at risk of posttraumatic stress symptomatology or other emotional and behavioral problems is highly needed for the prevention of long-term consequences of traumatic events and abuse. However, the assessment of the traumatization of very young children is challenging because they cannot fully verbalize their psychological experiences. The purpose of this pilot study was to test the internal consistency, interrater reliability, and validity of the Odense Child Trauma Screening (OCTS) measure, a structured play test for signs of traumatization in young children. The total sample was comprised of 26 (50%) children from the community and 26 from risk groups in Lithuania. The mean age of the participants was 6.44 (*SD* = 1.63; range 3-9); 62% were girls. The OCTS interviews were conducted with all children. The Child and Adolescent Trauma Screen (CATS) and the Strengths and Difficulties Questionnaire (SDQ) were used to collect data about the child from the caregivers. Caregivers of the risk sample group reported significantly more potentially traumatic events experienced by the children (*M* = 2.73) than in the community sample (*M* = 1.00). The OCTS results indicated acceptable internal consistency and good inter-rater reliability. However, only one of the four OCTS stories scores was significantly higher in the risk group. We found no sex effects on the OCTS scores. This pilot study of the psychometric properties of the OCTS supports the reliability of the OCTS and informs that the OCTS administration and coding procedures can be consistently applied in various settings.

Keywords: young children; trauma; story stem test, validity, reliability.

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Introduction

Potentially traumatic events (PTEs) and abuse in childhood are common (Lewis et al., 2019; Nikolaidis et al., 2018; Zelviene et al., 2020). A representative study in the US revealed that by the age of nine, 13.8% of children were exposed to at least one form of maltreatment: physical or emotional abuse, neglect, or custodial interference during the past year, and by the age of seventeen, 40.9% were exposed to more than one direct experience of violence, crime, or abuse (Finkelhor et al., 2015). Children of younger age are also at higher risk for maltreatment. A study in the Netherlands found that age four and below was a significant risk factor for child maltreatment (Euser et al., 2013). Experiences of PTEs and abuse in childhood are related to various adverse outcomes throughout life (Butchart et al., 2006). Among these are deficits in educational achievement, difficulties in employment, and negative effects on mental and physical health (Gilbert et al., 2009; Heilmann et al., 2021).

After experiencing PTEs, children can display various psychological problems, including daily functioning and sleep disruptions, depression, anxiety, and posttraumatic stress disorder (PTSD) symptoms. Exposure to multiple PTEs is related to the complexity of psychological consequences (Greeson et al., 2011; Hodges et al., 2013). The knowledge about very young children's reactions to PTEs is limited. The findings reveal that very young children might experience somatic complaints, cognitive problems, and emotional and behavioral difficulties. Young children may exhibit high anxiety, clinginess, tearfulness, fears, irritability, and temper tantrums (Brown et al., 2021; De Young et al., 2012; Slone & Mann, 2016). Moreover, young children are at risk of PTSD, oppositional defiant, and affective disorder (de Young et al., 2011; De Young & Landolt, 2018; Greeson et al., 2011;

Levendosky et al., 2013; Scheeringa, 2011; Slone & Mann, 2016). Young children process their experiences on a sensory level. Therefore, they are especially vulnerable to potential sensory overload related to the experienced event and the response of their social environment (Brown et al., 2021; Slone & Mann, 2016). Young children have limited abilities to verbalize their experience; therefore, they may reenact their experience in their play and other repeating behaviors (Brown et al., 2021).

Based on these studies, it is evident that early identification of children at risk of posttraumatic stress symptomatology or other trauma- and abuse-related emotional and behavioral problems is essential for the allocation of appropriate treatment and prevention of long-term consequences on child development and well-being (Butchart et al., 2006; Cicchetti, 2013).

The assessment of the traumatization of very young children is challenging since they cannot fully verbalize their psychological experiences (Løkkegaard et al., 2021). It has also been found that it might be difficult for caregivers to notice their child's internalized posttraumatic stress symptoms (Scheeringa, 2011). Standardized and structured story stem assessment tools where the child is the primary informant are one of the solutions for the evaluation of a child's risk of being traumatized (Løkkegaard et al., 2021).

The Odense Child Trauma Screening (OCTS) is a newly developed screening tool by the Danish National Center of Psychotraumatology at the University of Southern Denmark (Løkkegaard et al., 2021). The OCTS is applicable in cases with a suspicion of a child being traumatized. Using the OCTS, the child is the primary informant. The OCTS screens for play-based behavioral and representational signs of traumatization in the child's play narratives. The OCTS includes five story stems used in combination with a LEGO® doll house and family figures designed explicitly for this measure. The story stems describe everyday situations with a controlled degree of conflict and distress. The OCTS does not have a direct

focus on the child's exposure to PTE. Therefore, it is possible to carry out the assessment without causing stress to the child (Løkkegaard et al., 2017). The Danish validation study of the OCTS showed excellent interrater reliability (ICC = .96-1.00) and acceptable test-retest reliability (.67). Also, significant correlations have been found between the OCTS and PTSD, major depressive disorder (MDD), reactive attachment disorder (RAD) symptoms, and emotional and behavioral difficulties. Moreover, the OCTS was also good in discriminating between risk and community samples in Denmark, showing promising results of the OCTS as a standardized, age-appropriate informant-based screening measure (Løkkegaard, 2019; Løkkegaard et al., 2021).

The OCTS psychometric properties have been tested only in the Danish population, supporting the validity and internal consistency of the instrument. However, there is a lack of empirical studies on the psychometric properties of the OCTS in other countries and languages. The primary purpose of this pilot study was to test the internal consistency, interrater reliability, and validity of the OCTS by comparing two samples of children in Lithuania – one from the general population and one of children with high risk for abuse experience.

Methods

Participants

In total, 52 children aged 3 to 9 (M = 6.44; SD = 1.63) were screened for plausible traumatization with the OCTS. The age of the majority of children included in the study ranged from 4 to 8 years, except that one child had their 9th birthday a few weeks before participation in the study, and one child was 3.5 years old. Half of the children were recruited from a community sample (n = 26, 50.0%), and the remaining participants were from a risk sample. Among the participants, 61.5% were girls (n = 32).

Study questionnaires about the children were filled in by a parent (n = 49), another relative (n = 1), or a guardian of the child (n = 2). For 38.5% (n = 20) of the children, none of the caregivers had a university degree; for 36.5% (n = 19) – one caregiver had a university degree; and for 25.0% (n = 13) – both caregivers had a university degree.

Procedure

Children participating in the study were from community and risk samples. For the risk group, the caregivers of the children attending the organization supporting sexually abused children were informed about the study with an invitation to participate. For the community sample, we shared the invitation to participate in the study with caregivers from 5 different public kindergartens and schools. After obtaining written informed consent from a caregiver, all caregivers of children were asked to complete a survey about the child on paper or by using a secure online survey platform. Only those children whose caregivers filled in the survey participated in the OCTS interviews. Afterward, an interview with a child was arranged. The interviewers did not have access to the caregivers' responses prior to conducting the interviews and coding. Caregivers and children were informed about the voluntary basis of participation in the study and the possibility of withdrawing at any time. No financial compensation was offered to participants for their participation in the study.

All the OCTS interviews were conducted by a team of three clinical psychologists and two supervised Master's students in clinical psychology who were trained in the administration and scoring of the OCTS. All the measures, including the OCTS coding and administration manuals, were in the Lithuanian language. Interviewers were supervised throughout the study by the developers of the OCTS screening tool regarding the general coding issues for more complex cases. All interviews were videotaped and coded by the

interviewer based on the filmed material. The second raters, trained Master's students, coded all the OCTS interviews for the analysis of the inter-rater agreement.

Initially, 109 caregivers provided consent for participation in the study (risk sample: *n* = 29, community sample: *n* = 80). However, not all caregivers filled in the study measures, or significant parts of the data were missing in their responses. Therefore, only children with the available data from both sources, questionnaires, and OCTS interviews, were included in the current analysis.

Measures

The Odense Child Trauma Screening (OCTS; Løkkegaard et al., 2021) is a story stem tool for screening for signs of traumatization in children aged 4–8. The OCTS is a structured play interview consisting of a warm-up baseline story stem Birthday followed by four conflict story stems (Bikes, Nightmare, Burnt hand, and Stomach ache). There is also an optional additional Animal story in the original OCTS that was not used in the current study. The story stems are played out with a LEGO® doll house and family figures according to the instructions presented in the OCTS administration manual (Løkkegaard et al., 2017). The interview has to be filmed for the subsequent coding. Every conflict story the child plays is coded with 27 codes described in the OCTS coding manual (Løkkegaard et al., 2018). The OCTS administration and coding manuals have been translated into Lithuanian language in collaboration with the authors of the OCTS.

The codes cover five categories: (1) engagement and narrative production, (2) nature of the narrative, (3) adult representations in the narrative, (4) child representations in the narrative, and (5) disorganized phenomena. For codes 5–27, a raw score on a three-point scale from 0 = *phenomenon described in the manual not present* to 2 = *definitely present* has to be assigned; for engagement and narrative production codes 1–4, a dichotomous rating of 0 or 2

is given. Since different codes represent various aspects of narratives that (1) are likely to indicate traumatization, (2) can be linked to traumatization or other vulnerability, and (3) describe general engagement and compliance with the screening situation, raw scores of all codes are converted into the weighted scores based on the recommendations in the OCTS coding manual (Løkkegaard et al., 2018). Then, the partial score for each story is calculated by summing up the weighted scores of the 27 story codes. The total score of a story can range from 0 to 23. Afterward, the final total OCTS score is obtained by summing up the partial scores and dividing the sum by the number of used conflict stories.

The Child and Adolescent Trauma Screen (CATS; Sachser et al., 2017) was used to screen for exposure to potentially traumatic events (PTEs). The checklist includes 14 different traumatic events with the possibility to describe any other scary or stressful event. Among the listed events are experiencing a serious natural disaster, accident or injury, violence at home or in the community, sexual abuse, traumatic loss, medical procedures, and others. We used a caregiver version of the CATS, where a caregiver has to mark if the child had experienced the event (1 = *Yes*) or not (0 = *No*).

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a brief screening questionnaire covering common areas of a child's emotional and behavioral difficulties. The SDQ consists of four subscales (Emotional difficulties, Conduct problems, Hyperactivity, and Peer relationship problems) that add to the total difficulties score. All items have to be evaluated on a scale from 0 = *Not true* to 2 = *Certainly true*. The total sum ranges from 0 to 40, with a higher score indicating greater problems. A positive prosocial behavior subscale is included in the SDQ, but we did not use it in the analysis. In the current study, the caregiver-report version of the SDQ was used. The SDQ is a widely used instrument translated into many languages. Previous studies demonstrated adequate psychometric properties of the scale (Becker et al., 2006; Gintiliene et al., 2004). In the

current sample, internal consistency of the subscales was acceptable, except for the Peer problems subscale, which was lower: Emotional symptoms (α = .60), Conduct problems (α = .64), Hyperactivity (α = .63), Peer relationship problems (α = .52), Total difficulties (α = .81).

Demographic data. We also collected information about the child's age and sex, as well as the caregivers' education.

Data analyses

Internal consistency of the OCTS was evaluated by calculating Cronbach's α coefficients. We also evaluated the degree of consistency of two independent raters provided in their observed OCTS scores by calculating intraclass correlation coefficients (ICC) based on a single rater, consistency, and 2-way random-effects model. Guidelines (Koo & Li, 2016) classify ICC of < .50 as poor, .50 – .75 as moderate, .75 – .90 as good, and .90 to 1 as excellent. Spearman's correlations (r_s) were calculated to measure the strength of associations between study variables of interest. A correlation coefficient of ≤ .10 was considered to indicate a weak association, a coefficient of .30 moderate, and a coefficient of ≥ .50 represented a strong correlation (Cohen, 1988). The Mann-Whitney U test was used to analyze if risk and community subsamples, as well as boys and girls, differed in terms of traumatization and the scores of SDQ. IBM SPSS 23.0 was used for data analysis.

Results

Reliability of the OCTS

Firstly, we calculated Cronbach's α coefficients for all the OCTS stories and the total score. The results indicated acceptable internal consistency, with coefficients varying from .75 to .90 (see Table 1). The intraclass correlation coefficients, showing the consistency of

agreement between the different raters of the videotaped play, demonstrated a good consistency between two independent raters across all the OCTS stories.

< Insert Table 1 here >

Correlations between the OCTS and other mental health indicators

Correlations among the study variables can be seen in Table 2. The partial scores of all the OCTS stories were significantly correlated, with coefficients ranging from moderate to strong associations, r_s = .30 – .83, p < .05; p < .01; p < .001. The analysis revealed significant moderate correlations between the OCTS total score and the SDQ Conduct problems, r_s = .36, p < .01, and Hyperactivity scores, r_s = .31, p < .05. There was also a weak correlation between the scores of SDQ total difficulties and the OCTS, but it did not reach statistical significance, r_s = .24, p > .05. Regarding the separate OCTS stories, the scores of the Burnt hand story had the strongest significant correlations with SDQ Conduct problems (r_s = .53, p < .001), Hyperactivity (r_s = .41, p < .01), and Peer relationship problems (r_s = .32, p < .05).

We also calculated correlation coefficients between the OCTS total score and SDQ subscales in risk and community subsamples separately. In both subsamples, all associations were insignificant. In the risk group, the highest weak correlation coefficient was between the OCTS total score and the SDQ Conduct problems (r_s = .19, p = .346). Interestingly, for the community sample, we found some associations close to statistical significance: moderate associations were found with SDQ Conduct problems (r_s = .33, p = .099) and Hyperactivity (r_s = .38, p = .057).

< Insert Table 2 here >

Levels of traumatization in the sample and comparison of the study groups

The average number of different potentially traumatic events (PTEs) reported by the caregivers (n = 50; the data was not reported by the caregivers about the two children of a total sample) was 1.90 (SD = 1.90). In total, 34.6% (n = 18) of caregivers reported no prior PTEs experienced by the child. For the community sample (n = 24), the average number of PTEs was 1.00 (SD = 1.41), and 50% (n = 13) of respondents reported no PTEs. For the risk sample (n = 26), the average of different PTEs was 2.73 (SD = 1.93), and 19.2% (n = 5) marked that the child had not experienced PTEs. Caregivers of the children in the risk sample reported significantly more different PTEs experienced by the children than in the community sample (U = 149.00, Z = -3.26, p = .001). There was no significant association between the number of PTEs reported and the total score of the OCTS (r_s = -.02, p = .897).

We also compared the levels of traumatization in the risk and community study groups (Table 3). Average scores were higher in the risk group across all the OCTS stories. Although the difference was only statistically significant for the Burnt hand story, it also approached significance for the Nightmare story and the total OCTS score.

We also compared other aspects of a child's emotional and behavioral difficulties as measured by the SDQ. The caregivers of the risk group reported significantly more Emotional symptoms, Hyperactivity, Conduct, and Peer relationship problems (see Table 3).

< Insert Table 3 here >

In addition, we evaluated sex effects on the OCTS and SDQ scores in the total sample (see Table 4). Regarding the OCTS, there were no significant differences between girls and boys. The only significant difference identified was for the total SDQ difficulties score, where boys were seen as having more difficulties than girls. In fact, for all SDQ subscales, the

scores for boys were higher than for girls. However, these differences were not statistically significant.

< Insert Table 4 here >

Discussion

This is one of the first empirical studies that evaluated the validity of the newly developed OCTS measure, targeting to identify possible representational signs of young children's (aged 4 to 8 years) traumatization. Overall, our pilot study findings on psychometric properties of the OCTS align with the previous studies conducted in Denmark, which revealed that the OCTS is a promising and reliable age-appropriate informant-based screening measure (Løkkegaard, 2019; Løkkegaard et al., 2021); however, the differences in the OCTS scores between the risk and community groups were lower than we predicted.

In a new pilot sample in Lithuania, the OCTS had good internal consistency with Cronbach alpha coefficients varying from .75 to .90 and high inter-rater reliability across all the OCTS stories. Moreover, our study found significant correlations between all the OCTS stories and the total OCTS score, confirming the instrument's reliability. After comparing the levels of traumatization in risk and community groups, we found higher scores in the risk group for all the OCTS stories. This finding contributes to the previous evidence that OCTS differentiates between the risk and the community sample and works as a valid trauma screening measure (Løkkegaard et al., 2021). However, in our study, the difference was statistically significant only in one of the OCTS stories, the Burnt hand story, with the higher score in the risk group. This finding is important as the Burnt hand story is the most emotionally intensive story stem presented to the child. The lack of significant differences in the other OCTS stories in our study could be related to the relatively small study sample.

Also, it can be related to the high levels of PTEs in both groups. Though the number of traumatic events was significantly higher in the risk group, half of the community sample had exposure to PTEs, according to caregiver reports. The high level of PTEs in the community sample aligns with the previous Lithuanian studies showing high levels of exposure to PTEs and different forms of abuse at a young age (Kazlauskas et al., 2020; Zelviene et al., 2020). Future studies on the OCTS should analyze how the screening identifies potential traumatization depending on the exposure to specific traumatic events and different groups.

In our study, the level of Emotional symptoms, Hyperactivity, Conduct, and Peer relationship problems, as well as the score for the total difficulties reported by the caregivers, was significantly higher in the risk group compared to the community group. This finding can be explained by the higher number of PTEs in the lives of children from the risk group, which is supported by substantial evidence from previous studies (Gilbert et al., 2009; Hodges et al., 2013; Thompson & Tabone, 2010; Vachon et al., 2015; Vibhakar et al., 2019).

Our analysis also provides initial evidence that the OCTS works equally well for girls and boys. We did not find a statistical difference between the OCTS scores across the sex groups. The total SDQ score was higher for boys than for girls in our study. Results on the psychosocial functioning of girls and boys and their differences vary across the previous studies (Becker et al., 2015; Bunting et al., 2022; Maurice-Stam et al., 2018). This difference in our study can be related to various factors, such as trauma history, socioeconomic status, or developmental issues, which must be accounted for in future studies.

Limitations and future directions

This is one of the first studies of the innovative story stem screening tool for the traumatization of young children, which provides new evidence in another cultural context on

the validity of the OCTS. The study responds to the lack of instruments intended to screen for the signs of traumatization in young children, especially preschool-age children.

Besides the strengths of the study, several limitations related to the sample size and composition, study design, and measurements must also be mentioned. First of all, community and risk samples in the study were relatively small. On the one hand, we were able to perform a reliability analysis and indicate acceptable internal consistency and inter-rater reliability across the different stories and the total OCTS. On the other hand, we hypothesize that due to the small risk and community group sizes, there was not enough statistical power to identify significant OCTS differences between groups, except for the Burnt hand story, which has the strongest conflict narrative and had significantly higher scores in the risk group. The prevalence of exposure to PTEs in risk and community groups is another limitation that should be taken into account. According to the caregiver's reports, the prevalence of PTEs was found to be significantly higher in the risk group. Also, the data for high risk group was collected in a specific context of support for sexually abused children. On the other hand, half of the caregivers in the community sample reported a child's exposure to PTEs. Even though previous studies showed a higher prevalence of interpersonal trauma in the general population in Lithuania (Kazlauskas et al., 2022) and the prevalence of PTEs in the community sample was comparable to the general population studies, PTEs in the community group might have had an impact on study findings which should be explored in the future studies in more detail. Previous examination of the OCTS validity in Danish children risk and community samples indicated a medium, positive and significant correlation between the total scores of OCTS and the SDQ. Significant medium correlations were found only between total scores of the SDQ, Bike, and Burnt hand stories (Løkkegaard et al., 2021). It would be relevant to replicate the study in a larger sample, including a more diverse risk sample with exposure to various traumatic events and a community sample without exposure

to PTEs, to investigate the OCTS discriminability. Furthermore, it is important to examine the potential of the OCTS to discriminate the signs of traumatization in relation to atypical behavior or developmental disorders in children. Also, blinded coding of the OCTS might add additional value to the study design. However, this study was carried out in a natural setting in order to test the psychometric properties of the OCTS.

In this first Lithuanian study, only the four OCTS stories were used. The future studies will cover all five story stems, including the Animal story, which gives an opportunity for more anxious and withdrawn children to express their inner world. Finally, in future studies, it is highly relevant to explore how the OCTS discriminates the signs of traumatization in children from different countries and various cultural contexts.

Conclusions

The story stems from the OCTS screening allows researchers and clinicians to evaluate the psychological state of children who cannot participate in strictly verbal interviews or respond to the self-report questionnaire procedures (Løkkegaard, 2019; Løkkegaard et al., 2021). This initial study of the psychometric properties of the OCTS in Lithuania supports the reliability and validity of the OCTS and informs that the OCTS administration and coding procedures can be consistently applied in various settings.

Abbreviations

OCTS: Odense Child Trauma Screening.

Acknowledgments

LEGO® is the brand that belongs to the LEGO Group.

Disclosure statement

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

Authors' contribution

PZ, OG, ID: writing – original draft; AE, SSL, EK: writing review and editing; ID, PZ: data collection; OG: data analysis; ID, EK, SSL: supervision; PZ: principal investigator, funding acquisition. All authors read and approved the final manuscript.

DECLARATIONS

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Data availability statement

The datasets of the current study are not publicly available due to ethical reasons and data protection.

Ethics approval and consent to participate

Ethics approval was issued by the Ethics Committee for Psychological Research at Vilnius University (2020-02-27, No. 35 and 2022-12-12 No. 14/(1.13 E) 250000-KT-187). Informed consent was obtained from one of the parents or caregivers of the child. Children could refuse to participate in the study if they did not want to participate.

Conflicts of interest

The authors declare no conflict of interest.

References

Becker, A., Rothenberger, A., & Sohn, A. (2015). Six years ahead: a longitudinal analysis regarding course and predictive value of the Strengths and Difficulties Questionnaire (SDQ) in children and adolescents. *European Child and Adolescent Psychiatry*, *24*(6), 715–725. https://doi.org/10.1007/s00787-014-0640-x

Becker, A., Steinhausen, H. C., Baldursson, G., Dalsgaard, S., Lorenzo, M. J., Ralston, S. J., Döpfner, M., Rothenberger, A., Coghill, D., Curatolo, P., Falissard, B., Hervas, A., Le Heuzey, M. F., Nøvik, T. S., Pereira, R. R., Preuss, U., Rasmussen, P., Riley, A. W., Spiel, G., & Vlasveld, L. (2006). Psychopathological screening of children with ADHD: Strengths and difficulties questionnaire in a pan-European study. *European Child and Adolescent Psychiatry*, *15*, i56–i62. https://doi.org/10.1007/s00787-006-1008-7

Brown, A. D., Becker-Weidman, E., & Saxe, G. N. (2021). A developmental perspective on childhood traumatic stress. In M. J. Friedman, P. P. Schnurr, & T. M. Keane (Eds.), *Handbook of PTSD: Science and practice* (pp. 246–262). The Guilford Press.

Bunting, L., McCartan, C., Davidson, G., Grant, A., Mulholland, C., Schubotz, D., McBride, O., Murphy, J., & Shevlin, M. (2022). Rationale and methods of the 'Northern Ireland Youth Wellbeing Survey' and initial findings from the Strengths and Difficulties Questionnaire. *Clinical Child Psychology and Psychiatry*, *27*(3), 670–685. https://doi.org/10.1177/13591045221075525

Butchart, A., World Health Organization., & International Society for the Prevention of Child Abuse and Neglect. (2006). *Preventing child maltreatment: a guide to taking action and generating evidence*. Geneva: World Health Organization.

Cicchetti, D. (2013). Annual research review: Resilient functioning in maltreated children - past, present, and future perspectives. *Journal of Child Psychology and Psychiatry*, *54*(4), 402–422. https://doi.org/10.1111/j.1469-7610.2012.02608.x

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences Second Edition*. New York: Routledge.

de Young, A. C., Kenardy, J. A., & Cobham, V. E. (2011). Diagnosis of posttraumatic stress disorder in preschool children. *Journal of Clinical Child and Adolescent Psychology*, *40*(3), 375–384. https://doi.org/10.1080/15374416.2011.563474

De Young, A. C., Kenardy, J. A., Cobham, V. E., & Kimble, R. (2012). Prevalence, comorbidity and course of trauma reactions in young burn-injured children. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *53*(1), 56–63. https://doi.org/10.1111/j.1469-7610.2011.02431.x

De Young, A. C., & Landolt, M. A. (2018). PTSD in Children Below the Age of 6 Years. In *Current Psychiatry Reports* (Vol. 20, Issue 11). Current Medicine Group LLC 1. https://doi.org/10.1007/s11920-018-0966-z

Euser, S., Alink, L. R. A., Pannebakker, F., Vogels, T., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2013). The prevalence of child maltreatment in the Netherlands across a 5-year period. *Child Abuse and Neglect*, *37*(10), 841–851. https://doi.org/10.1016/j.chiabu.2013.07.004

Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: Results from the National Survey of Children's Exposure to Violence. *JAMA Pediatrics*, *169*(8), 746–754. https://doi.org/10.1001/jamapediatrics.2015.0676

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., & Webb, E. (2009). Child Maltreatment 1 Burden and consequences of child maltreatment in high-income countries. *The Lancet*, *373*(9657), 68–81. https://doi.org/10.1016/S0140-6736(08)61706-7

Gintiliene, G., Girdzijauskiene, S., Cerniauskaite, D., Lesinskiene, S., Povilaitis, R., & Puras, D. (2004). A standardised Lithuanian version of Strengths and Difficulties Questionnaire (SDQ) for school-aged children. *Psichologija*, *29*, 88–105. https://doi.org/https://doi.org/10.15388/Psichol.2004.4355

Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *38*(5), 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Greeson, J. K. P., Briggs, E. C., Kisiel, C. L., Layne, C. M., Ake, G. S., Ko, S. J., Gerrity, E. T., Steinberg, A. M., Howard, M. L., Pynoos, R. S., & Fairbank, J. A. (2011). Complex Trauma and Mental Health in Children and Adolescents Placed in Foster Care. *Source: Child Welfare*, *90*(6), 91–108. https://doi.org/10.2307/48625371

Heilmann, A., Mehay, A., Watt, R. G., Kelly, Y., Durrant, J. E., van Turnhout, J., & Gershoff, E. T. (2021). Physical punishment and child outcomes: a narrative review of prospective studies. *The Lancet*, *398*(10297), 355–364. https://doi.org/10.1016/S0140-6736(21)00582-1

Hodges, M., Godbout, N., Briere, J., Lanktree, C., Gilbert, A., & Kletzka, N. T. (2013). Cumulative trauma and symptom complexity in children: A path analysis. *Child Abuse and Neglect*, *37*(11), 891–898. https://doi.org/10.1016/j.chiabu.2013.04.001

Kazlauskas, E., Jovarauskaite, L., Abe, K., Brewin, C. R., Cloitre, M., Daniunaite, I., Haramaki, Y., Hihara, S., Kairyte, A., Kamite, Y., Sugimura, K., Thoresen, S., Zelviene, P., & Truskauskaite-Kuneviciene, I. (2022). Trauma exposure and factors associated with ICD-11 PTSD and complex PTSD in adolescence: A cross-cultural study in Japan and Lithuania. *Epidemiology and Psychiatric Sciences*, *31*. https://doi.org/10.1017/S2045796022000336

Kazlauskas, E., Zelviene, P., Daniunaite, I., Hyland, P., Kvedaraite, M., Shevlin, M., & Cloitre, M. (2020). The structure of ICD-11 PTSD and Complex PTSD in adolescents exposed to potentially traumatic experiences. *Journal of Affective Disorders*, *265*, 169–174. https://doi.org/10.1016/j.jad.2020.01.061

Koo, T. K., & Li, M. Y. (2016). A Guideline of Selecting and Reporting Intraclass Correlation Coefficients for Reliability Research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Levendosky, A. A., Bogat, G. A., & Martinez-Torteya, C. (2013). PTSD Symptoms in Young Children Exposed to Intimate Partner Violence. *Violence Against Women*, *19*(2), 187–201. https://doi.org/10.1177/1077801213476458

Lewis, S. J., Arseneault, L., Caspi, A., Fisher, H. L., Matthews, T., Moffitt, T. E., Odgers, C. L., Stahl, D., Teng, J. Y., & Danese, A. (2019). The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *The Lancet Psychiatry*, *6*(3), 247–256. https://doi.org/10.1016/S2215-0366(19)30031-8

Løkkegaard, S. S. (2019). *How Can We Identify Traumatized Children? A study on validating assessment tools for identifying children who suffer from trauma symptomatology*. Faculty of Health, University of Southern Denmark, Odense, Denmark.

Løkkegaard, S. S., Andersen, M. E., Eriksen, S. B., & Elklit, A. (2017). *Odense Child Trauma Screening: Administration manual. English version.* Odense: Danish National Center of Psychotraumatology, Department of Psychology, University of Southern Denmark.

Løkkegaard, S. S., Andersen, M. E., Eriksen, S. B., & Elklit, A. (2018). *Odense Child Trauma Screening: Coding manual. English version.* Odense: Danish National Center for Psychotraumatology, Department of Psychology, University of Southern Denmark.

Løkkegaard, S. S., Elmose, M., & Elklit, A. (2021). Development and initial validation of the Odense Child Trauma Screening: a story stem screening tool for preschool and young schoolchildren. *Scandinavian Journal of Child and Adolescent Psychiatry and Psychology*, *9*(1), 113–126. https://doi.org/10.21307/sjcapp-2021-013

Maurice-Stam, H., Haverman, L., Splinter, A., van Oers, H. A., Schepers, S. A., & Grootenhuis, M. A. (2018). Dutch norms for the Strengths and Difficulties Questionnaire (SDQ) - parent form for children aged 2-18years. *Health and Quality of Life Outcomes*, *16*(1). https://doi.org/10.1186/s12955-018-0948-1

Nikolaidis, G., Petroulaki, K., Zarokosta, F., Tsirigoti, A., Hazizaj, A., Cenko, E., Brkic-Smigoc, J., Vajzovic, E., Stancheva, V., Chincheva, S., Ajdukovic, M., Rajter, M., Raleva, M., Trpcevska, L., Roth, M., Antal, I., Ispanovic, V., Hanak, N., Olmezoglu-Sofuoglu, Z., … Browne, K. (2018). Lifetime and past-year prevalence of children's exposure to violence in 9 Balkan countries: THE BECAN study. *Child and Adolescent Psychiatry and Mental Health*, *12*(1). https://doi.org/10.1186/s13034-017-0208-x

Sachser, C., Berliner, L., Holt, T., Jensen, T. K., Jungbluth, N., Risch, E., Rosner, R., & Goldbeck, L. (2017). International development and psychometric properties of the Child and Adolescent Trauma Screen (CATS). *Journal of Affective Disorders*, *210*, 189–195. https://doi.org/10.1016/j.jad.2016.12.040

Scheeringa, M. S. (2011). PTSD in children younger than the age of 13: Toward developmentally sensitive assessment and management. *Journal of Child and Adolescent Trauma*, *4*(3), 181–197. https://doi.org/10.1080/19361521.2011.597079

Slone, M., & Mann, S. (2016). Effects of War, Terrorism and Armed Conflict on Young Children: A Systematic Review. *Child Psychiatry and Human Development*, *47*(6), 950–965. https://doi.org/10.1007/s10578-016-0626-7

Thompson, R., & Tabone, J. K. (2010). The impact of early alleged maltreatment on behavioral trajectories. *Child Abuse and Neglect*, *34*(12), 907–916. https://doi.org/10.1016/j.chiabu.2010.06.006

Vachon, D. D., Krueger, R. F., Rogosch, F. A., & Cicchetti, D. (2015). Assessment of the harmful psychiatric and behavioral effects of different forms of child maltreatment. *JAMA Psychiatry*, *72*(11), 1135–1142. https://doi.org/10.1001/jamapsychiatry.2015.1792

Vibhakar, V., Allen, L. R., Gee, B., & Meiser-Stedman, R. (2019). A systematic review and meta-analysis on the prevalence of depression in children and adolescents after exposure to trauma. *Journal of Affective Disorders*, *255*, 77–89. https://doi.org/10.1016/j.jad.2019.05.005

Zelviene, P., Daniunaite, I., Hafstad, G. S., Thoresen, S., Truskauskaite-Kuneviciene, I., & Kazlauskas, E. (2020). Patterns of abuse and effects on psychosocial functioning in Lithuanian adolescents: A latent class analysis approach. *Child Abuse and Neglect*, *108*. https://doi.org/10.1016/j.chiabu.2020.104684

538 Table 1. *Internal consistency and inter-rater reliability across the different OCTS stories*

OCTS story	Cronbach's α	ICC [95% CI]
Bikes	.79	.86 [.75, .92]
Nightmare	.76	.89 [.81, .94]
Burnt hand	.76	.82 [.68, .89]
Stomach ache	.75	.84 [.71, .91]
Total	.90	.85 [.74, .91]

539 *Note*. OCTS = Odense Child Trauma Screening; ICC = Intraclass correlation coefficient.

540

Table 2. *Correlations between OCTS and SDQ scores (N = 52)*

	2	3	4	5	6	7	8	9	10
1 OCTS Bikes	.51***	.50***	.38**	.83***	-.10	.15	.21	-.25	.03
2 OCTS Nightmare	-	.45**	.37**	.77***	-.10	.23	.17	-.05	.11
3 OCTS Burnt hand		-	.30*	.75***	.22	.53***	.41**	.32*	.52***
4 OCTS Stomach ache			-	.56***	-.17	.13	.00	-.02	.00
5 OCTS Total				-	-.04	.36**	.31*	.00	.24
6 SDQ Emotional symptoms					-	.33*	.35*	.35*	.69***
7 SDQ Conduct problems						-	.51***	.55***	.79***
8 SDQ Hyperactivity							-	.25	.72***
9 SDQ Peer problems								-	.72***
10 SDQ Total Difficulties									-

Note. OCTS = Odense Child Trauma Screening; SDQ = Strengths and Difficulties Questionnaire;
* $p < .05$; ** $p < .01$; *** $p < .001$.

545 Table 3. *Comparison of mental health indicators across the community and risk subsamples*

	Total sample *N*=52 *M* (*SD*)	Community group, *n*=26 *M* (*SD*)	Risk group, *n*=26 *M* (*SD*)	Significance U, Z; p
OCTS story				
Bikes	2.85 (3.05)	2.81 (3.05)	2.88 (3.12)	301.50, -0.68; *p*=.497
Nightmare	2.50 (2.77)	1.92 (2.64)	3.08 (2.83)	247.00, -1.70; *p*=.089
Burnt hand	3.02 (2.82)	**2.00 (2.21)**	**4.04 (3.03)**	177.00, -2.99; ***p*=.003**
Stomach ache	1.96 (2.29)	1.92 (2.54)	2.00 (2.06)	286.00, -0.98; *p*=.327
Total	2.58 (2.13)	2.18 (2.07)	2.98 (2.15)	244.00, -1.73; *p*=.084
SDQ subscales				
Emotional symptoms	2.69 (2.18)	**1.92 (1.57)**	**3.46 (2.45)**	**212.00, -2.34, *p*=.019**
Conduct problems	2.15 (1.98)	**1.27 (1.34)**	**3.04 (2.14)**	**149.50, -3.51, *p*<.001**
Hyperactivity	3.88 (2.33)	**3.23 (2.29)**	**4.54 (2.23)**	**230.00, -2.00, *p*=.045**
Peer problems	2.25 (1.96)	**1.62 (1.72)**	**2.88 (2.01)**	**198.50, -2.60, *p*=.009**
Total difficulties	10.98 (6.41)	**8.04 (4.93)**	**13.92 (6.44)**	**151.50, -3.42, *p*=.001**

546 *Note*. OCTS = Odense Child Trauma Screening; SDQ = Strengths and Difficulties Questionnaire; Significant
547 group differences are in bold.
548

549 Table 4. *Comparison of mental health indicators across sex groups*

	Girls, *n*=32 *M* (*SD*)	Boys, *n*=20 *M* (*SD*)	Significance U, Z; p
OCTS story			
Bikes	2.91 (3.05)	2.75 (3.13)	301.00, -0.36, *p*=.716
Nightmare	2.47 (2.51)	2.55 (3.20)	300.50, -0.37, *p*=.708
Burnt hand	2.66 (2.15)	3.60 (3.63)	289.50, -0.58, *p*=.561
Stomach ache	2.03 (2.32)	1.85 (2.30)	307.50, -0.24, *p*=.809
Total	2.52 (1.92)	2.69 (2.47)	315.50, -0.09, *p*=.932
SDQ subscales			
Emotional symptoms	2.41 (1.98)	3.15 (2.46)	264.00, -1.07, *p*=.285
Conduct problems	1.81 (1.42)	2.70 (2.60)	267.50, -1.01, *p*=.314
Hyperactivity	3.44 (2.31)	4.60 (2.23)	220.50, -1.90, *p*=.058
Peer problems	2.06 (1.88)	2.55 (2.09)	272.50, -0.91, *p*=.363
Total difficulties	**9.72 (5.76)**	**13.00 (7.00)**	**214.00, -2.00, *p*=.046**

550 *Note*. OCTS = Odense Child Trauma Screening; SDQ = Strengths and Difficulties Questionnaire; Significant
551 group differences are in bold.
552